TRUST IN BANKS: A MULTI-LEVEL ANALYSIS

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ABSTRACT

TRUST IN BANKS: A MULTI-LEVEL ANALYSIS

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Trust is required for a healthy and well-functioning financial system. However, limited evidence is present on what affects confidence towards the banks. Utilizing a sample drawn from the latest waves of World Value Survey (WVS), this thesis constructs multilevel- logit models to account for factors at both the micro and macro level of individuals. The findings confirm the nested structure of trust in banks. The findings of this study show that the majority of socio-economic characteristics of individuals explain trust in banks. Economic values of individuals are also found to be significant correlates of trust. It is also confirmed that individuals who trust others are more likely to trust in banks. In line with previous studies, findings of this thesis point out that country-level factors do not matter for trust. Considering the importance of trust in financial development and economic stability, this thesis offers valuable insights for policymakers on how trust of individuals responds to several factors on both micro and macro levels.

Keywords: Trust, Banks, Financial institutions, World Value Survey (WVS), Multilevel Analysis, Logit

ÖZ

BANKACILIĞA GÜVEN: ÇOK DÜZEYLİ BİR ANALİZ

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Sağlıklı ve iyi işleyen bir finansal sistem için güven şarttır. Ancak, bankalara duyulan güveni neyin etkilediğine dair sınırlı kanıt mevcuttur. Dünya Değer Araştırmasının (DDA) en son turlarından alınan bir örneklemleri kullanan bu tez, bireylerin hem mikro hem de makro düzeyindeki faktörleri hesaba katan çok düzeyli logit modeller oluşturmaktadır. Bulgular, bankalara güvenin iç içe geçmiş yapısını doğrulamaktadır. Bu çalışmanın bulguları, bireylerin sosyo-ekonomik özelliklerinin çoğunluğunun bankalara olan güveni açıkladığını göstermektedir. Bireylerin ekonomik değerlerinin de güvenle önemli bağıntıları olduğu bulunmuştur. Başkalarına güvenen bireylerin bankalara güvenme olasılıklarının daha yüksek olduğu da doğrulanmıştır. Daha önceki çalışmalarla uyumlu olarak, bu tezin bulguları ülke düzeyindeki faktörlerin güven için önemli olmadığını göstermektedir. Güvenin finansal gelişme ve ekonomik istikrardaki önemini göz önünde bulunduran bu tez, bireylerin güveninin hem mikro hem de makro düzeyde çeşitli faktörlere nasıl tepki verdiği konusunda politika yapıcılara değerli bilgiler sunmaktadır

Anahtar Kelimeler: Güven, Bankalar, Finansal kurumlar, Dünya Değer Anketi (DDA), Çok Düzeyli Analiz, Lojistik regresyon

To My Beloved Family

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TABLE OF CONTENT

ABSTRACT vii

ÖZ ix

TABLE OF CONTENT xv

LIST OF TABLES xvii

LIST OF FIGURES xix

LIST OF ABBREVIATIONS xxi

INTRODUCTION 1

1.1. Aims, Objectives, and Research Question 5

LITERATURE REVIEW 9

2.1. Definitions of Trust 9

2.2. Determinants of Trust in Financial Institutions 12

2.2.1. Economic and Financial Factors 12

2.2.3. Consumer Characteristics 19

2.3. Interpersonal Trust 28

DATA AND METHODOLOGY 39

3.1. Data 39

3.2. Dependent Variable 42

3.3. Explanatory Variables 43

3.3.1. Socioeconomic and Sociodemographic Factors 43

3.3.2. Political and Economic Values 44

3.3.4. Country-Level Variables 45

3.4. Methodology 47

3.4.1. Simple Multi-Level Model 47

3.4.2. Estimation Methodology 51

RESULTS 55

4.1. General Outlook of the Data 55

4.2. Descriptive Statistics 97

4.3. Empirical Findings from Multi-Level Models 99

CONCLUSION 117

REFERENCES 121

APPENDICES 129

A. VARIABLE LIST 129

B. CORRELATION MATRICES 135

C. TABULATED LITERATURE REVIEW 139

LIST OF TABLES

Table 2.1.1.: Definitions of Trust in Various Financial Institutions 32

Table 3.1.1: List of Countries Included in Each Wave of the Survey 40

Table 4.1.1.: Trust in Banks by Countries 57

Table 4.1.2.: Trust in Other People 62

Table 4.1.3.: Percentage of Respondents Who Report Trust in Banks and Other People 66

Table 4.1.4.: Descriptive Statistics of Socio-Demographic Variables 71

Table 4.1.5.: Descriptive Statistics of Socio-Demographic Variables 75

Table 4.1.6.: Trust in Banks by Selected Socio-Economic Factors 82

Table 4.1.7.: Trust in Banks by Selected Socio-Economic Factors 86

Table 4.1.8.: Trust in Banks by Country Groups 93

Table 4.2.1.: Descriptive Statistics 95

Table 4.3.1.: Test Statistics of Null Model 100

Table 4.3.2.: Test Statistics of Null Model 100

Table 4.3.3: Interpretation of Coefficients 102

Table 4.3.4.: Coefficients of Multi-level Logistic Regression 110

Table 4.3.5.: Odds Ratio of Multi-level Logistic Regression 113

Table A.1.: Definitions of Variables at Individual-Level 129

Table A.2.: Definition and Sources of Variables at Country-Level 132

Table B.1.: Correlation Matrix of Micro Variables (WVS-6) 135

Table B.2.: Correlation Matrix of Micro Variables (WVS-7) 135

Table B.3.: Correlation Matrix of Macro Variables (WVS-6) 136

Table B.4.: Correlation Matrix of Macro Variables (WVS-7) 137

Table B.1.: Tabulated Literature Review...140

LIST OF FIGURES

Figure 4.1.1: Trust in Banks by Common Countries in Two Rounds of Survey ..59

Figure 4.1.2. Percentage of People Who Trust Others. 64

Figure 4.1.3. Percentage of People Who Trust Others. 65

LIST OF ABBREVIATIONS

BoE	Bank of England
ECB	European Central Bank
ESS	European Social Survey
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GFDD	Global Financial Development Database
GSS	General Social Survey
ICC	Inter-class correlation coefficient
SD	Standard Deviation
SHIW	Survey of Household Income and Wealth
Stata	StataCorp.
UK	United Kingdom
USA	United States of America
OLS	Ordinary Least Square
WB	World Bank
WGI	World Wide Governance Indicators
WDI	World Development Indicators
WVS	World Values Survey
WVS-6	World Values Survey-6
WVS-7	World Values Survey-7

CHAPTER 1

INTRODUCTION

Trust is one of the vital elements in healthy and effectively functioning financial system. After financial crisis of 2008, trust in banking and finance sector has been a controversy among many scholars. Indeed, results of many public opinion surveys confirm that one of the most recognized consequences of the Global Financial Crisis (GFC) was a deep decline in public confidence in the banking and financial services. Today, nearly one of every four Americans trusts in financial institutions. Trust in financial sector has reached to 33 percent in 2019, this was the highest level ever since the launch of the Chicago Booth /Kellogg School Financial Trust Index in 2008 [61].

Reduction in the trust regarding banking and financial sector is not only limited within the USA. For instance, Employing the Eurobarometer, Walti [76] look into how public trust in the European Central Bank (ECB) is associated with certain macroeconomic conditions. The results mainly point out that trust in the ECB has declined markedly onset of the GFC. Walti [76] also highlights that rising sovereign bond yield and financial turbulence are two main factors that explain reduction in the trust in ECB during the crisis. Similarly, Hurley et al. [42] indicate that the public confidence in banking and financial sector is challenged by the GFC and is at its lowest level all times. Relying on results of 2013 Edelman Trust Barometer, they indicate that global trust as well as trust for selected of countries show major decline after the GFC. For instance, trust in banks has declined more than half of its initial level in the UK [42]. 2019 Edelman Trust Barometer indicates that the financial sector is still appointed as the least trusted sector worldwide even though there have been some improvements compared to previous decade. Similarly, conclusions are also

reached out by other studies. For instance, results obtained by Jarvinen [45] show that trust in banks widely varies across European countries. He also indicates that high degree of confidence is observable in only Finland, Luxembourg, Estonia and Germany. In a nutshell, all conducted research show that societal trust in banking and financial sector has been tremendously affected by onset of the GFC and it has still failed to fully recover even after the GFC.

In this context, two important question that needs to be considered: what the trust refers and why we do need trust. As Harrison [39] pointed out, in context of banking and financial environment, trust basically refers to "*generalized expectancy regarding how the financial institution act upon in the future"*. Regarding out importance of trust, there is, in fact, theoretical basis that explains why trust is critical in banking and financial services. Harrison [39] notes that financial services are intangible and therefore often are considered as "hard-to-understand", often display pronounced information asymmetry which indicates reliance on credence qualities. As a result, perceived risk associated with purchase of financial goods is high. For this reason, trust is essential since financial institutions have implicit responsibility of act on managing funds of their customers successfully and supplying financial advice truly. This is because financial contracts are nothing but a set of promises of looking after customers' fund. From the marketing research perspective, it is shown that customer behavior at firm level highly depends on aggregate level of trust in financial institutions [39].

It is commonly accepted that trust in financial institutions is important for financial stability [73]. With low degree of trust, individuals are less inclined to have a saving account in financial institutions. Rather, they have a strong preference for liquidity. For instance, Sapienza and Zingales [61] find that individuals with high trust in banks and bankers are less likely to withdraw deposits and store them as cash since they do not fear a potential bank's collapse. Similarly, Stix [66] points out that lack of trust in banks is one of the main factors contributing to individuals' preference for liquidity. In addition, trust in financial system do not only enhances the likelihood of holding formal accounts but also diversification of formal savings [12]. Individuals with a high-level trust believe that banks solely serve their

interests. In the worst scenario, low confidence may result in bank runs since individuals have fear of potential bank collapse. If individuals do not have trust in financial institutions, then they may less prefer being a customer of financial institutions, which, in turn, will affect economic stability and growth, by reducing overall amount of available capitals for debtors. For instance, Ampudia and Palligkinis [8] suggest that holding a bank account and choosing bank to operate with is not only critical for customers but also for the banks themselves since deposits from the households mainly contributes to financing of the euro area banks.

However, it is acknowledged that the link between trust in financial institutions and financial stability is not unidirectional. Thus, the reverse also may hold [73]. For instance, research conducted by Osili and Paulson [57] suggest that immigrants who lived through financial crisis prior to moving the USA are less likely to have a checking accounts in the USA compared to the immigrants of the same country but with no experience of systematic banking crisis. Their result also highlight that this effect is much stronger for the immigrants who were older at the time of the crisis.

Furthermore, individuals may switch to non-financial suppliers of financial services to obtain required capital, leading to expansion of informal sector. In other words, higher level of trust also leads to expansion of credits by banks. Thus, higher confidence in financial institutions limits potential threats to financial stability and it also contributes to financial inclusion. A line of the literature also suggest that higher levels of trust contributes to utilization of new financial services and adaptation of new financial innovations. Cole et al. [18] show that lack of trust is one of significant barriers to demand for innovative rainfall insurance in rural India. All in all, previous literature points out that trust is required for healthy and well-functioning financial system and economy.

Even tough trust barometers and public opinion surveys shed light on trust in different financial institutions at aggregate level, they are quiet problematic as they offer little explanation for drivers of trust. For this reason, the literature regarding trust in financial institutions is burgeoning in recent years. However, conducted studies are generally heavily context-dependent and they provide evidence from narrow perspective. In other words, vast part of literature provides single country evidence specifically on trust in banks. However, it is also to worth to mention that

previous research display heterogeneities in different dimensions such as measure of trust or the methodology that they employ in their analyses. In general, dynamics of trust in troubled times are examined in the related literature (For Spain, Carbó-Valverde [16]; For Austria, Knell and Stix, [49]; For the USA, Sapienza and Zingales,[61]).Furthermore, most studies explain trust in financial institutions through macroeconomic lenses. In this line of the literature, studies generally take into the consideration the links between macroeconomic factors such as unemployment, inflation or presence of financial crises and trust in financial institutions. A common finding in existing literature is that trust in banks has procyclical movement. It means that confidence decreases with outbreak any financial crisis and it returns its initial level as time passes [3, 49, 65].

Compared to single country studies, relatively less research provide a cross-country evidence on trust in financial institutions such as banks and financial institutions [7, 65], insurance companies [19], pension funds [56] or only banks [3, 4, 15, 45, 29, 30]. However, those studies commonly examine trust in financial institution via a narrow perspective, meaning that they either look into either how sociodemographic characteristics and experiences relate to trust in financial institutions [7, 19, 45] or the relationship between macroeconomic conditions and trust in financial institutions [4, 15, 65]. Even though there is growing number of studies showing that better governed and wealthier nations trust more [27, 48], multidimensional structure of trust is often ignored in the prior studies. Thus, it remains as a one of the voids in the related literature. There is still room for research on what exactly drives trust in financial institutions considering different dimensions of trust.

Even though previous studies provides valuable contributions to the related literature, multi-layered structure of confidence in financial institutions, more specifically banks, is often neglected. In prior literature, only three studies examine trust in banks considering multidimensional nature of trust in banks. [4, 28, 29]. Focusing on the sixth version of World Value Survey, Fungáčová and Weill [28] examine determinants of trust in banks at both individual and country-level. Their empirical results indicate that sociodemographic characteristics are significantly correlated with confidence in banks in China. In this regard, findings

of Fungáčová and Weill [28] show that being young and financial satisfaction are positive correlates of trust whereas having higher education level and not being single are negative correlates of trust. Access to information is not related with trust in banks. This is relevant for all types of information sources. Their findings also reveal that provincial level characteristics are not associated with trust in banks except for the size of the banking sector. Based on this inference, Fungáčová and Weill [28] point out that economic and institutional frameworks do not explain heterogeneities observed in confidence.

Fungáčová et al. [29] show that cross-country differences are apparent in trust in banks. Likewise, they also report that sociodemographic characteristics of individuals play a role in individuals' trust in banks. More specifically, their findings is that low income at individual-level, being elder, having higher education level are negatively related with trust in banks. However, none of the country-level that they considered in the estimations is related with confidence, except for experiencing financial crisis. In contrast, results of Fungáčová et al. [29] indicate that access to information matters in confidence. However, the relationship depends on type of the source.

Focusing on how the GFC reshaped aggregate banking trust in transaction economies, Afandi and Habibov [3] report that being younger, educated, and banked or trusting others are positively associated with having trust in banks in both pre- and post- periods of the crisis. Regarding out country-level covariates of confidence, they find that growth rate of GDP and rule of law are positively related with confidence in banks, which holds for both periods of GFC. In addition to objective factors, they indicate that subjective factors such as respondents' experience with GFC also matters in trust in banks. Contrary to the consensus in the related literature, results of Afandi and Habibov [3] suggest that the impact of financial crisis on trust in bank is temporary and relatively small in transition economies.

1.1. Aims, Objectives, and Research Question

Even though literature on trust in banking and financial sector is growing in recent,

number of studies providing cross-country evidence is scarce. More important, existing literature focuses on heterogeneities either in cross-country or within country. Although only three papers attempt to explain variations in trust in banks in multidimensional framework, these papers overlook the nested structure of the data that are employed in their analyses [3, 28, 29]. For this reason, existing literature yields biased and questionable results regarding factors related with confidence in banks. This complicates to make meaningful interpretations based on the results of prior studies.

Employing the latest two rounds of World Values Survey (WVS) combined with country-level data, this thesis aims to identify factors associated with trust in banks around the world through multidimensional framework. Country-level data is collected from several international databases. Taking into hierarchically ordered structure of the data, this thesis uses multi-level logistic regression as its empirical strategy. In this regard, the contribution of this thesis to related literature is two-fold. To best my knowledge, there are no studies that systematically examine factors affecting trust in banks around the world with this much detail. Second, it diverges from previous studies using the same data since it employs multi-level estimation methodology in investigation of trust in banks for the first time.

Estimation results of this thesis reveal that data at hand displays clustering at country-level. Hence, the result supports that multi-level framework is right empirical strategy for modeling the data. Similar to findings of existing literature, the results presented in this thesis show that variables at individual level are significant correlates of confidence whereas majority of country-level variables are not significant correlates of confidence.

In line with the previous literature, the empirical findings of this thesis indicate that socio-economic characteristics are significant correlates of trust in banks. Regarding the estimation results based on sixth round of WVS, the findings show that females are more likely to trust in banks. Contrary to existing studies, findings of this thesis indicate that younger individuals are less likely to trust in banks. Related with other factors at the individual-level, empirical findings of this thesis

indicate that having high education is negatively correlated with trust in banks. More striking result is that indicators of affluence level are found to be significant correlates of trust in banks. In this regard, the financial satisfaction and income at individual level are found to be positive correlates of trust in banks in all estimated models. In addition, results reveal that access to information is a significant covariate of trust in banks. However, the influence differs slightly depending on the type of used information channel. Lastly, results indicate that some proxies used for political and economic values of individuals are significantly associated with confidence. Regarding with country-level covariates, the results show that existence of deposit insurance, high banking concentration and having high banking non-performing loans hinders confidence in banks.

Results based on seventh wave of WVS are different from the results based on previous wave in some aspects. Similarly, statistical tests confirm that multi-level models perform much better than vanilla logistic regression. Therefore, multi-level framework considers the nested nature of the data and it is relevant for empirical analysis. Similar to results based on sixth wave, vast part of country-level variables is not correlated with confidence in banks. Findings imply that being older is negatively associated with trust in banks. In contrast to previous findings, it is found that gender and marital status are not relevant in explaining confidence in banks. Similar to prior literature, findings of the thesis imply that having high education is negatively associated with confidence in banks. Having high household income and being more financially satisfied enhance trust in banks. In general, using information sources are found to be associated with confidence, however direction of the association changes with respect to type of information source. Lastly, further analysis shows that structure of banking environment and banking riskiness level are not linked with trust in banks.

The rest of the thesis is structured in following way: Chapter 2 presents a detailed analysis on theoretical and empirical studies on trust and it provides a discussion on drivers of trust in financial institution. Explanation of data, variables used and its sources and presentation of data are provided in Chapter 3. Empirical strategy used in estimations is explained in Chapter 3. Chapter 4 provides a detailed

exploratory data analysis, main results of multi-level estimation and a discussion of a results with a comparison between previous literature. Finally, Chapter 5 concludes with implications of this thesis, recommendations for policy-makers and suggestions for future research.

CHAPTER 2

LITERATURE REVIEW

This chapter is devoted to the examination of empirical and theoretical studies that focus on trust in financial institutions. To that end, an overview on definitions and methodologies are employed in the research of trust is provided. Later, the discussion is expanded by including a survey on determinants of trust in financial institutions. Finally, the chapter concludes with a discussion on the literature on interpersonal (generalized) trust.

2.1. Definitions of Trust

Before delving into discussing potential drivers of trust in financial institutions, it is worth to briefly mention differences in definitions and methodologies used in the trust literature. In general, one can distinguish studies based on the definitions employed for measuring trust in financial institutions. The literature generally refers to two commonly used definitions, broad-scope trust and narrow-scope trust (for detailed discussion, please see van der Cruijsen et al. [73]).

There is rapidly growing literature on broad-scope trust in recent years [2, 4, 8, 15, 19, 25, 28, 56, 67]. In the context of broad-scope, studies endeavor to address the respondents' trust in financial institutions as a whole, not targeting trust in a particular institution. More specifically, this line of research takes advantage of the following question from the sixth wave of the World Value Survey (WVS): *"Could you tell me how much confidence you have in banks?"*. The respondents score for their trust ranging from one (indicating a great deal of trust) to four (indicating none at all). Likewise, Courbage and Nicolas [19] proxy the trust by the following question in the Geneva Association survey: *"When thinking about insurance companies, how much do you agree or disagree with the following statements:*

insurance companies are trustworthy?". In a similar fashion, others exploit the following question of Gallup World Poll on banks and financial institutions: "*In your country, do you have confidence in each of following or not? How about financial institutions and banks?"* [47, 65]. Similarly, some studies adopt trust questions in General Social Survey (GSS) [34, 50, 65], or they adopt trust measures similar to GSS [62]. Some studies employ more generic questions on trust. For instance, Afandi and Habibov [3] use the following question in two rounds of the Life-in-Transition survey: *"To what extent do you trust in banks and in the financial system?"*. The answers for question take one of the values from one -corresponds to complete distrust- to five -corresponds to complete trust-. Some studies employ more direct questions, such as indicating the name of banks explicitly in the survey question. For example, in order to measure households' trust, Ampudia and Palligkinis [8] use the following question in the survey of The Banca d'Italia's Survey of Household Income and Wealth (SHIW): *"Do you trust your main bank, i.e. [bank name]?"*. To measure trust in banking sector, these researchers raise another question: *"Could you please indicate your degree of trust in the banks?"*.

A strand of literature investigates trust in the executives or people involved in the financial sector. In addition to the broad-scope definition used in their paper, Mosch and Prast [54] examine trust in executive officers of financial institutions. Furthermore, by employing 2009 National Financial Capability Study, Lanhance and Tang [50] focus on respondents' level of trust on several on financial advice such as savings and investments, tax planning, insurance, mortgage or loan, and debt counseling. Thanks to specific features of GSS, Stevenson and Wolfers [65] look into the trust in the professionals who are running financial institutions in their country. Another example is the following question used by Kersting et al. [46]: *"I trust the financial markets and those individuals involved with them to operate as intended"* (options on nine-point Likert scale, in where nine-point indicates strong agreement with the statement). Furthermore, trust in banking supervision is measured by some studies [72, 74].

Another line of the literature follows indirect approaches to measure trust in financial institutions. For example, rather than directly asking about trust in banks, Prean and Stix [59] collect respondents' perceptions of the safety of deposits.

Similarly, Van der Cruijsen et al. [72] use the following proxy in order to measure trust: *"In general, do you trust that banks in the Netherlands are able to repay deposits at all times?"*. Another example is found in Carbó-Valverde et al.[16] , who proxy trust by customers' trust in solvency of their commercial and savings bank. Similar approaches are also present in trust in financial institutions other than banks. For instance, trust in pension funds is usually captured by respondents' trust in the future of pension fund [56] or trust to what extent they believe that the institutions guarantee a pension in the future [69, 74].

Finally, another approach frequently used by scholars in the measurement of trust is that only including bank customers [16, 45, 44, 74] or pension providers and insurance holders [69, 74] in their operating samples. This type of approach is generally classified under the "narrow-scope definition" [73] and the majority of papers using this definition mainly relies on theoretical frameworks that are present in marketing research. Thus, this line of the literature is burgeoning, and the main objective of this type of research is to identify customers trust in banking services. For this reason, this line of research focus on how characteristics of financial institutions impact trust [17, 73, 75]. However, this literature would not be discussed in detail here since the main attempt of the current study is to explore the determinants of trust in the banking sector (i.e. system trust), not identifying how customer relationships and experiences contingent on characteristics of banking services.[1]

Even though a large part of the literature uses subjective measures of trust such as self-assessments, a limited number of research capture trust by employing objective measures. For instance, some papers use possession of a bank account as an indicator of trust in financial institutions [4, 7, 57]. On the other hand, some scholars acknowledge that using objective measures are quite controversial since these measures do not necessarily reflect the true level of trust. This is because it is not realistic to assume that every individual with a checking account makes this choice voluntarily [3]. For instance, an employee may have a checking account in the bank for only the purpose of drawing their salary, but this does not necessarily mean that

[1] For a detailed discussion, please see the literature survey provided by van der Cruijsen et al., 2020.

the individual has confidence in the bank where he has a banking account [3]. In the light of the aforementioned discussion, this thesis employs a subjective measure of trust. A brief summary on definitions of trust in financial institutions is provided in Table 2.1.1.

In general, researchers investigate developed countries. Most studies on trust provides evidence from a single country such as Austria [49, 67] , Britain [25], China [28], Croatia [59], India [26], Netherlands [54, 70, 74, 75], Spain [16], and Russia [17], the United States [34, 46, 50, 62, 70, 72, 69], South Korea [58]. Compared to single-country studies, relatively less number research conducts cross-country analysis since collecting harmonized data is costly [3, 4, 7 ,15, 19, 56, 65].

To sum up, measures of trust in financial institutions vary among studies depending upon the scope. This complicates making meaningful comparisons on findings on drivers of trust. Based on this inference, van der Cruijsen et al. [73] speculate that differences on findings may be due to low correlation among different measures of trust. To illustrate how different definitions of trust related to each other, van der Cruijsen et al. [73] conducted correlation analysis on fourteen different definitions differing in the financial institution that they target, scope (i.e., narrow or broad), general or perceived financial health, etc. In all cases, researchers observed positive and statistically significant correlations among different definitions.

2.2. Determinants of Trust in Financial Institutions

This section discusses country-level drivers trust of financial institutions that are frequently studied in the literature. In order to present country-level factors affecting trust in more detail, related literature is divided into two sub-sections: (i) economic and financial factors (such as unemployment rate, inflation rate, and presence of financial crisis or perceptions related with financial crises); and (ii) factors that are an indicator of banking environment and institutional setting of given any country (such as quality of governance and legal framework, the rule of law, deposit insurance framework, the riskiness of banking sector as well as banking sector size).

2.2.1. Economic and Financial Factors

The literature highlights the importance of macroeconomic conditions in building trust in financial institutions. The literature suggests that trust in financial

institutions exhibit a procyclical behavior, meaning that trust hits rock bottom immediately after the occurrence of the financial crisis and it gradually turns back its initial level [3, 49, 65]. However, this thesis does not contribute to this strand of literature since it has a cross-sectional design, and data structure at hand does not allow for tracking changes in trust.

The importance of the unemployment rate in the determination of confidence is often emphasized in the literature. In a cross-country analysis for 98 countries, Stevenson and Wolfers [65] find a tight negative relationship between the unemployment rate and trust in banks and financial institutions. In addition, they emphasize that the unemployment rate is large enough to explain the trust decline in banks and financial institutions after the recession. They also illustrate that trust in banks and financial institutions erodes more dramatically in the countries where the unemployment rate increases sharply. In a cross-sectional study on Australian banks, Knell and Stix [49] confirm the procyclical movement of confidence. In contrast to Stevenson and Wolfers [65], the findings of Knell and Stix [49] show that the unemployment rate explains only a negligible part of heterogeneities observed in confidence in banks. The authors conclude that the aforementioned inference still applies even if they include other indicators of macroeconomic conditions that are closely related to the stability of the financial system. According to Knell and Stix [49], rather than the unemployment rate, direct experience of bank failure and individuals' self-assessments on the economic conditions matter in confidence in banks. Focusing on how several factors at both individual and country-level relate to confidence in European pension funds, Naumann [56] confirms that a higher unemployment rate is correlated with lower levels of trust.

Inflation rates or inflation expectations are examined in several studies. For example, Prean and Stix [59] hypothesized that inflation expectation impacts the return on financial assets,it might therefore result in a reduction in trust. Employing microdata on Croatia, Prean and Stix [59] point out that individuals with higher expectations of inflation are less trusting in perceived safety deposits. On the

contrary, Fungáčová and Weill [28] demonstrate that inflation level is not associated with trust in banks in China. More significantly, among a broad range of factors considered in their research, Fungáčová and Weill [28] point out that only size of the banking sector matters in confidence in banks. The authors speculate that this can be attributed to frequent interactions of individuals with banks in provinces with larger banking sectors.

A significant amount of studies focuses on how individuals' crisis experience relates to trust in financial institutions. Employing eight annual surveys for the Netherlands, Van der Cruijsen et al. [72] illustrate that adverse personalized experience of the financial crisis not only undermines trust in banks but also negatively affects interpersonal trust. Their result suggests that customers of banks that run into problems have less trust in banks compared to customers without this experience. Moreover, the findings of Van der Cruijsen et al. [72] show that customer of a bank bailed out in 2008 are less positive about the relative liquidity position of their own bank. Similarly, customers who experience bank failure not only are more likely to consider any possible bank failure but also are less positive about liquidity position of their own bank. Likewise, Knell and Stix [49] point out that individuals with traumatic experiences such as witnessing bank failures and financial loss due to the crisis are less likely to trust in banks. For instance, individuals who incur financial loses during the financial crisis 20 percentage points less likely to have confidence in banks. Likewise, in a cross-country covering twenty-nine transitional economics, Afandi and Habibov [3] show that personal experience with crisis (e.g., closing business and experiencing wage loss due to the financial crisis) matters in trust in banks. For example, trust in banks is twenty percent lower for individuals who think the global financial crisis is a significant threat to their lives. Moreover, their findings indicate that individuals who report that they had been affected the financial crisis through wage loss, drop in remittances, or a decline in working hours are inclined to have lower confidence in banks. On the other hand, reduction in trust does not apply for individuals who experience job loss by the crisis. In contrast, they also find that having closed business due to the crisis is associated with increased trust in banks. Furthermore, their result suggests that financial crises exert a temporary and relatively small

effects on individuals' trust in banks in transitional economies. Based on the findings, Afandi and Habibov [3] speculate that in transitional economies, restoring trust in banks to the pre-crisis level requires less time; recovering the overall economic growth also help enhance populations' trust in banks. In contrast with the findings of Afandi and Habibov [3], Osili and Paulson [57] find that crisis experience may exert long-lasting effects on trust.

In addition to the aforementioned subjective measures concerning financial crisis, some studies employ several objective measures to explore the link between the financial crisis and trust in financial institutions. Combining the data on banking crises covering the time period of 1970-2014 with micro data on confidence in banks, Fungáčová et al. [30] examine how past experiences crisis relates to trust in banks. Thanks to the data provided by Laeven and Valencia [52], these researchers were able to identify the occurrence of financial crisis during respondents' lifetime as well as exposure to banking crisis (i.e., measured by the number of banking crises years in the lifetime divided by the number of the banking crisis). They also expand their analysis by considering the age of the individual at the time of a banking crisis. The findings of Fungáčová et al. [30] indicate that respondents' experience of financial crisis hinders trust in banks. In addition, they show that degree of trust in banks decreases as individuals longer exposed to banking crises. Furthermore, it appears that respondents' age during the banking crisis matters in trust in banks. Trust in banks diminishes only if the respondents are aged between forty-one and sixty during the banking crisis. Moreover, young individuals at the time of banking crises are affected by severe crises, whereas older individuals at the time of banking crises are affected by the less severe crises. In line with what Osili and Paulson [57] speculate on the effect of financial crisis, they conclude that experiencing of a severe banking crisis at young ages may have long-lasting adverse impact on trust in banks. Finally, Fungáčová et al. [30] show that both currency crises and twin crises deteriorate trust in banks. Yet, their impact is slighter than the pure banking crisis. Similarly, in another multinational study, Fungáčová et al. [30] demonstrate that trust in banks is significantly lower for countries that hit by a financial crisis in recent years.

In addition to the direct impact of financial crisis, handful of studies stresses that financial crisis may also lead to changes in drivers of trust. For example, Hansen [38] illustrates that compared with before the global financial crisis, customers' satisfaction more matter in deciding whether to remain loyal to the bank after the global financial crisis. Moreover, results indicate that narrow-scope trust in banks is positively associated with consumers' financial healthiness only before the global financial crisis. Only after the global financial crisis, it is found to be associated with the perceived functioning of the financial market.

2.2.2. Banking Environment, Institutional Settings and Policy Measures

The bulk of literature suggests that countries with better institutional settings, meaning that wealthier and better-governed nations, display higher trust in their societies [27, 48]. Considering this evidence, most studies look into how trust in financial institutions relies on the banking environment and institutional settings. For instance, aiming to study how the financial crisis of 2007-2008 reshape trust in banks, Afandi and Habibov [3] examine country-level covariates of trust in banks. Their result suggests that gross domestic product (GDP), growth rate and rule of law have strong relevance with banking trust before and after 2008 financial crisis. Among the country-level variables they considered in their estimations, GDP growth is the strongest predictor of banking trust. Employing structural equation modeling and cluster analysis, Buriak et al. [15] illustrate that interaction of trust in banks with generalized trust is the most robust in a well-established institutional environment (i.e., countries with good education, well-operating legal system, and equal distribution of income). Similarly, using a Gallup survey covering the time period of 2012 to 2016, Klapper et al. [47] show that regulatory environment is positively associated with trust in banks. Similarly, using the sixth wave of World Value Survey and 2017 Global Financial Index data, Ahunov and Van Hove [4] deliberately concentrate on the link between trust in banks and a set of institutional variables. They show that except for gross domestic product, other components of institutional environment such as rule of law, and composite governance index are not significantly related with trust in banks. Through a cross-country perspective, Ahunov and Van Hove [4] reveal that trust in banks is lower for countries with higher uncertainty avoidance. Unlikely, focusing on how geographic proximity to

a financial institution relates to trust in financial intuitions, Filipiak [26] find that the GDP at provincial level is not relevant in explaining trusting their money with cooperative bank whereas it is negatively associated with trusting money with a national bank.

The quality of the legal framework is discussed by several studies. For instance, Fungáčová and Weill [28] claim that high quality of legal environment enhances trust in financial institutions since individuals living in countries with high quality of legal system acknowledge that they can invest in the financial system without any doubt on legislation system prevailing in the country. Specifically, in developing countries, the quality of the legal framework is low which may increase investors' risk of losing money in any occurrence of bad event [26]. However, empirical evidence on how the quality of the legal system and policy measures related with trust is quite mixed. For instance, Fungáčová and Weill [28] find that the legal framework considered at the provincial level has no association with trust in Chinese banks. On the other hand, some studies report a positive association between legal environment and trust in financial institutions. These studies deliberately scrutinize the importance of deposit insurance. Knell and Stix [49] assert that knowledge on deposit insurance coverage fosters trust in banks. Moreover, these researchers show that deposit insurance cushion further decline in trust after the global financial crisis. Similarly, Prean and Stix [59] find that increase in deposit coverage (their measurement for trust) in Crotia has immediate and positive impact on the perceived safety of deposit. Based on this association, Prean and Stix [59] speculate that at least in the short run, increase in deposit insurance coverage prevents a meltdown of deposits. In line with prior literature, even though there is a correlation between deposit insurance and trust in banks (i.e., it disappears when developing countries are considered), Klapper et al. [47] suggest that deposit protection might contribute to confidence in banks.

Handful studies consider different measures of the banking environment while explaining trust in financial institutions. Included factors vary widely across various studies. For example, Ahunov and Van Hove [4] take into account several aspects of banking environment and structure of the countries, including share of foreign banks in total banks, the share of foreign-owned assets in total bank assets, number

of state-owned banks, and bank z-score (i.e. indicator of how probable the default of country's commercial banking system).However, none of the aforementioned country-level control variables are found to correlate significantly with trust in banks [4]. They obtain the same result for the link between banking environment and trust even if they employ an alternative proxy for trust in banks taken from the 2017 Global Findex database. Similarly, Fungáčová and Weill [28] account for banking size and riskiness in explaining heterogonies observed in confidence in banks across the countries. They employ the ratio of the banking sector in gross regional product per capita and non-performing loans ratio to proxy banking size and riskiness, respectively. Fungáčová and Weill [28] reveal that only banking size matters confidence in Chinese banks. Fungáčová and Weill [28] explain this observation by the fact that customers begin to interact with their banks more frequently as the banking sector develops, which leads to improvement in confidence in those institutions. For the lack of significance of other variables measured at the provincial level, Fungáčová and Weill [28] claim that factors measured at the individual level have a greater impact on confidence in trust.

Other than characteristics of the banking environment, it is also acknowledged that trust may also depend upon characteristics of financial institutions themselves. Unlike the previous literature, Chernykh et al. [17] make an analysis of special household opinion survey that measures public confidence in Russian banks to examine both system-wide determinants indicating banking environment and bank-level characteristics. In order to account for bank risk, these researchers include book equity-to assets ratio as a proxy for capital risk and non-performing assets-to-total assets ratio as a proxy for asset-quality risk in their estimations. They include three indicators which are nonperforming household loans ratio in the Russian banking sector, number of failed banks and, total number of retail depositors in failed banks that are eligible for payment to account for financial healthiness of banking sector in Russia. In contrast with general expectations, results of Chernykh et al. [17] indicate that rather than bank-level risk characteristics, system-wide indicators of financial health (including cumulative number of failed banks, depositors impacted by these failures and total debt in the economy) are important in shaping perception of retail customers regarding their

banks' soundness. Furthermore, Chernykh et al. [17] highlight that bank-level risk characteristics can only explain a slight part of the variation observed in public confidence in banks. Chernykh et al. [17] suggest before improving public trust in a particular bank, policy-makers should consider improving the financial stability of the banking sector as a whole. In contrast, employing Italian household-level data, Ampudia and Palligkinis [8] investigate how several bank characteristics relate to trust in banks. Their findings reveal that households trust more profitable banks (proxied by bank's return on assets) and have lower non-performing loan ratios and reckon on deposits for funding. In contrast, no significant association is found for marketing efforts (measured by marketing expense ratio) of bank. Corporate structure of a bank is irrelevant in explaining household trust in their main bank.

2.2.2. Individual-Level Variables

This section presents an in-depth survey on various individual-level variables that are often accounted for in many empirical research. In the first section, findings on several consumer characteristics including financial literacy, access to information, and political and economic values are discussed. In the second section, results regarding socio-economic and socio-demographic variables and potential explanations for these observations are provided by the existing literature.

2.2.3. Consumer Characteristics

Trust in financial institutions is also related to financial literacy. However, results on financial literacy are mixed. Some studies document a positive association between financial literacy and trust [37, 38, 62] whereas others report a negative association between financial literacy and trust [8]. In addition, studies diverge from each other in terms of measurement of financial literacy. Some studies adopt objective measures such as standard knowledge questions [50, 62] while others employ subjective criteria such as self-reported indicators [37, 38, 62]. Van der Cruijsen et al. [74] document that financially literate consumers have higher probabilities of having confidence in banks, insurance companies, and pension funds. This result not only applies to trust in financial institutions in general but also in one's trust in own financial institution. The results are also robust with

respect to different measurements of financial literacy. Additionally, the findings of Van der Cruijsen et al. [74] show that individuals with higher levels of financial knowledge are more likely to trust in managers of financial institutions as well as the prudential supervisory authority. In contrast, Ampudia and Palligkinis [8] find a negative link between financial literacy and trust in banking sector. However, they report that financial literacy is not significantly related with individuals' trust in their main bank. This result may be due to a specific measurement that they employed for financial literacy. Unlike the majority of existing literature, these researchers create a dummy variable which takes one for households that answer all three questions regarding the types of mortgage contracts, inflation, and portfolio diversification; otherwise, it takes zero.

Employing an experimental approach, Kersting et al. [46] show that financial literacy is negatively correlated with nonprofessional investors' trust in the financial markets. This result supports the arguments of psychological contract theory, basically emphasizing that more knowledgeable investors are better at grasping how financial markets operate [46]. On the other hand, a study conducted by Lachance and Tang [50] reveals a U-shaped relationship between financial literacy and trust in financial professionals. This result emerges because familiarity breeds trust [50]. Employing both subjective and objective measures of financial knowledge, Shim et al. [62] show that subjective measure of financial knowledge is positively associated with young adult consumers' trust in banks and financial institutions, whereas objective measures are found to be not associated with trust in banks and financial institutions. More importantly, these researchers demonstrate that subjective financial knowledge proven to be most significant one among all individual factors considered. Thus, one may speculate that mixed findings on financial literacy arise from different types of measurements that are employed across existing studies.

Continuing with access to information, studies collectively point out that trust in financial institutions depends upon access to information [19, 26]. Many studies support that better information is associated with trust in the financial market. It is suggested that individuals who use information sources on a regular basis may be more knowledgeable on financial institutions and may be better at monitoring their

activities as well [26]. In this regard, it is natural to expect that individuals who regularly use media sources may be more successfully assess the distribution of the future payoffs of their investment kept in the financial institutions. Thus, this lowers the odds of adverse outcomes, which, in turn, fosters trust in financial institutions [26]. Conducting a cross-country study, Fungáčová et al. [29] observe that access to information via television or newspaper fosters trust, whereas access to information via the Internet aggravates trust in banks. Filipak [26] analyzes dataset concerning the saving patterns of India to investigate the role of geographic proximity and information sources in trusting different types of financial institutions. According to the results, trust in financial institutions varies depending upon the type of institution as well as the frequency of using information sources. For instance, daily use of the newspaper or the Internet is not associated with trust in national banks, whereas every day is positively related to trust in a national bank. In addition, it is found that using the aforementioned information sources is positively related with trust in cooperative banks. However, Filipak [26] concludes that information sources have the least importance in explaining trust among factors considered in the analysis.

Fungáčová and Weill [28] indicate that media channels disseminating information do not matter in trust in Chinese banks. Explaining their results, Fungáčová and Weill [28] emphasize that the state controls all media outlets in China, as resulting in individuals' loss of trust in information disseminated by the media. In addition, Fungáčová and Weill [28] attribute this finding to opposing impacts in media messages including positive media messages on the financial system and negative media messages such as financial scandals. In line with findings on trust in banks, Courbage and Nicolas [19] show that access to information fosters or aggravates trust in insurance depending upon the type of information source. They find that access to information through the Internet exerts a negative influence on confidence in insurance, while access to information through newspapers and magazines exerts a positive influence on trust. This emerges because the Internet, in general, serves as a platform where negative news and rumors disseminate easily whereas newspapers and magazines offer more objective information as opposed to other types of information sources. Furthermore, Van der Cruijsen and Jonker [71]

indicate that workers who collect information on their pension funds have higher probabilities of trust in their pension funds.

Regarding the economic values of individuals, Fungáčová et al. [29] show that individuals who attach importance to wealth and helping society are more likely to trust banks. In addition, findings of Fungáčová et al. [29] indicate that individuals who favor inequality and hard work tend to trust in banks. Another notable result is that individuals who do not support increased government ownership in the economy have a higher probability of trusting in banks [29]. This indicates that having pro-market attitudes, economic liberalism, and positive attitudes towards market economy contribute to building trust in banks [29]. In contrast, Fungáčová and Weill [28] find that anti-market attitudes are not significantly correlated with trust in Chinese Banks, meaning that individuals who support competition are not likely to have higher or lower trust in banks. Unlike Fungáčová et al. [29], Fungáčová and Weill [28] point out that individuals who are in favor of increased government ownership in the economy are more likely to trust in banks. This result is not in line with arguments regarding the importance of pro-market attitudes in building trust. However, Fungáčová and Weill [28] attribute this result to characteristics of the Chinese banking system, which is a combination of low financial instability and high government ownership in the overall system. Similarly, Fungáčová and Weill [28] confirm that favoring inequality leads to higher trust in banks in China. Farrell et al. [25] research characteristics related with trust for Bank of England (BoE) and high street banks in England. In line with prior literature, they find that individuals satisfied with current income distribution have higher odds of trust in high street banks and financial institutions. Another significant finding of Farrell et al. [25] is that attitudes supporting tighter regulations on access to credit has no significant association with trust. As a result, Farrell et al. [25] suggest that implementing more responsible lending practices is ineffective in enhancing trust.

Moreover, Courbage and Nicolas [19] explore the mechanism between personal characteristics and trust in insurance. Their result shows that being optimistic (i.e., individual considers themselves optimistic), being altruistic (i.e., individuals feel responsible for taking care of family members), and being future oriented (i.e.,

individual place more importance on future than toady) all positively associated with trust in insurance. The positive association observed between optimism and trust is explained by that optimistic individuals are generally inclined to outweigh good outcomes, in turn, which leads to less skepticism on insurance [19] The positive association between being altruistic and trust in insurance stems from the observation that altruistic individuals who are interested in the well-being of others, care more about helping others [19]. Similarly, including a self-declared optimistic/ pessimistic nature as a variable in their estimations, Mosch and Prast [54] show that being optimistic is positively related with trust in insurer, whereas it not significantly associated with neither trust in banks or pension funds. In contrast, they indicate that there is a positive association between optimism and trust in executive officers of financial intuitions.

In related literature, political values are included since they serve as a proxy for moral progressivism and conservativism [67]. Knell and Stix [49] report that individuals attached to either left or right party tend to trust in banks compared with individuals with no political conviction. In other words, regardless of the direction of political orientation, strong party affiliation is associated with higher trust in banks [49]. According to Knell and Stix [49], people who are attached to left-wing parties experience a gain trust in banks during the global financial crisis. Unlike the results of Knell and Stix [49], Farrell et al. [25] find that rather than attachment to left-wing political views, right-leaning individuals are more likely to trust not only in high street banks but also in Bank of England (BoE). On the other hand, there are controversies on how political values relate to trust in pension funds. Naumann [56] asserts that conservative ideology is generally associated with beliefs that others are self-interested and favors competition. As a result, it is plausible to expect that individuals attached to the right political orientations would be unwilling to contribute to the public good in the future, in turn, which undermines trust in pension funds among supporters of right-wing parties [56]. On the other hand, values of right political conviction rely on a great level of confidence in existing institutions [56]. Concerning trust in pension funds, Naumann [56] indicates that left-leaning respondents have more trust in their pension funds compared to right-

or center-leaning respondents. It is also found that individuals who identify themselves as Liberals or Nationalists are more likely to trust in insurance [67].

2.2.4. Socio-Demographic and Socio-Economic Characteristics

A set of existing studies show that sociodemographic factors explain variations in general trust between people [5, 60]. On the one hand, it is acknowledged that sociodemographic factors may exert impact not only on general trust but also on the probability and type of interaction with financial institutions as well as recognizing the quality of banks' success [49]. On the other hand, other literature branch highlights that interpersonal trust and trust in institutions has completely different determinants [25]. It is emphasized that individuals form their trust towards institutions based on their reputation and performance while they trust in other people considering their expectations and experience [68]. However, it is essential to note that the factors causing mistrust in institutions are likely to undermine trust in banks and financial institutions [25]. Some studies indicate that sociodemographic variables do not explain the heterogeneities in trust in financial institutions or they do not help explain changes in trust in over time. For instance, findings of Knell and Stix [49] suggest that trust in Australian banks varies along with different socio-demographic characteristics. Yet, they fail to explain the decline in trust after the global financial crisis. In addition, they confirm that rather than socioeconomic or macroeconomic variables, individuals' personal history regarding financial crisis and their perceptions on economic situation play a significant role in building trust in banks. These claims are basically rooted in the literature on trust, which emphasizes that different individuals might experience the same economic situation in a completely different fashion [5]. In contrast, the findings of Carbo-Valverde et al. [16] reveal that along with different socio-demographic characteristics including gender, age, employment, education level, marital status, and income trust in banks changes slightly. Similarly, Farrell et al. [25] report that socio-demographic factors have weak associations with trust in financial sector. Focusing on determinants of perceived safety of deposit insurance in Croatia, Prean and Stix [59] show that socio-demographic variables have not

great importance in trust in deposits safety. On the contrary, Courbage and Nicolas [19] find that socio-demographic factors are significant drivers of trust in insurance.

Numerous research looks into the relationship between gender and trust in financial institutions. In general, results indicate that men trust less in financial institutions, including banks [1, 25, 29, 30, 45, 7]. In this context, Lachance and Tang [50] show that the gender effect is more pronounced in trust in other people than in financial institutions. In addition to the aforementioned evidence, Lachance and Tang [50] report that trust in the amount invested in stocks is much less affected by gender. On the other hand, some studies report gender is not a significant correlate of trust in financial institutions [28, 58, 72, 69]. Similarly, Mosch and Prast [54] find that individuals' confidence in their own banks, life insurers or pension funds does not depend upon gender; however, women have lower trust in the executive officers of financial institutions. Focusing on how determinants of trust in banks evolved after the emergence of the 2007-08 financial crisis, Afandi and Habibov [3] document that being female is positively correlated with trust in banks after the global financial crisis as opposed to its negative effect before the global financial crisis. It is also worth to mention that the relationship between gender and trust changes with respect to the type of financial institutions at hand. Contrary to consensus on the effect of gender on trust in banks, Naumann [56] presents that females are less likely to have confidence in pension funds compared to males. In a cross-country setting, Courbage and Nicolas [19] show a strong gender gradient in trust in insurance companies regardless of individuals' past experience. This indicates that females are more likely to insurance companies than males. This is because men are more inclined to lose their trust more after a bad experience, which, in turn, explains the fact that women are generally more trusting compared to men [40]. Furthermore, Nuñez Letamendia and Poher [53] examine how trust relates to different types of financial institutions. Their research indicates that men exhibit higher levels of confidence in the solvency of banks whereas women have comparatively higher confidence in the financial system and banks.

A vast part of literature show that age is a significant correlate of trust in financial institutions. However, results regarding how age of individuals relates to trust in a variety of financial institutions are not clear-cut. Some studies report a positive

association between age and financial institutions [28, 50], whereas others report a negative association between age and trust in financial institutions [1, 2, 3, 29]. In addition, a limited number of papers show that age is not significantly related with trust in banks [54] or trust in banks shows little variation along different ages [16]. There exist some studies which point out a U-shaped linkage between age and trust in banks [45, 49]. Analyzing how trust in Australian banks during the global financial crisis, Knell and Stix [49] find that trust in banks is lowest for middle-aged people, highest for the youngest individuals, and somewhat lower for elderly individuals. However, Knell and Stix [49] claim that age does not account for observed trust decline after the global financial crisis since the composition of individuals surveys with respect to sociodemographic variables does not exhibit fluctuations. On the contrary, Fungáčová and Weill [30] find that individuals' age during the financial crisis matters in their trust loss. They point out that individuals experience trust loss towards banks only if they are in the age group of 41-50 or 51-60 during the emergence of the financial crisis. In other words, only trust of individuals who are mature during the financial crisis deteriorates, and experiencing financial crisis at embryonic stage of the life does not exert long-lasting negative effects on trust in banks [30]. In the literature, this observation is explained by the fact that compared to younger counterparts, older individuals are more adversely affected by negative economic consequence brought by the financial crisis [30]. Another possible explanation is that loss experiences in a banking crisis impact how people behave [55]. Studying consumer trust in twenty-nine European countries, Jarvinen [45] finds that younger and older individuals have more confidence in banks compared to middle-aged individuals. The relationship between age and trust is also contingent on the type of studied financial institutions. For instance, Naumann [56] shows that people aged sixty have higher odds of trust in pension funds in European countries. Likewise, Van der Crujisen and Jonker [71] find that elderly people exhibit lower levels of trust in their pension funds than their younger counterparts. Similarly, Van der Cruijsen et al. [74] report a positive relationship between age and trust in pension funds in the Netherlands, whereas negative correlations are apparent in the link between age and trust in insurance companies. Moreover, Farrell et al. [25] show that age is a significant correlate of Bank of England (BoE), whereas it is not a significant correlate of trust in high street banks

and financial institutions. Similar to previous studies, Nuñez Letamendia and Poher [53] point out that effect of trust varies with respect to the type of financial institutions; age is positively linked with trust in solvency and honesty of banks whereas it is negatively linked with trust in financial system.

Another common finding is that individuals' education plays a tremendous role in confidence in financial institutions. In general, having higher levels of education is negatively correlated with trust in a wide variety of financial institutions [19, 29, 30, 28, 54, 74]. In a cross-country analysis including fifty-two countries, Fungáčová et al. [29] document that more educated individuals are less likely to trust in banks. This result is attributed to the fact that educated people are better at grasping the working mechanism behind financial markets and they,in general, are more skeptical of financial institutions [29]. Similarly, Van der Cruijsen et al. [72] report that individuals with a higher level of education have higher probability of considering the possibility of bank failure than less educated ones. In contrast with previous findings, Lachance and Tang [50] find that education has a significant impact on trust in financial professionals, whereas it has no significant effect on trust in banks and financial institutions. Moreover, the results of two articles show that individuals with tertiary education exhibit a higher level of confidence in banks [3, 62]. In line with this branch of literature, Farrell et al. [25] point out educated people exhibit higher levels of trust in Bank of England (BoE). Furthermore, Prean and Stix [59] reveal that individuals with higher education levels are more likely to trust in either safety of deposits or in the local currency than those with lower education. On the other hand, some studies report no significant relationship between trust in banks and education level [44, 45]. Another strand of the literature supports that education is positively correlated with trust in financial institutions. For example, it is reported that trust in insurance companies is higher for individuals with post-secondary certificates or diplomas [67]. Likewise, Van Dalen and Henkens [69] report that more educated individuals are more likely to trust in their pension fund providers, banks or insurance companies.

Income and wealth are investigated by many researchers. Focusing on trust in Australian Banks during the financial crisis, Knell and Stix [49] state that household income has a major effect on trust in banks. They indicate that higher income is

associated with a higher level of trust in banks. Similarly, it is reported that higher income at individual-level favors confidence in banks even though higher income at aggregate-level does not contribute trust in banks [29]. This result may be due to more frequent interaction between banks and individuals with higher income or the presence of better bank-customer relationships in individuals with high income levels [29]. In line with results regarding the positive effect of income, Ampudia and Palligkinis [8] point out that households in the lowest income quantile display lower trust in their banks. Employing a measure different from existing studies, Prean and Stix [59] show that respondents with low income are less likely to trust in the safety of deposits. In contrast, Fungáčová and Weill [28] find no significant association between income and trust in banks. However, their results indicate that individuals who feel satisfied with their current financial situation is more likely to confidence in the bank. Similarly, Prean and Stix [59] find that subjective assessment of the financial situation has great relevance in explaining trust. Employing a broader perspective, Farrell et al. [25] find that individuals who feel satisfied with their household income level in terms of its ability to meet their needs are not only more likely to trust in Bank of England (BoE) but also in high street banks and financial institutions. In addition, it is found that young adults' trust in banks and financial institutions is positively related with their self-reported wellbeing and financial status [62]. Studies focusing on financial institutions other than banks confirm the positive impact of income on trust. For instance, some studies report that income is positively related with trust in pension funds [74] or pension fund providers [56].

Religion is included in handful of studies. Fungáčová et al. [29] find that Hindus and Buddhist are more likely to trust in banks compared to Protestants. In contrast, they conclude that Christian hierarchal religions such as Catholicism and Orthodox Christianity exhibit lower confidence than Protestants. Moreover, Farrell et al. [25] show that individuals with religious beliefs, regardless of their type, are more trusting of the financial sector than atheists.

2.3. Interpersonal Trust

Generalized trust or interpersonal trust means trust in other people with whom you do not have direct personal ties with [15]. Interpersonal trust is usually treated as social capital [15, 58] hence as one of the production factors alongside with physical capital and human capital. Interpersonal trust is generally accepted as a better indicator of social capital compared to political trust or institutional trust [11]. Thus, one branch of the literature mainly provides insights and evidence on economic outcomes of interpersonal (generalized) trust. This strand of literature generally conducts a cross-country investigation by employing generalized questions on the trust from World Values Survey (WVS) or European Social Survey (ESS). Prior literature points out that individuals in high-trust societies are more respectful to governments and law [27]. This leads to less time and resources allocated on enforcing contracts and agreements. On the other hand, people in low-trust societies end up with protecting the position for their own sake, which may result in wasteful use of production sources [54]. Consequently, economic and social well-being prosper in societies with higher interpersonal trust [9, 27]. In this regard, empirical studies show that higher generalized trust contributes economic well-being of society by: (i) fostering economic growth [6, 13, 14, 23, 48]; (ii) stimulating economy through reduced traction costs between economic parties, which eventually leads to increased investment [80]; (iii) increasing financial development [35, 36]. However, it should be noted that these studies point out there could be a bidirectional relationship between trust and economic development and it is not plausible to mention one-way causal relationships between these two factors [6].

The importance of interpersonal trust is not only limited to economic performance. Arrow [9] argues that trust is an element of every executed commercial transaction. Thus, one could expect that social capital has a major impact on financial markets since financial contracts are nothing more than promises of exchange of money taking place in the future. Whether such an exchange conducted over period of time is not only contingent on the legal enforceability of contracts but also on to the extent two parties trust each other [35]. A large body of literature emphasizes that interpersonal trust is a vital element for the functioning of financial sectors, and it indirectly contributes to financial development. Several studies investigate how

generalized trust is associated with different aspects of financial behaviors and the financial choices of individuals. For instance, Guiso et al. [35] point out that households living in areas characterized by high levels of social capital invest wealth in stock rather than holding it in cash. This result still applies even after the researchers control for a wide variety of household characteristics and institutional settings. Moreover, they found that households in social capital-intensive areas are less likely to receive a loan from a relative or friend. Furthermore, Guiso et al. [36] argue that the functioning of financial market is conditional on high levels of trust. They support that individuals decide over whether using banking services or not based on their trust. Based on this argument, Guiose et al. [36] come up with a model that point outs that lower level of trust explains why individuals not participate in the stock market. They also state that individuals with higher level of trust are more likely to buy stocks, specifically invest in risky ones, and invest larger share of their wealth in stocks as well. They find a striking result: individuals with higher interpersonal trust 1.5 times as likely to participate in the stock market. Exploiting European Social Survey, El-Attar and Poschke [24] show that households with less interpersonal trust invest more in housing than investing in financial assets, particularly avoiding risky ones. Similarly, Georogakas and Pasini [31] report that individuals living in areas where high trust is apparent have a higher probability of participating in stock market.

Even though the relationship between generalized trust and different types of financial decisions is well-documented in existing literature, how generalized trust relates to trust in financial institutions is relatively less addressed. This part of the literature mainly focuses on banks [3, 29]. Handful studies point out that the central role of trust in other people in trust in financial institutions. More specifically, it is hypothesized that a general distrust in society may also destroy trust in banks [29]. A cross-country study conducted by Buriak et al. [15] reveals that interpersonal trust is positively associated with trust in banks. Similarly, studies generally report a positive link between interpersonal trust and trust in financial institutions. Concentrating on how the 2007-2008 financial crisis reshapes trust in banks, Afandi and Habibov [3] find that having trust in others remains as a strong correlate of trust in financial institutions even after the occurrence of the global financial crisis.

Likewise, all estimations of Fungáčová et al. [29] show that those who believe in others are also more likely to trust in banks. However, they highlight that even though general trust is positively related with trust in banks, it does not imply that two dimensions of trust share exactly the same determinants.

Additionally, based on literature on generalized trust, Fungáčová et al. [29] claim that the judicial system plays a significant role in trust in institutions. Taking this into account, Fungáčová et al. [29] check the robustness of the result on generalized trust by employing other measures for trust, which they called relative trust in banks, defined as the difference between trust in banks and trust in courts. Unlike the link relationship between generalized trust and trust in banks, they show that generalized trust is negatively associated when they switch to relative trust in banks, i.e., people with higher generalized trust are more trust banks yet less trust in other institutions. Similarly, focusing on trust in insurance companies in Australia, Tranter and Booth [67] show that generalized trust is a strong indicator of trust in institutions in general. More specifically, the results of Tranter and Booth [67] indicate that trusting others is positively correlated with trust in banks as well as in insurance companies.

Table 2.1.1.: Definitions of Trust in Various Financial Institutions

Trust in the Financial Sector	Answer to "To what extent do you trust in banks and in the financial system?" (1= Complete distrust, 2=Some distrust, 3=Neither trust nor distrust, 4=Some trust, 5=Complete trust).	Afandi and Habibov [3]
	Answer to "Do you tend to trust or tend not to trust high street banks and financial institutions?" (1 = trust it a great deal, 2 = tend to trust it, 3 = tend not to trust it, and 4 = distrust it greatly)	Farrell et al. [25]
	Agreement with "Generally speaking, I would say that financial institutions can be trusted in general." (the scale of 0–5, where 0= absolute no and 5= absolute yes.)	Park [58]
Belief in behavior of financial institutions	Answer to "Spanish financial institutions are changing their behavior as a consequence of the current crisis" (scale of 0= strongly agree, 1= agree, 2=neither agree nor disagree, 3= disagree 4= strongly disagree)	Carbó-Valverde et al. [16]
	Answer to "Spanish financial institutions are changing their behavior as a consequence of the current crisis for the worse" (scale of 0= strongly agree, 1= agree, 2=neither agree nor disagree, 3= disagree 4= strongly disagree)	Carbó-Valverde et al. [16]

Trust in financial executives or people involved in financial sector	Answer to "Do you have confidence in the people running financial sector and banks?"	Stevenson and Wolfers [65]
	Answer to "As far as the people running these institutions are concerned, would you say you have a great deal of confidence, only some confidence, or hardly any confidence at all in them?"	Lachance and Tang [50]
	Agreement with "I trust the financial markets and those individuals involved with them to operate as intended" (scale from 1= strongly agree to 9= strongly disagree).	Kersting et al. [46]
	Agreement with "I trust bankers/ brokers" (scale from 1=not trust at all to 5= completely trust).	Guiso [34]
Trust in managers' competence and integrity	Agreement with 'Managers of financial institutions are in general knowledgeable and sound.' (1 = completely disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = completely agree).	Van der Cruijsen et al. [74]
	''How would you characterise [pensionfunds/banks/insurance companies] in terms of the following elements?'' Six elements of trustworthiness of pension providers were assessed by participants: (1) stability; (2) integrity; (3) competence; (4) benevolence; (5) transparency; and (6) social responsibility	Van Dalen and Henkens [69]

Trust in managers' competence	Agreement with 'Managers of financial institutions are in general knowledgeable.' (1 = completely disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = completely agree).	Van der Cruijsen et al. [74]
Trust in managers' integrity	Agreement with 'Managers of financial institutions are in general sound.' (1 = completely disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = completely agree).	Van der Cruijsen et al. [74]
Trust in supervisory authority	Answer to ''How much trust do you have in De Nederlandsche Bank?'' (scale from 1=absolutely no trust to 4= a lot of trust) (1 = absolutely no trust, 2 = not so much trust, 3 = pretty much trust, 4 = a lot of trust).	Mosch and Prast [54], Van der Cruijsen et al. [72], Van der Cruijsen et al. [72]
Broad-scope trust in banks: direct approach	Answer to "Could you tell me how much confidence you have in banks?" (1=a great deal of confidence, 2=quite a lot of confidence, 3=not very much, 4=confidence or none at all).	Adamyk et al. [2], Ahunov and Van Hove [4], Buriak et al. [15], Fungáčová and Weill [28], Fungáčová et al. [29], Fungáčová et al. [30]
	Answer to ""Could you please indicate your degree of trust in the banks?" (scale from 1= "I don't trust it at all to 10= "I trust it completely").	Ampudia and Palligkinis [8]
	Answer to "System trust: If you had to express your trust in banks with a grade, what grade would you give?" (10-point scales from 1=trust at all to 10= complete trust).	Van Esterik-Plasmeijer and van Raaij [75]

	Agreement with “I trust banks” (scale from 1=not trust at all to 5= completely trust). *(1=hardly any, 2=only some, 3=a great deal of confidence)	Guiso [34], *Shim et al. [62]
	Answer to “‘How high is your trust in domestic banks?” (scale of Very high/high/low/very low)	Knell and Stix [49]
	Answer to “How much trust do you have in banks?” (Response categories:1 = not rust at all, 2= not very much trust, 3=quite a lot of trust, 4= a great deal of trust)	Tranter and Booth [67]
	Answer to “Do you have confidence in the financial sector and banks?”	Stevenson and Wolfers [65], Klapper et al. [47]
Broad- scope trust in banks: indirect approach	Agreement with “Currently, depositing money at banks is very safe in Croatia’’ (scale from 1=strongly agree to 6= strongly disagree).	Prean and Stix [59]
	Answer to “In general, do you trust that banks in the Netherlands are able to repay deposits at all times?” (scale from 1=absolutely no trust to 4= a lot of trust).	Van der Cruijsen et al. [72], Van der Cruijsen et al. [74]
	Answer to “To what extent do you trust [pension funds/banks/insurance companies] in guaranteeing a comfortable pension?” (1= no trust; 2= little trust; 3= neutral, 4= some trust, 5= a lot of trust)	Van Dalen and Henkens [69]
	Answer to ‘In general, do you trust that banks in the Netherlands are able to repay	Mosch and Prast [54], Van der Cruijsen et al. [74]

	deposits at all times?' (1 = no, not at all, 2 = no, predominantly not, 3 = neutral, 4 = yes, predominantly, 5 = yes, completely).	
Narrow-scope trust in banks: direct approach	Answer to "Would you like to trust in national and cooperative banks with your money?" (1= Yes, I would definitely trust them with my money, 2= I might trust them with my money, 3= I would not like to trust them with my money, 4= I would definitely not trust them with my money)	Filipiak [26]
	Answer to ""Do you trust your main bank, i.e. [bank name]?" (scale from 1= "I don't trust it at all to 10= "I trust it completely").	Ampudia and Palligkinis [8]
	Answer to "Describe your experience with the particular bank." (five-step scale: 1= poor experience and 5= excellent experience)	Chernykh et al. [17]
	Answer to "Bank trust: If you had to express your trust in bank X at this moment, what grade would you give?"	Van Esterik-Plasmeijer and van Raaij [75]
Narrow-scope trust in banks: indirect approach	Answer to "At the moment, do you trust that the bank(s) at which you have deposits is (are) able to repay these deposits at all times?'' (scale from 1=absolutely no trust to 4= a lot of trust).	Van der Cruijsen et al. [72]
Mixed-scope trust in banks: direct approach	Agreement with "I trust in the solvency of banks in general, and of my bank in particular."	Carbó-Valverde et al. [16]

	(scale of 0= strongly agree, 1= agree, 2=neither agree nor disagree, 3= disagree 4= strongly disagree)	
Trust in banks	Answer to "Please tell me whether each of the following is A REASON why you, personally, DO NOT have an account at a bank or another type of formal financial institution" (options: (a) "having too little money to use an account," (b) "high cost of financial services," (c) "long distance to financial institution," (d) "a family member already has an account," (e) "lack of documentation," (f) "lack of trust in financial institutions," (g) "religious reasons).	Ahunov and Van Hove [4], Allen et al. [7]
Broad-scope trust in insurance companies: direct approach	Answer to "How much do you agree or disagree with the following statements: insurance companies are trustworthy?" (scale of 1= strongly disagree,2= somewhat disagree,3= neither agree nor disagree,4= somewhat agree, and 5=strongly agree).	Courbage and Nicolas [19]
	Answer to "How much trust do you have in insurance companies?" (Response categories:1 = not rust at all, 2= not very much trust, 3=quite a lot of trust, 4= a great deal of trust)	Tranter and Booth [67]

Broad-scope trust in insurance companies: indirect approach	Answer to "To what extent do you trust [pension funds/banks/insurance companies] in guaranteeing a comfortable pension?" (1= no trust; 2= little trust; 3= neutral, 4= some trust, 5= a lot of trust)	Van Dalen and Henkens [69]
Narrow-scope trust in insurance companies: indirect approach	Answer to 'At the moment, do you trust that the life insurance company at which you have contracts is able to pay your insurance money at all times?' (1 = no, not at all, 2 = no, predominantly not, 3 = neutral, 4 = yes, predominantly, 5 = yes, completely).	Mosch and Prast [54], Van der Cruijsen et al. [74]
Broad-scope trust in pension funds: indirect approach	Answer to the question 'In general, do you trust pension funds in the Netherlands to fulfil their payment obligations towards retirees at all times?' (1 = no, not at all, 2 = no, predominantly not, 3 = neutral, 4 = yes, predominantly, 5 = yes, completely.)	Van der Cruijsen et al. [74]
Narrow-scope trust in pension funds: indirect approach	Answer to "Do you trust your pension fund(s) to be able to pay your pension benefit at all times?"	Naumann [56]

CHAPTER 3

DATA AND METHODOLOGY

This section of the thesis is exclusively dedicated for data that is employed in estimations and its details. The discussion presented in this chapter starts with introducing the data that are employed in regression analysis and its detail. Lastly, chapter concludes with the methodology used in the estimations. Merits and demerits of the used methodology are also provided in the last part of this chapter.

3.1. Data

In order to present trust regarding banks at micro-level, this thesis employs two data from one major data source. Following the handful of studies in the related literature, this study employs sixth and seventh waves (the two most recent version) of the World Values Survey (WVS) to capture trust in overall world [28, 29]. The WVS has been conducted globally every five years since 1981 to assess social, political, economic, religious and cultural values of people over different societies all over the world. The survey does not solely focus on individuals' trust regarding financial institutions. Rather than that, it provides information on individuals' values, attitudes as well as beliefs on wide variety of subjects including gender, family, religion, poverty, education, health, security, trust etc. In this regard, sixth wave of WVS includes 258 survey items. Latest version is enriched with inclusion of new topics such as corruption, accountability and risk. In addition, both version of the data includes information on individuals' socio-economic characteristics.

The sixth wave of WVS (WVS-6) was carried out during the period of 2010-2014 and it covers 60 countries all over the world. The seventh wave of WVS (WVS-7) administered in different years in each country, covering the years 2017-2020 and it includes 64 countries. The next round is currently on progress and it is expected

to be completed in 2024. The inclusion of the next round will provide new insights into research conducted in the future. As it is natural to expect that some countries in two versions of the survey overlaps. These are Argentina, Australia, Brazil, Chile, China, Taiwan, Colombia, Cyprus, Ecuador, Egypt, Germany, Hong Kong, Iraq, Japan, Kazakhstan, Jordan, South Korea, New Zealand, Nigeria, Pakistan, Peru, Philippines, Romania, Russia, Singapore, Ukraine, the United States and lastly, Zimbabwe. Both versions of the survey provide information from a nationally representative sample in each country included. The data is collected through multi-stage territorial stratified sampling methodology. Table 3.1.1 displays the name of countries, corresponding number of respondents and in which year the survey is administered in each country for sixth and seventh round of survey, respectively. However, due to the missing observations in some variables included in the regressions sample sizes reduced in each country.

Even though the survey does not specifically target to document individuals' trust in different institutions, majority of studies in trust literature employs WVS to quantify correlates of trust. This is because lack of available data hampers the research on the issue [4]. For this reason, studies in the related literature heavily relies on the trust question included in WVS [4, 28, 29]. Therefore, all individuals in the sample are asked about their trust in banks regardless of their bank account ownership. In addition, it is acknowledged that questions regarding trust are only available in the last two versions of WVS [4, 28]. As a result, tracking the changes in trust towards banks is not possible for the studies relying on information provided by WVS. These studies have always cross-sectional design, which is also relevant for the thesis at hand [4, 28, 29].

Table 3.1.1: List of Countries Included in Each Wave of the Survey

	Panel (A) World Values Survey-Wave 6		**Panel (B) World Values Survey-Wave 7**	
Name of the Country	**Number of Participants**	**Survey Year**	**Number of Participants**	**Survey Year**
Algeria	1,200	2014	-	-
Andorra	-	-	1,004	2018
Azerbaijan	1,002	2011	-	-
Argentina	1,030	2013	1,003	2017
Australia	1,477	2012	1,813	2021
Armenia	1,100	2011	-	-

Bangladesh	-	-	1,200	2018
Brazil	1,486	2011	1,762	2018
Belarus	1,535	2014	-	-
Canada	-	-	4,018	2020
Chile	1,000	2012	1,000	2018
China	2,300	2013	3,036	2018
Taiwan	1,238	2012	1,223	2019
Colombia	1,512	2012	1,520	2018
Cyprus	1,000	2011	1,000	2018
Ecuador	1,202	2013	1,200	2018
Egypt	1,523	2013	1,200	2018
Ethiopia	-	-	1,230	2020
Estonia	1,533	2011	-	-
Greece	-	-	1,200	2017
Georgia	1,202	2014	-	-
Guatemala	-	-	1,203	2019
Palestine	1,000	2013	-	-
Germany	2,046	2013	1,528	2017
Ghana	1,552	2012	-	-
Haiti	1,996	2016	-	-
Hong Kong	1,000	2014	2,075	2018
Indonesia	-	-	3,200	2018
India	4,078	2012	-	-
Iran	-	-	1,499	2020
Iraq	1,200	2013	1,200	2018
Japan	2,443	2010	1,353	2019
Kazakhstan	1,500	2011	1,276	2019
Jordan	1,200	2014	1,203	2018
South Korea	1,200	2010	1,245	2018
Kuwait	1,303	2014	-	-
Kyrgyzstan	1,500	2011	1,200	2019
Lebanon	1,200	2013	1,200	2018
Libya	2,131	2014	-	-
Macau SAR	-	-	1,023	2019
Malaysia	1,300	2012	1,313	2018
Mexico	2,000	2012	1,739	2018
Morocco	1,200	2011	-	-
Myanmar	-	-	1,200	2020
Netherlands	1,902	2012	-	-
New Zealand	841	2011	1,057	2019
Nigeria	1,759	2012	1,237	2018
Pakistan	1,200	2012	1,995	2018
Peru	1,210	2012	1,400	2018
Philippines	1,200	2012	1,200	2019
Poland	966	2012	-	-
Puerto Rico	-	-	1,127	2018
Qatar	1,060	2010	-	-
Romania	1,503	2012	1,257	2017
Russia	2,500	2011	1,810	2017
Rwanda	1,527	2012	-	-
Serbia	-	-	1,046	2017
Singapore	1,972	2012	2,012	2020
Slovenia	1,069	2011	-	-
Spain	1,189	2011	-	-
Sweden	1,206	2011	-	-
South Africa	3,531	2013	-	-
South Korea	-	-	1,245	2018
Taiwan	-	-	1,223	2019
Tajikistan	-	-	1,200	2020

Thailand	-	-	1,500	2018
Tunisia	-	-	1,208	2019
Turkey	-	-	2,415	2018
Ukraine	1,500	2011	1,289	2020
United States	2,232	2011	2,596	2017
Uruguay	1,000	2011	-	-
Uzbekistan	1,500	2011	-	-
Vietnam	-	-	1,200	2020
Yemen	1,000	2014	-	-
Zimbabwe	1,500	2012	1,215	2020

Source: World Values Survey, Wave 6; World Values Survey, Wave 7

3.2. Dependent Variable

Since this thesis mainly concentrates on trust in banks, it utilizes the following question which is included in both waves of the WVS: "*Could you tell me how much confidence you have in banks?"*[2] In this question, respondents score their trust in banks on a Likert scale, which takes value from one to four. Scoring one means that respondent has quite a lot of confidence in banks whereas scoring four means respondent has no confidence in bank at all. In addition, individuals may respond this question by choosing "Don't know" or "No answer". These kinds of answers are considered as missing observations. To ease the interpretation of results, as is apparent in majority of the literature, scoring is reversed. For the rest of the thesis, four corresponds to highest level of trust and one corresponds to lowest level of trust in banks. This question is significant since it is mainly employed for the construction of dependent variables used in the analysis.

To better illustrate difference in trust among different countries, trust variable is recoded in one alternate fashion for only the discussion in data section of this thesis. In this regard, trust is measured by a binary which takes one for individuals who respond the question with either answer of "a quite a lot" or "a great deal" and zero, otherwise. This manner of measurement allows us to display trust in banks by percentage in each country.

[2] The exact wording of the question can be found in items numbered as V121 in VWS-6 and Q78 in WVS-7, respectively.

3.3. Explanatory Variables

3.3.1. Socioeconomic and Sociodemographic Factors

To enhance the comparability across previous studies, this thesis includes set of sociodemographic variables which is commonly found in previous studies [28, 29]. By doing so, this thesis mainly aims to determine whether socioeconomic characteristics of individuals are significant correlates of trust in banks or not. In this regard, the details of these variables are discussed here below. In addition, details and sources of variables at micro-level are provided in Table A.1 in Appendix.

First, a dummy variable regarding gender is included. Gender of respondents are presented by an indicator of male participants. Other demographic variables such as age and marital status are also controlled in the estimations. Age variable represents the respondents' age in years and it is continuous variable in all estimations. Marital status takes one if respondent is married and otherwise zero. Since the relationship between education and trust in banks is quite controversial, we also control for education level of respondents. By doing so, we aim to investigate whether education level hinders or boosts trust towards banks. In this regard, education level variable measures the highest level of education attained by the respondents. The education level variable is categorical variable taking the following values; 0= no formal education, 1=primary education completed, 2=secondary education completed, 3= tertiary education completed.

The self-appraisal of respondents' own health status of is also included in the estimations. This is accounted by self-reported health status variable, which takes values ranging from 1 (poor health status) to 4 (very good health status). In addition to aforementioned variables, a dummy variable for whether respondent is a chief economic wage earner or not is included. This is because being chief-income earner could be associated with more interaction with banks compared to others in the household, which might have an effect on their level of trust in banks. It is reasonable to speculate that individuals living in metropolitan areas or near the city center may more informed about banks and interact them more often compared to

ones live in less developed areas. To study whether trust in banks changes with respect to respondents' living area, we include an ordinal variable which takes 1 if the respondents lives in an area where its population above 500,000 and 0 for areas having population less than 500,000.

We control for financial situation of respondents by several subjective and objective measures. In this regard, income variable shows individual own evaluation on total income the household that they live in falls in which income group. The income variable takes values between 1 showing lowest income group and 10 showing highest income group. We also control for respondents' satisfaction level with current financial situation of household. A similar scale is also used in this variable in where 1 representing the complete dissatisfaction of the income of respondents' household and 10 representing the complete dissatisfaction of the income of respondents' household.

Finally, access to information on daily basis may impact trust in banks. It is well acknowledged that access to information boost to spread information on economic and financial outlook. For this reason, individuals that use information sources on daily basis may be more informed about economy, financial scandals as well as financial crisis. Following Fungáčová and Weill, [28]; Fungáčová et al. [29] and Courbage and Nicolas [19], a set of indicators on access to information is added to our regression analysis. In this regard, three main information sources are considered: television, newspaper and the Internet. Television is a dummy variable takes 1 if the respondent uses television on daily basis with aim of obtain information. Similarly, newspaper takes 1 if the respondent uses newspaper on daily basis to reach information. Finally, the Internet takes one if the subject uses the Internet daily to obtain information and 0 otherwise.

3.3.2. Political and Economic Values

Since previous studies repeatedly show that political and economic values matter in trust in financial institutions [19, 28, 29], respondents' political and economic values are controlled in regressions by a set of variables.

Regarding out political values, political orientation variable represents where the respondents place themselves on political spectrum of a scale 1 (complete left-wing partisan) to 10 (complete right-wing partisan). In addition to political convection variable, four dummy variables are included to account for political values. In addition, Democracy variable presents how much importance is attached to be governed democratically by respondent.

Following Fungáčová and Weill [28] and Fungáčová et al. [29], we proxy individuals' economic values by four variables. These variables mainly represent respondents' attitudes toward market economy and ideal economic outlook in their mind. Inequality measures whether the respondent support income differences in exchange for individual effort on a scale from 1 to 10 with highest support showing complete support. The variables is created by using following statement: "We need larger income differences as incentives for individual effort". Government role measures whether the respondent is in favor of full government ownership in the economy or not on ranging from 1 (meaning individual have no anti-market sentiment) to 10 (meaning that individual have complete anti-market sentiment). The response is based on the following statement: "Private ownership of business and industry should be increased." Lastly, competition supporter is included in estimations to account for whether individual have attitude toward market economy. The variable competition records answers for the following statement: "Competition is harmful. It brings out the worst in people." The answers are on 10-point scale with highest value indicating complete agreement with the statement. Lastly, Hard-work variable is included in estimated equations to quantify whether individuals' belief on hard work is associated with trust in banks. Hard work variable is constructed from the following statement in both rounds of surveys: "In the long run, hard work usually brings a better life." Hard work variable takes values from 1 (showing that individual favors the aforementioned statement) to 10 (showing that individual oppose the aforementioned statement).

3.3.4. Country-Level Variables

In addition to individual characteristics, several country-level variables included to examine how country characteristics impact trust in banks. For this reason, this

study combines latest two waves of WVS with various variables at country-level in corresponding years. Country-level data collected from several international databases such as World Bank Database [78] and Global Financial Development Database (GFDD)[32]. This is because not all variables of interest are available in one source. While constructing the country-level data, the available closest year for each wave is taken into account. In this regard, country-level variables are constructed by considering four main themes which are detailed in following paragraphs.

First set of variables represents the economic conditions. This includes GDP per capita and inflation rate. Data on economic development of countries are obtained from World Development Indicators provided by World Bank. Experience of financial crisis is also considered in estimations since the occurrence of financial crisis in near past may hamper confidence in financial institutions. In this regard, financial crisis takes value of one if the country had experienced financial crisis in recent years 0 otherwise. This variable created by information provided in the study of Laeven and Valencia [51].

This study also accounts for the several aspects of banking environment and structure of banking sector. Basically, included variables measures the size and riskiness of banking sector of survey countries. In this regard, size of banking sector is measured by financial system deposit to GDP and this variable mainly shows the importance of financial sector in total economy in a given country. The riskiness of banking sector is measured by two variables: bank nonperforming loans to total gross loans and bank z-score. Bank nonperforming loans to total gross loan indicates the share of nonperforming loans in the total value of loan portfolio. Bank z-score captures the probability of default of a country's banking system. Regarding data are extracted from Global Financial Development Database [32].

In this thesis, it is hypothesized that presence of deposit insurance regime may indirectly boost confidence in banks since it prevents sudden meltdown of deposits as result of potential bank run. For this reason, a dummy variable indicating presence of deposit regime in given country is included in estimations. Deposit insurance takes one if the country has a deposit insurance scheme in recent. The

information regard which countries adopt deposit insurance scheme is based on study of Demirgünç-Kunt et al. [22]. Another factor may influence trust in banks is bank concentration. As it is highlighted by Fungáčová and Weill [28], high concentration may cause banks to less promote their product which, in turn, adversely influence trust in banks. On the other hand, higher bank concentration may also foster trust in banks since individuals believe that they are "too big to fail". Relying on these explanations, bank concentration is taken into account in the estimations. Bank concentration is measured by the share of the assets of three largest commercial banks in total commercial banking assets. Data is obtained from Global Financial Development Database.

The previous literature also stresses the importance of governance quality and legal framework in building trust [4, 28]. For this reason, different indicators for political stability and governance conditions are introduced into both univariate analysis and empirical analysis. This includes rule of law, voice and accountability, political stability, government effectiveness, regulatory quality and lastly, control of corruption. In addition, the governance index is included in empirical analysis and it is constructed by taking the average of six dimensions of governance quality. The data are collected from World Governance Indicators [79]. Definitions, details and sources regarding country-level variables are provided in Appendix Table A.2.

3.4. Methodology

3.4.1. Simple Multi-Level Model

This section presents the theoretical foundation of this thesis. We start by writing the general equation of level-1 model:

General Equation:

$$y_{ij} = \beta_{0j} + \beta_{1j} x_{ij} + e_{ij} \quad (\mathbf{1})$$

where y_{ij} is the dependent variable measured for level-1 unit i $(= 1, \ldots\ldots N_j)$ nested within the level 2 unit j $(= 1, \ldots\ldots, J)$. Further, X_{ij} is the value on level-1 predictor and e_{ij} is the random error associated with the i th level-1 unit nested within the jth

level-2 unit. Basically, this model is similar to linear regression model with an important difference. Similar to most statistical models, level-1 disturbances (e_{ij}) follow normal distribution with a mean of 0 and variance of σ^2. This is relevant for any level-1 model using continuous variable as their outcome variable.

$$E(e_{ij}) = 0\,; var\,(e_{ij}) = \sigma^2 \quad (\mathbf{2})$$

Different from linear regression model, the regression parameters are vary across level-2 units. (Level-2 units are indicated by j-subscript in β parameters in the general equation). In other words, regression parameters are fixed in linear regression models whereas they vary across higher level units in multi-level model. Introduction of such variable coefficients dissociate hierarchical models from other models used in trust literature.

In order to better understand this difference, the variation of the level-1 regression parameters in general equation is modeled as function of level-2 predictors. In other words, level-1 regression coefficients ($\beta_{0j}\ and\ \beta_{1j}$) are employed as outcome variable and each are associated with the level-2 predictors. That is,

$$\beta_{0j} = \gamma_{00} + \gamma_{01} w_j + r_{0j} \qquad (\mathbf{3})$$

and

$$\beta_{1j} = \gamma_{01} + \gamma_{11} w_j + r_{1j} \qquad (\mathbf{4})$$

These two equations taken together compromise the level-2 model of hierarchical model structure. Here γs are referred as fixed level-2 parameters. More specifically, γ_{00} and γ_{01} are overall mean intercept adjusted for w. γ_{01} denotes the regression coefficient associated with w relative to level-1 intercept whereas γ_{11} denotes the regression coefficient associated with w relative to level-1 slope. Finally, r_{0j} stands for random effects on the jth level-2 unit adjusted for w on the intercept whereas r_{1j} stands for random effects on the jth level-2 unit adjusted for w on the slope. Level-2 model introduces new two terms$(r_{0j}\ and\ r_{1j})$ which basically sets multi-level models apart from normal regression model. Moreover, multi-level models basically depend on pattern of variance in the level-1 intercept and slopes. It is also

worth to note that there is no assumption made such that level-2 predictors perfectly explains variation in level-1 predictors.

Thus, level-1 model (1) and level-2 models that are presented in $(2) and$ (3) are fully characterize the multi-level model. A single equation of multi-level model would be expressed by substituting equations $(2) and$ (3) into (1) :

$$y_{ij} = (\gamma_{00} + \gamma_{01} w_j + r_{0j}) + (\gamma_{01} + \gamma_{11} w_j + r_{1j}) x_{ij} + e_{ij}$$

$$= \gamma_{00} + \gamma_{01} w_j + \gamma_{01} x_{ij} + \gamma_{11} w_j x_{ij} + r_{0j} + r_{1j} x_{ij} + e_{ij} \quad (\mathbf{5})$$

The specification given in (4) is not complete without expressing assumptions regarding the random effects. The following assumptions are commonly found in multi-level models:

1. $E(e_{ij}) = E(r_{0j}) = E(r_{1j}) = 0$. That is, there is no systematic level-1 noise.
2. $var(r_{0j}) = \tau_{00}$, $var(r_{1j}) = \tau_{11}$, $var(e_{ij}) = \sigma^2$. This indicates that level-1 and level-2 error terms have constant variance.
3. $cov(r_{0j}, r_{1j}) = \tau_{01}$ which means that level-2 random effects on intercepts and slopes may be correlated.
4. $r_{0j} \sim N(0, \sigma^2)\ and\ r_{1j} \sim N(0, \sigma^2)\ as\ is\ e_{ij}$.[3]
5. $cov(r_{0j}, e_{ij}) = cov(r_{1j}, e_{ij}) = 0$. This implies that disturbances in the location of slope and intercept are not correlated with disturbances located on the outcome variable. This assumption is required for obtaining identified multi-level model. This points out that the effects of omitted level-1 variable is fixed.

Combining the assumptions given in $(1) and$ (4) , this implies that level-2 error terms follow bivariate normal distribution with mean zero and variance-covariance matrix given in (5).

$$\sum = \begin{pmatrix} \tau_{00} & \tau_{01} \\ \tau_{10} & \tau_{11} \end{pmatrix} \quad (\mathbf{6})$$

[3] This is only valid for linear multilevel models. Models with other types of outcome variable require different specifications of distributions of the level-1 disturbances.

After specifying major assumptions of multi-level model, now special properties of multi-level model can be discussed. To begin with, let's denote error term of hierarchical model as $u_{ij}= r_{0j} + r_{1j}\, x_{ij} + e_{ij}$. First, let's show that disturbance term of hierarchical model has not constant variance.

$$var(u_{ij}) = E[(r_{0j} + r_{1j}\, x_{ij} + e_{ij})^2]$$

$$= E({r_{0j}}^2) + 2x_{ij}E(r_{0j}, r_{1j}) + {x^2}_{ij}E({r_{1j}}^2) + E({e^2}_{ij}) \quad (\mathbf{7})$$

$$= \tau_{00} + 2x_{ij}\,\tau_{01} + {x^2}_{ij}\tau_{11} + \sigma^2$$

It is clear that variance of disturbance term of hierarchical model is not constant and it is an in part function of the level-1 predictors. Constant variance could be reached if and only if r_{1j} equals zero. This means that w_j perfectly explains the differences of x_{ij} .

Second, it can be proved that hierarchal disturbances are correlated for level-1 units. Let u_{ij} and u_{kj} be two disturbances of multilevel model.

$$cov\,(u_{ij}, u_{kj}) = E[(r_{0j} + r_{1j}\, x_{ij} + e_{ij})(r_{0j} + r_{1j}\, x_{kj} + e_{ij})]$$

$$= E({r_{0j}}^2) + x_{ij}E(r_{0j}, r_{1j}) + x_{Kj}E(r_{0j}, r_{1j}) + x_{ij}x_{Kj}E({r_{1j}}^2) \quad (\mathbf{8})$$

$$= \tau_{00} + x_{ij}\,\tau_{01} + x_{kj}\,\tau_{01} + x_{ij}x_{kj}\,\tau_{11}$$

The expression in (8) goes to zero if and only if $r_{0j} = r_{1j}$=0. This means that w_j perfectly explains variation in level-2 units. Based on (8), the intra-class coefficient can be derived. The intra-class coefficient is equal to

$$\frac{cov\,(u_{ij}, u_{kj})}{\sqrt{var(u_{kj})}\sqrt{var(u_{ij})}}$$

This correlation basically show the duplication level of level-1 units that are nested in level-2 units. It is expected that as homogeneity of level-2 units increases, so do intra-class correlation.

Overall, multilevel models are best suited to modelling clustered data where the variance is not constant. On the contrary, standard regression models would not be right choice for those cases since they assume no clustering in the data and constant variance. It is important to note that clustering in the data can cause false statistical inferences since it directly impact the predictors.

3.4.2. Estimation Methodology

This thesis utilizes multi-level logit framework for empirical analysis due to several reasons. The statistical model that we employ takes into account ordered hierarchically data structure. In other words, data used in this paper consist of multiple unit for the analysis. This is because previous literature asserts that trust in banks interacts with both micro- and macro- environments of individuals [28, 29]. In other words, a combination of individual-level data and country-level data is employed by considering multilevel nature of trust in financial institutions. Therefore, potential covariates of trust in banks at both levels and nested structure of the data (e.g. individuals are embedded in the countries) call for multi-level framework. In this case, our data has two layers of analysis, with first level (individuals) are nested in second level (countries).

In other words, multi-level modelling allows us to account for both individual-level and country-level covariates of trust in banks. Even though multilevel data structures are generally common in trust literature, prior studies on trust in banking and financial institutions generally fail to incorporate this information into choice of their empirical strategies. Neglecting the multidimensional structure of institutional trust, large part of existing studies regarding the covariates of trust in banking or financial institutions use either probit regression [8, 26, 28, 29, 50, 59], ordered probit/ logistic regression [19, 25, 28, 29, 54, 70, 72] or Heckman selection models [7, 26] as their methodology. For this reason, estimated results are somewhat biased and open to discussion.

Steenbergen and Jones [64] indicate that ignoring multi-level structure of data yields significant statistical costs such as possibly arising incorrect standard errors and inflated Type I-errors. On the other hand, multi-level models are valuable statistical tool since it successfully deals with data structure and it produce correct

inferences. To best our knowledge, only one study fruitfully applies multi-level modelling in their modelling process among the existing studies [56]. This thesis highly inspired by the study of Naumann [56] in a methodological sense. For this reason, relying on multi-level framework seems totally appropriate since it allows quantify the factors affecting trust of individuals within the countries that they live in. Moreover, since the multidimensional nature of trust is considered in this thesis, the results provided by this thesis also offers a methodological improvement to prior studies that they employ WVS as their data [4, 28, 29, 30]. For this reason, this thesis contributes to related literature in methodological sense. To sum up, multi-level analysis allows us to build a model of trust which captures the layered structure of the data at hand and it also enables to determine how those layers impact and interact with each other.

As it is explained by Steenbergen and Jones [64], there are also statistical motivations of utilization of multi-level analysis as an empirical strategy, especially in political science literature. First, multi-level modelling enables scholars to incorporate multiple levels of analysis into just single comprehensive model. In this sense, the build models are less prone to suffer from model misspecification compared to models of single level since those models incorporates layers more than one. Second, scholars could explore casual heterogeneity thanks to multi-level modelling [77].In other words, multi-level modelling enables to understand whether lower level predictors hinge on higher level predictors. That is, multilevel modelling offers a understanding of whether casual dynamic varies across the higher levels of analysis. Another point is that generalization of result often arises as an issue in comparative research. Particularly, this means that whether the results obtained in one particular context is applicable to other context as well. It is acknowledged that multilevel analysis certainly contributes to those kinds of generalizations since it allows researchers to explore casual heterogeneity [64]. In statistical sense, multi-level framework allows for account for clustering in standard error terms and it allows us to account for non-constant variance in different contexts.

It is worth to mention about some demerits of multi-level modelling. Growing body of statistical literature often discusses that utilization of multi-level of modelling

highly depends on availability of sufficient numbers of data units in higher levels [64]. Multi-level models also heavily hinge on valid and reliable measurements. This is because multilevel model requires heavy demands on data in terms of estimating coefficients [64].

This thesis adopts trust question in two latest versions of WVS as its dependent variable in all estimated equations. The exact wording of trust question as follows: "*Could you tell me how much confidence you have in banks?"* Respondents choose one of the following options as their answer for the question: (1) A great deal; (2) Quiet a lot; (3) Not very much; (4) Not at all. First, trust is measured by binary variable which takes 1 for individuals who trust in banks and otherwise zero. Due to hierarchically order of data structure and binary dependent variable, this thesis utilizes multi-level logistic regression models for trust in banks. Multi-level analysis enables for estimation of simultaneous system which consist of two levels: individuals (level-1) and countries (level-2). In this regard, below equation illustrates the ***individual level (level-1) equation*** of multi-level system:

$$Trust_{ij} = \alpha_j + \beta Z_{ij} + \varepsilon_{ij} \qquad i = 1 \dots \dots N, j = 1 \dots . C \quad (\mathbf{9})$$

where $Trust_{ij}$ represents trust of respondent i in country j. α_j is the intercept vector and β stands for coefficient vector. Z_{ij} is vector of control variables representing sociodemographic characteristics and values of individuals. It includes gender, age, education level, trust in others, political convection, income, and finally, several indicators of political and economic values of the respondents. N represents the total number of respondents whereas C represents the total number of countries.

The intercept in the individual level of equation, α_j, illustrates the average level of trust in banks in country *j* and it is modeled as a function of country level factors in ***country-level equation (level-2)*** of multi-level system.

$$\alpha_j = \gamma_0 + \gamma_1 X_j + u_j \quad (\mathbf{10})$$

where X_j represents country-level variables including GDP per capita, existence of financial crisis, existence of deposit insurance, inflation, bank z-score, bank nonperforming loans to total gross loans, bank capital to assets ratio, bank

concentration ratio, financial system deposit to GDP, foreign bank assets to total assets and , lastly governance index. γ_0 is the intercept vecotr and γ_1 shows the vector of coefficients. ε_{ij} and u_j are error terms that capture unmeasured factors for two equations, respectively. For all empirical analysis presented in the thesis, Stata 14.2 software (StataCorp) [63] is used.

CHAPTER 4

RESULTS

This section of the thesis is exclusively dedicated for data that is employed in estimations and results regarding multi-level analysis. First, discussion begins with some summary statistics that describe the general outlook of the data. In addition, some results regarding data visualization are included to better explore differences in trust level among different countries. In the second sub-section, results on determinants of trust in banks are reported. First, the main estimations with multi-level logit model are displayed. The analysis is also completed with alternate model specifications. Further, the robustness of the findings are also tested. The analyses are completed with a discussion on a comparison with findings of previous literature.

4.1. General Outlook of the Data

Before delving into the estimation results, it is worth to examine outlook of two wa ves of the World Values Surveys to get simple understanding on how trust in banks differs across different countries. In order to provide evidence for aforementioned interpretation, it is started with summary statistics of trust in banks by countries that are surveyed in latest two versions of WVS. This evidence is quiet significant since it justifies the existence of cross-country differences in trust in banks.

In this regard, the mean level of trust, standard deviation and the sample size in each country based on latest two waves of WVS are given in Table 4.1.1. In this regard, Panel (A) shows the summary statistics based on WVS-6 whereas Panel (B) displays summary statistics based on WVS-7. According to Panel (A) of Table 4.1.1, the mean level of trust considering all countries is 2.59 with a standard

deviation of 0.93. This value falls between the categories of “not very much” and “quite a lot” level of trust. Regarding out the results presented in Panel (B), the international mean of trust is 2.57, corresponding a value in between “not very much” and “quite a lot” level of trust. Additionally, the mean level based on WVS-7 is slightly lower than result obtained from WVS-6.

According to Panel (A) of Table 4.1.1, highest level of trust is among all countries is observed in India. The mean level of trust in India reads 3.38 which falls into the categories between “a great level of trust” and “a quiet a lot of trust”. This is followed by Uzbekistan (3.24), Ghana (3.15), China (3.05), Malaysia (3.03) and lastly, Philippines (3.00). In all aforementioned countries, the mean level of trust either falls into in between “quite a lot trust” and “a great deal” or more closely to “quite a lot trust”. The lowest level of trust is observable in Spain, with the mean level of 1.77 which is in between “not very much” and “not at all” level of trust. The other countries with lowest mean level of trust are Germany (1.96), Argentina (2.06), Netherlands (2.09) and Ukraine (2.09). In general, the results indicate that Asia& Pacific countries display higher mean levels of trust in banks. Lowest mean levels are generally observed in European countries.

Similar to results presented in Panel (A), results displayed in Panel (B) confirms the fact that trust in banks varies widely across the countries, from 1.90 to 3.51. The highest five trust in bank is apparent in Ethiopia (3.52), Myanmar (3.18), Indonesia (3.17), China (3.17) and finally, Vietnam (3.14). Certainly, this level of trust more closely corresponds to “quite a lot trust”. The lowest level of trust is observed in Greece (1.90) and it is followed by Iraq (1.90), Romania (1.91), Cyprus (1.93), and Tunisia (2.03), which falls in between “not very much” and “none at all” level of trust. On the other hand, the countries that exhibit higher average of trust in banks concentrate only in one region, Asia &Pacific.

Table 4.1.1. also presents the p-values that is based on two sided tests at 0.05 significance level. According to Table 4.1.1, results indicate that in majority of countries, there is statistically significant difference in the mean level of trust between two rounds of WVS. Only in few countries including Brazil, Hong Kong, Iraq, Jordan, Kyrgyzstan, Nigeria, Singapore, Ukraine and lastly, the United States,

there is no significant difference in average level of trust between two rounds of the surveys. More significantly, overall results show that there is statistically significant difference in trust in banks between the two last rounds of WVS.

Table 4.1.1.: Trust in Banks by Countries

			Panel (A) World Values Survey Wave 6			Panel (B) World Values Survey Wave 7		
Country	**p-value**	**Difference**	**Mean**	**SD**	**N**	**Mean**	**SD**	**N**
Andorra	-	-	-	-	-	2.056	0.803	1,000
Algeria	-	-	2.377	1.036	1,001	-	-	-
Azerbaijan	-	-	2.638	0.976	1,002	-	-	-
Argentina	0.831	↓	2.061	0.843	997	2.053	0.825	971
Australia	**0.000**	↓	2.337	0.798	1,448	2.171	0.765	1,784
Armenia	-	-	2.599	0.948	1,031	-	-	-
Bangladesh	-	-	-	-	-	2.990	0.800	1,167
Brazil	0.705	↑	2.383	0.942	1,477	2.396	0.989	1,701
Belarus	-	-	2.496	0.864	1,519	-	-	-
Bolivia	-	-	-	-	-	2.542	0.903	2,035
Canada	-	-	-	-	-	2.512	0.792	4,018
Chile	**0.000**	↑	2.181	0.840	980	2.321	0.800	986
China	**0.000**	↑	3.054	0.616	1,975	3.163	0.588	3,027
Taiwan	**0.000**	↑	2.905	0.582	1,158	2.973	0.625	1,209
Colombia	**0.000**	↓	2.493	0.977	1,496	2.228	0.895	1,520
Cyprus	**0.000**	↓	2.718	0.872	990	1.926	0.886	952
Ecuador	**0.001**	↑	2.432	0.902	1,201	2.547	0.868	1,194
Egypt	**0.000**	↑	2.530	1.019	1,510	2.698	0.892	921
Ethiopia	-	-	-	-	-	3.516	0.707	1,215
Estonia	-	-	2.719	0.773	1,506	-	-	-
Georgia	-	-	2.091	0.863	1,148	-	-	-
Greece	-	-	-	-	-	1.900	0.760	1,187
Palestine	-	-	2.150	0.908	926	-	-	-
Germany	**0.000**	↑	1.961	0.799	2,011	2.146	0.758	1,501
Ghana	-	-	3.154	0.841	1,552	-	-	-
Guatemala	-	-	-	-	-	2.166	0.858	1,203
Haiti	-	-	2.116	0.927	1,943	-	-	-
Hong Kong	0.530	↑	2.940	0.741	996	2.956	0.620	2,064
Indonesia	-	-	-	-	-	3.169	0.726	3,183
India	-	-	3.384	0.824	3,785	-	-	-
Iran	-	-	-	-	-	2.498	1.026	1,493
Iraq	0.981	↓	2.611	0.898	1,090	1.901	1.003	1,051
Japan	**0.006**	↑	2.686	0.665	2,158	2.750	0.650	1,254
Kazakhstan	**0.006**	↑	2.540	0.867	1,500	2.628	0.812	1,241
Jordan	0.124	↓	2.325	0.903	1,135	2.262	1.01	1,040
S. Korea	**0.000**	↓	2.858	0.743	1,197	2.755	0.589	1,245
Kuwait	-	-	2.751	1.025	1,221	-	-	-
Kyrgyzstan	0.997	↑	2.811	0.923	1,493	2.948	0.812	1,175
Lebanon	**0.000**	↓	2.461	0.968	1,144	2.052	0.818	1,173
Libya	-	-	2.850	1.047	1,977	-	-	-
Macau S.	-	-	-	-	-	3.031	0.593	1,013
Malaysia	**0.000**	↓	3.030	0.749	1,299	2.921	0.694	1,310
Mexico	**0.000**	↓	2.399	0.970	1,993	2.103	0.990	1,718
Morocco	-	-	2.655	0.994	1,078	-	-	-
Myanmar	-	-	-	-	-	3.179	0.814	1,200

Netherlands	-	-	2.087	0.704	1,796	-	-	-
N. Zealand	**0.000**	↓	2.664	0.742	781	2.429	0.780	992
Nicaragua	-	-	-	-	-	2.245	0.983	1,200
Nigeria	0.123	↑	2.943	0.908	1,759	2.995	0.909	1,228
Pakistan	**0.000**	↑	2.770	0.993	1,148	3.062	0.997	1,911
Peru	**0.000**	↓	2.254	0.909	1,164	2.122	0.889	1,359
Philippines	**0.005**	↑	3.002	0.795	1,200	3.092	0.776	1,199
Poland	-	-	2.373	0.752	894	-	-	-
Puerto Rico	-	-	-	-	-	2.471	1.007	1,104
Qatar	-	-	2.714	0.935	1,045	-	-	-
Romania	**0.000**	↓	2.232	0.901	1,428	1.906	0.890	1,163
Russia	**0.011**	↑	2.234	0.865	2,329	2.305	0.895	1,701
Rwanda	-	-	2.759	0.784	1,527	-	-	-
Serbia	-	-	-	-	-	2.053	0.799	993
Singapore	0.444	↑	2.905	0.680	1,971	2.921	0.635	1,990
Slovenia	-	-	2.302	0.721	1,041	-	-	-
Spain	-	-	1.773	0.747	1,162	-	-	-
Sweden	-	-	2.537	0.806	1,185	-	-	-
S. Africa	-	-	2.648	0.960	3,343	-	-	-
Ukraine	0.147	↑	2.088	0.819	1,500	2.134	0.810	1,181
Tajikistan	-	-	-	-	-	2.905	0.836	1,141
Thailand	-	-	-	-	-	3.075	0.805	1,332
Tunisia	-	-	-	-	-	2.032	0.825	1,144
Turkey	-	-	-	-	-	2.293	0.903	2,348
The US	0.784	↑	2.327	0.742	2,177	2.333	0.760	2,570
Uruguay	-	-	2.486	0.907	911	-	-	-
Uzbekistan	-	-	3.238	0.888	1,398	-	-	-
Vietnam	-	-	-	-	-	3.139	0.553	1,174
Yemen	-	-	2.245	0.974	657	-	-	-
Zimbabwe	**0.000**	↓	2.902	0.907	1,500	2.434	1.033	1,202
Total	**0.000**	↓	**2.585**	**0.939**	**85,542**	**2.572**	**0.922**	**74,683**

Note: p-values belongs to results of t-tests on the equality of means of two rounds of survey.**Source:** World Values Survey, Wave 6 (2010-2014); World Values Survey, Wave 7 (2017-2020)

In order to better illustrate the change in trust between the two rounds of WVS, some graphs and figures are plotted. In this regard, Figure 4.1.1 displays trust level of the countries which are present in the both rounds of the survey. Between the two rounds of the survey, in 18 of 33 common countries, trust level has increased. These include following countries: Brazil, Chile, China, Taiwan, Ecuador, Egypt, Germany, Hong Kong, Japan, Kazakhstan, Kyrgyzstan, Nigeria, Pakistan, Philippines, Russia, Singapore, Ukraine and finally, the United States. However, Table 4.1.1 reveals that there is no statistically significant difference in overall mean of trust between the two rounds of survey. Results show that among 33 countries, there is statistically difference in the countries including Australia, Chile, China, Taiwan, Ecuador, Egypt, Germany, Japan, Kazakhstan, Lebanon, Mexico, Pakistan, Peru, Philliphens, Romania and lastly, Zimbabwe. It is also plausible to mention

that mean level of trust is decreased in some countries that are common in both rounds of survey such as Argentina (from 2.06 to 2.05), Australia (from 2.33 to 2.17), Colombia(2.49 to 2.28), Cyprus (from 2.71 to 1.92), Iraq (from 2.61 to 1.91), Jordan (from 2.32 to 2.26), South Korea (from 2.85 to 2.75), Lebanon (from 2.46 to 2.05), Malaysia (from 3.03 to 2.92), Mexico (from 2.39 to 2.10), New Zealand (from 2.66 to 2.42), Peru (2.25 to 2.12), Romania (from 2.23 to 1.90) and finally Zimbabwe (from 2.90 to 2.34). According to results given in Table 4.1.1, decrease in trust in banks between two rounds of survey is statistically significant for all aforementioned countries except for Argentina, Jordan and Iraq. In addition, it is found that Cyprus, Iraq and Lebanon have the highest percentage decrease in trust, with decrease percentages of 29%, 27% and 16.6, respectively.

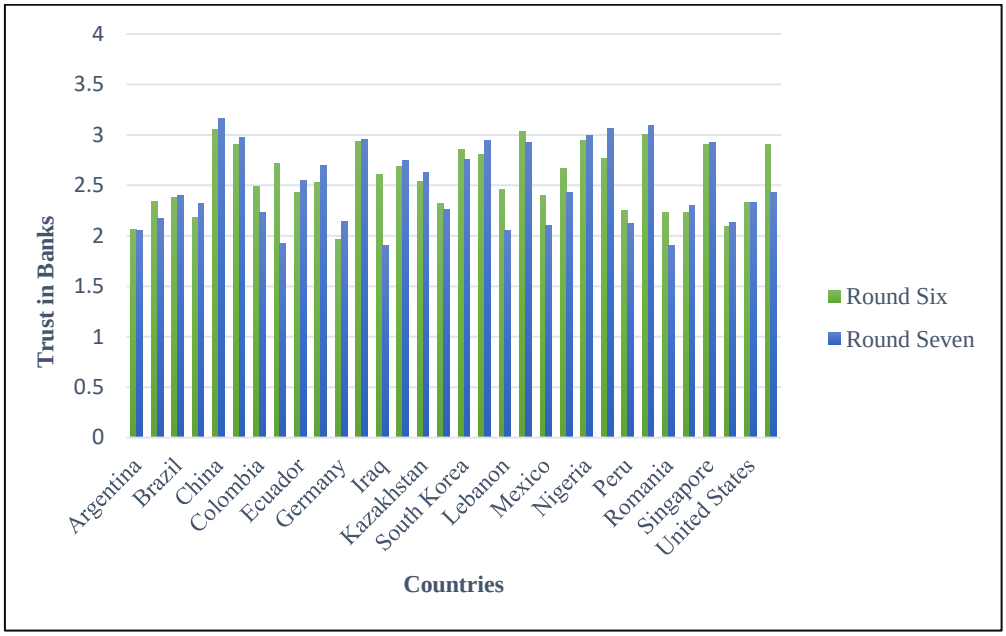

Figure 4.1.1: Trust in Banks by Common Countries in Two Rounds of Survey

Source: World Values Survey, Wave 6 (2010-2014); World Values Survey, Wave 7 (2017-2020)

Previous literature generally points out that generalized trust is significant predictor of several financial behaviors such as investing [24], stock market participation [10] [21, 31] and trust in financial institutions, especially trust in banks [3, 29]. For this reason, illustrations and some descriptive statistics regarding generalized trust in comparison with trust in banks are presented in this section.

In relation to trust in other people, both versions of WVS utilizes the following question*: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?"* Responses were recorded on 2-point scale where 1 means that respondent believes that most people can be trusted whereas 2 means that respondent confirm that one should be careful in trusting others. To ease the interpretation of this variable, responds regarding trust in others recorded in increasing order and binary fashion. For the rest of the paper, trust in others takes one if the respondent has confidence in other people. Figure 4.1.2 and Figure 4.1.3 shows percentage of people who have confidence in others by country based on WVS-6 and WVS-7, respectively.

Similar to results regarding trust in banks, Figure 4.1.2 shows that percentage of people who trust others varies across different countries. According to Figure 4.1.2., Philippines (2.8%), Brazil (6.5%) and Colombia (4.1%) are the three countries with lowest percentage of people who has confidence in others. On the other hand, it seems that Netherlands (67.4%) is the country where majority of people trust in others. This is followed by another European country, Sweden (64.8%) and China (64.4%). Similarly, Figure 4.1.3. indicates that trust in others highly dispersed among different countries according to last round of survey. Percentage of people who have confidence in others ranges from %2.1 to %59.5. Based on WVS-7, results show that Zimbabwe (2.1%) has the lowest percentage of individuals who trust in others. Nicaragua (4.2%) is ranked second least trusting in others among the surveyed countries. Finally, this is followed by Colombia (4.5%). Similar to results based on WVS-6, the highest trust in others is still observable in developed countries. The three most trusting in others countries are Canada (49.5%), Australia (54%) and New Zealand (59.5%).

In order to understand whether there is significant difference in trust in others between two waves of surveys, two sided tests are conducted. Country-level means of trust in other people and p-values that show probability of two means are equal are reported in Table 4.1.2. Despite the results of trust in banks, results on trust in others reveal interesting patterns.

First, only in some countries there is difference in trust in others between survey years. This includes China, Taiwan, Egypt, Germany, Hong Kong, Iraq, Japan, South Korea, Kyrgyzstan, Malaysia, New Zealand, Nigeria, Pakistan, Peru, Philippines, Romania, Russia, Singapore, Ukraine and lastly, Zimbabwe. Among these countries, number of countries that had experienced decrease in trust between two rounds of survey are greater than the number of countries that experience increase in trust. Countries that experience decrease in trust are China, Hong Kong, Taiwan, Egypt, Iraq, Japan, Kazakhstan, Kyrgyzstan, Nigeria, Pakistan, Peru, Russia, Singapore and Zimbabwe. On the other hand, countries that have boost in trust between two rounds of survey are Germany, Malaysia, South Korea, New Zealand, Philippines, Romania, Ukraine.

According to results of round six, the countries which exhibit low average of trust in other are generally in South and Latin America region whereas the countries which display high average of trust in other are in Europe and Asia &Pacific region. The results based on round seven is similar to results based on round six. The countries which have lower mean of generalized trust in are generally South and Latin American countries.

In addition to aforementioned figures, descriptive statistics regarding trust in others in comparison with trust banks are reported in Table 4.1.3 with respect to both survey rounds. Results regarding wave six are presented in panel (A) whereas results of last wave are presented in panel (B). P-values that are presented give the probability of two mean are equal. Regarding six round of WVS, trust in banks significantly differs from trust in others in all surveyed countries except for Yemen and the United States.

As an inference that is relevant for both rounds of survey, generally countries with higher mean of trusting in others also have higher mean of trusting in banks. In other words, in line with our expectations, high trust in others accompany with trust in banks. However, there are some exceptions such as Philippines (only 3 out of every 100 individuals trust others whereas 75 out of every 100 individuals trust banks) and Malaysia (only 8 out of 100 individuals trust others whereas 81 out of every 100-individual trust in banks). Similar inference can be reached out based on

WVS-7. For instance, in Philippines only 5 percent of respondents report that they trust in others whereas 80.5% respondents trust in banks. Another notable instance is that 83.6% of respondents in Indonesia report that they have confidence in banks whereas 5.1% of respondents confirm that they trust in others. Similar to results based on WVS-6, results of WVS-7, nearly in all countries, there is statistically significant difference between trust in others and trust in banks. There are only two exceptions which are Andorra and again, the United States.

Table 4.1.2.: Trust in Other People

			Panel (A) World Values Survey 6 Trust in others			**Panel (B) World Values Survey 7 Trust in others**		
Country	**p-value**	**Difference**	**Mean**	**SD**	**Sample Size**	**Mean**	**SD**	**Sample Size**
Andorra	-	-	-	-	-	0.255	0.436	1,001
Algeria	-	-	0.179	0.383	1,149	-	-	-
Azerbaijan	-	-	0.166	0.372	973	-	-	-
Argentina	0.182	↓	0.231	0.422	996	0.206	0.405	952
Australia	0.820	↓	0.544	0.498	1,466	0.540	0.498	1,792
Armenia	-	-	0.101	0.301	1,085	-	-	-
Bangladesh	-	-	-	-	-	0.129	0.335	1,199
Brazil	0.028	↑	0.065	0.247	1,475	0.066	0.249	1,730
Belarus	-	-	0.351	0.477	1,419	-	-	-
Bolivia	-	-	-	-	-	0.085	0.280	2,047
Canada	-	-	-	-	-	0.495	0.500	4,018
Chile	0.374	↑	0.127	0.333	971	0.142	0.500	974
China	**0.000**	↓	0.644	0.478	2,196	0.142	0.349	3,009
Taiwan	**0.000**	↓	0.302	0.459	1,211	0.205	0.462	1,223
Colombia	0.763	↑	0.041	0.199	1,501	0.045	0.475	1,520
Cyprus	0.333	↓	0.091	0.287	989	0.080	0.208	960
Ecuador	0.231	↓	0.071	0.258	1,200	0.058	0.271	1,177
Egypt	**0.000**	↓	0.205	0.404	1,523	0.073	0.261	1,197
Estonia	-	-	0.395	0.489	1,491	-	-	-
Ethiopia	-	-	-	-	-	0.119	0.324	1,226
Georgia	-	-	0.088	0.284	1,193	-	-	-
Palestine	-	-	0.177	0.381	892	-	-	-
Germany	**0.000**	↑	0.424	0.494	2,017	0.459	0.498	1,482
Ghana	-	-	0.424	0.217	1,552	-	-	-
Greece	-	-	-	-	-	0.084	0.277	1,188
Guatemala	-	-	-	-	-	0.179	0.383	1,203
Haiti	-	-	0.216	0.412	1,967	-	-	-
Hong Kong	**0.000**	↓	0.483	0.499	993	0.394	0.488	2,066
Indonesia	-	-	-	-	-	0.051	0.221	3,199
India	-	-	0.176	0.381	3,856	-	-	-
Iran	-	-	-	-	-	0.148	0.355	1,496
Iraq	**0.000**	↓	0.319	0.466	1,126	0.112	0.316	1,174
Japan	**0.000**	↓	0.387	0.487	2,265	0.159	0.478	1,281
Kazakhstan	**0.000**	↓	0.388	0.487	1,500	0.238	0.426	1,218
Jordan	0.235	↑	0.132	0.339	1,200	0.238	0.426	1,196
South Kor.	**0.000**	↑	0.296	0.457	1,193	0.309	0.462	1,245
Kuwait	-	-	0.300	0.458	1,240	-	-	-
Kyrgyzstan	**0.000**	↓	0.380	0.485	1,430	0.118	0.323	1,190

Lebanon	0.368	↓	0.109	0.311	1,082	0.099	0.299	1,200
Libya	-	-	0.116	0.320	2,008	-	-	-
Macau	-	-	-	-	-	0.438	0.496	968
Malaysia	**0.000**	↑	0.085	0.279	1,300	0.195	0.396	1,313
Mexico	**0.044**	↓	0.124	0.329	1,996	0.103	0.304	1,736
Morocco	-	-	0.125	0.331	1,181	-	-	-
Myanmar	-	-	-	-	-	0.150	0.358	1,200
Netherlands	-	-	0.674	0.468	1,866	-	-	-
Nicaragua	-	-	-	-	-	0.042	0.201	1,200
N. Zealand	**0.000**	↑	0.567	0.495	819	0.595	0.491	1,005
Nigeria	**0.006**	↓	0.147	0.355	1,759	0.126	0.332	1,230
Pakistan	**0.007**	↓	0.239	0.426	1,154	0.234	0.424	1,979
Peru	**0.003**	↓	0.082	0.275	1,196	0.053	0.224	1,395
Philippines	**0.006**	↑	0.028	0.166	1,196	0.05	0.225	1,197
Poland	-	-	0.227	0.419	945	-	-	-
Puerto Rico	-	-	-	-	-	0.178	0.382	1,116
Qatar	-	-	0.214	0.410	1,059	-	-	-
Romania	**0.000**	↑	0.071	0.257	1,488	0.118	0.323	1,238
Russia	**0.000**	↓	0.292	0.454	2,350	0.239	0.426	1,765
Rwanda	-	-	0.166	0.372	1,527	-	-	-
Serbia	-	-	-	-	-	0.166	0.372	1,029
Singapore	**0.002**	↓	0.385	0.486	1,968	0.339	0.473	1,998
Slovenia	-	-	0.201	0.401	1,059	-	-	-
Spain	-	-	0.195	0.396	1,153	-	-	-
Sweden	-	-	0.648	0.477	1,172	-	-	-
South Africa	-	-	0.236	0.424	3,513	-	-	-
Tajikistan	-	-	-	-	-	0.205	0.404	1,200
Thailand	-	-	-	-	-	0.313	0.464	1,425
Tunisia	-	-	-	-	-	0.142	0.349	1,172
Turkey	-	-	-	-	-	0.142	0.349	2,370
Ukraine	**0.000**	↑	0.249	0.432	1,403	0.306	0.461	1,256
The US	0.256	↑	0.381	0.485	2,211	0.397	0.489	2,587
Uruguay	-	-	0.152	0.359	905	-	-	-
Uzbekistan	-	-	0.140	0.348	1,476	-	-	-
Yemen	-	-	0.403	0.490	953	-	-	-
Vietnam	-	-	-	-	-	0.276	0.447	1,200
Zimbabwe	**0.000**	↓	0.072	0.258	1,500	0.021	0.144	1,214

Note: p-values belong to results of t-tests on the equality of means of trust in others between two rounds of survey. **Source:** World Values Survey, Wave 6 (2010-2014); World Values Survey, Wave 7 (2017-2020)

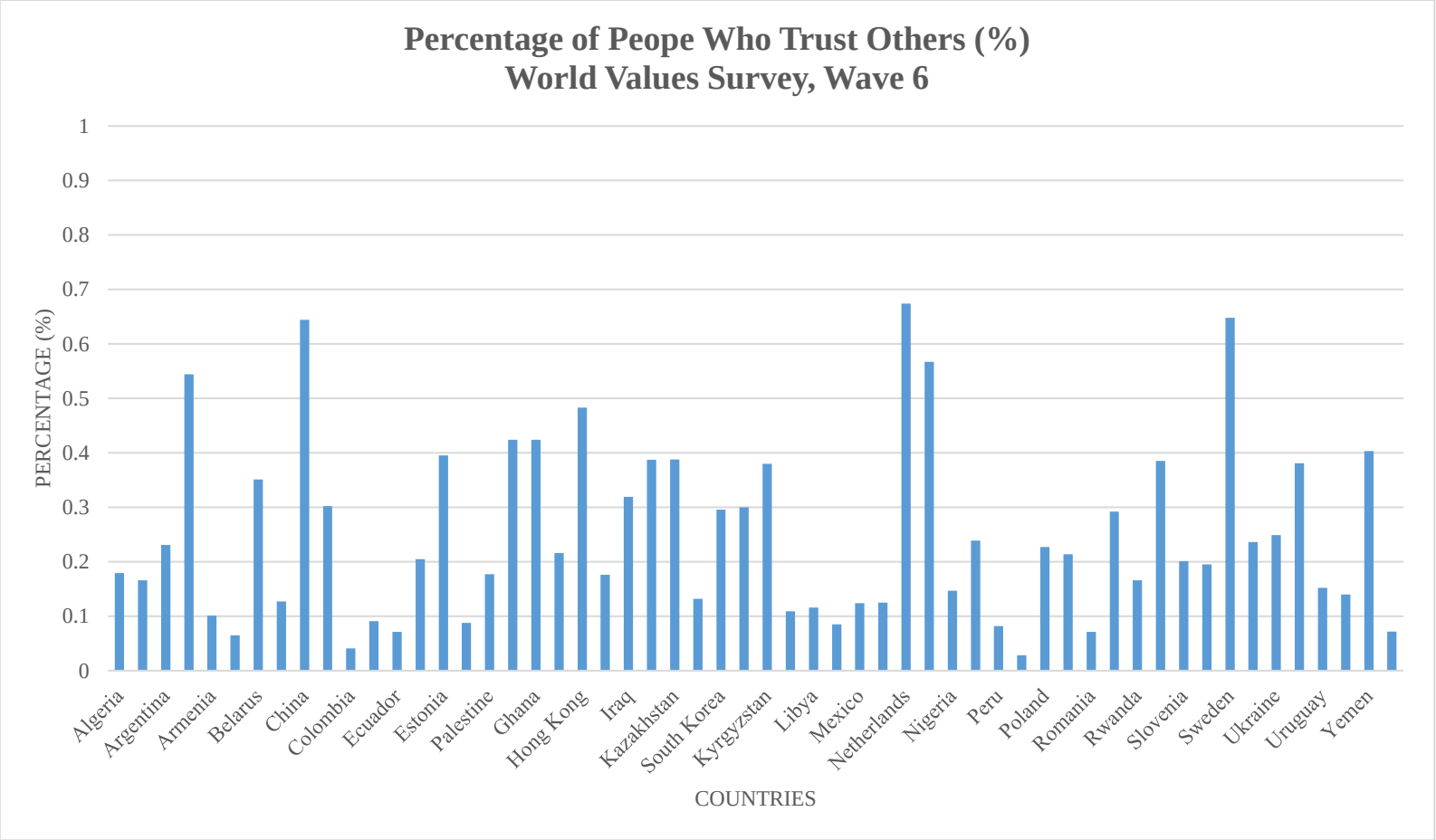

Figure 4.1.2. Percentage of People Who Trust Others.

Source: World Values Survey- Wave-6 (2010-204)

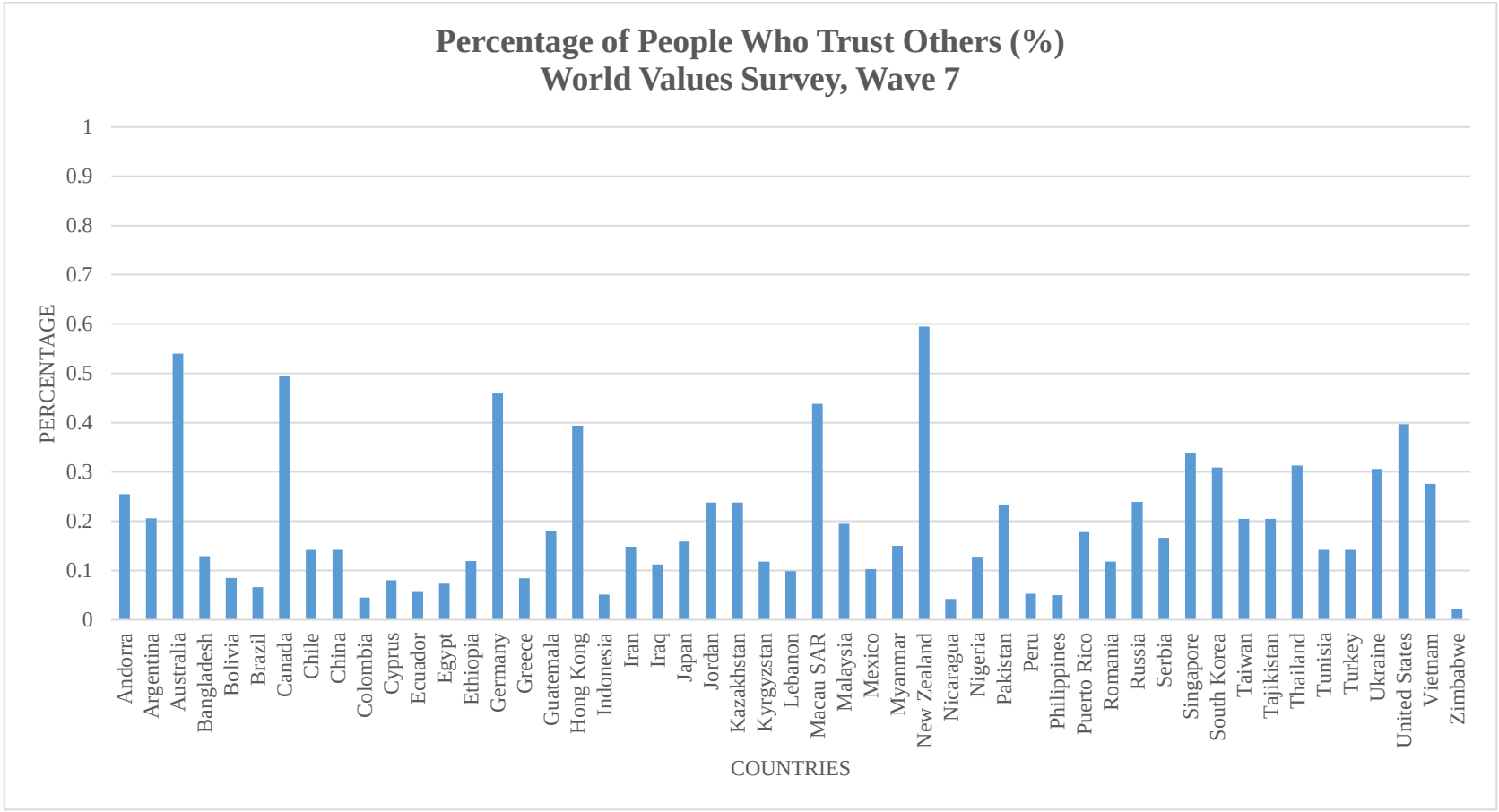

Figure 4.1.3. Percentage of People Who Trust Others.

Source: World Values Survey- Wave-7 (2014-2017)

Table 4.1.3.: Percentage of Respondents Who Report Trust in Banks and Other People

	Panel (A) World Values Survey Wave 6							Panel (B) World Values Survey Wave 7						
		Trust in banks			Trust in others				Trust in banks			Trust in others		
Country	**p-value**	**Mean**	**SD**	**Sample Size**	**Mean**	**SD**	**Sample Size**	**p-value**	**Mean**	**SD**	**Sample Size**	**Mean**	**SD**	**Sample Size**
Andorra	-	-	-	-	-	-	-	0.646	0.264	0.441	1,000	0.255	0.436	1,001
Algeria	**0.000**	0.415	0.493	1,001	0.179	0.383	1,149	-	-	-	-	-	-	-
Azerbaijan	**0.000**	0.608	0.488	1,002	0.166	0.372	973	-	-	-	-	-	-	-
Argentina	**0.000**	0.307	0.461	997	0.231	0.422	996	**0.000**	0.306	0.461	971	0.206	0.405	952
Australia	**0.000**	0.417	0.493	1,448	0.544	0.498	1,466	**0.000**	0.323	0.468	1,784	0.540	0.498	1,792
Armenia	**0.000**	0.607	0.488	1,031	0.101	0.301	1,085	-	-	-	-	-	-	-
Bangladesh	-	-	-	-	-	-	-	**0.000**	0.755	0.429	1,167	0.129	0.335	1,199
Brazil	**0.000**	0.498	0.500	1,477	0.065	0.247	1,475	**0.000**	0.519	0.499	2,035	0.066	0.249	1,730
Belarus	**0.000**	0.517	0.499	1,519	0.351	0.477	1,419	-	-	-	-	-	-	-
Bolivia	-	-	-	-	-	-	-	**0.000**	0.479	0.499	2,035	0.085	0.280	2,047
Canada	-	-	-	-	-	-	-	**0.000**	0.532	0.499	4,018	0.495	0.500	4,018
Chile	**0.000**	0.360	0.480	980	0.127	0.333	971	**0.000**	0.441	0.496	986	0.142	0.500	974
China	**0.000**	0.865	0.341	1,975	0.644	0.478	2,196	**0.000**	0.908	0.288	3,027	0.142	0.349	3,009
Taiwan	**0.000**	0.811	0.391	1,158	0.302	0.459	1,211	**0.000**	0.838	0.367	1,209	0.205	0.462	1,223
Colombia	**0.000**	0.514	0.499	1,496	0.041	0.199	1,501	**0.000**	0.282	0.450	1,520	0.045	0.475	1,520
Cyprus	**0.000**	0.645	0.478	990	0.091	0.287	989	**0.000**	0.253	0.435	952	0.080	0.208	960
Ecuador	**0.000**	0.482	0.499	1,201	0.071	0.258	1,200	**0.000**	0.546	0.498	1,194	0.058	0.271	1,177
Egypt	**0.000**	0.560	0.496	1,510	0.205	0.404	1,523	**0.000**	0.651	0.476	921	0.073	0.261	1,197
Estonia	**0.000**	0.660	0.473	1,506	0.395	0.489	1,491	-	-	-	-	-	-	-
Ethiopia	-	-	-	-	-	-	-	**0.000**	0.920	0.269	1,215	0.119	0.324	1,226
Georgia	**0.000**	0.364	0.481	1,148	0.088	0.284	1,193	-	-	-	-	-	-	-
Palestine	**0.000**	0.328	0.469	926	0.177	0.381	892	-	-	-	-	-	-	-
Germany	**0.000**	0.239	0.426	2,011	0.424	0.494	2,017	**0.000**	0.307	0.461	1,501	0.459	0.498	1,482
Ghana	**0.000**	0.793	0.404	1,552	0.424	0.217	1,552	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	**0.000**	0.217	0.412	1,187	0.084	0.277	1,188
Guatemala	-	-	-	-	-	-	-	**0.000**	0.320	0.467	1,203	0.179	0.383	1,203
Haiti	**0.000**	0.357	0.479	1,943	0.216	0.412	1,967	-	-	-	-	-	-	-

Hong Kong	**0.000**	0.75	0.433	996	0.483	0.499	993	**0.000**	0.815	0.387	2,064	0.394	0.488	2,066
Indonesia	-	-	-	-	-	-	-	**0.000**	0.836	0.370	3,183	0.051	0.221	3,199
India	**0.000**	0.866	0.340	3,785	0.176	0.381	3,856	-	-	-	-	-	-	-
Iran	-	-	-	-	-	-	-	**0.000**	0.572	0.494	1,493	0.148	0.355	1,496
Iraq	**0.000**	0.588	0.492	1,090	0.319	0.466	1,126	**0.000**	0.272	0.445	1,051	0.112	0.316	1,174
Japan	**0.000**	0.656	0.475	2,158	0.387	0.487	2,265	**0.000**	0.708	0.454	1,254	0.159	0.478	1,281
Kazakhstan	**0.000**	0.543	0.498	1,500	0.388	0.487	1,500	**0.000**	0.568	0.495	1,241	0.238	0.426	1,218
Jordan	**0.000**	0.430	0.495	1,135	0.132	0.339	1,200	**0.000**	0.423	0.494	1,040	0.238	0.426	1,196
S. Korea	**0.000**	0.718	0.449	1,197	0.296	0.457	1,193	**0.000**	0.712	0.452	1,245	0.309	0.462	1,245
Kuwait	**0.000**	0.600	0.490	1,221	0.300	0.458	1,240	-	-	-	-	-	-	-
Kyrgyzstan	**0.000**	0.665	0.472	1,493	0.380	0.485	1,430	**0.000**	0.784	0.411	1,175	0.118	0.323	1,190
Lebanon	**0.000**	0.498	0.500	1,144	0.109	0.311	1,082	**0.000**	0.287	0.452	1,173	0.099	0.299	1,200
Libya	**0.000**	0.628	0.483	1,977	0.116	0.320	2,008	-	-	-	-	-	-	-
Macau S.	-	-	-	-	-	-	-	**0.000**	0.864	0.342	1,013	0.438	0.496	968
Malaysia	**0.000**	0.813	0.389	1,299	0.085	0.279	1,300	**0.000**	0.754	0.430	1,31	0.195	0.396	1,313
Mexico	**0.000**	0.457	0.498	1,993	0.124	0.329	1,996	**0.000**	0.350	0.477	1,718	0.103	0.304	1,736
Morocco	**0.000**	0.588	0.492	1,078	0.125	0.331	1,181	-	-	-	-	-	-	-
Myanmar	-	-	-	-	-	-	-	**0.000**	0.754	0.430	1,310	0.150	0.358	1,200
Netherlands	**0.000**	0.273	0.445	1,796	0.674	0.468	1,866	-	-	-	-	-	-	-
Nicaragua	-	-	-	-	-	-	-	**0.000**	0.340	0.473	1,200	0.042	0.201	1,200
N. Zealand	**0.008**	0.631	0.482	781	0.567	0.495	819	**0.000**	0.483	0.499	992	0.595	0.491	1,005
Nigeria	**0.000**	0.712	0.452	1,759	0.147	0.355	1,759	**0.000**	0.728	0.445	1,228	0.126	0.332	1,230
Pakistan	**0.000**	0.634	0.481	1,148	0.239	0.426	1,154	**0.000**	0.754	0.430	1,911	0.234	0.424	1,979
Peru	**0.000**	0.402	0.490	1,164	0.082	0.275	1,196	**0.000**	0.328	0.469	1,359	0.053	0.224	1,395
Philippines	**0.000**	0.758	0.428	1,200	0.028	0.166	1,196	**0.000**	0.805	0.395	1,990	0.05	0.225	1,197
Poland	**0.000**	0.447	0.497	894	0.227	0.419	945	-	-	-	-	-	-	-
Puerto Rico	-	-	-	-	-	-	-	**0.000**	0.487	0.500	1,104	0.178	0.382	1,116
Qatar	**0.000**	0.580	0.493	1,045	0.214	0.410	1,059	-	-	-	-	-	-	-
Romania	**0.000**	0.384	0.486	1,428	0.071	0.257	1,488	**0.000**	0.246	0.431	1,163	0.118	0.323	1,238
Russia	**0.000**	0.406	0.491	2,329	0.292	0.454	2,350	**0.000**	0.447	0.497	1,701	0.239	0.426	1,765
Rwanda	**0.000**	0.670	0.470	1,527	0.166	0.372	1,527	-	-	-	-	-	-	-
Serbia	**-**	-	-	-	-	-	-	**0.000**	0.295	0.456	993	0.166	0.372	1,029
Singapore	**0.000**	0.757	0.428	1,971	0.385	0.486	1,968	**0.000**	0.793	0.404	1,990	0.339	0.473	1,998
Slovenia	**0.000**	0.382	0.486	1,041	0.201	0.401	1,059	-	-	-	-	-	-	-
Spain	0.051	0.164	0.370	1,162	0.195	0.396	1,153	-	-	-	-	-	-	-
Sweden	**0.000**	0.534	0.499	1,185	0.648	0.477	1,172	-	-	-	-	-	-	-
S. Africa	**0.000**	0.576	0.494	3,343	0.236	0.424	3,513	-	-	-	-	-	-	-

Tajikistan	-	-	-	-	-	-	-	**0.000**	0.677	0.467	1,141	0.205	0.404	1,200
Thailand	-	-	-	-	-	-	-	**0.000**	0.801	0.399	1,332	0.313	0.464	1,425
Tunisia	-	-	-	-	-	-	-	**0.000**	0.252	0.434	1,144	0.142	0.349	1,172
Turkey	-	-	-	-	-	-	-	**0.000**	0.424	0.494	2,348	0.142	0.349	2,370
Ukraine	**0.000**	0.325	0.468	1,500	0.249	0.432	1,403	**0.000**	0.338	0.473	1,181	0.306	0.461	1,256
The USA	0.153	0.402	0.490	2,177	0.381	0.485	2,211	0.124	0.418	0.493	2,570	0.397	0.489	2,587
Uruguay	**0.000**	0.557	0.496	911	0.152	0.359	905	-	-	-	-	-	-	-
Uzbekistan	**0.000**	0.805	0.396	1,398	0.140	0.348	1,476	-	-	-	-	-	-	-
Yemen	0.872	0.407	0.491	657	0.403	0.490	953	-	-	-	-	-	-	-
Vietnam	-	-	-		-	-	-					0.276	0.447	1,200
Zimbabwe	**0.000**	0.695	0.460	1,500	0.072	0.258	1,500	**0.000**	0.507	0.500	1,104	0.021	0.144	1,214

Note: p-values belong to results of t-tests on the equality of means of trust in others and trust in banks in each respective round of survey. **Source:** World Values Survey, Wave 6 (2010-2014); World Values Survey, Wave 7 (2017-2020)

In order to understand sociodemographic structure of the surveyed countries, some summary statistics are displayed in Table 4.1.4 and Table 4.1.5 by surveyed countries in the two version of the surveys. Table 4.1.4 displays some descriptive statistics by two sociodemographic selected individual characteristics by surveyed countries in two versions of the survey. Table 4.1.4 consists of two panels. The results based on WVS-6 are presented in panel (A) of Table 4.1.4. According to panel (A), nearly in all countries half of the sample consists of females. However, there are some exceptions to this inference. For instance, higher than 30% percent of sample consist of males in countries such as Egypt, Armenia, Brazil, and lastly Uzbekistan. On the other hand, females constitute the majority of the sample in some countries such as India (56.1%), Pakistan (51.8%) and Kuwait (63.6%). In most surveyed countries, mean level of age corresponds to middle-age group. Lowest mean age belongs Nigeria (31.22) whereas highest mean age belongs to Netherlands (53.54). Country-level distributions of two socio-demographic characteristics based on seventh round of WVS are provided in panel (B) of Table 4.1.4. In vast majority of surveyed countries, gender distribution of respondents is equal. However, there are some heterogeneities in gender distribution of sample in some countries such as Kyrgyzstan, Australia, Puerto Rico as well as Romania. In those countries, females constitute the more than half of the sample. Similar to obtained results based on previous round of the survey, average age of respondents is in middle-age group. Among the surveyed countries, Ethiopia has the lowest mean level of age (31.92) whereas New Zealand (57.85) has the highest average level of age.

Some descriptive statistics indicating socioeconomic factors at individual level are displayed in Table 4.1.5. In Table 4.1.5, results based on sixth wave of the survey are given in Panel (A) whereas results based on latest wave are given in Panel (B). There are notable heterogeneities in marital status of respondents across the surveyed countries. For instance, nearly 90% of respondents are married in India whereas only 9% of respondents report that they are married in Haiti. The countries where single individuals constitute more than half of the surveyed sample are Algeria, Argentina, Brazil, Colombia, Ecuador, Estonia, Ghana, Peru, Sweden and lastly, Uruguay. Regarding out education level, the countries also widely differ

from each other. It seems that respondents in the USA (2.55), South Korea (2.479) and New Zealand (2.477) have the highest mean level of education which corresponds to a level above secondary education. On the other hand, respondents in Morocco (0.594) and Yemen (0.928) have the lowest average education level and this corresponds to a level below primary education level. According to panel (B) of Table 4.1.4, country-differences are quiet notable in marital status of respondents. For example, 35.9% of respondents report that they are married in Brazil whereas 86.1% respondents report that they are married in Bangladesh. Proportion of single individuals are highest in Colombia (20.1%). Country-level distributions of education level is also worth to mention. Ukraine (2.64), Canada (2.52) and Japan (2.53) have the highest average level of education. This corresponds to a level above secondary education. On the country, Pakistan (1.36), Bangladesh (1.44) and Egypt (1.62) has the lowest mean level of education, which corresponds to a level slightly above the primary education.

Table 4.1.4.: Descriptive Statistics of Socio-Demographic Variables

	Panel (A) World Values Survey Wave 6						Panel (B) World Values Survey Wave 7					
	Gender			Age			Gender			Age		
Country	Mean	SD	Freq.	Mean	SD	Freq.	Mean	SD	Freq.	Mean	SD	Freq.
Andorra	-	-	-	-	-	-	0.506	0.500	1,004	46.82	16.15	1,004
Algeria	0.506	0.500	1,200	37.804	15.10	1,200	-	-	-	-	-	-
Azerbaijan	0.50	0.500	1,002	41.126	15.22	1,002	-	-	-	-	-	-
Argentina	0.468	0.499	1,030	43.172	17.60	1,030	0.483	0.499	1,003	42.55	17.44	1,003
Australia	0.442	0.496	1,477	53.862	16.76	1,468	0.391	0.488	1,799	54.29	17.39	1,795
Armenia	0.339	0.473	1,100	46.58	17.96	1,100	-	-	-	-	-	-
Bangladesh	-	-	-	-	-	-	0.493	0.500	1,200	36.59	12.98	1,200
Brazil	0.376	0.484	1,486	42.81	16.36	1,486	0.454	0.498	1,762	43.55	17.34	1,761
Belarus	0.446	0.497	1,535	44.41	17.06	1,535	-	-	-	-	-	-
Bolivia	-	-	-	-	-	-	0.495	0.500	2,067	38.33	15.90	2,067
Canada	-	-	-	-	-	-	0.512	0.499	4,018	46.56	16.87	4,018
Chile	0.493	0.500	1,000	43.89	16.28	1,000	0.474	0.499	1,000	45.27	15.60	1,000
China	0.489	0.499	2,300	43.91	14.94	2,300	0.450	0.497	3,036	44.58	14.49	3,036
Taiwan	0.478	0.499	1,238	45.48	17.28	1,230	0.485	0.499	1,003	42.55	17.44	1,003
Colombia	0.496	0.500	1,512	40.41	15.78	1,512	0.5	0.500	1,520	38.84	15.85	1,520
Cyprus	0.465	0.499	1,000	42.15	17.53	1,000	0.482	0.499	1,000	43.53	16.04	1,000
Ecuador	0.484	0.499	1,202	39.81	16.13	1,202	0.477	0.499	1,200	39.48	15.61	1,200
Egypt	0.321	0.467	1,523	40.62	15.25	1,523	0.517	0.499	1,200	39.69	13.44	1,200
Ethiopia	-	-	-	-	-	-	0.505	0.500	1,230	31.92	11.62	1,230
Estonia	0.446	0.497	1,533	48.57	18.50	1,533	-	-	-	-	-	-

Georgia	0.460	0.498	1,202	44.65	17.58	1,202	-	-	-	-	-	-
Palestine	0.488	0.500	1,000	36.68	14.13	1,000	-	-	-	-	-	-
Germany	0.496	0.500	2,046	49.47	17.71	2,046	0.486	0.499	1,528	50.79	18.08	1,528
Greece	-	-	-	-	-	-	0.469	0.499	1,200	50.92	17.81	1,200
Ghana	0.502	0.500	1,552	30.92	12.70	1,552	-	-	-	-	-	-
Guatemala	-	-	-	-	-	-	-	-	-	-	-	-
Haiti	0.489	0.500	1,996	33.49	14.53	1,996	-	-	-	-	-	-
Hong Kong	0.455	0.498	1,000	44.66	16.43	985	0.458	0.498	2,075	47.21	15.94	2,058
Indonesia	-	-	-	-	-	-	0.451	0.497	3,200	40.02	13.54	3,200
India	0.561	0.496	4,075	41.23	14.52	4,051	-	-	-	-	-	-
Iran	-	-	-	-	-	-	0.511	0.500	1,499	39.47	14.94	1,499
Iraq	0.524	0.499	1,200	36.60	13.39	1,200	0.506	0.500	1,200	36.60	13.40	1,200
Japan	0.481	0.499	2,443	50.74	16.29	2,443	0.436	0.496	1,353	54.78	17.95	1,353
Kazakhstan	0.396	0.489	1,500	40.01	15.35	1,500	0.452	0.497	1,276	41.30	15.19	1,200
Jordan	0.500	0.500	1,200	39.78	15.45	1,200	0.504	0.500	1,203	43.31	14.85	1,203
S. Korea	0.493	0.500	1,200	43.17	14.94	1,200	0.487	0.500	1,004	46.82	16.15	1,004
Kuwait	0.636	0.481	1,258	36.48	11.70	1,245	-	-	-	-	-	-
Kyrgyzstan	0.490	0.500	1,500	38.74	14.37	1,500	0.380	0.485	1,200	41.30	15.19	1,200
Lebanon	0.49	0.500	1,200	38.37	14.85	1,200	0.500	0.500	1,200	40.82	15.40	1,200
Libya	0.511	0.499	2,131	38.41	13.49	2,131	-	-	-	-	-	-
Myanmar	-	-	-	-	-	-	0.500	0.500	1,200	40.43	14.29	1,200
Macau	-	-	-	-	-	-	0.440	0.496	1,022	40.68	16.74	813
Malaysia	0.513	0.500	1,300	40.01	13.96	1,300	0.500	0.500	1,313	38.32	13.21	1,313
Mexico	0.499	0.500	2,000	37.47	15.18	2,000	0.502	0.500	1,739	43.33	16.73	1,737
Morocco	0.496	0.500	1,200	37.25	13.56	1,200	-	-	-	-	-	-

Nicaragua	-	-	-	-	-	-	0.490	0.500	1,200	35.13	14.08	1,200
Netherlands	0.464	0.498	1,902	53.34	16.44	1,902	-	-	-	-	-	-
N. Zealand	0.422	0.494	835	51.44	16.89	828						
Nigeria	0.504	0.500	1,759	31.22	11.68	1,759	0.511	0.500	1,237	32.56	12.12	1,237
Pakistan	0.518	0.499	1,200	34.33	11.86	1,200	0.519	0.499	1,995	35.64	11.38	1,986
Puerto Rico	-	-	-	-	-	-	0.392	0.488	1,125	49.78	18.42	1,125
Peru	0.501	0.500	1,210	39.41	16.39	1,210	0.501	0.500	1,400	40.15	15.53	1,400
Philippines	0.5	0.500	1,200	42.71	15.56	1,200	0.500	0.500	1,200	43.71	16.09	1,200
Poland	0.456	0.498	966	48.04	17.77	966	-	-	-	-	-	-
Qatar	0.460	0.498	1,060	37.80	12.90	1,053	-	-	-	-	-	-
Romania	0.427	0.494	1,503	48.38	17.18	1,500	0.395	0.489	1,257	48.05	18.06	1,240
Russia	0.446	0.497	2,500	46.05	17.41	2,500	0.412	0.492	1,810	45.40	17.12	1,810
Rwanda	0.495	0.500	1,527	33.77	11.22	1,527	-	-	-	-	-	-
Serbia	-	-	-	-	-	-	0.478	0.499	1,046	46.13	17.29	1,043
Singapore	0.450	0.497	1,972	41.88	16.60	1,939	0.459	0.498	2,012	47.78	16.23	2,012
Slovenia	0.422	0.494	1,066	49.49	17.66	1,068	-	-	-	-	-	-
Spain	0.487	0.500	1,189	46.54	18.17	1,189	-	-	-	-	-	-
Sweden	0.471	0.499	1,206	47.34	19.41	1,206	-	-	-	-	-	-
S. Africa	0.499	0.500	3,531	36.66	14.14	3,531	-	-	-	-	-	-
Tajikistan	-	-	-	-	-	-	0.495	0.500	1,200	41.06	15.30	1,200
Thailand	-	-	-	-	-	-	0.468	0.499	1,491	46.21	13.17	1,499
Tunisia	-	-	-	-	-	-	0.462	0.498	1,206	43.16	15.58	1,205
Turkey	-	-	-	-	-	-	0.499	0.500	2,415	38.83	12.67	2,414
Trinidad	-	-	-	-	-	-	-	-	-	-	-	-
Ukraine	0.400	0.490	1,500	47.23	18.25	1,500	0.406	0.491	1,289	47.57	16.51	1,289
The US	0.485	0.499	2,232	48.90	16.90	2,232	0.535	0.498	2,596	43.42	16.30	2,596
Uruguay	0.472	0.499	1,000	44.99	18.27	1,000	-	-	-	-	-	-
Uzbekistan	0.387	0.487	1,500	39.34	14.87	1,500	-	-	-	-	-	-
Vietnam	-	-	-	-	-	-	0.454	0.498	1,200	37.89	12.72	1,200
Yemen	0.498	0.500	1,000	35.59	13.27	1,000	-	-	-	-	-	-
Zimbabwe	0.46	0.498	1,500	33.77	13.51	1,500	0.493	0.500	1,215	39.14	16.35	1,211

Note: This table provides some descriptive statistics for different criteria by group of surveyed countries. Definitions of these criteria are as follows. Gender takes one if the respondent is male; otherwise zero. Age is continuous variable. **Source:** World Values Survey (2010-2014), Wave 6; World Values Survey (2017-2020), Wave 7

Table 4.1.5.: Descriptive Statistics of Socio-Demographic Variables

	Panel (A) World Values Survey Wave 6						Panel (B) World Values Survey Wave 7					
	Marital Status			Education Level			Marital Status			Education Level		
Country	Mean	SD	Freq.	Mean	SD	Freq.	Mean	SD	Freq.	Mean	SD	Freq.
Andorra	-	-	-	-	-	-	0.430	0.495	1,002	2.26	0.712	1,003
Algeria	0.468	0.499	1,200	1.374	1.118	1,199	-	-	-	-	-	-
Azerbaijan	0.665	0.471	1,002	2.328	0.583	1,002	-	-	-	-	-	-
Argentina	0.352	0.477	1,030	1.781	0.769	1,030	0.388	0.487	1,003	1.91	0.673	1,003
Australia	0.602	0.489	1,465	2.171	0.899	1,052	0.536	0.498	1,794	2.42	0.544	1,743
Armenia	0.641	0.479	1,099	2.193	0.645	1,098	-	-	-	-	-	-
Bangladesh	-	-	-	-	-	-	0.861	0.345	1,200	1.44	0.880	1,199
Brazil	0.410	0.492	1,480	1.385	1.105	1,478	0.359	0.479	1,762	1.87	0.727	1,734
Belarus	0.538	0.498	1,532	2.421	0.538	1,535	-	-	-	-	-	-
Bolivia	-	-	-	-	-	-	0.367	0.482	2,063	2.08	0.821	2,061
Canada	-	-	-	-	-	-	0.444	0.497	4,018	2.52	0.555	3,997
Chile	0.479	0.499	995	1.857	0.831	1,000	0.496	0.500	921	2.24	0.525	998
China	0.816	0.387	2,300	1.784	0.812	2,300	0.799	0.400	3,018	1.92	0.802	3,006
Taiwan	0.594	0.491	1,235	2.174	0.884	1,237	0.540	0.498	1,222	2.37	0.747	1,222
Colombia	0.289	0.453	1,512	1.784	1.004	1,496	0.201	0.401	1,520	1.96	0.745	1,498
Cyprus	0.55	0.497	1,000	2.012	0.846	1,000	0.621	0.485	998	2.33	0.771	971
Ecuador	0.403	0.490	1,202	1.792	0.909	1,202	0.322	0.467	1,200	2.00	0.733	1,197
Egypt	0.715	0.451	1,523	1.305	1.125	1,523	0.694	0.460	1,200	1.62	1.09	1,200
Estonia	0.405	0.491	1,532	2.235	0.621	1,533	-	-	-	-	-	-
Georgia	0.619	0.485	1,201	2.352	0.550	1,202	-	-	-	-	-	-
Palestine	0.676	0.468	1,000	1.98	1.006	1,000	-	-	-	-	-	-
Germany	0.516	0.499	2,026	1.754	0.855	2,032	0.547	0.497	1,522	2.32	0.536	1,525
Greece	-	-	-	-	-	-	0.553	0.497	1,196	1.97	0.760	1,200
Ghana	0.421	0.493	1,552	1.344	0.921	1,552	-	-	-	-	-	-
Guatemala	-	-	-	-	-	-	0.308	0.462	1,195	2.19	1.00	1,157
Haiti	0.098	0.297	1,987	1.256	0.835	1,995	-	-	-	-	-	-
Hong Kong	0.614	0.487	998	1.927	0.886	999	0.569	0.495	2,072	2.28	0.674	2,073
Indonesia	-	-	-	-	-	-	0.766	0.423	3,200	1.64	0.790	3,199

India	0.854	0.352	4,078	1.191	1.052	4,071	-	-	-	-	-	-
Iran	-	-	-	-	-	-	0.643	0.478	1,497	2.19	0.767	1,494
Iraq	0.690	0.690	1,200	1.520	1.048	1,198	0.720	0.448	1,200	1.84	0.904	1,197
Japan	0.681	0.465	2,423	2.106	0.600	2,389	0.731	0.443	1,340	2.53	0.543	1,337
Kazakhstan	0.594	0.491	1,500	2.299	0.596	1,500	0.619	0.485	1,245	2.52	0.596	1,227
Jordan	0.715	0.451	1,200	1.613	1.022	1,200	0.707	0.455	1,203	2.05	0.725	1,201
S. Korea	0.630	0.482	1,192	2.479	0.686	1,200	0.721	0.448	1,245	2.42	0.581	1,245
Kuwait	0.626	0.483	1,293	2.250	0.791	1,263	-	-	-	-	-	-
Kyrgyzstan	0.741	0.437	1,493	2.224	0.726	1,498	0.665	0.471	1,197	2.45	0.511	1,199
Lebanon	0.487	0.500	1,200	2.043	0.948	1,182	0.599	0.490	1,200	2.22	0.700	1,200
Libya	0.603	0.489	2,129	1.830	1.077	2,116	-	-	-	-	-	-
Myanmar	-	-	-	-	-	-	0.725	0.446	1,200	1.74	0.696	1,198
Macau S.	-	-	-	-	-	-	0.526	0.499	1,021	2.26	0.716	999
Malaysia	0.685	0.464	1,300	1.718	0.781	1,300	0.616	0.486	1,313	2.21	0.594	1,313
Mexico	0.454	0.498	2,000	1.694	0.940	1,998	0.496	0.500	1,738	1.83	0.723	1,731
Morocco	0.539	0.498	1,200	0.594	0.941	1,199	-	-	-	-	-	-
Nicaragua	-	-	-	-	-	-	0.281	0.449	1,200	1.85	0.817	1,199
Netherlands	0.545	0.498	1,869	2.002	0.874	1,884	-	-	-	-	-	-
N. Zealand	0.587	0.492	812	2.477	0.613	807	0.608	0.488	1,032	2.53	0.605	1,026
Nigeria	0.479	0.499	1,759	1.754	0.889	1,759	0.556	0.496	1,234	1.62	0.878	1,228
Pakistan	0.73	0.444	1,200	1.210	0.908	1,200	0.829	0.376	1,995	1.36	1.02	1,992
Puerto Rico	-	-	-	-	-	-	0.389	0.487	1,118	2.47	0.699	1,127
Peru	0.323	0.467	1,210	1.866	0.885	1,210	0.313	0.464	1,400	1.99	0.792	1,400
Philippines	0.689	0.463	1,200	1.796	1.008	1,200	0.575	0.494	1,200	1.71	0.853	1,200
Poland	0.579	0.493	962	1.838	0.804	963	-	-	-	-	-	-
Qatar	0.689	0.462	1,060	2.149	0.959	1,060	-	-	-	-	-	-
Romania	0.613	0.487	1,499	2.076	0.695	1,490	0.620	0.485	1,223	2.04	0.572	1,205
Russia	0.493	0.500	2,485	2.241	0.577	2,488	0.434	0.495	1,787	2.62	0.532	1,800
Rwanda	0.454	0.498	1,527	1.432	0.985	1,527	-	-	-	-	-	-
Serbia	-	-	-	-	-	-	0.511	0.500	1,032	2.39	0.541	1,025
Singapore	0.585	0.492	1,971	1.959	0.895	1,957	0.590	0.491	2,012	2.32	0.834	2,008
Slovenia	0.528	0.499	1,060	2.000	0.791	1,062	-	-	-	-	-	-
Spain	0.515	0.499	1,187	1.871	0.643	3,498	-	-	-	-	-	-
Sweden	0.418	0.493	1,177	1.575	0.837	1,183	-	-	-	-	-	-

S. Africa	0.332	0.471	3,531	1.871	0.643	3,498	-	-	-	-	-	-
Tajikistan	-	-	-	-	-	-	0.752	0.431	1,200	2.38	0.539	1,189
Thailand	-	-	-	-	-	-	0.709	0.454	1,500	1.60	0.743	1,477
Tunisia	-	-	-	-	-	-	0.608	0.488	1,192	1.67	0.834	1,192
Turkey	-	-	-	-	-	-	0.620	0.485	2,412	1.57	0.903	2,406
Trinidad	-	-	-	-	-	-	-	-	-	-	-	-
Ukraine	0.528	0.499	1,500	2.249	0.674	1,500	0.629	0.483	1,275	2.64	0.535	1,278
The US	0.581	0.493	2,232	2.553	0.575	2,232	0.501	0.500	2,596	2.50	0.522	2,562
Uruguay	0.347	0.476	1,000	1.439	0.849	999	-	-	-	-	-	-
Uzbekistan	0.722	0.447	1,495	2.043	0.495	1,500	-	-	-	-	-	-
Vietnam	-	-	-	-	-	-	0.724	0.447	1,200	2.14	0.541	1,200
Yemen	0.781	0.413	1,000	0.928	1.150	998	-	-	-	-	-	-
Zimbabwe	0.529	0.499	1,500	1.793	0.701	1,500	0.615	0.486	1,215	1.81	0.630	1,213

Note: This table provides some descriptive statistics for different criteria by group of surveyed countries. Marital status is coded as one if the respondent is married otherwise zero. WVS ask respondents their highest attained education level (Q275 in WVS-7 and V248 in WVS-6). Relying on this question, we created 4-level discrete variable in where 0= having no education 1= primary education completed, 2= secondary education completed, 3= tertiary education completed and above. **Source:** World Values Survey (2010-2014), Wave 6; World Values Survey (2017-2020), Wave 7

Before delving into the estimations, we report the mean level of trust based on several selected socio-demographic factors including gender, age, income as well as education and results of two-sided z-tests. This allows us to explore the relationships between trust in banks and socio-demographic characteristics of individuals. Based on recent last two waves of WVS, Table 4.1.6 and Table 4.1.7 present the mean level of four main individual characteristics and results showing whether there is statistically difference between sub-groups.

Gender is analyzed by taking into account male and female respondents. Age is compared by two sub-groups: young which corresponds to individuals younger than 40 whereas old which corresponds to individuals are 40 or older than 40. Income is considered by low-income group which includes individuals who are in first five decile and high-income group which includes individuals who are in other five decile income group. Finally, education is taken into account by comparing low-educated individuals who have education level below secondary education and high-educated individuals who are at least completed secondary education or beyond. Summary statistics regarding socio-demographic characteristics such as gender and age and relevant results of z tests are given in Table 4.1.6.

Results based on sixth wave of survey are displayed in Panel (A) of Table 4.1.6. Results indicate that in majority of countries included in sixth round of WVS, there is no statistically difference between men's trust in banks and women's trust in banks. Only in one third (20 of 60) of countries there is significant difference between trust level of men and women. In line with Fungáčová and Weill [28], results indicate that women trust more in banks than men (18 out of 20 countries). This inference holds for both developed and developing countries. These countries are Armenia, Belarus, Chile, China, Estonia, Germany, Hong Kong, Japan, South Korea; Kuwait, Netherlands, New Zealand, Russia, Slovenia, Spain, Sweden, Uruguay and finally, Yemen. The reverse is relevant for only two surveyed countries which are Qatar and Trinidad and Tobago.

Considering only results of univariate analysis, it is difficult to make clear comments regarding link between age and trust in banks. Results show that trust in banks differs with respect to age group of respondents in 15 surveyed countries in

WVS-6. Among 60 countries included in sixth round of WVS, only in 13 countries, young individuals have higher trust in banks than old individuals. This result is similar to what is found by Fungáčová and Weill [28]. Interestingly, this includes mainly developing countries such as Armenia, Belarus, Taiwan, Iraq, Russia, Romania and Slovenia, Ukraine. On the other hand, in some countries such as China and Thailand elderly individuals trust more in banks than their young counterparts.

Similar results are also reached out by seventh round of the survey. Panel (B) of Table 4.1.6. presents the mean level of trust for two socio-demographic characteristics based on last wave of the survey. It seems that there is statistically significant difference in trust in banks of men and women in 12 countries. In 9 of 48 surveyed countries, women display higher trust than men. This includes developing countries such as Kyrgyzstan, China, Russia and Zimbabwe as well as developed countries such as Germany, Japan, and New Zealand. On the contrary, in some surveyed countries such as Bolivia, Hong Kong, Romania, men trust more in banks than women.

Similar to results obtained by using sixth round of the survey, univariate analysis on age leads to inconclusive results. According to Table 4.1.7., 13 countries of 48 surveyed countries, there is statistically significant difference between trust of young and old individuals. The countries where young individuals trust more than old ones are Australia, Bolivia, Cyprus, Ecuador, Germany, Japan, Mexico, Russia. For some countries such as China, Canada, Hong Kong, Singapore and The USA the reverse of aforementioned holds.

The mean levels trust in banks for two socioeconomic criterion such as income and education level are presented in Table 4.1.7.Results of two-sided z-test are also given in the same table. Panel (A) presents the results based on sixth round of survey. At first glance, it is reasonable to mention that income level of respondents seems as a significant factor on determining the trust in level. Related with income level, results indicate that in vast proportion of countries, income seems as relevant factor for trust in banks (32 of 60 countries). Only in Argentina, Brazil, China, Palestine, Germany, Ghana, Haiti, Hong Kong, Japan, South Korea, Kuwait, Libya, Mexico, Netherlands, Nigeria, Pakistan, Rwanda, Singapore, Slovenia, Spain,

Sweden, Turkey, Trinidad and Tobago, Uzbekistan and lastly Yemen, there is no statistically significant difference in trust between respondents with low income and respondents with high income. Results show that in general, individuals with low-income level have higher trust in banks than their counterparts with high-income similar to findings of Fungáčová and Weill [28]. On the other hand, individuals with high-income trust in banks more than individuals with low income in some countries such as Azerbaijan, New Zealand, South Africa and Thailand.

Similar to results regarding age, results of univariate analysis do not lead to clear conclusions on relationship between education level and trust in banks. In 18 out of 60 countries, there is statistically significant difference between trust level of high-educated and low-educated individuals. On the contrary to Fungáčová and Weill [28], the results indicate that high educated individuals have more trust in banks than low educated individuals in most countries (in 10 countries out of total 18 countries). This includes Azerbaijan, Taiwan, Egypt, India, Iraq, Mexico, Nigeria, Peru, Rwanda and lastly, South Africa. There are also some countries in where opposite result is observed. These are Argentina, Belarus, China, Germany, South Korea, Libya, Thailand and Turkey.

Results by countries based on last round of the survey are presented in Panel (B) of Table 4.1.7. Similar to analysis based on sixth version of WVS, results presented in show that there is a statistically significant difference between two considered income sub-groups. It appears that in majority of surveyed countries (23 of 48 countries), income appears as a significant factor that affects trust in banks. On the contrary to Fungáčová and Weill [28], our findings show that in large part of surveyed countries in WVS-7, high-income individuals have more confidence in banks than low-income individuals. This includes Andorra, Argentina, Australia, Bolivia, Canada, Chile, Cyprus, Lebanon, Mexico, Nicaragua, Puerto Rico, Peru, Romania, Russia, Thailand, Ukraine and the USA.

The analysis of country mean-levels is completed with education level. Contrary with results obtained by considering sixth round of WVS, education seems to be related with trust in banks. Findings indicate that half of the surveyed countries in WVS-7, mean level of trust in banks differs with respect to education level of

individual. Confirming the results of Fungáčová and Weill [28], in vast part of surveyed countries, individuals with education level below secondary education have more confidence in banks than individuals with at least secondary education, on average. This statement is relevant for Brazil, Bolivia, Canada, China, Germany, Greece, Hong Kong, Indonesia, Iran, Iraq, Kazakhstan, Myanmar, Puerto Rico, Philippines, Singapore and Zimbabwe. The reverse of holds only for Cyprus, Ecuador, Lebanon, Macau SAR, Mexico, Nicaragua and Pakistan.

Table 4.1.6.: Trust in Banks by Selected Socio-Economic Factors

	Panel (A) World Values Survey Wave 6						**Panel (B) World Values Survey Wave 7**					
	Gender			**Age**			**Gender**			**Age**		
Country	Male	Female	p-value	Young	Old	p-value	Male	Female	p-value	Young	Old	p-value
Andorra	-	-	-	-	-	-	2.051	2.060	0.857	2.008	2.083	0.157
Algeria	2.327	2.434	0.102	2.366	2.394	0.674	-	-	-	-	-	-
Azerbaijan	2.656	2.620	0.560	2.663	2.616	0.446	-	-	-	-	-	-
Argentina	2.036	2.083	0.379	2.069	2.052	0.749	2.022	2.083	0.254	2.044	2.061	0.749
Australia	2.325	2.346	0.625	2.372	2.327	0.382	2.113	2.212	**0.007**	2.254	2.146	**0.011**
Armenia	2.498	2.653	0.012	2.810	2.456	**0.000**	-	-	-	-	-	-
Bangladesh	-	-	-	-	-	-	2.994	2.986	0.855	3.005	2.966	0.417
Brazil	2.379	2.386	0.889	2.395	2.373	0.653	2.378	2.411	0.501	2.376	2.412	0.463
Belarus	2.421	2.557	**0.002**	2.554	2.452	**0.023**	-	-	-	-	-	-
Bolivia	-	-	-	-	-	-	2.629	2.454	**0.000**	2.604	2.454	**0.000**
Canada	-	-	-	-	-	-	2.504	2.521	0.507	2.475	2.536	**0.016**
Chile	2.109	2.251	**0.008**	2.167	2.191	0.648	2.361	2.285	0.139	2.269	2.354	0.104
China	3.025	3.082	**0.040**	2.998	3.093	0.000	3.134	3.186	**0.017**	3.106	3.197	**0.000**
Taiwan	2.909	2.902	0.818	2.946	2.876	**0.043**	2.961	2.985	0.499	2.977	2.971	0.874
Colombia	2.504	2.482	0.673	2.489	2.497	0.861	2.238	2.218	0.667	2.231	2.224	0.887
Cyprus	2.663	2.766	0.062	2.756	2.679	0.164	1.875	1.975	0.081	2.046	1.828	**0.000**
Ecuador	2.445	2.421	0.653	2.468	2.392	0.096	2.586	2.512	0.138	2.656	2.413	**0.000**
Egypt	2.559	2.516	0.445	2.573	2.485	0.142	2.676	2.725	0.407	2.684	2.714	0.605
Estonia	2.650	2.774	**0.002**	2.736	2.709	0.514	-	-	-	-	-	-

Georgia	2.057	2.120	0.214	2.143	2.050	0.069	-	-	-	-	-	-
Palestine	2.141	2.159	0.767	2.175	2.105	0.263	-	-	-	-	-	-
Germany	1.888	2.034	**0.000**	2.020	1.934	0.024	2.082	2.207	**0.001**	2.284	2.089	**0.000**
Ghana	3.171	3.137	0.419	3.155	3.153	0.971	-	-	-	-	-	-
Guatemala	-	-	-	-	-	-	-	-	-	-	-	-
Haiti	2.142	2.091	0.226	2.112	2.127	0.751	-	-	-	-	-	-
Hong Kong	2.889	2.983	0.045	2.887	2.975	0.068	3.002	2.917	**0.002**	2.897	2.987	**0.001**
Indonesia	-	-	-	-	-	-	3.170	3.167	0.904	3.178	3.159	0.456
India	3.392	3.373	0.499	3.397	3.371	0.343	-	-	-	-	-	-
Iran	-	-	-	-	-	-	2.458	2.541	0.115	2.496	2.502	0.911
Iraq	2.647	2.571	0.166	2.654	2.542	**0.044**	1.912	1.887	0.693	1.870	1.958	0.176
Japan	2.635	2.736	**0.000**	2.672	2.692	0.524	2.705	2.785	**0.030**	2.834	2.724	**0.011**
Kazakhstan	2.494	2.570	0.098	2.567	2.509	0.200	2.646	2.613	0.476	2.608	2.649	0.374
Jordan	2.313	2.336	0.668	2.341	2.304	0.491	2.250	2.276	0.684	2.230	2.287	0.366
S. Korea	2.777	2.937	**0.000**	2.788	2.911	0.004	2.734	2.774	0.237	2.737	2.764	0.437
Kuwait	2.617	3.002	**0.000**	2.773	2.712	0.326	-	-	-	-	-	-
Kyrgyzstan	2.789	2.831	0.377	2.794	2.831	0.435	2.840	3.016	**0.000**	2.923	2.975	0.266
Lebanon	2.473	2.450	0.689	2.450	2.475	0.660	2.035	2.068	0.492	2.027	2.077	0.291
Libya	2.888	2.806	0.082	2.820	2.888	0.150	-	-	-	-	-	-
Myanmar	-	-	-	-	-	-	3.153	3.205	0.266	3.192	3.165	0.560
Macau S.	-	-	-	-	-	-	3.020	3.040	0.589	3.067	3.005	0.098
Malaysia	3.016	3.044	0.504	2.986	3.066	0.054	2.910	2.932	0.559	2.933	2.902	0.426
Mexico	2.427	2.370	0.190	2.466	2.292	0.000	2.109	2.097	0.793	2.155	2.058	**0.044**
Morocco	2.602	2.710	0.075	2.655	2.656	0.988	-	-	-	-	-	-
Nicaragua	-	-	-	-	-	-	2.273	2.219	0.341	2.284	2.170	0.056

Netherlands	1.968	2.196	**0.000**	2.232	2.048	**0.000**	-	-	-	-	-	-
N. Zealand	2.516	2.779	**0.000**	2.633	2.676	0.476	2.337	2.505	**0.000**	2.408	2.432	0.729
Nigeria	2.960	2.925	0.416	2.951	2.908	0.429	3.033	2.954	0.130	2.967	3.086	0.050
Pakistan	2.779	2.759	0.739	2.761	2.789	0.658	3.090	3.031	0.198	3.056	3.074	0.698
Puerto Rico	-	-	-	-	-	-	2.506	2.450	0.366	2.462	2.475	0.843
Peru	2.249	2.259	0.857	2.299	2.198	0.060	2.163	2.080	0.085	2.133	2.111	0.657
Philippines	3.031	2.973	0.204	3.015	2.990	0.581	3.110	3.075	0.433	3.129	3.062	0.137
Poland	2.331	2.410	0.120	2.516	2.291	**0.000**	-	-	-	-	-	-
Qatar	2.775	2.661	**0.049**	2.708	2.723	0.795	-	-	-	-	-	-
Romania	2.199	2.258	0.222	2.298	2.196	**0.042**	1.970	1.863	**0.044**	1.917	1.900	0.765
Russia	2.181	2.278	**0.007**	2.377	2.135	**0.000**	2.251	2.342	**0.040**	2.380	2.248	**0.002**
Rwanda	2.747	2.771	0.554	2.751	2.784	0.485	-	-	-	-	-	-
Serbia	-	-	-	-	-	-	2.04	2.065	0.614	2.065	2.045	0.687
Singapore	2.921	2.892	0.355	2.918	2.893	0.414	2.912	2.928	0.588	2.848	2.959	**0.000**
Slovenia	2.234	2.351	**0.010**	2.349	2.281	0.155	-	-	-	-	-	-
Spain	1.725	1.819	0.031	1.726	1.806	0.519	-	-	-	-	-	-
Sweden	2.431	2.633	**0.000**	2.673	2.454	**0.000**	-	-	-	-	-	-
S. Africa	2.648	2.647	0.973	2.658	2.630	0.413	-	-	-	-	-	-
Tajikistan	-	-	-	-	-	-	2.939	2.871	0.168	2.918	2.893	0.615
Thailand	3.175	3.224	0.304	3.088	3.238	**0.003**	3.080	3.080	0.997	3.074	3.076	0.966
Tunisia	2.143	2.35	0.126	2.242	2.219	0.727	1.998	2.064	0.174	1.982	2.073	0.064
Turkey	2.244	2.255	0.813	2.212	2.304	0.067	2.259	2.328	0.063	2.318	2.264	0.155
Trinidad	2.591	2.505	**0.001**	2.518	2.563	0.430	-	-	-	-	-	-
Ukraine	2.095	2.084	0.807	2.218	2.006	**0.000**	2.168	2.110	0.222	2.165	2.116	0.322

The US	2.255	2.396	0.445	2.356	2.315	0.096	2.283	2.392	**0.000**	2.285	2.377	**0.002**
Uruguay	2.441	2.527	**0.000**	2.430	2.530	0.098	-	-	-	-	-	-
Uzbekistan	3.258	3.226	0.503	3.262	3.208	0.267	-	-	-	-	-	-
Vietnam	-	-	-	-	-	-	3.145	3.135	0.765	3.139	3.139	0.991
Yemen	2.125	2.390	**0.000**	2.230	2.276	0.574	-	-	-	-	-	-
Zimbabwe	2.942	2.869	0.121	2.911	2.877	0.519	2.368	2.499	**0.028**	2.481	2.369	0.064

Note: This table presents mean level of trust in banks by selected some socio-economic factors. The p-values belong to two-sided tests which test the hypothesis that two means of subsamples are equal. Young includes the individuals who are aged less than 40 whereas old includes the individuals who are aged 40 or more. **Source:** World Values Survey (2010-2014), Wave 6; World Values Survey (2017-2020), Wave 7

Table 4.1.7.: Trust in Banks by Selected Socio-Economic Factors

	Panel (A) World Values Survey Wave 6						Panel (B) World Values Survey Wave 7					
	Income			Education			Income			Education		
Country	Low	High	p-value	Low	High	p-value	Low	High	p-value	Low	High	p-value
Andorra	-	-	-	-	-	-	1.942	2.095	**0.007**	2.159	2.039	0.103
Algeria	2.578	2.113	**0.000**	2.445	2.323	0.062	-	-	-	-	-	-
Azerbaijan	2.589	2.794	**0.004**	1.782	2.658	**0.000**	-	-	-	-	-	-
Argentina	2.060	2.063	0.951	2.226	2.011	**0.000**	1.930	2.108	**0.001**	2.113	2.037	0.246
Australia	2.393	2.241	**0.000**	2.375	2.310	0.558	2.100	2.205	**0.006**	2.371	2.166	0.116
Armenia	2.759	2.450	**0.000**	2.352	2.610	0.120	-	-	-	-	-	-
Bangladesh	-	-	-	-	-	-	3.034	2.974	0.250	2.944	3.030	0.067
Brazil	2.378	2.390	0.800	2.380	2.390	0.848	2.374	2.419	0.354	2.515	2.364	**0.008**
Belarus	2.589	2.372	**0.000**	3.190	2.486	**0.000**	-	-	-	-	-	-
Bolivia	-	-	-	-	-	-	2.462	2.584	**0.003**	2.45	2.570	**0.011**
Canada	-	-	-	-	-	-	2.312	2.579	**0.000**	2.722	2.508	**0.011**
Chile	2.335	1.948	**0.000**	2.064	2.200	0.076	2.202	2.409	**0.000**	2.35	2.318	0.809
China	3.058	3.050	0.775	3.147	3.015	**0.000**	3.166	3.159	0.748	3.286	3.126	**0.000**
Taiwan	2.937	2.846	**0.011**	2.791	2.925	**0.005**	2.889	3.038	**0.000**	3.035	2.965	0.211
Colombia	2.537	2.416	**0.020**	2.535	2.485	0.383	2.202	2.250	0.294	2.284	2.216	0.223
Cyprus	2.759	2.611	**0.016**	2.689	2.724	0.626	1.775	1.989	**0.000**	1.726	1.951	**0.005**
Ecuador	2.476	2.364	**0.037**	2.375	2.448	0.246	2.458	2.602	**0.005**	2.406	2.589	**0.002**
Egypt	2.717	2.372	**0.000**	2.419	2.623	**0.000**	2.716	2.692	0.733	2.538	2.745	**0.003**
Estonia	2.786	2.655	**0.001**	2.740	2.718	0.883	-	-	-	-	-	-

Georgia	2.219	2.022	**0.000**	2.416	2.088	0.189	-	-	-	-	-	-
Palestine	2.177	2.111	0.278	2.030	2.175	0.066	-	-	-	-	-	-
Germany	1.990	1.919	0.052	2.048	1.926	**0.001**	2.170	2.136	0.435	2.608	2.137	**0.003**
Ghana	3.174	3.127	0.277	3.129	3.175	0.275	-	-	-	-	-	-
Greece	-	-	-	-	-	-	1.884	1.914	0.499	2.014	1.865	**0.004**
Guatemala	-	-	-	-	-	-	-	-	-	-	-	-
Haiti	2.094	2.127	0.470	2.112	2.118	0.889	-	-	-	-	-	-
Hong Kong	2.946	2.932	0.769	2.963	2.936	0.672	2.942	2.965	0.410	3.128	2.937	**0.000**
Indonesia	-	-	-	-	-	-	3.201	3.137	**0.013**	3.253	3.121	**0.000**
India	3.446	3.323	**0.000**	3.330	3.425	**0.000**	-	-	-	-	-	-
Iran	-	-	-	-	-	-	2.487	2.512	0.642	2.744	2.460	**0.000**
Iraq	2.710	2.367	**0.000**	2.406	2.737	**0.000**	1.911	1.888	0.706	2.123	1.807	**0.000**
Japan	2.698	2.674	0.392	2.727	2.680	0.300	2.742	2.758	0.662	2.933	2.75	0.279
Kazakhstan	2.583	2.444	**0.004**	2.6	2.539	0.730	2.580	2.641	0.277	3.000	2.626	**0.018**
Jordan	2.390	2.209	**0.001**	2.290	2.341	0.373	2.218	2.309	0.147	2.295	2.255	0.653
S. Korea	2.866	2.844	0.634	3.089	2.845	**0.008**	2.776	2.741	0.306	2.9	2.748	0.075
Kuwait	2.747	2.778	0.702	2.682	2.749	0.527	-	-	-	-	-	-
Kyrgyzstan	2.848	2.703	**0.008**	2.786	2.812	0.797	2.894	2.968	0.168	3.25	2.947	0.458
Lebanon	2.492	2.355	**0.044**	2.473	2.466	0.917	1.830	2.143	**0.000**	1.759	2.096	**0.000**
Libya	2.834	2.898	0.236	3.008	2.796	**0.000**	-	-	-	-	-	-
Myanmar	-	-	-	-	-	-	3.168	3.185	0.728	3.329	3.100	**0.000**
Macau S.	-	-	-	-	-	-	3.006	3.043	0.354	2.899	3.053	**0.005**
Malaysia	3.065	2.878	**0.000**	3.026	3.030	0.934	2.925	2.915	0.809	2.974	2.917	0.481
Mexico	2.453	2.375	0.096	2.257	2.458	**0.000**	2.056	2.157	**0.035**	1.957	2.156	**0.000**

Morocco	2.717	2.594	**0.042**	2.682	2.589	0.166	-	-	-	-	-	-
Nicaragua	-	-	-	-	-	-	2.181	2.294	**0.049**	2.132	2.296	**0.007**
Netherlands	2.112	2.059	0.106	2.066	2.091	0.592	-	-	-	-	-	-
N. Zealand	2.625	2.740	**0.039**	2.080	2.662	0.415	2.388	2.45	0.241	2.590	2.426	0.327
Nigeria	2.957	2.918	0.379	2.832	2.969	0.012	2.181	2.955	0.145	3.054	2.978	0.185
Pakistan	2.770	2.768	0.969	2.710	2.804	0.120	3.157	2.981	**0.000**	2.986	3.118	**0.004**
Puerto Rico	-	-	-	-	-	-	2.368	2.520	**0.019**	2.697	2.454	**0.042**
Peru	2.343	2.110	0.746	2.063	2.291	**0.001**	1.994	2.201	**0.000**	2.061	2.134	0.272
Philippines	3.009	2.994	0.748	3.069	2.975	0.063	3.090	3.094	0.925	3.159	3.058	**0.034**
Poland	2.432	2.298	**0.008**	2.441	2.362	0.265	-	-	-	-	-	-
Qatar	2.739	2.495	**0.010**	2.739	2.710	0.706	-	-	-	-	-	-
Romania	2.324	2.086	**0.000**	2.190	2.239	0.539	1.688	1.977	**0.000**	1.963	1.901	0.483
Russia	2.386	2.088	**0.000**	2.189	2.236	0.743	2.194	2.382	**0.000**	2.607	2.299	**0.071**
Rwanda	2.743	2.791	0.263	2.664	2.810	**0.000**	-	-	-	-	-	-
Serbia	-	-	-	-	-	-	2.022	2.074	0.317	2.111	2.053	0.759
Singapore	2.903	2.917	0.722	2.967	2.894	0.083	2.921	2.920	0.968	3.033	2.905	**0.003**
Slovenia	2.311	2.285	0.584	2.306	2.298	0.889	-	-	-	-	-	-
Spain	1.791	1.747	0.329	1.795	1.75	0.303	-	-	-	-	-	-
Sweden	2.587	2.4	0.334	2.560	2.527	0.672	-	-	-	-	-	-
S. Africa	2.637	2.672	**0.000**	2.472	2.665	**0.000**	-	-	-	-	-	-
Tajikistan	-	-	-	-	-	-	2.857	2.917	0.336	3.210	2.902	0.110
Thailand	3.095	3.365	**0.002**	3.264	3.096	**0.000**	3.011	3.132	**0.006**	3.081	3.062	0.664
Tunisia	2.373	1.971	**0.000**	2.194	2.268	0.245	2.110	1.974	**0.005**	2.046	2.030	0.761
Turkey	2.267	2.201	0.245	2.317	2.211	**0.039**	2.309	2.286	0.572	2.284	2.216	0.223

Trinidad	2.561	2.511	0.400	2.559	2.536	0.705	-	-	-	-	-	-
Ukraine	2.243	1.958	**0.000**	2.014	2.536	0.451	2.062	2.192	**0.005**	2.176	2.136	0.838
The US	2.369	2.244	**0.000**	2.382	2.326	0.607	2.216	2.395	**0.000**	2.4	2.330	0.774
Uruguay	2.575	2.386	**0.001**	2.433	2.515	0.189	-	-	-	-	-	-
Uzbekistan	3.256	3.162	0.118	3.235	3.238	0.986	-	-	-	-	-	-
Vietnam	-	-	-	-	-	-	3.098	3.155	0.110	3.164	3.137	0.639
Yemen	2.302	2.198	0.172	2.265	2.225	0.598	-	-	-	-	-	-
Zimbabwe	2.959	2.816	**0.002**	2.830	2.911	0.268	2.465	2.382	**0.000**	2.722	2.508	**0.011**

Note: This table presents mean level of trust in banks by selected some socio-economic factors. The p-values belong to two-sided test which test the hypothesis that two means of subsamples are equal. High income includes the respondents who score their income equal to 5 or higher whereas low income includes those with income score lower than 5. High educated includes respondents with at least secondary education whereas the low educated includes respondents with education level below secondary education. **Source:** World Values Survey (2010-2014), Wave 6; World Values Survey (2017-2020), Wave 7

The analysis proceeds with mean levels of trust in banks by different country groupings. The countries are gathered by different macroeconomic criteria. Table 4.1.8 summarizes average level of trust by four country-level variables including experiencing a recent financial crisis, existence of deposit insurance in the country, dimensions of governance indicators and finally, income groups. Similar to general structure of this thesis, the results based on sixth round of survey are presented in Panel (A) whereas findings based on the last round are presented in Panel (B). In addition, results on whether there is a statistically difference between different country groupings are provided in both panel of Table 4.1.8. The analysis with respect to country-level variables helps the readers to understand the relationship between trust in banks and variables considered at macro-level. Regarding out income level, countries are classified into five different group by employing methodology suggested by World Bank.

Starting with the Panel (A) of Table 4.1.8, the reader might claim that confidence in banks have tendency to decrease with increasing income at country-level. However, it is not possible to mention about a clear pattern for the link between confidence in banks and mean level of trust after a detailed examination. It seems that among five-different income groups, lower-middle income countries are with the highest average level of trust in countries. This is followed by high income and not OECD member of countries. OECD countries with high income have the lowest mean level of trust among all income groups at country-level.

Overall, trust in banks in high income countries is lower compared to low income countries as well as middle income countries. This is interesting and quiet counter-intuitive result since it is well acknowledged that high income countries suffered most from financial crisis occurred in recent which, in turn, might result in hampering confidence in banks. Relying on data provided by Laeven and Valencia [51], the countries surveyed in WVS-6 and WVS-7 are grouped with respect to experiencing financial crisis in recent years. In line with the claims on experiencing a financial turmoil affects confidence in banks adversely, results indicate that countries with no financial crisis display high confidence in banks compared to ones with experienced financial crisis in recent. The negative association between

financial crisis and trust in banks is also in line with results regarding income groups and confidence in banks. This suggest that low trust observed in high income countries may reflect the fact that existence of financial crisis may damage high-income countries harder than low-income countries.

Adopting methodologies and classifications provided by Demirguç-Kunt et al. [22], the relationship between existence of deposit scheme and confidence in banks is also considered. Prominently, results indicate that countries without deposit insurance display higher confidence in banks (0.597) than countries with deposit insurance scheme (0.536). By considering the fact that deposit insurance schemes are designed to improve confidence in financial system by reducing the expected losses for depositors, this is somewhat counter-intuitive. On the other hand, it is also acknowledged that this type of regimes also raises moral hazard issues in financial sector. Deposit insurance regimes might serve for burst out of financial crisis and, in turn, result in erosion in trust. Thus, this complicates to make clear-cut explanation on the relationship between existence of deposit insurance regime in any country and trust in banks. Lastly, analysis is completed by providing average level of trust according to six dimensions representing governance quality of countries. These are captured by data provided by World Bank's World-Wide Governance Indicators (WGI). In all dimensions, the countries with negative values have higher trust in compared with countries with the positive values. Results show that countries with positive values displays lower confidence in banks, on average. This is relevant for all six dimensions of governance. In other words, countries with lower quality of governance have high confidence in banks compared to countries with high quality of governance. These results are quite surprising and are contrary to what is usually expected for the link between trust and governance quality.

Results regarding governance quality of countries should be interpreted as following way. Countries in where individuals have trust in and abide by the rules of society have low trust in banks. Having freedom of speech and free media are negatively associated with trust in banks. Political instability is positively associated with low confidence in banks. Countries with high quality of civil service and providing the service independently from political pressures display low confidence in banks. In addition, countries with governments that are able to

formulate sound policies have low confidence in banks. Finally, the countries in where individuals believe in public power serve for the purpose of elites and private gain display high trust in banks.

The analysis of country averages based on latest version of WVS is line with the results obtained by employing the previous round. According to Panel (B) of Table 4.1.8, countries that were not damaged by financial crisis display higher level of trust, on average. Related with relationship between income groups and trust, it is found that low income countries have higher trust than high income countries. Disintegrating income groups into some sub-groups yields similar results. In this regard, findings show that low income countries have the highest level of trust among five groups. Low income countries are followed by lower middle-income countries. On the other hand, analysis at country-level indicates that high income and OECD countries has the lowest confidence in banks. Similar to results based on sixth round of the survey, countries with no deposit insurance scheme has higher mean of confidence in banks compared to the countries with deposit insurance regime.

Again, to understand how governance related to trust in banks, average level of six dimensions of governance at country-level is provided. Similarly, all indicators take values between -2.5 and 2.5. Countries are grouped into two with respect to signs of regarding indicator. Results imply that trust significantly differs according to five of six indicators including rule of law, voice and accountability, political stability, government effectiveness, regulatory quality and control of corruption. In general, the countries with negative values displays higher confidence in banks. In line with Fungáčová et al. [29], these results are striking and quite controversial. Even if the theoretical reasoning calls for the observation that "better governed societies are more trusted", obtained results indicate a possible bidirectional relationship between trust and governance quality. In other words, the obtained results indicate that the relationship between those variables are somewhat similar to "chicken and egg problem". In this regard, it is plausible to claim that some aspect of trust feed backs to quality of institutions.

Table 4.1.8.: Trust in Banks by Country Groups

	Panel (A) World Values Survey Wave 6			Panel (B) World Values Survey Wave 7		
	Observation	**Mean**	**SD**	**Observation**	**Mean**	**SSD**
Financial Crisis						
Financial Crisis	14,131	0.398	0.489	8,908	0.426	0.494
No Financial Crisis	71,411	0.589	0.491	61,449	0.576	0.494
p-value		**0.000**			**0.000**	
Deposit Insurance						
Deposit Insurance	57,525	0.536	0.498	50,602	0.520	0.499
No Deposit Insurance	24,736	0.597	0.490	19,755	0.650	0.476
p-value		**0.0000**			**0.000**	
Governance Indicators						
Rule of Law	41,056	0.534	0.498	25,287	0.509	0.499
No Rule of Law	41,205	0.574	0.494	45,070	0.583	0.492
p-value		0.000			0.000	
Voice and Account.	41,056	0.534	0.498	33,641	0.480	0.499
No Voice and Account.	41,205	0.574	0.494	36,716	0.627	0.483
p-value		**0.000**			**0.000**	
Political Stability	33,061	0.517	0.499	20,881	0.502	0.500
No Political Stability	49,200	0.579	0.493	49,476	0.580	0.493
p-value		0.0000			0.000	
Government Effectiveness	43,155	0.540	0.498	39,366	0.583	0.493
No Government Effect.	39,106	0.570	0.495	30,991	0.523	0.499
p-value		**0.0000**			**0.000**	
Regulatory Quality	45,308	0.521	0.499	32,173	0.498	0.500
No Regulatory Quality	36,953	0.594	0.490	38,184	0.606	0.488
p-value		**0.000**			**0.000**	
Control of Corruption	29,701	0.502	0.499	21,648	0.519	0.499
No Control of Corruption	52,560	0.583	0.492	48,709	0.573	0.494
p-value		**0.000**			**0.000**	
Income group						
High income: OECD	16,159	0.431	0.495	14,292	0.441	0.496
High income: non-OECD	11,405	0.571	0.494	6,169	0.614	0.486
Upper middle income	30,468	0.543	0.498	29,558	0.535	0.498

Lower middle income	19,259	0.664	0.472	16,737	0.625	0.484
Low income	4,970	0.555	0.496	3,601	0.771	0.419
Income group						
High ıncome	58,032	0.517	0.499	50,019	0.518	0.499
Low income	24,229	0.642	0.479	20,338	0.651	0.476
p-value		**0.0000**			**0.000**	

Note: p-value belongs to t-test on equality of means of trust between considered sub-groups. Some countries are not included in country groups due to lack of data. For WVS-6, these include Taiwan, Palestine and South Korea. For WVS-7, these only include Myanmar and Taiwan. **Source:** World Values Survey Wave 6 (2010-2014); World Values Survey Wave 7 (2017-2020); WB (2012); WGI (2012); WDI (2012); WDI(2018); WGI (2012); WGI (2018).

Table 4.2.1.: Descriptive Statistics

	Panel (A) World Values Survey Wave 6					Panel (B) World Values Survey Wave 7				
	Mean	Min.	Max.	Std. Dev.	N	Mean	Min.	Max.	Std. Dev.	N
Individual-level variables:										
Trust in banks	0.549	0	1	.497	61,054	0.571	0	1	0.494	51,382
Trust in others	0.236	0	1	.425	61,546	0.232	0	1	0.422	52,285
Gender	0.480	0	1	.499	63,077	0.472	0	1	0.499	52,871
Age	42.29	16	99	16.661	63,000	42.438	17	103	15.933	52,828
Marital Status	0.546	0	1	0.497	63,018	0.588	0	1	.492	52,645
Education level	1.710	0	3	0.875	62,502	2.054	0	3	.812	52,454
Self-Rated Health Status	2.894	1	4	0.841	62,945	3.810	1	5	.845	52,799
Political Orientation	5.748	1	10	2.290	52,146	5.825	1	10	2.413	35,206
Financial Satisfaction	5.984	1	10	2.426	62,808	6.3003	1	10	2.367	52,674
Income	4.844	1	10	2.077	61,578	4.805	1	10	2.027	51,818
Wealth	3.771	1	6	1.538	61,365					
Newspaper	0.315	0	1	0.464	60,591	0.189	0	1	0.382	52,445
TV	0.746	0	1	0.435	60,669	0.646	0	1	0.477	52,632
Internet	0.304	0	1	0.460	60,369	0.445	0	1	0.497	52,028
Inequality	5.640	1	10	2.782	60,262	6.270	1	10	2.956	52,314
Government Role	4.608	1	10	2.932	61,925	5.735	1	10	2.805	51,298
Competition	3.944	1	10	2.607	61,296	4.164	1	10	2.738	52,165
Hard work	4.178	1	10	2.788	61,932	4.421	1	10	2.921	52,417
Democracy	8.219	1	10	2.074	61,994	8.217	1	10	2.172	52,002
Country-level variables:										
Financial Crisis	0.184	0	1	.392	38	0.151	0	1	0.364	33
Deposit Insurance	0.763	0	1	.430	38	0.757	0	1	0.435	33
GDP per capita	16483.1	725.1698	68027.84	18066.33	38	15003.33	853.218	66679.05	19085.05	33
Bank nonperforming loans to total gross loans (%)	5.445	0.6	20.374	5.104	38	6.683	0.254	54.410	10.506	33
Bank capital to assets ratio	9.695	4.535	17.894	2.921	38	9.495	4.742	27.041	3.967	33
Inflation (%)	6.316	-0.943	59.219	9.357	38	3.761	0	16.332	3.536	33
Bank z-score	14.178	2.815	33.499	6.76	38	16.495	2.528	55.645	10.467	33

Bank concentration ratio (%)	61.111	26.986	100	22.066	38	59.907	24.848	96.517	18.987	33
Financial system deposit to GDP (%)	62.883	14.159	322.242	60.267	38	70.071	11.227	371.059	71.716	33
Voice and Accountability	0.091	-1.567	1.605	0.829	38	-0.275	-2.212	1.431	.873	33
Political Stability	-0.260	-2.677	1.368	0.952	38	-0.484	-2.528	1.487	-2.528	33
Governance Effectiveness	0.297	-0.996	2.165	0.836	38	0.075	-2.360	2.226	1.017	33
Regulatory Quality	0.353	-1.276	1.965	0.866	38	-0.159	-1.753	1.844	0.983	33
Rule of Law	0.108	-1.146	1.859	0.937	38	-0.209	-1.564	2.174	1.000	33
Control of Corruption	0.141	-1.169	2.123	1.021	38	0.062	-1.575	2.230	0.934	33

Note: Certain countries are not included while deriving descriptive statistics due lack of appropriate data at country-level.**Sources:** World Values Survey 6 (2010-2014); WB (2012); WGI (2012); World Values Survey Wave 7 (2017-2020); WDI (2012); WDI(2018);GFDD(2012); GFDD(2018); WGI (2012); WGI (2018).

4.2. Descriptive Statistics

This sub-section of the thesis discusses descriptive statistics of full sample used in estimations. Due lack of country-level data for some countries, data regarding those countries are not included in the estimations.

Descriptive statistics based on two rounds of the survey is presented in Table 4.2.1. Results based on WVS-6 are presented in Panel (A) of Table 4.2.1. Considering the trust, 54.9% of the respondents have confidence in banks whereas 23.6% of the respondents have confidence in others. Females constitutes 48% of the operating sample. In WVS-6, the mean age of the sample is 42.29 years, with minimum of 16 years and maximum of 99 years. Average self-rated health status is 2.89 which falls in between good and fair health status. 54.6% of individuals report that they are married whereas 45.1% individuals are single. Regarding out political orientation, average of the operating sample is 5.74 which corresponds to having right political orientation. Average of financial satisfaction is 5.98 which slightly corresponds to completely satisfied level. On the other hand, mean of income is 4.84. This means that on average, individuals report that the household that they live in belong more to lowest income group rather than the highest income group in their country. Statistics regarding usage of communication tools reveals interesting information.

It seems that majority of sample uses TV on daily basis to obtain information. This reads 74.6% of the sample. However, only 31.5% of the sample use the newspaper to access information whereas 30.4 % of the sample use the Internet regularly to access information. Results show that sample, on average, favor increased share of private ownership in the economy. In addition, average value of competition reads 3.94, meaning that sample has pro-market attitudes. In other words, the respondents believe that competition is good and it brings out new ideas to people. Another interesting finding is that the mean of inequality reads 5.64, which means that the sample on average, feel towards to idea of income inequality in the society as a reward for individual effort. Average of hard work reads 4.17 which indicate that respondents fall closer to idea that hard work bring success in the long run. Finally,

the average of democracy is 8.21, meaning that sample believes that living in a country with democratic governance has absolute importance for them.

Variations in country-level variables are also worth to mention. It seems that 18.4% of sample experience a financial crisis in recent years. Bulk of the sample countries impose deposit insurance scheme; the rate reads 76.3%. GDP per capita ranges from 725.1698$ to 68,027.84$. The mean level of inflation is 6.31%. However, the sample statistics also shows that some countries experience deflation. The mean of banking z-score reads 14.17, ranging from 2.815 to 33.499. It means that countries in our sample has low probability of default of banking system. The mean of bank concentration reads 61.11%, meaning that for sample countries, on average, share of assets country's three largest banks accounts of nearly one fourth of total assets. The average of financial system deposit to GDP reads 62.88%. In addition, the mean of governance effectiveness reads 0.297. Regarding out dimensions of governance indicators, mean level of all governance indicators except for political stability is positive.

Panel (B) of Table 4.2.1 shows descriptive statistics regarding last round of WVS. Individual-level statistics in Panel (B) reveals that trust in banks reads as 57.1%, meaning that slightly more than half of respondents trust in banks. Considering the generalized trust, 23.2% of the sample trust in others. 47.2% of the sample is female and the average age of the operating sample is 42.43. The age of respondents is in between 17 and 103. 58.8% of the sample is married. The average of education level corresponds to a level between secondary education completed and tertiary education completed. The mean of self-rated health status reads 3.8, which falls between "fair" and "good" health status.

The mean of political orientation is 5.82, which indicates that on average, respondents place themselves a place closer to "right" political convection. The average level of financial satisfaction level falls in between mid-level and completely satisfied level. The mean of income variable for the sample reads 4.805, meaning that respondents, on average, believe that income earned by their household classified under lowest income group in their country. Proceeding with

utilization of communication tools, 64.6% of the sample uses television on daily basis. On the other hand, 18.9% of the respondents uses newspaper whereas 44.5% of the respondents uses the Internet on daily frequency.

Sample statistics regarding economic and political values reveals interesting results. It is found that 57.7% of the sample believe that society should give priority to environment at the cost of economic growth. Moreover, on average, respondents feel closer to the idea of increased government role in the economy. In other words, respondents do not have pro-market attitude, at least on average. Average of inequality variable reads as 6.27. This means that on average individuals believe that there should be greater incentives for individual efforts. Other finding is that mean level of competition variable read as 4.16. This means that on average, sample favors the idea that competition is good. Furthermore, it is found that sample, on average, believe that hard work usually results in good life in the long run. The mean of democracy is 8.217. Lastly, sample, on average, place a great importance on living in a country that is governed democratically.

Regarding out country-level statistics of Table 4.2.1 15% of the countries experience a financial crisis in recent years. There is country-level disparity in GDP per capita although the mean level of GDP per capita is 15003.33 $. Maximum GDP per capita reads 66679.05$. Regarding existence of deposit insurance, 75.7% of the countries in the sample implements some kind of deposit insurance scheme. The mean level of ratio banking nonperforming loans in total gross loans is 6.68%. The inflation ranges from 0% to 16.33% with the average of 3.76%. The average of bank z-score reads16.49, ranging from 2.528 to 55.645. Average bank concentration ratio is around 60% whereas average financial system deposit to GDP is around 70%. Lastly, average value of all governance indexes are all negative, only except for governance effectiveness and control of corruption.

4.3. Empirical Findings from Multi-Level Models

This part of the thesis presents estimation results of multi-level logistic regression for two rounds of survey. Both the estimation coefficients and odds ratios of estimations are provided in this section. However, only reported odds ratio are

interpreted since it is more useful for readers to understand the relationships. The estimation results are also compared with the empirical findings of prior literature. The possible reasons behind the results are also discussed when necessary. The discussion starts with explaining whether chosen empirical strategy is right for modeling the data. In order to check whether multi-level model is a right empirical strategy for the data, a likelihood ratio test (LR) is conducted. The results of LR Test is presented in Table 4.3.1. LR statistics reads 7885.64 and it is significant at 99% confidence level. This result basically indicates that data have hierarchical structure, therefore multi-level framework is needed for modelling the data.

Table 4.3.1.: Test Statistics of Null Model

Trust in Banks	**Coefficient**	**Standard Error**	**z**	**P>|z|**	**[95% Confidence Interval]**	
Constant	0.1643	0.127	1.29	0.198	-0.0859	0.414

Random-effects parameters	**Estimate**	**Standard Error**	**[95% Confidence Interval]**	
Var (constant)	0.616	0.142	0.392	0.969
LR test vs. logistic model:	chibar2(01)=7885.64 Prob>= chibar2=0.000			

Source: World Values Survey Wave-6 (2010-2014)

Residual Interclass Correlation			
Level	**ICC**	**Standard Error**	**[95% Confidence Interval]**
Country	0.157	0.030	0.106 0.227

Source: World Values Survey Wave-6 (2010-2014)

Table 4.3.2.: Test Statistics of Null Model

Trust in Banks	**Coefficient**	**Standard Error**	**z**	**P>|z|**	**[95% Confidence Interval]**	
Constant	0.276	0.179	1.54	0.124	-0.0761	0.628

Random-effects parameters	**Estimate**	**Standard Error**	**[95% Confidence Interval]**
Var (constant)	1.0615	0.262	0.653 1.723
LR test vs. logistic model:	chibar2 = 10920.43 Prob >= chibar2 = 0.000		

Source: World Values Survey Wave-7 (2017-2020)

Residual Interclass Correlation			
Level	**ICC**	**Standard Error**	**[95% Confidence Interval]**
Country	0.243	0.045	0.165 0.343

Source: World Values Survey Wave-7 (2017-2020)

Moreover, interclass correlation coefficient (ICC) of null model is reported in Table 4.3.1. Basically, interclass correlation coefficient provides evidence for existence of substantial clustering in the data. As it is suggested by Heck et al. [41], 0.05 is a conventional threshold and any value of ICC above 0.05 lay the evidence of clustering. In other words, ICC shows a correlation between two observations in the same cluster. It means that higher ICC values indicate greater between-group variability. Particularly, ICC in our case means that observations in one country is no similar to observations in another country. In this regard, interclass correlation coefficient lend support for use of multi-level framework. According to Table 4.3.1, ICC reads 0.157. This means that country-level variations explain 15.7% variation in confidence in banks across the countries. All in all, aforementioned statistics providence evidence of existence of substantial clustering in our data and supports the evidence for multi-level model is required.

The statistical tests are conducted to check out whether multi-level model is appropriate choice for modeling the last round of WVS. In this regard, LR test statistics and ICC of null model are presented in Table 4.3.2. First, LR test statistic read 10920.43 and it is significant 0.01 significance level. This implies that multi-level model outperforms logistic regression. In this regard, this result provide evidence for the data at hand display hierarchical structure. ICC reads 0.243. This statistic means that 24.3% of variation in confidence in banks is explained by country-level variations across the countries. Similar to evidence provided by LR test statistic, interclass correlation coefficient also support evidence for multi-level estimation framework appropriate empirical strategy for modeling the data. The Table 4.3.3 shows the how estimated odds ratios should be interpreted. The Table 4.3.4 presents the coefficients of multi-level logistic regression results.

Table 4.3.3: Interpretation of Coefficients

Odds Ratio	Interpretation
1.0 or ≈ 1.00	Indicating no association between occurrence of an event and variable of the interest. In the context of results, it indicates that no association between trust in banks and variable of interest.
>1.00	Indicating the increased likelihood of an event occurring and variable of the interest. In the context of results, it indicates that positive association between trust in banks and variable of interest. **e.g.** The odds ratio of "financial satisfaction" variable reads 1.045. This should be interpreted as one unit increase in financial satisfaction of individual is associated with 4.5% increase in likelihood in having confidence in banks.
<1.00	Indicating the decreased likelihood of an event occurring and variable of the interest. In the context of results, it indicates that negative association between trust in banks and variable of interest. **e.g.** The odds ratio of "financial satisfaction" variable reads 0.891. This should be interpreted as being male is related with 10.9% decrease in likelihood of having confidence in banks.

The odds ratio based on multi-level logistic regression using the last two rounds of survey are reported in Table 4.3.5.[4] Panel (A) presents model estimations based on sixth round of survey whereas Panel (B) represents results based last round of the survey. In order to test the sensitivity of the results, different model specifications are provided. First three model only includes variables at individual level. Main individual characteristics are included in Model 1. Various political and economic values and indicators of access to information is included in Model 2-3. Finally, country-level variables are introduced in Model 4. Indicators of banking structure and its riskiness are only included in Model 5. Finally, country-level variables are all included in Model 6.

[4] The core models (Model 1 and Model 2 – models that include only individual level variables) are also estimated only by using individual level data coming from the countries that are common in the two rounds of survey. Again, LR tests confirm that multi-level model could be used to model the data. The estimation results are similar to results presented estimation results in Table 4.3.5. Due to limited space, the results are available only upon request.

According to Table 4.3.5, results of Wald tests all indicate that all estimated models are overall significant. This statement is also valid for estimated models based on last round of WVS. Before delving into interpretation of estimation results, it is important to note that estimation results based on the sixth round of the survey is discussed at first.

Beginning the analysis with examining the associations between trust and various socio-economic factors, all estimated results point out that there is gender difference in confidence in banks. According to Model 1, being male is associated with a 10.9% decrease in trust. This result is consistent with the previous studies [1, 25, 29, 30, 49]. In this regard, this result offers some policy implications with gender effect. As it is suggested by Fungáčová et al. [29], supporting financial inclusion of women could further improve confidence in countries where the gender effect is pronounced. Even though gender appear as significant factor in estimations based on WVS-6, strikingly, gender is not associated with trust in banks in all models based on WVS-7. This result is line with one branch of studies of existing studies [28, 69, 72]. This result is something controversial and it needs further analysis to fully understand the link between confidence in banks and gender. For this reason, the analysis presented in this thesis does not lead us to a clear interpretation for the link between gender and trust in banks.

Related with age, all estimated models show that there is negative relationship between trust in banks and age. In other words, the estimation results all show that being old is associated with less trust. This result is in line with majority with the conducted studies [1, 2, 25, 29, 30]. According to Model 1, one-year increase in age, on average, is linked with 0.4% decrease in probability of trust in banks. Similarly, results based on WVS-7 also point out that higher the age lower trust in banks. In other words, one unit increase in age leads to 0.4% decrease in probability of trust in banks according to Model 3. On the contrary to results based on sixth round, this result is not robust to different model specifications.

In line with Fungáčová et al. [29], marital status is not significantly associated with confidence in banks in all estimations. Thus, marital status is not relevant in

explaining confidence in banks. The empirical results based on last round of the survey are accordance with results derived from previous round of survey.

Similar to Fungáčová et al. [29], the estimation results show that confidence in banks have tendency to deteriorate with increase in education level. However, it is important to remind that education level is significant in only two estimations. As it is suggested by Fungáčová et al. [29], this result can be attributed to fact that individuals with higher level of education are better at grasp the financial mechanism and they are more skeptical of financial institutions, in turn, which cause to trust less. Similarly, estimated models using WVS-7 show that having higher education level is negatively related to confidence in banks. In this regard, all estimated models indicate that individuals who completed tertiary education cycle are more likely to have confidence in banks compared to individuals with no education. However, the magnitude of the effect of education level differs with respect to model specifications.

Regarding out socio-economic variables, being chief earner is not associated with trust in banks. Similar results for being chief earner are also reached out with estimations based on WVS-7. In line with Fungáčová and Weill [28], empirical results show that being financially satisfied is positively associated with confidence in banks. Model 1 points out that individuals who are more satisfied with the current financial situation of the household are 4.5% more likely to have confidence in banks. Similarly, results based on WVS-7 show that financial satisfaction matters for confidence in banks. In all estimated models, the coefficient of financial satisfaction is significant and positive. This means that individuals who report that are satisfied with current financial situation of the household have higher probabilities of trust in banks.

Even though income is not significant at country-level, income at individual level contribute confidence in banks. Model 5 indicates that one unit increase in income is associated with 3.9% increase in the probability of confidence in banks. This can be resulted from that individuals with high income more frequently interact with their banks or banks have better relationship with the affluent customers [29]. This

may be attributed to fact that people with high income generally have higher trust [29]. The estimation results based on WVS-7 also confirm the positive association with income and trust in banks. In majority of estimated models, the odds ratio of income variable is significant at the 10% significance level. All estimated models point out a higher-level household income is associated with 1.3% in increase in likelihood of confidence in banks.

According to Panel (A) of Table 4.3.5, Socio-geographical status where the respondents live in is associated with confidence in banks in all estimated models. The findings support that individuals who live in metropolitan areas are more likely to have confidence in banks. Model 6 shows that individuals who are living less developed regions in their country are 6% less likely to trust in banks. In this regard, it is reasonable to speculate that geographic proximity to financial institutions contribute trust at individual level [26]. For this reason, it is natural to expect that individuals who live in more socio-geographically developed regions in their country could interact with financial institutions more conveniently, in turn, which result in increase their trust towards the financial institutions. On the contrary, no significance of socio-geographical status is found in estimations based on WVS-7.

It is observed that generalized trust is important factor in explaining trust in banks. Similar to findings of existing literature [3, 29, 67], findings of this thesis imply that individuals who believe in others have higher probabilities of trust in banks. Full model (Model 6) imply that respondents with trust in others are 9% more likely to trust in banks. However, this does not necessarily mean that both aspect of trust is explained by same variables [29], introduction of generalized trust into models does not affect the significance of other variables in the estimated models. Similar interpretations apply to analysis conducted using WVS-7. Generalized trust is found to be positively related with trust in banks. In addition, magnitude of the effect does not deeply change with respect to considered model specifications. According to Model 6 in Panel (B), individuals who trust others are 31.8% more likely to have confidence in banks.

Table 4.3.5 suggests that daily access to information is covariate of confidence in banks. However, magnitude of the association differs depending upon the type of information channel. In addition, the association between access to information and confidence in banks remain as significant even after different model specifications. In all models, individuals who are obtain information from television on daily basis are more likely to trust in banks compared to counterparts who don't or access information with less frequency. This result is in line with existing literature [29]. Similarly, results based on last round of WVS confirm that using television on daily basis with aim to obtain information is positively related with trust. For instance, daily usage of television is associated with 14.9% increase in likelihood of trust in banks.

Similar interpretation is also relevant for access information via newspaper. For instance, according to full model in Panel (A) indicates that respondent who uses newspaper on daily basis to information are 8.1% more likely to have confidence in banks compared to others who don't. This may be explained by financial institutions may use these channels to publicize their products and disseminate information to boost confidence in their brand [29]. The positive association between usage of newspaper on daily basis and confidence in banks is also apparent in estimations based on WVS-7. Upon examining Panel (B), individuals who uses newspaper as platform to information are 1.7% times more likely to have confidence in banks according to full model. However, the relationship between usage of the Internet and trust in banks is not clear-cut. The estimation results provide limited evidence for positive association between use of the Internet as daily information source and trust in banks. On the other hand, analysis utilizing WVS-7 data reveal that respondents who uses the Internet as platform to access to information are less likely to trust in banks. In this regard, utilizing the Internet as information source could boost or hinder individuals' confidence in banks.

Analysis presented in this thesis implies that political and economic values matter for confidence in banks. Regarding political and economic values of respondents, empirical findings show mixed evidence. In line with findings of [25], having right political orientation is positively associated with confidence in banks. The

estimation results based on WVS-7 also fully support the positive association between having right political view and trust in banks.

The results presented in Panel (A) of Table 4.3.5 indicate that inequality and competition variables are not significant in all estimations. This result is on the contrary with the notion that favoring income inequality or competition are associated with more trust in banks [28, 29]. In this regard, estimation results based on WVS-7 substantially departs from the results based on WVS-6. The coefficient of inequality is significant in all regression models. The odds ratio of inequality variable dictates that respondents who support income inequality are trust in banks. This result basically favors arguments that having positive attitude toward market economy enhance confidence in banks [28]. Similar to estimation results based on WVS-6, competition has no significant association with confidence in banks in all estimated models. This result supports that anti-market attitudes have no impact on trust [28].

According to models estimated using WVS-6, the coefficient of government role is significant in only one model specification. In this regard, the analysis of this variable reveals that individuals who favor complete government ownership in the economy are also more likely to have confidence in banks. This result is striking since it contradicts with economic liberalism enhances trust in financial institutions and market economy principles [29]. On the other hand, all estimations based on later version WVS reveal that individuals' attitude regarding government ownership in the economy has no association with confidence in banks.

Similar to results obtained by Fungáčová et al. [29], multi-level analysis shows that individuals who do not believe in hard work bring success are less likely to have confidence in banks. For instance, respondents who do not believe in hard work bring success in the long run are 3.8% less likely to trust in banks according to Model 6. Lastly, further analysis indicates that attributing importance to democracy is positively associated with confidence in banks. This result is found to be robust to different model specifications. Estimation results based on WVS-7 are also similar to results based on WVS-6. For instance, individuals who do not believe in

hard work pays off in the long run are not 4.6% more likely to have confidence in banks according to Model 6. Regarding democracy variable, all estimation results based on WVS-7 reveal that respondents who report that democracy matters for them are more likely to trust in banks.

This thesis reports mixed findings for country-level associations of confidence in banks. According to results based on WVS-6, neither of indicators of economic outlook in a country is associated with confidence in banks. GDP per capita and inflation level are not significant predictors of confidence in banks in any of model specifications. This result is in line with investigations made by Fungáčová and Weill, [28] for trust in China. Additionally, experiencing financial crisis in recent is not significantly correlated with confidence in banks. The interesting finding of this study is that majority of variables related with banking structure are not covariates of trust in banks. Results indicate that there is inverse relationship between banking nonperforming loans to total loans and trust in banks. Additionally, further analysis on empirical findings reveal that respondents who live in countries with high banking concentration have lower probability of trust in banks. On the contrary of studies which report positive association between existence of deposit insurance regime and trust in banks [49, 59], the results of this thesis indicate that existence of deposit insurance regime is negatively related with trust in banks. According to Fungáčová et al. [29], this result is due to those schemes increase the moral hazard issues in financial industry, in turn hamper the trust at individual level. On the contrary, none of included country-level variables are found to be associated with confidence in banks according to estimation results that are obtained by utilizing WVS-7, except for financial system deposit to GDP. Model 6 shows that higher financial system deposit to GDP, higher confidence in banks. In other words, individuals who live in countries with high financial system deposit to GDP are more likely to trust in banks.

In sum, empirical analysis presented in this thesis show that rather than country-level characteristics, individuals characteristics matters for trust in banks. In other words, individual level variables catch the heterogeneities observed in trust in banks. Many of individual level characteristics are associated with confidence while

few country -level characteristics including existence of deposit insurance, bank nonperforming loans to total loans, bank concentration and financial system deposit to GDP are linked to trust. In addition, results confirm that individual-level factors have greater impact on trust in banks compared to considered country-level factors. In comparison of existing of literature, cross-country studies reach similar results [4, 28, 29].

Table 4.3.4.: Coefficients of Multi-level Logistic Regression

	Panel (A) World Values Survey-Wave 6						Panel (B) World Values Survey-7					
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Individual Level												
Male	-0.114[c]	-0.106[c]	-0.101[a]	-0.095[c]	-0.093[c]	-0.102[c]	-0.016	-0.020	-0.0375	-0.023	-0.019	-0.022
	(0.024)	(0.024)	(0.025)	(0.023)	(0.023)	(0.024)	(0.027)	(-0.001)	(0.028)	(0.026)	(0.026)	(0.026)
Age	-0.003[c]	-0.003[c]	-0.004[a]	-0.004[c]	-0.004[c]	-0.004[c]	-0.001	-0.001	-0.003[c]	-0.002[c]	-0.002[c]	-0.002[c]
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)
Education Level												
Primary	-0.039	-0.050	-0.101[b]	-0.070	-0.102[c]	-0.0685	-0.050	-0.044	-0.026	-0.002	-0.023	-0.004
Education	(0.045)	(0.046)	(0.048)	(0.047)	(0.047)	(0.047)	(0.070)	(0.070)	(0.074)	(0.072)	(0.073)	(0.072)
Secondary	-0.040	-0.049	-0.110[b]	-0.057	-0.113[b]	-0.052	-0.118[b]	-0.113	-0.116	-0.077	-0.110	-0.078
Education	(0.045)	(0.045)	(0.047)	(0.046)	(0.047)	(0.047)	(0.065)	(0.065)	(0.069)	(0.067)	(0.068)	(0.067)
Tertiary	0.002	-0.016	-0.101[a]	-.019	-0.107[a]	-0.009	-0.195[c]	-0.201[c]	-0.219	-0.149	-0.205[c]	-0.150[b]
Education	(0.051)	(0.052)	(0.055)	(0.053)	(0.054)	(0.054)	(0.069)	(0.069)	(0.074)	(0.071)	(0.073)	(0.071)
Marital Status	-0.005	-0.001	-0.010	0.004	-0.014	0.006	-0.032	-0.036	-0.038[a]	-0.018	-0.034	-0.017
	(0.024)	(0.024)	(0.025)	(0.024)	0.024	(0.025)	(0.028)	(0.028)	(0.029)	(0.028)	(0.028)	(0.028)
Self-Rated Health Status												
Poor							0.028	0.024	0.007	0.040	0.014	0.040
							(0.160)	(0.161)	(0.170)	(0.167)	(0.168)	(0.167)
Fair	-0.023	-0.028	-0.042	-0.014	-0.053	-.0017	0.032	0.005	-0.008	0.103	0.025	0.102
	(0.052)	(0.053)	(0.055)	(0.054)	(0.054)	(0.054)	(0.149)	(0.150)	(0.158)	(0.156)	(0.157)	(0.156)
Good	0.08	.066	0.052	0.115	0.036	0.132	0.226	0.191	0.166	0.337	0.200	0.336[b]
	(0.053)	(0.054)	(0.056)	(0.054)	(0.055)	(0.055)	(0.149)	(0.150)	(0.158)	(0.155)	(0.157)	(0.155)
Very Good	0.168[b]	0.153[a]	0.135[b]	0.226[c]	0.122[b]	0.241[c]	0.336[b]	0.290[a]	0.260	0.456[c]	0.291[a]	0.456[c]
	(0.057)	(0.058)	(0.060)	(0.058)	(0.059)	(0.059)	(0.151)	(0.152)	(0.160)	(0. 157)	(0.158)	(0.157)
Chief Earner	0.038	0.036	0.027			0.023	0.046	0.044	0.042			
	(0.025)	(0.025)	(0.026)			(0.025)	(0.028)	(0.028)	(0.029)			
Political Orientation	0.0457[c]	0.046[a]	0.047	0.053[c]	0.0474[c]	0.053[c]	0.038[c]	0.038[c]	0.033[c]	0.037[c]	0.032[c]	0.037[c]
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)

Socio-geographical Status	-0.058* (0.034)	-.0717[b] (0.034)	-.073[b] (0.035)	-0.061[a] (0.034)	-0.074[b] (0.034)	-0.061[a] (0.035)	-0.039 (0.033)	-0.048 (0.033)	-0.045 (0.034)	-0.043 (0.034)	-0.046 (0.034)	-0.046 (0.034)
Financial Satisfaction	0.044[c] (0.005)	0.044[c] (0.005)	.036[c] (0.005)		0.036[c] (0.005)		0.068[c] (0.006)	0.067[c] (0.006)	0.065[c] (0.006)		0.064[c] (0.006)	
Income	0.041[c] (0.006)	0.040c (0.006)	0.040[c] (0.006)		0.0390[c] (0.006)		0.013[a] (0.007)	0.012[a] (0.007)	0.013[a] (.007)		0.013* (0.007)	
Trust in others		0.064[b] (0.029)	0.067 (0.030)	0.085 (0.029)	0.0685[b] (0.0299)	0.086[c] (0.029)		0.252[c] (0.033)	0.257[c] (0.034)	0.276[c] (0.034)	0.257[c] (0.034)	0.276[c] (0.034)
Newspaper			0.058[b] (0.028)	0.078[b] (0.028)	0.0588[b] (0.028)	0.078[c] (0.028)			0.024 (0.034)	0.049 (0.033)	0.026 (0.033)	0.048 (0.033)
TV			0.141[c] (0.029)	0.142[b] (0.029)	0.140[c] (0.029)	0.143[c] (0.029)			0.134[c] (0.030)	0.139[c] (0.030	0.132 (0.030)	0.139[c] (0.030)
The Internet			0.011 (0.030)	0.053[a] (0.029)	0.020 (0.030)	0.045 (0.030)			-0.052[a] (0.030)	-0.047 (0.029)	-0.050 (0.300)	-0.049 (0.029)
Inequality			-0.001 (0.004)	-0.001 (0.004)	-.000 (0.004)	-0.002 (0.004)			0.010[b] (0.004)	0.016[c] (0.004)	0.011[b] (0.004)	0.016[c] (0.004)
Government Role			0.005 (0.004)	0.0121[b] (0.004)	0.006 0.004	0.011[b] (0.004)			-0.001 (.005)	0.000 (0.005)	-0.001 (0.005)	0.000 (0.005)
Competition			-0.006 (0.004)	-0.005 (0.004)	-0.007 (0.004)	-0.004 (0.004)			-0.008[c] (.005)	-0.005 (0.005)	-0.008 (0.005)	-0.005 (0.005)
Hard work			-0.037[c] (0.004)	-0.037[c] (0.004)	-0.036[c] (0.004)	-0.038[c] (0.004)			-0.044[c] (.004)	-0.046 (0.004)	-0.044[c] (0.004)	-0.046[c] (0.004)
Democracy			0.033[c] (0.005)	0.035[c] (0.005)	.0329[c] .005	0.035[c] (0.005)			0.018 (.006)	0.020 (0.006)	0.018[c] (0.006)	0.021[c] (0.006)
Country-Level												
High Income				-0.454[a] (0.273)						-0.914[b] (0.404)		
Financial Crisis				-0.551[a] (0.306)						-0.605 (0.541)		
Deposit Insurance				-0.118 (0.265)	-0.567[b] (0.286)	-0.599 (0.246)				-0.218 (0.615)	-0.300 (0.528)	-0.220 (0.532)
GDP per capita				-0.000 (0.000)		-0.000[c] (0.000)				0.000 (0.000)		-0.000 (0.000)

Inflation				0.005		0.010				-0.005		0.014
				(0.010)		(0.009)				(0.050)		(0.043)
Bank nonperforming					-0.059	-0.066[c]					-0.008	-0.006
loans to					(0.024)	(0.021)					(0.014)	(0.014)
Bank capital to assets					0.0216	-0.064					0.043	0.057
					(.0570)	(0.059)					(0.039)	(0.041)
Bank z-score					0.005	-0.010					-0.011	-0.000
					(0.022)	(0.019)					(0.019)	(0.020)
Bank concentration					-0.020[b]	-0.016[c]					-0.003	-0.002
					(0.005)	(0.005)					(0.007)	(0.007)
Foreign banks assets to					-0.000	-0.002						
total assets					(0.004)	(0.003)						
Financial system					-0.000	0.000					0.009[c]	0.009[c]
deposit to GDP					(0.003)	(0.002)					(0.002)	(0.002)
Average governance						0.167						
index						(0.237)						
Constant	-0.382	-0.355	-0.430	0.407	1.343	2.748	-0.608[a]	-0.608[a]	-0.486[a]	0.603	0.564	-0.810
	(0.158)	(0.159)	(0.170)	0.270	1.000	(0.916)	(0.251)	(0.253)	(0.267)	(0.631)	(0.494)	(0.800)
Number of Observation	37,711	36,417	34,730	35,932	35,461	35,184	30,791	30,557	29,203	29,936	29,644	29,936
Number of Countries	30	30	30	30	30	30	24	24	24	24	24	24
LR Test (Multilevel vs. Standard logistic)	4023.32	3931.65	3346.40	1869.51	2239.63	1454.26	4963.34	4953.73	4699.46	3973.78	2584.40	2373.25
Wald $\chi 2$	401.32	409.15	547.94	473.92	570.80	493.75	355.96	406.0	533.28	431.79	548.76	444.7

Note: Standard errors are reported in parenthesis. Results of two tailed statistical tests are provided. [c]p<0.01, [b]p<0.05, [a]p<0.1**Source:** Worlds Values Survey Wave-6 (2010-2014); Worlds Values Survey Wave-7 (2017-2020**);** WDI (2012); WDI (2018); GFDD (2012); GFDD (2018); WGI (2012); WGI (2018).

Table 4.3.5.: Odds Ratio of Multi-level Logistic Regression

	Panel (A) World Values Survey-Wave 6						Panel (B) World Values Survey-7					
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
Individual Level												
Male	0.891[c]	0.899[c]	0.903[c]	0.908[a]	0.910[c]	0.902[c]	0.984	0.979	0.963	0.977	0.981	0.977
	(0.021)	(0.021)	(0.022)	(0.021)	(0.021)	(0.022)	(0.027)	(0.027)	(0.027)	(0.025)	(0.025)	(0.025)
Age	0.996[c]	0.996[c]	0.995[c]	0.995[a]	0.995[c]	0.995[c]	0.998	0.998	0.996[c]	0.997[c]	0.996[c]	0.997[c]
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Education Level												
Primary	0.961	0.950	0.903[b]	0.932	0.902[b]	0.933	0.951	0.956	0.973	0.997	0.976	0.995
Education	(0.043)	(0.043)	(0.000)	(0.043)	(0.042)	(0.044)	(0.066)	(0.067)	(0.072)	(0.072)	(0.071)	(0.072)
Secondary	0 .959	0.951	0.895[b]	0.943	0.892[b]	0.948	0.887[a]	0.893	.890	0.925	0.893	0.924
Education	(0.043)	(0.043)	(0.042)	(0.044)	(0.042)	(0.044)	(0.058)	(0.058)	(0.061)	(0.062)	(0.061)	(0.062)
Tertiary	1.002	0.983	0.903[a]	0.980	0.898[a]	0.990	0.822[b]	0.817[c]	0.803[c]	0.860	0.811[c]	0.860[b]
Education	(0.051)	(0.051)	(0.050)	(0.052)	(0.049)	(0.053)	(0.057)	(0.057)	(0.059)	(0.061)	(0.059)	(0.061)
Marital Status	0.994	0.998	0.989	1.004	0.985	1.006	0.968	0.963	0.962	0.981	0.966	0.982
	(0.024)	(0.024)	(0.025)	(0.024)	(0.024)	(0.025)	(0.027)	(0.027)	(0.028)	(0.028)	(0.027)	(0.028)
Self-Rated Health Status												
Poor							1.029	1.024	1.007	1.041	1.014	1.041
							(0.164)	(0.165)	(0.171)	(0.174)	(0.170)	(0.173)
Fair	0.977	0.972	0.958	0.985	0.948	0.998	1.033	1.005	0.991	1.108	1.026	1.107
	(0.051)	(0.052)	(0.053)	0.053	(0.052)	(0.054)	(0.154)	(0.151)	(0.157)	(0.172)	(0.161)	(0.172)
Good	1.091	1.068	1.053	1.122	1.037	1.142[c]	1.253	1.211	1.181	1.401	1.221	1.400[b]
	(0.058)	(0.058)	(0.059)	(0.061)	(0.057)	(0.063)	(0.187)	(0.182)	(0.187)	(0.217)	(0.191)	(0.217)
Very Good	1.183[c]	1.165[a]	1.145[b]	1.254	1.130[b]	1.272[c]	1.400[b]	1.337[a]	1.297	1.577[c]	1.337	1.578
	(0.068)	(0.068)	(0.069)	(0.073)	(0.067)	(0.075)	(.212)	(0.204)	(0.208)	(0.247)	(0.212)	(0.248)
Chief Earner	1.039	1.036	1.020			1.023	1.047	1.045	1.043			
	(0.026)	(0.026)	(0.026)			(0.026)	(.030)	(0.030)	(.031)			
Political Orientation	1.046[c]	1.0474[c]	1.048[c]	1.054[c]	1.048[c]	1.054[c]	1.038[c]	1.038[c]	1.034[c]	1.037[c]	1.033[c]	1.037[c]
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Socio-geographical Status	0.943[a]	0.930[b]	0.928[b]	0.940[a]	0.928[b]	0.940[b]	0.961	0.952	0.955	0.957	0.955	0.954
	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(.032)	(0.032)	(0.033)	(0.032)	(0.033)	(0.032)

Financial Satisfaction	1.045[c]	1.045[c]	1.037[c]		1.037[c]		1.071[c]	1.070[c]	1.068[c]		1.066[c]	
	(0.005)	(0.005)	(0.005)		(0.005)		(0.006)	(0.006)	(0.006)		(0.006)	
Income	1.042[c]	1.0410[c]	1.041[c]		1.039[c]		1.013[a]	1.012	1.013[a]		1.013[a]	
	(0.006)	(0.006)	(0.006)		(0.006)		(.007)	(0.007)	(0.007)		(0.007)	
Trust in others		1.066[b]	1.070[b]	1.089[c]	1.070[b]	1.090[c]		1.287[c]	1.294[c]	1.317[c]	1.292[c]	1.318[c]
		(0.031)	(0.032)	(0.032)	(0.032)	(0.032)		(0.043)	(0.045)	(0.045)	(0.044)	(0.045)
Newspaper			1.060[b]	1.082[c]	1.060[b]	1.081[c]			1.024	1.051	1.027	1.050
			(0.030)	(0.030)	(0.030)	(0.030)			(0.034)	(0.035)	(0.034)	(0.035)
TV			1.151[b]	1.152[c]	1.150[c]	1.153[c]			1.143[b]	1.149[c]	1.142[c]	1.149[b]
			(0.034)	(0.033)	(0.033)	(0.034)			(0.034)	(0.034)	(0.034)	(0.034)
The Internet			1.011	1.055[a]	1.020	1.046			0.948[a]	0.953	0.950[a]	0.952
			(0.031)	(0.031)	(0.030)	(0.031)			(0.028)	(0.028)	(0.028)	(0.028)
Inequality			0.998	0.998	0.999	0.997			1.011[b]	1.017[c]	1.011[b]	1.017[c]
			(0.004)	(0.004)	(0.004)	(0.004)			(0.004)	(0.004)	(0.004)	(0.004)
Government Role			1.005	1.012	1.006	1.011[c]			0.998	1.000	0.998	1.000
			(0.004)	(0.004)	(0.004)	(0.004)			(.005)	(0.005)	(0.005)	(0.005)
Competition			0.993	0.994	0.992	0.995			0.991	0.994	0.991	0.994
			(0.004)	(0.004)	(0.004	(0.004)			(0.005)	(0.005)	(0.005)	(0.005)
Hard work			0.963[c]	0.962	0.964[c]	0.962[c]			0.956[c]	0.954[c]	0.956[c]	0.954[c]
			(0.004)	(0.004)	(0.004)	(0.004)			(0.004)	(0.004)	(0.004)	(0.004)
Democracy			1.033[c]	1.035	1.033[c]	1.036[c]			1.018[c]	1.021	1.018[c]	1.021[c]
			(0.006)	(0.005)	(0.005)	(0.006)			(0.006)	(0.006)	(0.006)	(0.006)
Country-Level												
High Income				0.634						0.400		
				(0.173)						(0.162)		
Financial Crisis				0.576						0.545		
				(0.176)						(0.295)		
Deposit Insurance				0.888	0.567[b]	0.549[b]				0.803	0.606	0.802
				(0.235)	(0.162)	(0.135)				(0.494)	(0.347)	(0.427)
GDP per capita				0.999		0.999				1.000		0.999
				(0.000)		(0.000)				(0.000)		(0.000)
Inflation				1.005		1.010				0.994		1.014
				(0.010)		(0 .009)				(0.050)		(0.044)
Bank nonperforming loans to					0.941[b]	0.935[c]					1.002	0.994
					(0.023)	(0.019)					(0.014)	(0.014)

Bank capital to assets					1.021	0.937					1.067	1.059
					(0.058)	(0.055)					(0.044)	(0.044)
Bank z-score					1.005	0.989					0.987	0.999
					(0.022)	(0.019)					(0.021)	(0.020)
Bank concentration					0.980[c]	0.983[c]					0.994	0.997
					(0.005)	(0.005)					(0.008)	(0.007)
Foreign banks assets to total assets					0.999	.997						
					(0.004)	(0.003)						
Financial system deposit to GDP					0.999	1.000					1.006	1.009[c]
					(0.003)	(0.002)					(0.002)	(0.002)
Average governance index						1.182						0.919
						(0.280)						(0.434)
Constant	0.682	0.700[b]	0.650[a]	1.503	3.830	15.622[c]	0.543[a]	0.543[a]	0.614[a]	1.829	0.564	0.444
	(0.108)	(0.111)	(0.110)	(0.406)	(3.830)	(14.321)	(0.136)	(0.137)	(0.164)	(1.154)	(0.494)	(0.355)
Number of Observation	37,171	36,417	34,730	35,932	35,461	35,184	30,791	30,557	29,203	29,936	29,644	29,936
Number of Countries	30	30	30	30	30	30	24	24	24	24	24	24
LR Test (Multilevel vs. Standard logistic)	4023.32	3931.65	3346.40	1869.51	2239.63	1454.26	4963.34	4953.73	4699.46	3973.78	2829.20	2373.25
Wald $\chi 2$	417.62	409.15	547.94	473.92	570.80	493.75	355.96	406.08	533.28	431.79	542.04	444.00

Note: Standard errors are reported in parenthesis. Results of two tailed statistical tests are provided. [c]p<0.01, [b]p<0.05, [a]p<0.1.**Source:** Worlds Values Survey Wave-6 (2010-2014); Worlds Values Survey Wave-7 (2017-2020**);** WDI(2012);WDI(2018),;GFDD(2012); GFDD(2018); WGI (2012); WGI (2018).

CHAPTER 5

CONCLUSION

Trust in financial industry crucial since financial contracts are nothing more than promise of exchange that takes place in future. The consequences of Global Financial Crisis of 2008 show that healthy and well-functioning financial system are required for economic stability and growth and trust in financial system is vital element for economic agents to participate in financial sectors. Hence, understanding trust in financial institutions is important and there is urgent need for in-depth investigations on what affects trust and how financial sector is perceived by individuals after the GFC.

Using data from latest two versions of World Values Survey combined with country-level indicators from several dimensions, this thesis shed a light on drivers of trust in banks all over the World. Even though several studies have investigated correlates of trust in financial institutions, conducted studies generally focus on only one aspect of the trust, which is generally individual-level factors. In addition, a few papers have documented only how country-level characteristics relates to trust in financial institutions [3, 28, 29, 49, 56, 59 65]. In other words, existing papers either delve into factors affecting trust only at micro-level or macro-level. To best of our knowledge, only handful of studies consider the multi-dimensional structure of trust [28, 29]. However, it is reasonable to claim that aforementioned studies are somehow flawed in methodologic sense since those papers neglects to consider nested structure of the data that are employed in their estimations. However, scholars admit that any clustering at higher levels of data could changes results [20]. Considering this fact, this thesis attempts to quantify correlates of trust by utilizing multi-level framework. The estimations are obtained by using multi-level logistic

regression. For this reason, this thesis contributes to the trust literature by offering a methodological improvement to existing studies.

Despite the previous literature, this thesis does not solely focus on within country-level heterogeneities in trust in banks. In addition to methodological contribution to trust literature, this thesis offers a comprehensive investigation on both cross-country and within country heterogeneities in trust in banks. For this reason, this thesis makes use of large set of variables at country-level covering several different dimensions which are economic conditions, banking environment and institutional setting in a given country. Indeed, the preliminary data analysis shows that existence of cross-country differences in trust in banks. In addition, univariate analyses show that trust in banks displays heterogeneities based on sociodemographic characteristics such as gender, age, marital status and education level. Additionally, the results of univariate analyses reveal that trust in banks significantly differs according to different country-level variables such as existence of financial crisis, existence of deposit insurance in the country, income groups or dimensions of governance indicators.

The empirical results of this study confirm that trust in banks has multi-dimensional structure, that is, trust in banks has two-level of analysis. In line with the previous literature, results of this thesis show that sociodemographic characteristics, economic and political values of individuals shape their trust towards banks. Findings of this thesis indicate that being women, being young, feeling financially satisfied, having lower levels of education, having higher income and having right political view are positively associated with trust in banks. In agreement with the findings of previous literature, majority of country-level predictors do not matter in explaining trust. In this regard, the empirical findings reveal that individuals living a country with deposit insurance, high banking loans to total loans or high bank concentration are less likely to trust in banks.

The empirical results of this thesis offer valuable insights for banking and financial industry. More specifically, the discussion provided in thesis falls into interest of financial sector professionals and policymakers who are interested in building trust

in the sector. The results imply that financial institutions should avoid one-fit approaches and they should incorporate individuals 'values into their policies while designing and promoting their products. In other words, policies adapted by financial institutions should differ with respect to individual characteristics.

This thesis displays certain limitations due to nature of employed data. First, no any causality is claimed in this study since there could be a potential bidirectional relationship between trust in banks and explanatory variables. Thus, estimations results should be interpreted as correlations rather than causal relationship. Another limitation is that the results of this paper could not offer insights on the evolution of trust in banks since the data at hand is a single point in time. In addition, there could be heterogeneities in precision of country-level data since some biases and measurement errors may arises due to survey periods of country-level data or methodologies used in surveyed countries. Third, employed data do not offer alternate methods to measure trust in banks. Therefore, the results presented in this thesis could be sensitive to different measurement of trust.

Due to lack of data, the scope of this thesis is only limited with trust in banks. However, further investigations considering financial institutions in comprehensive manner would contribute the related literature. Even though this thesis includes set of variables that account for banking environment and structure, there is still room for further investigations that considers other dimensions. Another valuable contribution to related literature would be that modelling individual level trust while also considering whether banking regulations in countries are in line with Basel II/Basel III. are in line with In addition, with launch of new rounds, studies tracking change in trust definitely contribute the related literature.

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APPENDICES

A. VARIABLE LIST

Table A.1.: Definitions of Variables at Individual-Level

Name of Variable	Panel (A) World Values Survey Wave-6	Panel (B) World Values Survey Wave-7
Trust in Banks	Binary variable indicating whether the respondent has trust in banks. 1= trust in banks; 0= no trust in banks (Derived from in V217 WVS-6)	Binary variable indicating whether the respondent has trust in banks. 1= trust in banks; 0= no trust in banks (Derived from in Q78 WVS-7)
Male	Indicator of the gender of the respondent. 1= Male; 0= Female. (Derived from V240 in WVS-6).	Indicator of the gender of the respondent. 1= Male; 0= Female. (Derived from Q260 in WVS-7).
Age	Age of the respondent (in years). (Derived from V242 in WVS-6).	Age of the respondent (in years).(Derived from Q262 in WVS-7).
Marital Status	Dummy variable taking 1 if the respondent is married and zero otherwise. (Derived from V57 in WVS-6).	Dummy variable taking 1 if the respondent is married and zero otherwise. (Derived from Q273 in WVS-7).
Education level	Categorical variable measuring the highest level of education attained by the respondent.0= no formal education; 1=primary education completed; 2=secondary education completed; 3= tertiary education completed. (Derived from V248 in WVS-6)	Categorical variable measuring the highest level of education attained by the respondent.0= no formal education; 1=primary education completed; 2=secondary education completed; 3= tertiary education completed. (Derived from Q275 in WVS-7).
Self-Rated Health Status	Categorical variable measuring the health-level of respondent. It takes 1 for the lowest health status and 4 for the highest health status. (Derived from V11 in WVS-6)	Categorical variable measuring the health-level of respondent. It takes 1 for the lowest health status and 5 for the highest health status. (Derived from Q47 in WVS-7).
Political Orientation	Indicator of political orientation of the respondent. Ranging from 1 (complete left-wing partisan) to 10 (complete right-wing partisan). (Derived from V95 in WVS-6).	Indicator of political orientation of the respondent. Ranging from 1(complete left-wing partisan) to 10 (complete right-wing partisan). (Derived from Q247 in WVS-7).
Chief-earner	Indicator of whether the respondent is chief economic	Indicator of whether the respondent is chief economic

	wage earner or not. 1= wage earner; 0= not wage earner. (Derived from V235 in WVS-6)	wage earner or not. 1= wage earner; 0= not wage earner. (Derived from Q285 in WVS-7).
Socio-Geographical Status	Measures the socio-geographical status of the respondent. 1= Living in area with population > 500,000 0= Otherwise. (Derived from V253 in WVS-6)	Measures the socio-geographical status of the respondent. 1= Living in area with population > 500,000 0= Otherwise. (Derived from G in WVS-6)
Financial Satisfaction	Indicator of respondents' satisfaction level with current financial situation of household. Ranging from 1 (complete dissatisfaction) to 10 (complete satisfaction) (Derived from V59 in WVS-6).	Indicator of respondents' satisfaction level with current financial situation of household. Ranging from 1 (complete dissatisfaction) to 10 (complete satisfaction). (Derived from Q50 in WVS-7).
Income	Indicator of total income of the household in which they live in. 1= lowest decile; 10= highest decile. (Derived from V239 in WVS-6).	Indicator of total income of the household in which they live in. 1= lowest decile; 10= highest decile. (Derived from Q288 in WVS-7).
Trust in Others	Binary variable indicating whether the respondent has trust in others. 1= trust in others; 0= no trust in other (Derived from in V24 WVS-6)	Binary variable indicating whether the respondent has trust in banks. 1= trust in others; 0= no trust in others (Derived from in Q57 WVS-7)
Newspaper	Dummy variable taking 1 if the respondent use newspaper to obtain information on daily basis and zero otherwise. (Derived from V217 in WVS-6)	Dummy variable taking 1 if the respondent use newspaper to obtain information on daily basis and zero otherwise.(Derived from Q201 in WVS-7).
TV	Dummy variable taking 1 if the respondent use television to obtain information on daily basis and zero otherwise. (Derived from V219 in WVS-6)	Dummy variable taking 1 if the respondent use television to obtain information on daily basis and zero otherwise.(Derived from Q202 in WVS-7).
Internet	Dummy variable taking 1 if the respondent uses the Internet to obtain information on daily basis and zero otherwise. (Derived from V223 in WVS-6)	Dummy variable taking 1 if the respondent uses the Internet to obtain information on daily basis and zero otherwise. (Derived from Q206 in WVS-7).
Inequality	Measures to what extent the respondent support following argument: *"Incomes should be more equal".* Ranging from 1 (complete support) to 10(complete non-support). (Derived from V96 in WVS-6).	Measures to what extent the respondent support following argument: "*Incomes should be more equal"* .Ranging from 1 (complete support) to 10(complete non-support).(Derived from Q106 in WVS-7).

Government Role	Measures to what extent the respondent support following argument: "*Private ownership of business and industry should be increased."* Ranging from 1 (complete support) to 10(complete non-support). (Derived from V97 in WVS-6).	Measures to what extent the respondent support following argument: *"Private ownership of business and industry should be increased.* "Ranging from 1 (complete support) to 10(complete non-support).(Derived from 107 in WVS-7).
Competition	Measures to what extent the respondent support following argument: *"Competition is good."* Ranging from 1 (complete support) to 10(complete non-support). (Derived from V99 in WVS-6).	Measures to what extent the respondent support following argument: *"Competition is good."* Ranging from 1 (complete support) to 10(complete non-support).(Derived from Q109 in WVS-7).
Hard work	Measures to what extent the respondent support following argument: *"In the long run, hard work usually brings a better life."* Ranging from 1 (complete support) to 10(complete non-support).(Derived from V100 in WVS-6).	Measures to what extent the respondent support following argument: *"In the long run, hard work usually brings a better life."* Ranging from 1 (complete support) to 10(complete non-support).(Derived from Q110 in WVS-7).
Democracy	Measures how much importance attached to democracy. Ranging from 1 (complete non-support) to 10 (complete support) (Derived from V140 in WVS-6).	Measures how much importance attached to democracy. Ranging from 1 (complete non-support) to 10 (complete support).(Derived from Q250 in WVS-7).

Source: World Values Survey, Wave 6 (2010-2014); World Values Survey, Wave 7 (2017-2020)

Table A.2.: Definition and Sources of Variables at Country-Level

Name of the Variable	**Panel (A) World Values Survey-WVS-6**	**Panel (B) World Values Survey WVS-7**
Financial Crisis	Indicator of existence of financial crisis in a country. 1= existence of financial crisis; 0= otherwise. Data come from the information provided by Laeven and Valencia (2012).	Indicator of existence of financial crisis in a country. Data come from the information provided by Laeven and Valencia (2012).
Deposit Insurance	Indicator of whether the country has an explicit deposit insurance scheme or not. 1= Having explicit deposit insurance; 0= otherwise. Data is obtained from information provided by Demirguç-Kunt et al. (2014)	Indicator of whether the country has an explicit deposit insurance scheme or not. 1= Having explicit deposit insurance; 0= otherwise. Data is obtained from information provided by Demirguç-Kunt et al. (2014)
GDP per capita	Gross domestic product per capita (current US $) in the country for survey year of 2012. It is obtained from World Development Indicators, World Bank (WDI).	Gross domestic product per capita (current US $) in the country for survey year of 2018. It is obtained from World Development Indicators, World Bank (WDI).
Inflation (%)	Inflation rate in survey year of 2012. It is obtained from World Development Indicators, World Bank (WDI).	Inflation rate in survey year of 2018. It is obtained from World Development Indicator, World Bank (WDI).
Bank nonperforming loans to total gross loans (%)	Indicator of riskiness of banking sector in survey year of 2012. It is calculated by dividing the nonperforming loans by the total value of the loan portfolio. It is obtained from Global Financial Development Database, World Bank (GFDD).	Indicator of riskiness of banking sector in survey year of 2018. It is calculated by dividing the nonperforming loans by the total value of the loan portfolio. It is obtained from Global Financial Development Indicators, World Bank (GFDD).
Bank capital to assets ratio	Ratio of the bank capital to total reserves in survey year of 2012. It is obtained from Global Financial Development Database, World Bank (GFDD)	Ratio of the bank capital to total reserves in survey year of 2018. It is obtained from Global Financial Development Database, World Bank (GFDD).
Bank z-score	Indicator of riskiness of banking sector in survey year of 2012. It captures how much likely default of given country's commercial banking system. It is obtained from Global Financial Development Database, World Bank (GFDD)	Indicator of riskiness of banking sector in survey year of 2018. . It captures how much likely default of given country's commercial banking system. It is obtained from Global Financial Development Database, World Bank (GFDD).
Bank concentration ratio (%)	Ratio of Assets of three largest commercial banks in total commercial banking assets in survey year of 2012. It is obtained from Global Financial Development Database, World Bank (GFDD)	Ratio of Assets of three largest commercial banks in total commercial banking assets in survey year of 2012. It is obtained from Global Financial Development Database, World Bank (GFDD)
Financial system deposit to GDP (%)	Indicator of size of banking sector in the given country's economy in the survey year of 2012. It is defined as "Demand, time and saving deposits in deposit money banks and other financial institutions as a share of	Indicator of size of banking sector in the given country's economy in the survey year of 2012. It is defined as "Demand, time and saving deposits in deposit money banks and other financial

	GDP". It is obtained from Global Financial Development Database, World Bank. (GFDD)	institutions as a share of GDP". It is obtained from Global Financial Development Database, World Bank (GFDD)
Governance Index	Measures the mean level of governance in a country in survey year of 2012. This average takes into 6 dimension of governance.	Measures the mean level of governance in a country in survey year of 2012. This average takes into 6 dimension of governance.

Sources: World Values Survey-6 (2010-2014); World Values Survey-7 (2017-2020); WDI(2012);WDI(2018),;GFDD(2012); GFDD(2018); WGI (2012); WGI (2018).

B. CORRELATION MATRICES

Table B.1.: Correlation Matrix of Micro Variables (WVS-6)

	Male	Age	Marital Status	Education Level	SRHS	Political orientation	Chief earner	Rural	Financial satisfaction	Income
Male	1.000									
Age	-0.0262	1.000								
Marital Status	0.0267	0.2401	1.000							
Education Level	0.0299	-0.1643	-0.0399	1.000						
SRHS	0.0847	-0.3443	-0.0341	0.0905	1.000					
Political Orientation	0.0150	-0.0156	0.0450	-0.0337	0.0533	1.000				
Chief Earner	0.3309	0.2449	0.0335	0.0507	-0.0609	-0.0108	1.000			
Rural	-0.0192	0.0247	-0.0462	0.1175	0.0065	-0.0383	0.0205	1.000		
Financial Satisfaction	0.0348	-0.0396	0.0483	0.0737	0.2514	0.1223	-0.0184	0.0305	1.000	
Income	0.0415	-0.1317	0.0417	0.2289	0.2308	0.0900	-0.0210	0.0312	0.3717	1.000

Note: Only correlation coefficients for main results are reported due to lack of space issues. All correlation coefficients are available upon request. **Source:** World Values Survey 6 (2010-2014)

Table B.2.: Correlation Matrix of Micro Variables (WVS-7)

	Male	Age	Marital Status	Education Level	SRHS	Political orientation	Chief earner	Rural	Financial satisfaction	Income
Male	1.000									
Age	0.0105	1.000								
Marital Status	0.0134	0.2354	1.000							
Education level	0.0528	-0.1690	-0.0893	1.000						
SRHS	0.0490	-0.2231	0.0057	0.1026	1.000					
Political orientation	0.0139	0.0101	0.0541	-0.0862	0.0097	1.000				
Chief earner	0.4130	0.1950	0.0343	0.0414	-0.0172	0.0093	1.000			
Rural	-0.0006	0.0280	-0.0764	0.1424	-0.0213	-0.0819	0.0096	1.000		
Financial satisfaction	0.0147	-0.0135	0.0496	0.0708	0.2509	0.0799	-0.0219	-0.0245	1.000	
Income	0.0291	-0.1124	0.0164	0.2450	0.1625	0.0514	-0.0122	0.0537	0.3199	1.000

Note: Only correlation coefficients for main results are reported due to lack of space issues. All correlation coefficients are available upon request. **Source:** World Values Survey 7 (2017-2020)

Table B.3.: Correlation Matrix of Macro Variables (WVS-6)

	Financial Crisis	Deposit Insurance	GDP per capita	Inflation	Bank Nonperformin	Bank assets	Bank z-score	Bank Concentration	Financial system deposit to GDP	Governance Index
Financial Crisis	1.000									
Deposit Insurance	0.1421	1.000								
GDP per capita	0.3579	0.2199	1.000							
Inflation	0.2369	-0.2803	-0.2954	1.000						
Bank Nonperf.	-0.2561	-0.4074	-0.4620	0.3094	1.000					
Bank assets	-0.1476	0.0547	-0.2278	0.0312	0.1578	1.000				
Bank z-score	-0.0462	0.0040	0.2751	-0.3594	0.0287	0.0832	1.000			
Bank Concen	-0.1415	-0.1523	0.3645	-0.2843	-0.0988	-0.0299	0.0085	1.000		
Fin. Sys. Dep.to	-0.2063	-0.1614	-0.2597	0.0175	0.3567	-0.0035	-0.1094	0.0404	1.000	
Governance Index	0.2440	0.2024	0.7933	-0.3963	-0.5643	-0.3251	0.1764	0.4337	-0.0165	1.000

Source: World Values Survey 6 (2010-2014)

Table B.4.: Correlation Matrix of Macro Variables (WVS-7)

	Financial Crisis	Deposit Insurance	GDP per capita	Inflation	Bank Nonperf.	Bank assets	Bank z-score	Bank concen	Financial system deposit to GDP	Governance Index
Financial Crisis	1.000									
Deposit Insurance	0.0874	1.000								
GDP per capita	0.3148	0.3028	1.000							
Inflation	0.2229	0.1581	-0.2877	1.000						
Bank Nonperf.	0.2954	0.0190	-0.3076	0.2697	1.000					
Bank assets	-0.1085	0.0079	-0.2059	-0.1156	0.2610	1.000				
Bank z-score	0.1641	-0.1165	0.3002	-0.1010	-0.2651	-0.1379	1.000			
Bank concen	0.0182	0.0185	0.1419	-0.0778	0.1139	0.1217	-0.0983	1.000		
Financial system deposit to GDP	-0.1009	0.1429	0.4851	-0.1514	-0.2251	-0.1325	0.2401	0.0152	1.000	
Governance Index	0.1922	0.3168	0.9012	-0.3351	-0.4453	-0.2631	0.2629	0.0656	0.5068	1.000

Source: World Values Survey 7 (2017-2020)

C. TABULATED LITERATURE REVIEW

This section presents a brief summary on conducted studies regarding confidence in financial institutions. Existing studies help to understand the theoretical and methodological framework employed in this thesis. Because of the nature of the research question, prior studies in the literature display many heterogeneities in definitions of confidence as well as methodologies used for explaining confidence. For this reason, a quick summary of what have been done so far in trust literature would definitely help the readers.

In this regard, this thesis is inspired by existing studies in terms of definitions and variables utilized in the existing studies. Even though this section offers a quick review on literature on trust in financial institutions, the theme of this thesis is only limited to trust in banks due to lack of data.

Table B.1.: Tabulated Literature Review

Scholar	Data	Period	Methodology	Result
Mosch and Prast (2010)	DNB Household Survey (DHS) & University of Tilburg's CentERdata	2003-2006	Ordered probit regression	Confidence in financial institutions and the Central Bank in Dutch is high. Interpersonal confidence is positively associated with trust in Dutch economy and institutions. The analysis shows a closer relationship between confidence in the economy and trust in the country's institutions. Individuals' trust in their own bank does not depend upon age and gender but it is negatively associated with their education level.
van Dalen et al. (2010)	CentERdata at the University of Tilburg	2007	OLS	There is a positive association between perceived adequacy of retirement savings and trust in pension institutions of both American and Dutch workers.
Prean and Stix (2011)	OeNB EuroSurvey	2008	Probit regression	An increase in deposit insurance has a positive effect on the perceived safety of deposits and the credibility of local currency. Individuals who perceive their financial institution as good are more likely to have higher perceived safety deposits.
Stevenson and Wolfers (2011)	The Gallup World Poll	2006-2010	OLS & Time series regression	Trust moves procyclical. Those countries which experienced the most significant unemployment also face a decrease in trust in both national governments and financial institutions. In developed countries with high quality of education and legal systems effect of interpersonal trust will be higher.
Guiso (2012)	US Financial Trust Index Survey (FTIS) &	2008	Descriptive statistics	A financial crisis causes a decline in trust. Fall in trust alters individuals' risk preference,

	General Social Survey (GSS)			and it leads to shifts in their portfolios. These effects are likely to be long-lasting.
Lachance and Tang (2012)	National Financial Capability Study & General Social Survey	2009	OLS & Probit regression	Race, education, and gender have impact on trust in banks and financial institutions. Women trust more in financial institutions. There is an inverse relationship between trust and age. Financial literacy has an inverse U-shaped link with trust.
Carbó-Valverde et al. (2013)	Instituto de Encuestas y Opinión	2009	Logistic regression	Trust in banks slightly differs concerning different socioeconomic and demographic characteristics such as gender, age, employment status, education level, marital status, and income. This result suggests that trust in banks is not confined to subsamples of the population. Individuals' perception of certain bank performance criteria is more essential in explaining trusting banks than demographic and socioeconomic factors.
Shim et al. (2013)	Primary data collecting through online survey	2008-2009	Discriminant analysis	Self-reported well-being and financial status significantly affect young adults' trust in banks and financial institutions.
Jarvinen (2014)	EU-scoreboard data (Market monitoring survey)	2012	Descriptive statistics & Correlation analysis	Consumer trust is highest in banking accounts and lowest in pensions and insurance. Men tend to trust banks less than women. Age also tends to affect trust. Young adults and older people trust banks more than the middle-aged. Length of education is not a significant correlate of trust.

Kersting et al. (2015)	Primary data		OLS	There is a negative relationship between the financial literacy level of nonprofessional investors and trust in the financial market. Findings of this study support that more knowledgeable investors are better at grasping how financial markets operate.
Jansen et al. (2015)	CentERdata at the University of Tilburg	2010-2012	Random effect panel regression	Trust in banks is affected by adverse media reports, falling stock prices, and opaque product information.
Knell and Stix (2015)	Survey conducted by the Austrian National Bank	Q3/2004-Q2/2013	OLS & Blinder Oaxaca decomposition & Probit regression	Financial crises lead to an erosion of trust in Austrian banks. The decline in trust is not limited to the specific socioeconomic groups. Instead, it is evident in all segments of the population. Trust systematically varies across different socioeconomic groups. Trust displays pro-cyclical movement. There is a U-shaped relationship between trust and age. Household income is positively associated with the trust. Unemployed individuals are less likely to trust. Political attachment is strongly related with trust. In sum, subjective variables that represent individuals' perceptions and expectations regarding global financial crisis are most significant contributors to trust in banking.
Allen et al. (2016)	Global Findex Database	2011	Probit regression & Heckman selection model	There is a significant positive association between familiarity with banks and trust.
Filipiak (2016)	National Data Survey on Saving Patterns of Indians (NDSSP)	2004-2005	Probit regression &	Individuals who cannot commute to a financial institution within a distance of one day are less likely to

			Heckman selection model	trust this institution with their money. Individuals who use information sources such as television and newspapers on daily basis are more likely to trust in different types of financial institutions. The effect of sociodemographic variables on trust differs with respect to the type of the institution at hand. When the use of different information sources is controlled, geographical proximity is still relevant in explanation of trust in financial institutions.
Van der Cruijsen et al. (2016)	Eight waves of surveys, which were submitted to members of the CentERpanel of 16 years or older	2006-2013	Ordered probit regression	Adverse financial crisis experience reduces trust in financial institutions, and it also have a negative impact on interpersonal trust. Customers who experience bailout of their bank are less positive about the liquidity position of their bank. In addition, they are more likely to consider bank failures. Gender is not related with trust in banks, whereas it is significantly related to trust in bank supervisor. More affluent people are more likely to trust the banking supervisors.
Afandi and Habibov (2017)	Life-in-Transition Survey (LIT)	2007-2011	OLS & Blinder-Oaxaca decomposition	Younger, banked university educated individuals have higher trust in banks in both pre- and post-crisis periods. On the country level, it is found that GDP growth rate and the rule of law is significantly and positively related to banking trust over both periods. The financial crisis has a temporary and relatively small impact on individuals' trust in banks.
Van Esterik-Plasmeijer	The Online Consumer panel of market	2014	Structural equation analysis	Consumers with a high level of interpersonal trust also trust in banks and the banking

and van Raaij (2017)	Research Company GfK			system. Consumers who have higher trust in their bank (institution trust) also have high trust in banks (system trust) in general. Key determinants of institution trust are transparency, customer orientation, competence, broad-scope trust.
Ampudia and Palligkinis (2018)	The Banca d'Italia's Survey of Household Income and Wealth (SHIW)	2010-2012	Probit regression	Being self-employed, being in the lowest quantile of household or wealth is associated with low trust. In addition, risk-averse people trust less. Households who trade securities, make mortgage payments or pay their utility bills through banks trust their bank more. Length of the relationship between household and bank is not correlated with trust in bank. Regarding out trust in banking sector, risk aversion is negatively correlated. Financial literacy is not related to either measure of trust.
Naumann (2018)	Eurobarometer data	2004 - 2009	Multi-level probit regression & Difference and difference	Being a woman, having a negative view of the future job prospective and being in low social class are negatively associated with trust in pension funds. Bad health status is correlated with lower levels of confidence. Individuals with a lower perception of higher job prospects in the next year show higher trust in pensions. Marital status and having a child in the household are not found significant correlates of trust. Having left political ideology is associated with more trust in pensions. On the contrary, membership to parties and unions does not correlate with confidence in pension funds.

Buriak et al. (2019)	World Values Survey	2014-2016	Structural equation modelling & Cluster analysis	There is a positive relationship between interpersonal trust and trust in banks. The lowest linkage between interpersonal trust is related to worst institutional environment
Van Dalen and Henkens (2018)	University of Tilburg's CentERdata	2014	Ordered logit regression	Compared to banks and insurance companies, pension funds are more trusted. This difference in trust levels is attributed to weights attached to the perceived level of integrity and stability. Transparency perceived by participants has no significant impact on building trust. Individuals with higher education levels trust more in pension funds. Males are more likely to trust in pension funds. Stability, integrity, competence, benevolence, and social responsibility proved to be a statistically significant correlates of confidence in pensions. On the other hand, stability, integrity and competence play a significant role in trust in banks and insurance companies Age and gender are not significant correlates of trust in banks and insurance companies.
Fungáčová and Weill (2018)	World Values Survey	2012	Ordered logit Regression & Logistic regression	Having membership in the communist party, living in a rural area, being married, and having a higher level of education is negatively correlated with trust. Age and being satisfied with their current financial situation are positively associated with trust in banks. Individuals who favor inequality and root for fostering government ownership are more likely to trust in banks.

Fungáčová, et al. (2019)	World Values Survey	2014-2016	Ordered logistic regression & Logistic regression	There is a cross-country difference in confidence in banks. Income and being women are positively associated with trust in banks. Trust is negatively associated with age and education level. Religious, economic, and political values play a role in confidence in banks. Religious individuals are more likely to trust banks. Trust in banks is lower for countries that experienced a financial crisis in recent. In addition, trust in banks is higher for countries with higher income per capita.
Fungáčová, et al. (2019)	World Values Survey	2014-2018	Ordered logistic regression	Having a banking crisis experience reduces an individual's trust in banks. High exposure to a crisis is negatively associated with trust in banks. Individuals' age at the time of crisis is important. Severe and mild crisis reduces trust in banks. Severe banking crisis has most significant effect on young people. A less severe banking crisis mainly diminishes trust of more mature individuals. Experience of both currency crisis and twin crises hinder trust in banks. Other types of financial crises exert a less severe effect. Time elapsed from the crisis experience is not associated with the trust in banks. In addition, females, individuals with higher income, individuals with higher interpersonal trust are more likely to trust in banks. Marital status is not a significant correlate of trust in banks.
Tranter and Booth (2019)	Australian Survey of Social Attitudes (AuSSA)&	2017	Logistic regression	Trust in banks and financial institutions are higher than trust in insurance.

	Social Future and Life Pathways study (Our Lives)			Females, individuals with higher interpersonal trust, individuals who identify with Liberal and National parties, individuals without household or contents insurance are more likely to trust in insurance as well as banks and financial institutions. Having a post-secondary certificate or diploma is positively associated with trust in insurance companies. Individuals who attended government school have a higher probability of trusting insurance companies.
Adamyk et al. (2019)	World Values Survey	2010-2014	OLS & Logistic regression & Machine Learning algorithms	Age is negatively associated with trust in banks. Misery feeling and dissatisfaction with life is negatively correlated with trust in banks.
Chernykh et al. (2019)	Feedback on bank products and services submitted by bank customers to the banki.ru website	2010-2017	OLS	System-wide indicators of financial stability such as a cumulative number of failed banks, depositors affected by such failures and total bad debt in the sector have a tremendous impact on shaping perceptions of retail customers. A higher capital ratio is positively associated with public confidence. There is a negative relationship between the nonperforming assets ratio and public confidence. On the contrary, bank-level risk characteristics explain a slight proportion of variation in public trust in banks. Retail deposit-taking is generally positively related to the trust in a bank. In contrast, retail lending has a negative impact.

Abunyuwahl (2020)	Primary data		Partial ordered logistic regression	Women tend to trust more in financial institutions. Trust in banks decreases with age. Respondents who lost their investment in any financial institutions are less likely to very trust in financial institutions. Additionally, individuals who are not aware of the financial sector crisis are less likely to be very trust confident in financial institutions. Respondents with higher monthly income levels are more likely to have a moderate level of trust in financial institutions. Respondents who engage with their banks for longer time period are less likely to have no confidence in financial institutions. In addition, customers who currently have an investment with financial institutions are less inclined to be related with extreme confidence levels in intuitions.
Courbage and Nicolas (2020)	Geneva Association Survey	2018	Ordered logistic regression	Trust in insurance is higher for females, younger individuals, and less educated people. People with higher insurance literacy trust more in insurance. Experience with insurance is also one of the most significant determinants of trust in insurance. Negative experiences exert more effect on trust than positive experiences. Access to information via the internet hinders trust in insurance, whereas access to

				information via newspapers and magazines fosters the trust in insurance. Optimistic individuals, altruistic individuals and individuals with high preferences for the present are more likely to trust in banks. Cross-country variation exists: the lowest level of trust is observed in France and Germany. The highest level of trust is apparent in the U.K and Switzerland.
Ahunov and Van Hove (2020)	World Values Survey & Global Financial Index	2014-2016	OLS & Instrumental variable & IV estimation	Cross-country variations in the trust in banks are significant. In the countries with high uncertainty avoidance, unbanked people are more likely to state trust as a reason for being unbanked. Trust in banks is lower for the countries which have a higher score of Hofstede's uncertainty index. In addition, it is found that the explanatory power of uncertainty avoidance is higher than variables such as GDP per capita and the financial freedom index. The results also apply when trust in banks from the Global Findex Survey. The results indicate that more culturally aware approaches are required when forming consumer protection measures for banking.
Park (2020)	An online panel survey firm in South Kore conducted by DataSpring, Inc.	2016	Pairwise correlations & OLS	On average, people have more confidence in financial institutions than towards other people. They are more inclined to conduct financial transactions with financial

				institutions than with other individuals. There is a positive correlation between trust and willingness to engage in financial transactions. The preference of entrusting money with financial institutions is correlated with increasing age and wealth. Intention to ensure money with other individuals is positively correlated with impulsive thinking.
Farrell et al. (2021)	British Social Attitudes Survey (BSA)	2014	Seemingly unrelated regression & Ordered probit regression	Factors associated with trust in Bank of England (BoE) differ from factors associated with trust in financial intuitions. Males are less likely to trust than females. Age is a significant correlate of trust in BoE but is not significant for trust in high street banks and financial institutions. Socio-demographic characteristics including marital status, ethnicity, and housing tenure have little association with trust in the financial institutions. Religiosity is associated with trust, indicating that atheists are more likely to trust in financial sector. Higher the social class, lower the trust in high street banks. The political alignment of individuals has nothing to do with trust in both BoE and high street banks. In addition, there is positive relationship between positive attitudes toward credit and trust in the banking and financial sector.
Van der Cruijsen et al. (2021)	DNB Trust Survey (DTS)& DNB Household Survey (DHS)	2006-2019	Random effects & Ordered logistic regression	Individuals with financial literacy have higher odds of trusting in banks, insurance companies as well as pension funds. This result holds for both definitions of the trust:

		broad-scope trust (trust in financial institutions) and narrow-scope trust (trust in one's own financial institution). This conclusion applies when scholars use different measures of financial literacy such as self-assessed knowledge or proxy -based actual knowledge. For all types of financial intuitions considered, narrow-scope trust is higher than broad-scope trust. Trust in supervisory authority is positively linked with trust in the financial sector.