

EVOLUTION OF DETERMINANTS
OF TRUST IN BANKS: CROSS-
COUNTRY ANALYSIS

by

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A thesis submitted in partial fulfillment of
the requirements for the degree of

MA in Economic Analysis

Kyiv School of Economics

2014

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Kyiv School of Economics

Abstract

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Effect of trust as one of the determinants of changes in macroeconomic indicators is widely investigated. In this paper we studied which factors determine trust in banks and their evolution during the financial crisis in 2008-2009 years. We believe that determinants of trust will change before and after the crisis.

For our study we use two surveys conducted by EBRD. These datasets contain information about sociological, demographical parameters of agents and their economic activities. We use ordered probit regression model as the main instrument for investigation.

We found that regular determinants as age, gender, settlement type, region which were discussed in previous papers decline their power as determinants of complete or some level of trust. However these standard variables and change in their level clearly define levels of some distrust and complete distrust. General level of trust is the most important factor which determine high level of trust in banks in both periods.

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ACKNOWLEDGMENTS

I want to express my deep gratitude to my research advisor Tom Coupe for his help and interest. His openness and readiness to debate raised the morale in the moments of the greatest despair.

My special greetings to Professor Maksym Obrizan and Professor Volodymyr Vakhitov for their valuable comments during research workshop meetings.

I would like to thank to my family for their support during my study at KSE.

Also I have special thanks to my friends Kseniia and Sergii for their constructive criticism and excellent teamwork.

GLOSSARY

CIS. Commonwealth of Independent States

LITS. Life in Transition Survey

M&A. Mergers and acquisitions deals

Chapter 1

INTRODUCTION

Trust has become frequent topic in economic papers for the last 20 years. Social capital theory states that some socio-demographic and psychological factors of agents of the economy can affect economic growth. This theory started investigations of trust as one of the factors that affect economic development and how they should be considered in government policy.

Putnam et al. (1993) were the first who raise the question about the importance of culture-related factors for economic development of a country. Fukuyama (1995) states that general trust could be transformed in one of the endowments (additionally to standardize labor and capital as endowments) and it affects economic growth in next periods. He also claims that generalized trust (non-family, non-personal trust) plays significant role for further development of advanced economies.

Sala-i-Martin (1997) in his empirical paper “I just run two million of regressions” investigates determinants of economic growth using cross-sectional analysis. One of the results is that rule of law and civil liberties significant factors and they positively affect economic growth. For now it is well-known fact, that these parameters are necessary condition for public trust in countries.

Criticism of trust as the factor of economic growth was raised since there were a lot of qualitative analyses but not quantitative about this topic in the literature. Beugelsdijl, de Groot and van Schaik (2004) examines consistence of trust impact on economic growth in time. They state that significance of trust is strong in defining economic growth and definitely should be account in practical

implication. Moreover, size of trust effects on the economy which were discovered by Zak and Knack (2001) was confirmed in this paper.

Nowadays we observe significant decline of economic growth rates in Ukraine. Macroeconomic indicators of Ukrainian economy showed significant decline during the financial crisis of 2008-2009 years. There was a lot of collapses on the domestic financial market in this period due to depreciation of hryvnia and massive withdrawal of deposits and government should have played an active role in order to decrease negative effects of such distortions of financial system. Additionally political instability and unfavorable macroeconomic conditions (change in gas prices, huge decline of foreign direct investments, etc.) resulted in decrease of general level of trust.

Problems with banking system is still the case for Ukraine. Big boom of M&A deals had a place before crisis began when big international players entered Ukrainian financial market. Today a lot of banks with foreign ownership structure exit Ukrainian market. Taking into consideration the fact that domestic banks were overvalued by foreign banks it is expected that banking sector will continue to be in recession. The similar situation can be observed in other CIS countries which also had significant outflow of foreign capital both before and after the financial crisis in 2008-2009.

Trust play a significant role for banking sector stability and growth. Main functions of this financial institutions are accumulation of savings and distribution of these resources among private companies and firms that are lack of capital. In other words, banks can be defined as a locomotive of economy, since they help to create condition for productive and competitive environment in country.

All mentioned above motivates studying of the role of trust in the economy. We would like to investigate which factors determine trust in banks nowadays. Another important question we want to raise is how these determinants have changed during the crisis, since these findings could help policy makers and banks owners to react faster in future, if country faces big macroeconomic shock like it was in 2008-2009 year.

Two surveys which were conducted by European Bank of Reconstruction and Development in 2006 and 2010 years are used for our research purposes. These surveys contain demographical characteristics of households members (number of members, age, income, level of education, etc.) and information about their economic activity (type of economic activity, use of public and private services, trust in government/non-government sectors or companies, etc.).

We follow the methodology procedures which were developed by Knell and Six (2009) and used in previous papers. We also plan to use ordered probit and in order to define determinants of trust in banks. Comparison of effects of determinants of trust before the crisis in 2006 and after it in 2010 will give the possibility to make conclusions about evolution in determinants of trust in banks.

Chapter 2

LITERATURE REVIEW

Trust is defined as confidence in something or somebody which shows your belief in fairness and honesty of this. This definition from Macmillan dictionary is quite simple and easy to understand. If you do believe in something than you will feel yourself more safe and confident. However this becomes more important when we talk about people`s trust in some institutions. For example, the fact that people believe in reliability of banks means that people perceive banks as efficient and safe institutions for handling their money. Increase in level of trust in banks will cause more and more people store their welfare and savings in banks and use banking services (deposits, pension payments, etc.). Moreover, trust in banks became much more important issue when we think about society as a whole. Banks and financial institutions play very important role in economic growth. Economic growth is one of the most important topics in economic papers of all periods. A lot of scientists try to investigate what internal or external factors affect growth of economy, how they are correlated and what should be done by government in order to stimulate economic growth or stabilization of economy.

Role of financial institution and banks as big players of economy for economic growth is investigated by Levine and Zervos (1998). Authors find that there was a positive and robust correlation between development of stock market and banking sector and future economic growth rates, productivity and output growth. Also they specify that financial market and banks create different instruments for economic growth. Another important conclusion is that these instruments cannot substitute each other.

Levine, Loayza and Beck (2000) find that development of financial intermediaries increases economic growth rates in future. As well authors examined how legal rights of agents and standards of accounting system affect efficiency of financial intermediaries. They find, that high standard accounting system and good legal condition stimulate development of intermediaries. This positive correlation has a cross-country effect and does not depend on specific region.

Banks are proved to share risks in the economy by diversification and smooth fluctuation over time (Allen and Carletti, 2010). In this paper authors also conclude that banks create opportunities for economic development by providing money for private companies and not only. Additionally, banks make optimal allocation of resources between firms based on their productivity, competitiveness, etc. by using permit system for credits banking system.

All papers mentioned above define banking system as one of the main drivers of the economic growth. Legal issues like legal system and accounting system depend on government policy, while liquidity of banks depends mostly on how efficiently these banks work. Since banks attract money from customers and then allocate them between firms, trust of customers in financial institution, especially in banks, became quite important factor.

Calderon et al (2002) studied how impact of trust in banks varies for different countries at the macroeconomic level. They show that trust in financial institution and economic growth has significant effect in poor or transition countries. One of the reasons is lack of financial institutions or poor work of existing institutions. At the same time changes in trust in developed countries have small effect on economic development and economy growth rates.

Changes in trust should be considered at the individual level as well. Clear understanding of what determine trust in banks of separate person or household

might be very helpful for policymakers to develop policy for boosting of economic growth or stabilization during the crisis. At the same time, investigation of determinants of trust in banks is very important for banks and financial institutions, since based on this information they can create new products, conduct marketing activity for attracting new customers and increasing revenues of their businesses.

Therefore, another group of research works is papers related to investigation of determinants of trust in banks and financial institutions on individual level.

Guiso et al. (2008) study effect of trust on stock market participation. They clarify that level of trust has positive correlation with amount of shares which person possesses. Increase of trust raise number of operations on the stock market and share of money saved in shares. There is some evidence that the same tendency could be applied to trust in banks: higher level of trust increases amount of money put on deposits and increase frequency of banking services use .

Knell and Stix (2010) in their paper investigate how trust in banks changed after the financial crisis in 2008-2009. They use survey for Austrian customers and find small decrease of trust in private banks and banking sector overall during the crisis. These authors are also concerned about factors which affect the level of trust in banks. One of the results is that education does not influence trust and only subjective factors like belief in financial system and forecasts about them do matter. One of the concerns about this paper is that decline in trust level was bounded, because there was no banks collapses and failures in Austria even during the crisis. Also good macroeconomic policy of government creates opportunities for rapid stabilization of banking sector.

Work of Beck and Brown (2010) is more extended since they use data on various counties. They analyze survey data for 29.000 households in 29 developing

countries for. Authors focus on investigating factors that affect usage of banking services (credit cards, deposits, etc.) and how this usage correlates with various characteristic of households. Authors claims that religion, level of education, economic activity and income level are significant factors which determined usage of financial services by customers. However, usage of banking services could be one of the determinants of trust in particular bank in the same time. They investigate how banks ownership affects usage of banking services and find the following: customers with higher income and better education will have more trust in banks with foreign ownership or at least foreign “mother”, while for customers with medium or low income trust does not depend on banks ownership, they trust or do not trust in banks unrelated on the type of origin of bank`s capital.

In his MA thesis Lebedyev (2011) investigated which factors affect trust in banks in Ukraine. Using data from big survey which was conducted for pension reform purposes he finds that regional differences has an effect on trust in both private and public banks. It was also concluded that type of residence area has an influence on trust: people from small villages believe in public banks only. Another finding is that personal characteristics could affect trust in banks in small range only. For example, age and gender matter only for private banks and do not define trust in public banks. People with low income have smaller level of trust in private banks, but high income consumers do not have significantly higher level of trust. Financial awareness of people and deposit insurance programs positively correlate with trust in banking sector and banking services.

Contrary to Lebedyev (2011), Carbo-Valverde el al. (2013) found that socioeconomic characteristics of agents do not affect level of trust in banks. They studied determinants of trust in banks and financial services in Spain after the financial crisis. They state that efficiency of bank`s work and responsiveness to

the client show significant effect for high level of trust of Spanish households. Level of general trust shows positive correlation and significant effect on trust in financial institutions among Spanish customers.

Coupe (2011) analyzes which factors are important when people make a decision not to use bank deposits as saving instrument but keep their money under the mattresses (demonstration of some kind of distrust in banks). He states that level of overall trust has a significant effect for use of deposit accounts as a saving instrument. In addition, author finds that there are some other factors that affect decision of having deposit account at bank or not. This evidence was based on fact, that during the crisis significant decline of level of overall trust and trust in banks had a place, but only small part of deposits were taken away from banking saving accounts.

A lot of attention is paid in existing literature to current state of trust and factors which affect them. This paper investigates changes in trust in banks and its determinants in pre-crisis and after crisis period. Our analysis conducted for 23 countries, most of them CIS countries. The main contribution of this paper is evolution of parameters which defines trust in banks during big macroeconomic shock. In addition some clarification about importance and significance the determinants is examined.

Chapter 3

METHODOLOGY

In this paper we follow the procedure which was developed by Knell and Stix (2009). The regression for investigation is described by following equation:

$$trust_{banks_i} = \alpha_i + \beta \cdot S_i + \gamma \cdot D_i + \theta \cdot T_i + \varepsilon_i \quad (1)$$

S – set of variables which describes socio-economic properties of agents (age, gender, family structure, level of education, geographical location, etc.);

D – set of variables related to economic activity of agents (employment status, income, deposit in bank, etc.);

T – set of variables with information about general level of trust (trust in government and non-government organizations, trust in financial system, etc.)

Our main objective is investigation of trust in banks. Dependent variable has values from 1 to 5: “complete distrust”, “some distrust”, “neither trust nor distrust”, “some trust” and “complete trust” respectively. Also there are some values that define answers “difficult to say” or “not stated”. We cannot use this group of agents for our study, so we drop them from final dataset. Since variable of interest is ordered we propose to use ordered probit regression. It is the main tool to analyze dependent variables with ordered outcomes.

There is a problem with interpretation of ordered probit results. A lot of econometricians declare that estimations of coefficients show only direction of change. Significance of results and unbiased estimation might be calculated after the marginal effects obtained. In Stata we have different options for calculation

of marginal effects. Long and Freeze (2006) state that average marginal effects show the best estimated results. When we calculate average marginal effects, they should be interpreted as follows: if all observations in dataset will have particular value of variable, then probability to have some level of trust equal to the obtained marginal effect. In some cases such estimations could be normal. But we think that reporting marginal effects at representative values will be more appropriate for our case. Interpretation of such estimates will be the following: change in general level of trust if we made one step change in variable of interest (controlling for changes in other determinants) will be equal to particular coefficient. In Chapter 5 we discuss this question further.

We should apply our methodology to both datasets of 2006 and 2010 which we used for our study, since the main purpose of this paper is to find out differences in determinants of trust in banks before and after the crisis. Evolution of determinants could be observed by simple differences between coefficients. One of the main problems with this method is that there is some probability that we do not include omitted variables which can also have an effect on the object of our investigation. This problem can be amplified by time difference when dataset was prepared. We discuss this problem and propose ways to solve or at least decrease effect of used methods on results in the next part of paper.

As the second step of the analysis we merge both datasets and run pooled regression. By adding dummy variable for time difference (*aftercrisis* variable equal to 1 for recent dataset and 0 for another one) we control for time-difference. This variable itself and interaction with other independent variables are the main objects of interest for us since they show differences in effects of determinants before and after the crisis.

Existing literature suggest that there are a lot of factors which determine trust in banks. In equation (1) we present determinants as the set of some characteristics. Next we would like to discuss them properly and assess their possible effect on the trust in banks.

The first group of variables is the set describes sociological and geographical characteristic of the agent. In our final specifications we use age, gender and education as sociological determinants of trust in banks. Previous studies do not have evidence about significance or insignificance of such determinants. However, we expect that even if age and gender have an effect on level of trust in banks, then they have no changes after the crisis. Effect of education should be studied separately since there is a guess that higher level of education increases probability to have higher level of trust in banks before, but not after the crisis. Such effect is expected from our point of view, since during the crisis other determinants (such as general trust, GDP growth, change in income level, etc.) assumed to be much more important as predictor of trust in banks.

Lebedyev (2011) finds that geographical characteristics of agent important as the determinant of trust. He observes change in level of trust among those who live in rural areas versus urban. In addition he finds some regional differences. Geographical location presented by two variables in our specification: type of settlement and region. In addition we include GDP growth to control for change in macroeconomic situation before and after the crisis. We believe that after the crisis change in GDP growth rates becomes more important comparing to before crisis years. We also expect that region is a strong determinant of the trust level and its effect changes after the crisis.

The second set of variable contains economical characteristics of agents. We include three variables in this set: *bank_account*, *credit_debit_card* and *income_source*.

First two variables are dummies variables which have value 1 if person uses this kind of services and 0 if does not. There might be a problem of reverse causality – people use banking services because they trust in banks or they use services and this fact results in higher level of trust in banks. This problem is addressed in Chapter 5.

Information about the level of income is not presented in the survey data. In order to have comparable and reliable results we use *income_source* as a possible proxy for differences in income. It is expected that those who work as entrepreneur are more sensitive to macroeconomic conditions and their level of trust in banks is highly dependent on GDP growth. It is easy to explain: entrepreneur usually use credits as the main source of capital for business. Bad macroeconomic conditions increase credit rates and make process of getting a loan more complicated. As the result entrepreneur who do not have possibility to get money have lower level of trust in banks after the crisis.

We describe construction of *general_trust* variable in Chapter 4. It is the main variable of interest in our investigation. All related papers state that general level of trust is the main determinant of trust in banks. Still the change of the effect of general trust during the crisis was not examined. It was already mentioned that in our dataset general level of trust have higher share of “complete trust” cases after the crisis. Nevertheless, we expect that after the crisis level of general trust play less important role for trust in banks.

Chapter 4

DATA DESCRIPTION

Data for this study is from two surveys “Life in Transition Survey” (LITS) conducted by European Bank of Reconstruction and Development in 2006 and 2010 years respectively. These surveys contain information about sociological, demographical and economic characteristics of agents in different countries. Only data for countries included in both surveys was transformed in the final dataset. Distribution of data by countries in both datasets is presented in Appendix A. Variable region is also presented in both datasets.

Dependent variable is trust in banks and financial system. In questionnaires, the particular question was stated as “How do you estimate your level of trust in banks and the financial system?”. In first dataset we have 6 types of answer – “complete trust”, “some trust”, “neither trust nor distrust”, “some distrust”, “complete distrust” and “difficult to say”. However, second questionnaire has also two other type of answers – “not applicable” and “not stated”. Observations which have these statements were cut off from dataset since they can be qualified as omitted observations for this investigation. Description of this variable is in the Table 1.

Table 1. Distribution of trust in banks (LITS 2006 vs LITS 2010)

Trust in banks	LITS 2006	LITS 2010
Complete distrust	17,33%	16,92%
Some distrust	14,18%	19,43%
Neither trust nor distrust	23,99%	27,84%
Some trust	31,85%	28,27%
Complete trust	12,66%	7,53%

Table 1 demonstrates that after the crisis share of “complete trust” and “some trust” has decreased by 40% and 12% respectively. However, there is no significant increase in “complete distrust” option. Even we see opposite effect, that complete distrust has decreased. The biggest effect of change is for “some distrust” answer, since its share have increased for 37% - from 14.18% to 19.43%. It is expected result due to big macroeconomic shock in 2008-2009 years.

It was proven in existed literature that trust in bank depends on some socio demographic factors. From this point of view in both samples we have different gender distribution:

Table 2. Gender distribution

Gender	LITS 2006	LITS 2010
Female	28,72%	44,69%
Male	71,28%	55,31%

We treat first member of household as a head of household as the information is for households. High differences in gender distribution are connected with different respondents (maybe different samples was taken for interview).

As living conditions determinants we choose type of dwelling, access to the tap water, electricity and telephone. For utilities we created new variable which equal

to sum of dummies (access to water, telephone and electricity). If sum equal to 0 we evaluate if as “no access”, sum between 1 and 2 - “partial access”, and “full access” if sum equal to 3. Distribution of the answers by access to utilities:

Table 3. Access to utilities

Access to utilities	LITS 2006	LITS 2010
No access	0,40%	0,05%
Partial access	45,22%	44,73%
Full access	54,39%	55,22%

We do not observe difference between datasets for access to utilities. It is expected that people who have access to these utilities have higher level of trust comparing to those who do not.

Type of settlement as one of the determinants of the trust in banks was investigated by Lebedyev (2011). We would like to test the hypothesis about importance of this parameter for defining trust. It is expected that some effect may exist before crisis, however, crisis which affect biggest part of community will decrease difference in trust between agents with different type of settlement. Distribution of the data on this parameter presented in Table 4:

Table 4. Distribution by type of settlement:

Settlement	LITS 2006	LITS 2010
Rural	41,36%	39,36%
Urban	35,27%	49,35%
Metropolitan	23,37%	11,29%

To test whether education meters for trust in banks we use data on education level. Structure of agents in both samples by level of education is presented in Table 5.

Table 5. Distribution of educational level achieved

Education	LITS 2006	LITS 2010
No education	5,56%	2,40%
School education	45,44%	62,17%
Higher than school education	49,00%	35,43%

From Table 5 it can be concluded that distributions are not quite similar. Differences are related to school and higher education. Such kind of difference could be related to our manipulations with raw data. In order to decrease number of categories, we create new variable which aggregate educational levels in bigger categories. Since in raw data we have different categories for higher than school education (professional education, non-tertiary education, etc.), maybe it create some distortions for people who stated their level of education. Nevertheless, total share of agents who have at least minimal level of education is similar in both datasets.

In previous papers one of the main determinants of trust in banks was trust in other organizations. Trust in policy makers, government and non-government organizations that can influence economic decisions, can have an effect. During the crisis a lot of countries have been experienced economic problems. Big part of these problems was related to insufficiency of government activity and wrong decisions which were taken to fix macroeconomic issues during the crisis. We would like to test effect of general trust as one of the factors. Variable general trust was constructed from the data available in the survey. It is the sum of level of trust in president, trust in government, trust in parliament, trust in army, trust in foreign investors, trust in courts and trust in NGO. We divide all categories into the group by next scale: sum equal to 1-8 - “complete distrust”; 9-16 - “some distrust”, etc. Five categories were created as for trust in banks variable. Categorization of general trust levels is presented in Table 6.

Table 6. General trust

General trust	LITS 2006	LITS 2010
Complete distrust	4,03%	0,09%
Some distrust	18,87%	7,87%
Neither trust nor distrust	37,31%	34,85%
Some trust	31,86%	44,60%
Complete trust	7,92%	12,59%

We observe increase in level of general trust after the crisis. Some distortions might be related to different options in questionnaires. In second dataset we have a lot of answers from categories “don` t know” and “not stated”. Another type of differences might be related to difference in survey preparation and sample selection.

There are concerns that some factors are not present in the survey datasets. For example, factors like decline in GDP should be considered as they do matter for trust level. Decrease in GDP may show effect of crisis on economy. As a result, economies which were affected more by financial crisis will have lower level of trust in banks and financial institutions. In order to capture possible effect of change in GDP on trust in banks (as one of the main macroeconomic indicator) we collected data of annual GDP growth for all considered countries. Average GDP growth rates were calculated as an average of GDP growth rates for 3 years before questionnaire was conducted, 2004-2006 and 2008-2010 for both datasets respectively.

However, some kind of variables may determine trust in banks and financial institutions, but cannot be collected. For example income level may play very important role as a determinant. Quantity of banks closures also can be a good

proxy for effect of crisis on banking system and consequently affect trust in banks.

Chapter 5

ESTIMATION RESULTS

Results of regression analysis are presented in this section. It contains of two parts: estimation of determinants of trust in banks in financial institutions in 2006 and 2010 separately and pooled regression for both periods.

In order to estimate possible determinants of trust ordered probit regression is used. In addition we estimate marginal effects on the probability of being in a particular trust level category for all variables, since interpretation of coefficients of probit regression is not very informative.

Results of ordered probit regression estimation for LITS 2006 dataset are presented in Appendix B.

Estimates presented in Appendix B show some important features. First of all, let's discuss determinants related with living conditions of households and socio-demographic parameters. Variable age (which is defined as age of head of a household) is highly statistically significant, but magnitudes of marginal effects provide evidence about absence of economic significance. Geographical differences (type of settlement and region) are insignificant as a determinant of trust in banks before crisis in our model. The same situation is with access to basic utilities (access to tap water, access to telephone and natural gas), which do not have any statistical power.

Second important result is that general level of trust and education do matter in defining level of trust in banks. In other words, people who have higher level of general trust will probably also have higher level of trust in banks. We observe

similar situation with education. Additional level of education obtained by person will increase probability to have “some trust” or “complete trust” in banks and financial institutions rather than some lower level.

These results should be compared with after-crisis time, since the main purposes of this paper is investigation of evolution of trust in banks. Marginal effect estimations for LITS 2010 are presented in Appendix B.

In the second dataset we have some extension since more variables (expected determinants) are included. Nevertheless, results are quite similar, but some comments should be made.

Variables of the first set related with respondent life conditions (age, marital status, gender, access utilities, etc.) are statistically or economically insignificant. However, effect of marital status is quite interesting. Those who divorced or married is more likely to have less trust in banks compare to those who was never married. Still effects of the socio-demographic determinants are consistent with pre-crisis situation.

General level of trust remains to be important as it was before crisis. Higher level of trust in government machine or nonprofit organizations will increase trust in banks. Importance of this result is quite considerable for possible policy implications.

Level of education does not matter for trust in banks after the crisis contrary to the pre-crisis period. All categories of education are insignificant and do not affect level of trust in banks and financial institutions. Absence of effect of education could be explained in the following way: there was a lot of news and

information during the crisis time, that created panic among people and people, who are more patient during other days (reasonable assumption for people with higher level of education) lose their trust in financial institutions and banks as well as people with lower level of education.

One more pattern is observed in both datasets. People who have bank account and use bank services have higher level of trust in banks. This statement is true, but with some comment. After the crisis marginal effect of credit or debit card on probability to have highest level of trust became negative.

At this stage we should comment that we include different variables in both separate regressions. Results that are based on such simple difference between coefficients may be under the question. However, preliminary results create base for further investigation and provide expectation about some important results in next specifications.

As the next step regression on pooled data is run. We include in this model only variables presented in both datasets. In addition, interaction terms between independent variables and time dummy were included to capture time effect.

Nevertheless, significance and reliability of effects in this specification is questionable. For outcomes “complete distrust” and “some distrust” Stata computes marginal effects with standard errors, while for other three outcomes Stata outputs do not show standard errors, t-statistics and p-values for estimated effects. The main problem is that ordered probit output states that under final specifications approximately 2.000 of outcomes are completely determined. We investigate this problem to understand how to deal with it. One of the most probable reason is that there is a variable or a few of them, which are “perfect”

predictors of dependent variable outcome. After analyzing correlation matrixes we found that interaction term (*general_trust#aftercrisis*) is the “best” predictor of level of trust in banks for pooled dataset. In such cases Stata completely predicts outcome without accounting for other variables. The result for this is that when we try to get marginal effects, Stata does not calculate covariates between coefficients and does not test estimated results for significance. When interaction term *general_trust#aftercrisis* was excluded we get correctly estimated coefficients with standard errors.

Based on this we propose to exclude interaction term between general level of trust and time dummy in order to get estimates of other determinants. One of the conclusion which we can made is that general level of trust is the best predictor for high level of trust in banks in both periods. In spite of this we think that other determinants also important for our study and investigation of changes in their effects should be done.

The estimations of average marginal effects is presented in Table 7. We drop insignificant variables from final specifications. Also absence of car in final model related with low explanatory power of this variable. Presence of car has a statistically significant effect as the determinant. However we do not think that presence of car can affect level of trust in banks. In some papers presence of car presented as proxy for income level. We do not agree we this statement, so we exclude this variable from final model.

Table 7. Average marginal effects of determinants (pooled)

Variable	Complete distrust	Some distrust	Neither trust nor distrust	Some trust	Complete trust
gdp_growth	-0.000581*	-0.000526*	-0.000412***	0.000541	0.000978***
aftercrisis	0.118***	0.0933***	0.0349***	-0.121***	-0.126***
Age	0.000249***	0.000200***	0.00000518	-0.000280***	-0.000174**
<i>Gender</i>					
male	*	*	*	*	*
female	0.00248	0.00215	0.00112*	-0.00249	-0.00325*
<i>Bank services</i>					
absence of bank_account	*	*	*	*	*
bank_account	-0.0181***	-0.0146***	0.00100	0.0204***	0.0113***
absence of credit_debit_card	*	*	*	*	*
credit_debit_card	0.00786***	0.00603***	-0.000617	-0.00882***	-0.00445*
<i>Religion</i>					
atheistic	*	*	*	*	*
christian	0.0137***	0.0116***	0.000630	-0.0162***	-0.00973***
muslim	-0.00506*	-0.00488*	-0.00579***	0.00382	0.0119***
other religions	-0.0249***	-0.0281***	-0.0136***	0.0344***	0.0322***
<i>Settlement</i>					
rural	*	*	*	*	*
urban	0.00754***	0.00625***	0.00112	-0.00829***	-0.00662***
metropolitan	0.00598**	0.00514**	0.00191**	-0.00634*	-0.00668**
<i>Income source</i>					
salary	*	*	*	*	*
self-employed	-0.0102***	-0.00883***	-0.00129	0.0119***	0.00837***
transfer	0.00359	0.00267	-0.000875	-0.00419*	-0.00120
<i>Education</i>					
no education	*	*	*	*	*
school education	-0.00911*	-0.00688*	0.000627	0.00996*	0.00540
higher education	-0.00550	-0.00381	0.00179	0.00620	0.00132
<i>Region</i>					
central/eastern/baltic	*	*	*	*	*
southern europe	0.00290	0.00259	0.00183**	-0.00280	-0.00453*
cis&mongolia	0.00214	0.00141	-0.00147	-0.00271	0.000626

Table 7. Average marginal effects of determinants (pooled) - continued

Variable	Complete distrust	Some distrust	Neither	Some trust	Complete trust
<i>General trust</i>					
complete distrust	*	*	*	*	*
some distrust	-0.459***	0.316***	0.132***	0.0117***	0.000124***
neither trust nor distrust	-0.891***	0.281***	0.417***	0.179***	0.0135***
some trust	-0.989***	0.0708***	0.324***	0.449***	0.145***
complete trust	-0.997***	0.00111	0.0708***	0.370***	0.555***
N	34082	34082	34082	34082	34082

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Results presented in Table 7 show very important and interesting patterns. Interpretation of average marginal effects can be done as following: if all observations in the sample have particular value then probability to have corresponding level of trust in banks will be equal to coefficient reported with respect to basic case.

Only significance of determinants can be examined and time dummy variable effect can be checked, since Stata does not estimate marginal effects for interaction terms.

Variable *aftercrisis* is highly significant for all predicted outcomes. After the crisis probability to have “complete trust” in banks declines by 12.6% compare to before crisis period. Probability to have “complete distrust” increases by 11.8%. It is expected results, since as we have seen from descriptive statistics the highest level of trust in banks after the crisis has the lowest share comparing to previous period. The most economically significant effect is related to general trust.

Probability to have the highest level of trust in banks (with respect to basic case) will increase with rise in level of general trust of particular agent.

Variables *age*, *gender*, *gdp_growth* and *religion* are statistically, but not economically significant. Education does not affect level of trust in banks in pooled model.

In order to get information about change in determinants during the crisis we use the same specification, but report marginal effects at representative values. This tool gives us an opportunity to see how discrete changes in one of the variables affect changes in determinants of level of trust in banks. This methodology is applied to *aftercrisis* variable.

Table 8. Marginal effects at representative values

Variable	Aftercrisis	Complete distrust	Some distrust	Neither trust nor distrust	Some trust	Complete trust
gdp	0	-0.001***	-0.0013***	-0.0012***	0.0011***	0.0024***
	1	0.0001	0	0	-0.0001	0
age	0	0	0	0	0	0
	1	0.0005***	0.0003***	0***	-0.0005***	-0.0003***
<i>Gender</i>						
male	0	*	*	*	*	*
	1	*	*	*	*	*
female	0	0.0029*	0.0034	0.0034***	-0.0031***	-0.0065
	1	0.0016	0.0009	-0.0002	-0.0015	-0.0007***
<i>Bank services</i>						
bank_account	0	0.0012	0.0015	0.0014	-0.0013	-0.0028
	1	-0.042***	-0.0233***	0.007***	0.0378***	0.0205***
credit_debit_card	0	-0.0009	-0.0011	-0.0011	0.0009	0.0021
	1	0.0186***	0.0101***	-0.0031***	-0.0169***	-0.0087***

Table 8. Marginal effects at representative values - continued

Variable	Aftercrisis	Complete distrust	Some distrust	Neither trust nor distrust	Some trust	Complete trust
<i>Religion</i>						
atheistic	0	*	*	*	*	*
	1	*	*	*	*	*
christian	0	0.0002	0.0002	0.0002	-0.0002	-0.0005
	1	0.0305	0.0178***	-0.0041***	-0.0289***	-0.0154***
muslim	0	-0.0133***	-0.0169***	-0.0182***	0.0142***	0.0342***
	1	0.0074	0.0047	-0.0005	-0.0073	-0.0043
other religion	0	-0.0014	-0.0016	-0.0016	0.0016	0.0031
	1	-0.058***	-0.045***	-0.011***	0.0635***	0.0051***
<i>Education</i>						
no education	0	*	*	*	*	*
	1	*	*	*	*	*
school education	0	0.0002	0.0003	0.0003	-0.0002	-0.0005
	1	-0.0203*	-0.0107*	0.0039*	0.0018***	0.0091***
higher education	0	0.0031	0.0038	0.0038	-0.0034	-0.0072
	1	-0.0163	-0.0085	0.0033	0.0143***	0.0071***
<i>Settlement</i>						
rural	0	*	*	*	*	*
	1	*	*	*	*	*
urban	0	0.0026	0.0032	0.0032	-0.0029	-0.0062
	1	0.0131***	0.0073**	-0.002***	-0.0121**	-0.0064***
metropolitan	0	0.0045***	0.0055*	0.0054***	-0.005***	-0.0105*
	1	0.0071	0.004	-0.001	-0.0066*	-0.0035***
<i>Income source</i>						
salary	0	*	*	*	*	*
	1	*	*	*	*	*
self-employed	0	-0.0014	-0.0016	-0.0017	0.0015	0.0032
	1	-0.021***	-0.0126***	0.0021***	0.02**	0.0114***
transfer	0	-0.0017	-0.0021	-0.0021	0.0018	0.004
	1	0.0103***	0.0056***	-0.0019***	-0.0093***	-0.0047***

Table 8. Marginal effects at representative values - continued

Variable	Aftercrisis	Complete distrust	Some distrust	Neither trust nor distrust	Some trust	Complete trust
<i>Region</i>						
central/eastern/ baltic	0	*	*	*	*	*
	1	*	*	*	*	*
southern europe	0	0.0048***	0.0058*	0.0056*	-0.0053***	-0.0108***
	1	-0.0001	0	0	0.0001	0
cis&mongolia	0	0.0032	-0.004	-0.0041*	0.0035*	0.0078*
	1	0.0092*	0.005*	-0.0015*	-0.0083***	-0.0044***
<i>General trust</i>						
complete distrust	0	*	*	*	*	*
	1	*	*	*	*	*
some distrust	0	-0.649***	0.4121***	0.2161***	0.0206***	0.0002***
	1	-0.2593***	0.2183***	0.0399***	0.0012***	0***
neither trust nor distrust	0	-0.9689***	0.1725***	0.4859***	0.2869***	0.0236***
	1	-0.8101***	0.3967***	0.3493***	0.0627***	0.0014***
some trust	0	-0.9943***	0.0119***	0.1994***	0.5439***	0.239***
	1	-0.9836***	0.1326***	0.4556***	0.3538***	0.0416***
complete trust	0	-0.9949***	-0.0047	0.015***	0.237***	0.7478***
	1	-0.9996***	0.0077***	0.129***	0.5102***	0.3527***
<i>N</i>		34082	34082	34082	34082	34082

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Marginal effects at representative values are shown in Table 8. Coefficients should be interpreted in next way: what is the probability that person with set of characteristics will have the following level of trust comparing to basic case in period 0 (or period 1).

First important finding is that GDP growth become insignificant after the crisis. Positive correlation between GDP growth rates and outcomes “some” and “complete” trust is observed. After the crisis effect of changes in GDP equal to 0.

Opposite effect we observe for age. Increase in age does not affect probability of being in some category before the crisis. However, there is negative relationship between additional year of age and higher level of trust after the crisis. In other words older agents are more likely to have some level of distrust in banks. This effect is not so important from the economic point of view, since additional year will cause increase in probability to have the “complete distrust” outcome only by 0.05%.

Gender demonstrates insignificance as the determinant of trust. For some outcomes this variable is statistically significant, but magnitudes of effect is quite small. According to results females have less trust in banks than males and gap between effects of two genders becomes smaller after the crisis.

Commitment to some religion also may affect level of trust in banks. Estimates show that followers of Muslim and Christian religion have lower probability to have the “complete” or “some” level of trust in banks comparing to atheists. Agents who confessed other religions (Jewish, Buddhists, etc.) feel themselves more confident as the bank customers and have higher level of trust in banks and financial institutions. Explanation can lay in the cultural differences. New religious waves probably attract those who is atheistic or do not positioned themselves as any kind of believers. Probably this people are more sensitive to new products and services, they are relatively younger and usage of banking services is usual thing for them. These conditions are the main reasons for higher level of trust in banks of untraditional religious group.

Our final specification shows that education does matter for trust in banks. For some level of trust (some or complete trust) probability higher for person who

has some level of education. In spite of this, there is no significant differences between school and high education.

Usage of banks services shows difference in effects on trust before and after crisis. People who have bank account have higher level of trust. Moreover, after the crisis this difference becomes significant and magnitude of effect increases. Customers who use credit or debit card have lower level of trust in banks. One of possible explanation of this observation is that bank account is the instrument for customers to store their money. There is no information about the nature of such account in the dataset. It could be either deposit account, account for pension payments or account for operational activities of entrepreneurs. Nevertheless, we assume that bank account is the some kind of “saving” instrument for individual. From the other point of view, credit or debit card is the instrument for regular payments. If person faces problem with credit card (has negative value of cash) then it is normal that during the crisis banks more frequently ask about interest payments. Such kind of proposals can negatively affect relationship between the customer and the bank. As the result, trust in banks declines. In addition, if bank constraints amount of cash for one transaction during the crisis (this instruments widely used by banks at least in CIS countries), then customers also will have lower level of trust as such constraints could be perceived as the problem from the bank side.

Regional characteristics also play important role. First of all, we observe that after the crisis rural agents have higher level of trust in banks. Changes in effects are hard to interpret. For urban citizens difference becomes significantly higher for “some trust” level. But for “neither trust nor distrust” we do not observe such changes. Probability to have “complete trust” increases for metropolitan citizens comparing to rural ones. Nevertheless, those who live in rural areas are more

probable to have higher level of trust than agents who live in cities. Such effect can be driven by the sample structure. Major part of our data is from CIS countries respondents. It should not be a surprise that in CIS countries prevalent share of rural areas are less developed than cities. It is normal situation that only one bank office is functioning for several villages. This office provides all necessary services for citizens: pension payments, payments for public utility services, money transfers, currency exchange, etc. If this office works well and efficiently than the level of trust of citizens will be high.

In addition, regional differences of level of trust are examined in this work. We state that before the crisis average person will have higher level of trust in CIS countries than person with the same characteristics in Central European and Baltic countries. This result changes dramatically after the crisis. Overall probability that agent from CIS country has “complete” trust in banks is less by 0.44%. We do not observe any difference for Southern European countries.

Previous models show that general level of trust is the most important determinant of trust in banks. Our final specification also confirms this conclusion. Moreover, effect is highly significant. The main problem is that after the crisis influence of general trust declines. Agent with “complete” general trust has “complete” trust in banks with 75% probability before the crisis (higher than basic case which “complete” general distrust level), while after the crisis with probability of 35%. We do not detect such huge effect of any other determinants. It means, that other variables are important as the determinants of trust after the crisis. We expect that level of income (or decline in income) is one of the best candidates. As well, some research paper use information about “level of services”. It is customer evaluation of openness, loyalty and responsiveness of

banks to customer needs and problems. In our opinion such characteristics might be very important as the determinants of trust in banks.

Chapter 6

CONCLUSIONS

In this paper we investigate evolution of determinants of trust in banks during big macroeconomic shock in 2008-2009 years.

For this purposes we use data for households from 23 countries mainly located in Central and Eastern Europe. Our study mainly focused on socio-demographic and economic characteristics of agents which determine trust in banks.

We have found that socio-demographic factors do not matter. All variables show insignificant (in statistical or economic sense) results before and after the crisis. However, some variables related to household show changes during the crisis. If head of household has higher level of education, than before crisis he well have higher level of trust in banks. After the crisis effect of education does not occur.

As well we tested hypothesis of importance of general level of trust. We found that general trust highly correlated with probability to have higher level of trust in banks. It is expected result and we think that during the crisis government and other policy organizations should focus on general level of trust among people. However importance of general trust as the determinant of trust declines during the crisis.

Usage of banking services shows different effects. Having banking account increase probability to have higher level of trust in both periods. However, customers who use credit or cards have less trust in banks after the crisis.

We found change in determinants of trust in banks before and after the crisis. All variables which were included in final specifications show decline in their

explanatory power for complete trust and some trust outcomes. However these variables became more important when we try to estimate determinants of lowest level of trust – complete distrust and some distrust. We think that there is maybe some other factors which should be included in order to define high level of trust in banks during the crisis.

For further investigation of this topic we suggest to include additional variables related to customer experience and bank services. Also control for changes in level of personal income and failures in banking industry might be helpful.

WORKS CITED

- Allen Franklin, Carletti Elena. 2010. The Roles of Banks in Financial Systems, *The Oxford Handbook of Banking*, Ch. 2.
- Beck Thorsten, Brown Martin. 2010. Which households use banks. Evidence from the transition economies, *Working paper*.
- Beugelsdijl Sjoerd, de Groot Henri L.F., van Schaik Anton B.T.M. 2004. Trust and Economic growth: a robustness analysis, *Oxford Economic Papers*, Vol.54, pp.118-134.
- Calderón Cesar A., Chong Alberto, Galindo Arturo Jose. 2002. Development and Efficiency of the Financial Sector and Links with Trust: Cross-Country Evidence, *Economic Development and Cultural Change*, Vol. 51, No. 1, pp. 189-204.
- Carbo-Valverde Santiago, Maqui-Lopez Eduardo, Rodriguez-Fernandez Francisco. 2013. Trust in Banks: Evidence from the Spanish Financial Crisis, *26th Australian Finance and Banking Conference*, Working Paper Series
- Coupe Tom. 2011. Mattresses versus banks – the effect of trust on portfolio composition, *KSE Discussion Papers Series*, N. 40.
- Fukuyama Francis. 1995. Trust: The Social Virtues and the Creation of Prosperity, *The Free Press*, New York.
- Guiso Luigi, Sapienza Paola, Zingales Luigi. 2008. Trusting the Stock Market, *Journal of Finance*, Vol. 63, Issue 6.: 2557 - 2600.
- Knell Markus, Stix Helmut. 2009. Trust in Banks. Evidence from normal times and from times of crisis, *Working Paper*.
- Lebedyev Dmytro. 2011. Determinants of trust in banks, *KSE MA thesis*.
- Levine Ross, Loyaza Norman, Beck Thorsten. 2000. Financial intermediation and growth: Causality and causes, *Journal of Monetary Economics*, Vol.46: 31-77.
- Levine Ross, Zervos Sara. 1998. Stock Markets, Banks, and Economic Growth, *American Economic Review*, Vol.88, issue 3: 537-558.

- Long Scott J., Freese Jeremy. 2006. Regression Models for Categorical Dependent Variables Using Stata, 2nd edition, *Stata Press*
- Putnam Robert D., Leonardi Robert, Nanetti Raffaella Y. 1993. Making Democracy Work, *Princeton University Press*, Princeton, NJ.
- Sala-i-Martin Xavier X. 1997. I just ran two million regressions, *American Economic Review*, Vol. 87: 178–83.
- Zak Paul J., Knack Stephen. 2001. Trust and growth, *Economic Journal*, Vol.111: 295–321.

APPENDIX A

Table A1. Distribution by countries

Country	Number of observations
Albania	1650
Armenia	1111
Azerbaijan	1213
Bosnia	1813
Bulgaria	1215
Croatia	1550
Czech Republic	1483
Estonia	968
Hungary	1426
Kazakhstan	1279
Kyrgyzstan	1236
Latvia	804
Lithuania	1220
Moldova	1152
Mongolia	790
Montenegro	1431
Poland	1986
Romania	1561
Russia	1173
Serbia	2054
Slovakia	1369
Slovenia	1414
Tajikistan	1196
Turkey	1396
Ukraine	1592
Total	34082

Table A2. Descriptive statistics

Variable	Mean	Std. Dev.	Min	Max	Obs
age	50.58418	15.43478	18	99	34082
gender	0.3687577	0.4824752	0	1	34082
religion	1.163987	0.6420803	0	3	34082
settlement	1.768646	0.7223838	1	3	34082
utilities	1.545919	0.5022948	0	2	34082
type_dwelling	2.565606	0.5211358	1	3	34082
ownership_dwelling	0.8851887	0.3187988	0	1	34082
income_sourcee	1.798633	0.8914076	1	3	34082
education	1.381198	0.5610906	0	2	34082
general_trust	3.417024	0.9139151	1	5	34082
bank_account	0.4539346	0.4978808	0	1	34082
credit_debit_card	0.2965202	0.4567298	0	1	34082
car	0.4728596	0.4992702	0	1	34082
gdp	4.773335	4.123957	-3.5	23.70	34082
aftercrisis	0.5109149	0.4998882	0	1	34082
region	1.961153	0.8171414	1	3	34082

APPENDIX B

Table B1. Marginal effects for LITS 2006

Variable	Complete distrust	Some distrust	Neither	Some trust	Complete trust
age	0.000472***	0.000235***	0.000111***	-0.000380***	-0.000438***
hhsiz	1.085	0.540	0.254	-0.872	-1.007
gender	0.00279	0.00139	0.000654	-0.00224	-0.00259
<i>Bank services</i>					
bank_account	-0.0340***	-0.0169***	-0.00796***	0.0273***	0.0315***
credit_debit_card	-0.0176***	-0.00877***	-0.00412***	0.0141***	0.0163***
<i>Education</i>					
no education	*	*	*	*	*
school education	-0.0257**	-0.0121***	-0.00477***	0.0207**	0.0219***
higher education	-0.0214**	-0.00997**	-0.00374***	0.0173**	0.0179**
<i>Settlement</i>					
rural	*	*	*	*	*
urban	-0.00176	-0.000881	-0.000418	0.00142	0.00165
metropolitan	0.00139	0.000691	0.000319	-0.00112	-0.00128
<i>Region</i>					
central/eastern/baltic	*	*	*	*	*
southern europe	-0.00309	-0.00155	-0.000752	0.00248	0.00292
cis&mongolia	0.00383	0.00188	0.000860	-0.00307	-0.00350
<i>Income source</i>					
salary	*	*	*	*	*
self-employed	-0.0103*	-0.00541*	-0.00286*	0.00834*	0.0103*
transfer	0.0111**	0.00544**	0.00240**	-0.00899**	-0.00994**
<i>Dwelling</i>					
rented	*	*	*	*	*
owned	-0.00787	-0.00385	-0.00172	0.00633	0.00710
no separate	*	*	*	*	*
flat	0.0320**	0.0174**	0.0103*	-0.0253**	-0.0344**
house	0.0304**	0.0166**	0.00994*	-0.0240**	-0.0329**

Table B1. Marginal effects for LITS 2006 - continued

Variable	Complete distrust	Some distrust	Neither	Some trust	Complete trust
<i>Access to utilities</i>					
no access	*	*	*	*	*
partial access	-0.0180	-0.00900	-0.00425	0.0145	0.0167
full access	-0.00128	-0.000611	-0.000246	0.00104	0.00110
<i>General trust</i>					
complete distrust	*	*	*	*	*
some distrust	-0.513***	0.196***	0.207***	0.103***	0.00707***
neither trust nor distrust	-0.806***	0.122***	0.289***	0.328***	0.0672***
some trust	-0.885***	0.0406***	0.229***	0.441***	0.175***
complete trust	-0.924***	-0.0456***	0.0441***	0.338***	0.588***
N	16659	16659	16659	16659	16659

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B2. Marginal effects for LITS 2010

Variable	Complete distrust	Some distrust	Neither	Some trust	Complete trust
age	0.000356**	0.000208**	0.0000128*	-0.000349**	-0.000228**
gender	0.00186	0.00109	0.0000670	-0.00182	-0.00119
hh_size	-0.000979	-0.000572	-0.0000353	0.000960	0.000627
bank_account	-0.0424***	-0.0248***	-0.00153***	0.0416***	0.0272***
credit_card	0.0131***	0.00765***	0.000472*	-0.0128***	-0.00838***
gdp_growth	-0.00537***	-0.00314***	-0.000194***	0.00527***	0.00344***
debit_card	-0.00213	-0.00125	-0.0000769	0.00209	0.00136
<i>Education</i>					
no education	*	*	*	*	*
school education	-0.0112	-0.00635	-0.000124	0.0109	0.00684
higher education	-0.00973	-0.00547	-0.0000705	0.00939	0.00588

Table B2. Marginal effects for LITS 2010 - continued

Variable	Complete distrust	Some distrust	Neither	Some trust	Complete trust
<i>Marital status</i>					
never married	*	*	*	*	*
married	0.0128**	0.00778**	0.000809*	-0.0128**	-0.00864**
divorced	0.0163*	0.00976*	0.000873*	-0.0161*	-0.0108*
separated	0.0123	0.00749	0.000795	-0.0123	-0.00833
widowed	0.0209**	0.0123***	0.000865*	-0.0206**	-0.0135***
<i>Settlement</i>					
rural	*	*	*	*	*
urban	0.0134***	0.00794***	0.000624**	-0.0132***	-0.00872***
metropolitan	0.0150**	0.00883**	0.000635**	-0.0148**	-0.00967**
<i>Region</i>					
central/eastern/baltic	*	*	*	*	*
southern europe	0.0139***	0.00819***	0.000525*	-0.0137***	-0.00894***
cis&mongolia	0.00950	0.00567	0.000471	-0.00940	-0.00624
<i>Income source</i>					
salary	*	*	*	*	*
self-employed	-0.0220***	-0.0138***	-0.00198***	0.0223***	0.0155***
transfer	0.00524	0.00299	0.0000669	-0.00511	-0.00318
<i>Dwelling</i>					
rented	*	*	*	*	*
owned	-0.00177	-0.00103	-0.0000577	0.00174	0.00113
no separate	*	*	*	*	*
flat	0.0382**	0.0263*	0.00723	-0.0396**	-0.0321*
house	0.0477***	0.0318**	0.00757	-0.0489***	-0.0382**
<i>Access to utilities</i>					
no access	*	*	*	*	*
partial access	-0.0461	-0.0238	0.00227	0.0430	0.0247
full access	-0.0384	-0.0192	0.00257	0.0354	0.0197
<i>General trust</i>					
complete distrust	*	*	*	*	*
some distrust	-0.0448	0.0267	0.0150	0.00305	0.0000600
neither trust nor distrust	-0.562***	0.137*	0.259***	0.154***	0.0127***
some trust	-0.725***	0.0116	0.284***	0.356***	0.0733***
complete trust	-0.780***	-0.116	0.127***	0.472***	0.297***

Table B2. Marginal effects for LITS 2010 - continued

Variable	Complete distrust	Some distrust	Neither	Some trust	Complete trust
<i>Willingness to take risk</i>					
0	*	*	*	*	*
1	0.00126	0.000713	0.0000104	-0.00122	-0.000765
2	-0.00950	-0.00557	-0.000346	0.00932	0.00609
3	0.00110	0.000619	0.00000950	-0.00106	-0.000664
4	-0.00236	-0.00135	-0.0000412	0.00229	0.00146
5	-0.00696	-0.00404	-0.000205	0.00680	0.00440
6	-0.00649	-0.00376	-0.000183	0.00634	0.00409
7	-0.0127	-0.00755	-0.000579	0.0126	0.00832
8	-0.00619	-0.00359	-0.000170	0.00605	0.00390
9	-0.0108	-0.00637	-0.000433	0.0106	0.00699
10	0.00917	0.00504	-0.000100	-0.00877	-0.00534
N	17413	17413	17413	17413	17413

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

