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Trusting banks in China

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Abstract

Trust in banks is essential to financial system effectiveness. This study examines the determinants of trust in banks in China. Using the most recent wave of the World Values Survey, which included information on trust in banks from the survey in China in 2012, we perform ordered logit estimations to investigate the potential influence of a large set of individual and provincial indicators on trust in banks. We observe the influence of certain sociodemographic indicators. Membership in the Communist Party and living in a rural area are negatively associated with trust in banks. Age and satisfaction with financial situation contribute to higher trust in banks, while being married and having a higher level of education tend to lower trust in banks. Access to information regardless of the type of media disseminating the information (newspapers, television, internet) seem to have no impact on trust in banks. Economic values influence trust in banks. In particular, individuals who favor inequality as an incentive for individual effort or support an expanded government ownership role in the economy tend to trust banks more.

JEL Codes: G21, O16, P34.

Keywords: banking, trust, China.

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1   Introduction

Trust in banks is essential for financial system effectiveness. Greater confidence of individuals in financial institutions enhances their use of financial system services. It facilitates the pooling of savings and the expansion of credit by banks, a major prerequisite of financial development. Trust in banks fosters financial stability by reducing the risk of bank runs in a country. In China, trust in banks plays a prominent role in limiting potential threats to financial stability and sustaining the driving forces underlying financial development and economic growth.

Research on trust in banks is surprisingly scarce, and no study to the best of our knowledge specifically addresses the topic of trust in banks in China. With the exception of the cross-country study from Fungáčová, Hasan and Weill (2016), only a handful of single-country studies provide evidence on the level and the determinants of trust in banks (Sapienza and Zingales, 2012, for the US; Jansen, Mosch and van der Cruisjen, 2014, for the Netherlands; Knell and Stix, 2015, for Austria). Thus, the objective of this paper is to provide an initial empirical investigation of the determinants of trust in banks in China.

We rely on the most recent wave of the World Values Survey (WVS) conducted between 2011 and 2014 as it includes information on trust in banks from the survey performed in China in 2012. The sixth-wave WVS asks individuals about their perceptions of life and institutions for a large number of countries around the world. While the WVS has been administered regularly since 1981, only this latest wave includes a question on confidence in banks that allows us to investigate the individual and regional characteristics that determine trust in banks.

To analyze the determinants of trust in banks for Chinese individuals, we perform ordered logit estimations to explain the individual level of trust in banks. We consider four categories of potential determinants.

First, we examine sociodemographic characteristics: gender, age, income, education, marital status, health and financial situation. Former studies on the determinants of trust (e.g. Alesina and La Ferrara, 2002) and of trust in banks have shown the influence of these characteristics on interpersonal trust. We also consider two China-specific characteristics: membership in the Communist Party and rural location. China has a single-party system with an elite populated with Communist Party members. Rural location is of particular interest, given the restrictions the *hukou* system imposes on internal migration.

Second, we consider the various information sources on which respondents rely. These include daily access to newspaper, television and the internet. Such channels of information can influence trust in banks if they emphasize different types of information. For example, the impact

might be positive if they provide information on financial products by banks or negative if they deal extensively with news concerning financial crises or potential bank failures.

Third, we study economic values of individuals by including variables related to attitudes toward the market and the role of state in the economy, i.e. attitudes toward the benefits of competition, the role of government ownership in the economy and the role of economic inequality in providing an incentive for individual effort. Specifically, we ask if pro-market individuals tend to trust banks more. A positive attitude toward the market economy may be associated with higher trust in banks as banks play a key role in market economies. However, given the low financial instability in China, individuals may be more trusting of banks if they associate government ownership with lower risk of losing their assets.

Fourth, we consider provincial characteristics to document whether the provincial framework influences trust in banks. We account for several aspects of the macroeconomic, banking and institutional environment, i.e. provincial income per capita, inflation, government expenditures, banking sector size and riskiness, quality of legal institutions and the level of marketization. For instance, higher quality legal institutions may contribute to higher confidence in financial institutions as individuals know they can invest safely in these institutions.

Our work adds to the literature on the financial system in China. The literature identifies large differences in financial development across Chinese provinces (Hasan, Wachtel and Zhou, 2009; Lu and Yao, 2009). We contribute to the understanding of cross-provincial differences in financial development by looking at trust in banks. The identification of the determinants of trust in banks also helps clarify the mechanisms of financial stability in China. It exposes forces driving shadow banking in China, taking into account the fact that this form of banking weakens the effectiveness of banking regulation and government efforts to maintain financial stability. People turn to informal funding and deposit channels when they lack confidence in formal financial institutions.

Furthermore, we contribute to the discussion of the determinants of trust in China. A large set of papers provide evidence on the factors influencing interpersonal trust in China (e.g. Buchan and Croson, 2004), trust in police (Sun et al., 2013), trust toward public institutions (e.g. Cui et al., 2015) and trust toward foreigners in transactions (Özer, Zheng and Ren, 2014).[1] By documenting factors that shape trust in banks, we complement the analysis of trust in the Chinese economy.

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[1] Buchan and Croson (2004) use a game to measure trust and trustworthiness for two groups of students in China and in the US. They find higher generalized trust in China than in the US. Özer, Zheng and Ren (2014) also conduct an experiment to analyze trust toward foreigners in transactions. They experimentally study how supply chain members' countries of origin, between China and the US, influence trust, and trustworthiness. They find that Chinese people exhibit higher spontaneous trust toward U.S. partners than Chinese ones. Cui et al. (2015) investigate trust toward public institutions in China by analyzing how land takings shape political trust defined by the opinion that officials represent and protect the interests of the farmers. They show that land takings contribute to diminish political trust. Sun et al.

The rest of the paper is structured as follows. Section 2 presents literature on trust in banks. Section 3 describes data and variables. Section 4 displays the results. Section 5 concludes.

2   Literature on trust in banks

The relevant literature consists mainly of single-country studies on trust in banks.

In Austria, Knell and Stix (2015), examining shifts in trust in banks for a sample of 2,000 households with quarterly information from 2004 to 2009, observe a significant deterioration of trust in banks during the financial crisis. They test the potential influence on trust in banks of a large set of sociodemographic characteristics including gender, age, education, marital and employment status, as well as subjective variables such as the perception of current financial situation, inflation and political preferences. Their evidence supports the view that trust in banks is highest among young people, parents, separated people, and women in some cases. No relation to level of education is found. They point out that those who see their current financial situation as favorable and have greater confidence in price stability show enhanced trust in banks. Right-wing political orientation also seems to increase trust in banks.

For the US, Sapienza and Zingales (2012) investigate how trust in the financial system evolved during the recent financial crisis using a survey of about 1,000 US households in December 2008. They find that trust in banks dropped in the three months preceding the survey, and observe that banks were perceived as more trustworthy than the stock market, the government, large corporations and bankers, but less trustworthy than people in general.

In the Netherlands, Jansen, Mosch, and van der Cruisjen (2014) document the conditions that might cause people to lose trust in banks. They perform two surveys of approximately 2,500 Dutch households in 2010 and 2012 with hypothetical scenarios associated with the financial crisis. Some events such as negative media reports or the revelation of large bonuses for bankers are found to deteriorate trust in banks. In their discussion of whether trust in banks is affected by individual characteristics such as age, education and income, they find no evidence that such characteristics impact trust in banks.

In the case of Spain, Carbo-Valverde, Maqui-Lopez and Rodriguez-Fernandez (2013) provide a different perspective of the determinants of trust in banks by considering bank characteristics. They utilize survey data for about 1,600 bank customers in 2009 and focus on customer perception

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(2013) study trust in police in China by investigating the existence of differences among Chinese migrants, peasants, and urbanites. They observe lower trust in police among migrants.

of bank characteristics with variables such as effectiveness, sensitivity, and commitment. They include a set of sociodemographic characteristics (age, education and gender) to explain trust in banks. They find that customer perception of bank characteristics influences trust in banks, but no evidence that sociodemographic characteristics have a similar effect.

Fungáčová, Hasan and Weill (2016) extend the analysis of trust in banks with a cross-country investigation using individual data. Using the latest wave of the World Values Survey, they examine the level and determinants of trust in banks. Large cross-country differences in trust in banks are observed, with lower average trust in banks in countries that have recently experienced a financial crisis and in countries with higher incomes per capita. They test different categories of individual variables to explain trust in banks and consider sociodemographic indicators (gender, marital status, education, age and income), access to information sources, and religious, political and economic values. Women are found to trust banks more than men, while trust in banks tends to increase with income and decrease with age and education. Interestingly, they show that media channels providing information influence trust in banks. The impact is positive for access to television, but negative for internet access. Persons holding pro-market economic views (defined as favoring inequality, competition and a low level of government ownership in the economy) are found to have greater trust in banks. They further conclude that religious individuals have greater trust in banks, but that trust in banks varies across religious denominations.

To sum up, the literature on trust in banks suffers from the absence of studies on emerging countries and a specific focus of many on the evolution of trust in banks in troubled times. Existing studies provide evidence on the relation between some individual characteristics and trust in banks but are far from being consensual on these links.

3 Data and variables

3.1 Data

Our data come from the World Values Survey, which asks individuals about their perceptions of life and institutions using a representative sample of people in a large set of countries. Six waves of WVS have been conducted since 1981. We use the most recent wave, which includes 258 survey items for 60 developed and developing countries. We employ the data concerning China in our analysis. Altogether there are 2,300 observations for this country. The latest WVS round, which was conducted in different countries at times during the period 2010–2014, took place in China in 2012.

Unlike previous waves, the sixth wave of the WVS included a question on trust in banks. Specifically, Question V212 asks: *"Could you tell me how much confidence you have in banks: Is*

it a great deal of confidence (1), quite a lot of confidence (2), not very much confidence (3) or none at all (4)?"

We use the response to this question to create the key variable *Trust in banks*. We recode four answers with 1 corresponding to lowest confidence in banks and 4 to highest confidence.

Figure 1 and Table 1 report the provincial mean values of trust in banks for 23 provinces for which data are available. Trust in banks values range widely across provinces, from 2.72 in Sichuan to 3.71 in Anhui. The national average value for trust in banks is 3.06. Figure 1 indicates no contagion effect so that high trust in one region would indicate high trust also in the neighboring regions. Fungáčová, Hasan and Weill (2016) observe that China is characterized by high trust in banks relative to most countries. Indeed, China ranked third most trusting in banks among the 52 surveyed countries in the WVS, where national-average values ranged from 1.77 to 3.24.

3.2   Variables

We construct a set of determinants of trust in banks in China to test. We include four groups of indicators which can impact trust in banks: sociodemographic factors, information sources, economic values and provincial characteristics. Descriptive statistics for all variables used in the estimations are reported in Table 2.

We consider several sociodemographic factors that are selected based on former studies on trust in banks. We take gender into account with a dummy variable equal to one if the individual is a female (*Female*). We include marital status by creating a dummy variable equal to one if the respondent is married (*Married*). *Age* is defined as the age of the respondent in years. We consider education with a dummy variable equal to one if the individual has secondary or tertiary education (*Education*).

Income is accounted by including the self-reported income decile of the respondent relative to incomes in the respondent's country ranging from the lowest decile (1) to the highest (10) (*Income*). The response is based on this statement: *"This card shows an income scale with 1 indicating the lowest income group and 10 the highest income group in your country. Please indicate the income group you believe your household belongs to."* A similar scale is used in the question that provides information about the satisfaction with current financial situation of the respondent's household (*Financial situation*), with a value of 1 indicating complete dissatisfaction and 10 complete satisfaction. We also take the respondent's self-appraisal of their personal health into account (*Health*). This variable is based on the self-assessment of the respondent ranging from the poor health (1) to excellent health (4).

In addition to the traditional sociodemographic determinants, we add two factors that have special meaning in the Chinese context. As the *hukou* household registration system restricts migration within China, we control for rural location (*Rural*). The *hukou* system divides China's population into two groups, rural and urban, each with a distinct set of opportunities. As *hukou* status is a source of inequality among individuals, it may also be a source of societal friction (Wang, 2010) that hampers trust in institutions, including banks.

The second factor of note is membership in China's one and only political party. This variable (*Communist party*) indicates if a respondent is a member of the Communist Party.

Access to information is a key determinant that influences trust in institutions. It enables the spread of information about the economy including negative news like financial scandals or troubles of the banking system or positive messages on the state of the economy to calm down the population. It can also be useful for banks to transmit information on their products. We consider three main information sources: newspaper (*Newspaper*), television (*Television*), and the internet (*Internet*). The variables we employ are all based on responses to the statement: "*People learn what is going on in our country and the world from various sources. For each of the following information sources, please indicate whether you use it to obtain information daily, weekly, monthly, less than monthly or never.*" Dummy variables are set equal to one if the respondent for a particular source of information answers 1 for daily. All other responses are given a value of zero.[2]

We account for the potential influence of economic values of individuals in line with Fungáčová, Hasan and Weill (2016). They note that individuals with a pro-market attitude tend to trust banks more than those with a negative attitude toward the market. This argument is hardly surprising given that the banking industry is essential to the function of modern market economies. Thus, pro-market attitudes are expected to be associated with greater trust in banks.

In the specific context of China, however, trust in banks has a slight twist. In developed economies, a pro-market attitude is not necessarily associated with distrust in the state. China is a developing country with a mix of high levels of state ownership and an open attitude to private entrepreneurship. China's banks are largely state-owned, but individuals with a positive attitude toward the role of the state in the economy do not necessarily distrust banks.

We consider three variables related to the attitudes towards the role of market and the state in the economy. *Inequality* measures how much the respondent agrees on a scale from 1 to 10 (with 10 meaning full support) with the statement: "*We need larger income differences as incentives for*

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[2] We also consider alternative definition of these dummy variables so that they are equal to one if the respondent obtains information both on daily and weekly basis. We obtain the same results.

individual effort." We expect a positive impact of this variable on trust in banks in line with the view that it is associated with pro-market attitude.

Government role considers the preference for the influence of government ownership in the economy. It is based on the respondent's agreement on a scale from 1 to 10 (with 10 meaning full agreement) with this statement about government ownership in the economy: "*Government ownership of business and industry should be increased.*" On the one hand, in line with the argument from Fungáčová, Hasan and Weill (2016), we should observe a negative link with trust in banks since greater positive attitude toward government ownership in the economy is negatively associated with pro-market attitude. On the other hand, given the fact that banks are largely owned by the state in China, a more positive opinion of government ownership could be positively associated with trust in banks. Respondent thinking here seems to blend confidence in banks with confidence in the bank owner.

Competition harmful measures how negative the respondent feels about the increased competition in the economy. Rejection of competition is measured on a scale from 1 to 10 (with 10 meaning complete agreement with the statement): "*Competition is harmful. It brings out the worst in people.*" Here again, we can predict both signs for the relation with trust in banks. On the one hand, greater rejection of competition should be associated with lower trust in banks since anti-market attitudes can be associated with lower confidence in the financial institutions. On the other hand, the Chinese banking industry has traditionally not been very competitive (Fungáčová, Pessarossi and Weill, 2013). Interest-rate regulation was still in place at the time of survey and a dominant role of state-owned banks may have helped form the view that greater rejection of competition is positively associated with trust in banks. In other words, individuals may trust non-competitive banks and reject competition.

In addition to the individual variables, we consider provincial variables to investigate how characteristics of the province possibly influence trust in banks. The data are collected from the CEIC database with the exception of marketization index from Fan, Wang and Zhang (2011). Different combinations of seven provincial variables are considered in the estimations.

First, we account for the size and riskiness of the banking sector. Size is measured by the ratio of banking sector assets to GRP (*Bank assets*) and accounts for the role and importance of the financial sector in a given province. Riskiness is proxied by the non-performing loan ratio (*NPL*).

The second group of variables consists of the standard macroeconomic control variables accounting for development in various provinces. Here, we include GRP per capita (*GRP*), the level of inflation measured by CPI (*Inflation*) and the ratio of government expenditures to GRP (*Government expenditures*).

Finally, we account for the institutional environment by employing a marketization index. Our index is constructed from 19 indicators of institutional arrangements in five areas related to market-oriented reforms (Fan, Wang and Zhang, 2001). The five major areas are (1) size of government in the regional economy, (2) ownership structure, (3) goods market development, (4) factor market development and (5) legal framework. The index measures the position of the particular province in its progress to becoming a market economy relative to other provinces. Our estimations use either the overall marketization index (*Marketization*) or the legal framework component (*Legal framework*) by itself.

We restrict the number of provincial variables to four in different estimations since we have data only for 23 provinces. In addition, we are constrained by the correlations between provincial variables. GRP per capita, the marketization index and the legal framework index are highly correlated, so we do not include them together in the estimations. Instead, we perform separate estimations with alternative sets of provincial variables. We also run specifications that include provincial fixed effects rather than the individual provincial variables described above.

4   Results

This section reports the estimation results uncovering the determinants of trust in banks in China. We first display the main estimations with an ordered logit model complemented with an analysis of marginal effects. We further test the robustness of our findings with a logit model.

4.1   Main estimations

Since our dependent variable, *Trust in banks*, is a discrete variable with values between 1 and 4, the main estimations are performed using an ordered logit model. Table 3 reports the estimation results.

We consider several sets of explaining variables in order to test the sensitivity of our results to the choice of the tested determinants. The first specification only includes individual variables. We then add provincial variables. Since provincial variables can be highly correlated, we consider three different sets of provincial variables in the estimations. The fifth specification considers individual variables and provincial fixed effects. Several conclusions emerge.

First, some sociodemographic characteristics impact on trust in banks:

- Being married reduces trust in banks. The variable *Married* is significantly negative in all specifications with the exception of the last one. This finding comports with the result of Knell and Stix (2015) on Austrian data that separated people have greater trust in

banks. It differs, however, from the conclusion of Fungáčová, Hasan and Weill (2016) that there is no observable impact from marital status at the cross-country level.

- Older people tend to trust banks more. The variable *Age* is positive and significant in all estimations. This result is at odds with the finding of Fungáčová, Hasan and Weill (2016) and Knell and Stix (2015) at the cross-country level and in Austria, respectively. These discrepancies in findings are of interest and may relate to persisting memory of financial crises. Sapienza and Zingales (2012) and Fungáčová, Hasan and Weill (2016) find that the occurrence of a financial crisis subsequently lowers trust in banks. Therefore, people who have lived through financial crises in the recent decades may express lower trust in banks. China has not seen a major recession or banking crises in recent decades, which means that many people, even middle-aged people, may not have experienced a full-blown financial crisis and remain quite trusting in banks. Indeed, the lack of crisis experience may actually reinforce their trust in banks.

- Higher education reduces trust in banks. The coefficient for *Education* is negative in all specifications. This finding accords with what has been observed by Fungáčová, Hasan and Weill (2016) in their cross-country analysis, while it differs from Knell and Stix (2015) in Austria and Carbo-Valverde, Maqui-Lopez and Rodriguez-Fernandez (2013) in Spain who find no significant relation. It potentially suggests that increasing level of education in China can contribute to deterioration of confidence in banks, i.e. highly educated people are more aware of the possibility of financial troubles and therefore more suspicious of banks.

- Satisfaction with current financial situation increases trust in banks. The estimated coefficient for *Financial situation* is positive and significant in all estimations. This finding accords with that observed for Austria by Knell and Stix (2015).

In addition, a few traditional sociodemographic variables are not significant:

- We observe no gender effect. The *Female* coefficient is not significant in any specification. This result differs from the finding of Fungáčová, Hasan and Weill (2016) that women trust more banks than men in their cross-country analysis, as well as the observation of Knell and Stix (2015) in Austria. It is in line, however, with the conclusion from Carbo-Valverde, Maqui-Lopez and Rodriguez-Fernandez (2013) in Spain.

- The state of health has no effect. The self-assessed health (*Health*) of the individual does not influence trust in banks.

- Income has no impact. *Income* does not affect trust in banks. This differs from the positive relation observed by Fungáčová, Hasan and Weill (2016).

Second, we find evidence that both China-specific sociodemographic determinants have an influence on trust in banks.

- Rural location is negatively associated with trust in banks. The coefficient of the variable *Rural* is negative in all specifications, and significant in the two first ones. This indicates that people living in rural areas have a stronger distrust of banks. This finding may reflect the lower interaction with banks in rural areas relative to urban areas. This is important from the perspective of financial stability as it suggests more effort may be needed by policymakers to assure confidence in banks in rural areas in China to prevent bank runs.

- Communist Party membership is associated with lower trust in banks. A striking result is that membership in the Communist Party is associated with lower trust in banks. This is confirmed by the negative and significant coefficient of *Communist party* in all specifications. This result is of major interest in the Chinese context given the predominance of the Communist Party in political and economic affairs. There are several possible interpretations of this result. A cynical hypothesis is that party members are more aware of potential troubles of the Chinese banking industry. Given the high level of state ownership in banks at the central and local level and member connections within the party, they might be able to better understand business opportunities of banks. An optimistic interpretation could be that party members are more educated than the average Chinese, as observed by Li et al. (2007). The distrust of banks in such talented individuals arises from their superior skills in identifying potential problems of financial institutions. Finally, there is a hypothesis based on opinions expressed by members of the Communist Party, whereby their reluctance to trust financial institutions comes from the fact that they perceive banks as a driving force in market economies and are therefore antagonistic to the core principles of communist economy. Indeed, as stressed by Li et al. (2007), the selection process of party members is based on a selection process in which a positive attitude about communist ideology is highly valued.

Third, looking to other factors:

- Access to information sources has no significant impact on trust in banks. Daily access to newspaper, television and internet has no influence on the degree of confidence of individuals toward banks. This differs from the cross-country analysis of Fungáčová, Hasan and Weill (2016), who observe a positive influence from access to television and newspapers to a lesser extent, but a negative influence from internet access. This finding also departs from other studies of trust in China using different measures. Kennedy (2009), for instance, points out the effect of state-controlled media on trust in political leaders in China. Our finding may therefore arise from opposing influences in media messages, i.e. media bring both positive media messaging on the financial system and advertisements about banking products, as well as negative messaging through news of corruption and financial scandals. Hence, information access does not have significant effect on trust in banks in China. Another possible explanation of our finding is related to the fact that all media outlets are controlled by the state. Consequently, individuals are not expected to trust information from these media enough which further indicates that this information would not influence their trust in banks either.

- Economic values tend to influence trust in banks. Our results do not fully support the view that adherence to market economy principles is associated with higher trust in banks, but all estimations show a significantly positive coefficient for *Inequality*, which we interpret so that individuals favoring inequality are more trusting in banks. This result is in line with the hypothesis that positive view of the market economy is associated with higher trust in banks.

- Anti-market attitudes have no impact. We find no significant influence for *Competition harmful*. Thus, individuals with a positive opinion of competition are not likely to have greater or less confidence in banks. Our interpretation is that two opposing arguments lead to this absence of influence. On the one hand, anti-market attitudes are expected to favor a negative relation between rejection of competition and trust in banks. On the other hand, respondents considering competition in general as harmful also consider competition in the banking industry as negative. Therefore, the specific structure of the Chinese banking market with its low competition (Fungáčová, Pessarossi and Weill, 2013) at the time of the survey leads to the fact that for the Chinese respondents, trusting banks in China was synonymous with trusting non-competitive financial institutions.

- Perception of the state's role matters. We observe a positive coefficient for *Government role* that is significant in all specifications with the exception of the one with provincial

dummy variables. This finding indicates that individuals who prefer government ownership in the economy have a higher degree of trust in banks. It does not accord with the view that pro-market economic values are associated with greater trust in banks. However, this latter finding can be explained by the characteristics of the Chinese banking system which combines low financial instability and high government ownership in the banking industry. Therefore, support of the government ownership in the economy is associated with greater confidence in the main shareholder of banks in the Chinese economy, and is consequently positively associated with trust in banks.

- Provincial characteristics largely have no influence on trust in banks. We find no influence on trust in banks for most provincial characteristics. We observe a non-significant coefficient for *Inflation, NPL, Marketization, GRP, Government expenditures*, and *Legal framework* in all specifications. The only significant provincial variable is *Bank assets* which is positive. Hence, the only provincial characteristic which exerts an impact on trust in banks is banking sector size with a positive influence. This latter finding might be explained by the fact that a greater banking sector is associated with more frequent interactions of individuals with banks, which can foster their trust in these institutions.

For the rest, the lack of significance of most provincial characteristics supports the view that tested individual-level variables have a greater influence on trust in banks than tested provincial-level variables in China. In their cross-country analysis, Fungáčová, Hasan and Weill (2016) reach a similar conclusion when comparing the influence of individual-level and country-level variables for trust in banks. While many individual-level variables are significant in their analysis, only one country-level variable (recent occurrence of a financial crisis) of the four tested ones is significant.

4.1.1   Marginal effects

We complement the analysis of the main estimations by examining the economic significance of the results. To this end, we compute the marginal effects following the ordered logit estimations. While the estimated coefficients reported in Table 3 indicate statistical significance and the sign of the effect, marginal effects indicate the magnitude of the effects as a percentage point change in probability of falling within a certain outcome category. For simplicity, we only report in Table 4 the average marginal effect for the highest level of trust in banks, i.e. category 4 for "great deal of confidence" in banks.

We observe that the marginal effects do not change significantly for the different specifications. Let us consider the specification number 2 that includes all individual variables as well as the unique significant provincial variable, *Bank assets*. When interpreting the marginal effects, we need to distinguish between categorical and continuous variables. For the categorical variables, we find that both China-specific sociodemographic characteristics have the greatest economic significance. Being a member of the Communist Party is the *most* economically significant variable. Party membership reduces the probability of answering that the respondent has high trust in banks (value 4) by 8 percentage points. Living in a rural area based on the rural *hukou* diminishes this probability by 6.1 percentage points. The following characteristics expressed as dummy variables having the greatest economic significance are marital status and education. Being married and having higher education reduce the probability of reporting high trust in banks by 5.4 and 4.9 percentage points, respectively.

In the case of continuous variables, the highest average marginal effect is reported for *Bank assets* with 4.2 percentage points. We further observe that economic values exert a lower average marginal effect with respectively 1.2 and 1 percentage points for *Inequality* and *Government Role*, while the satisfaction with the financial situation has an economic significance of 1.4 percentage points. Finally, we report the average marginal effect for *Age* of 0.2 percentage points.

4.2   Estimations with logit model

As a robustness check, we run a logit model in place of our ordered logit model. The dependent variable in this case is the dummy variable *High trust in banks*, equal to 1 if the respondent has a great deal of confidence or quite a lot of confidence in banks, and zero if the respondent has little or no confidence in banks. We consider the same five specifications as in the main estimations. We display the results as marginal effects in Table 5. We observe similarities and differences between the logit model and the ordered logit model.

We start by stressing the similarities.

- The observed marginal effects between both models are quite similar, and thus confirm our findings of the economic significance with the ordered logit model.
- Results for economic values are the same. *Inequality* and *Government Role* are still significantly positive, while *Competition harmful* is still not significant. The estimations with the logit model thus confirm the influence of economic values on trust in banks.

- Satisfaction with one's current financial situation is still significantly positive, while education and the marital status are negative (with significant coefficients in some estimations). We also confirm the result of no significant impact of gender or income on trust in banks. Hence, the logit model supports the findings for these sociodemographic characteristics.

- In line with the main estimations, we observe no significant influence from daily access to newspapers or the internet. These findings confirm that these sources of information do not significantly influence trust in banks in China.

- Membership in the Communist Party is again negatively associated with trust in banks. In all specifications, we have a significant and negative coefficient for the *Communist party* variable.

- We again observe no significant influence for *Inflation, NPL, Marketization, GRP, Government expenditures*, and *Legal framework* in all specifications and therefore confirm the view that provincial-level variables do not influence trust in banks in China.

All of the above-mentioned findings are robust to the use of a logit model in comparison to an ordered logit model.

We also observe differences between the models:

- The estimated coefficients for *Age* and *Rural* are not significant in all estimations, so our conclusion that older people and people living in urban areas trust more banks is only observed with the ordered logit model.

- *Health* is significantly positive in most estimations with the logit model. This suggests that the state of health can favor trust in banks. This significant coefficient is only observed with the logit model.

- We find now a significant influence for one information source: the coefficient for *Television* is positive in all estimations and significant in four estimations. This finding suggests that daily access to television favors trust in banks. Fungáčová, Hasan and Weill (2016), who observe the same in their cross-country analysis, attribute this influence to the fact that television is used by the authorities to promote confidence in banks among individuals and that banks use television to provide information on their products and services.

- • The size of the banking sector is no more significant with the logit model. *Bank assets* is not significant to explain trust in banks. This leaves us with no significant provincial variable in the logit model.

All in all, estimations performed with the logit model corroborate the main findings obtained for economic values, provincial variables, information sources and several sociodemographic characteristics (such as gender, income, financial situation and membership in the Communist Party). They do not provide support for the influence of age and rural location on trust in banks.

5   Conclusions

This paper provides an initial analysis of Chinese trust in banks. Identifying the determinants of trust in banks is crucial for financial stability as low trust in banks can reduce participation to the banking system and favor expansion of shadow banking away from the scrutiny of bank regulators. Confidence in financial institutions is also fundamental to preventing bank runs.

Several sociodemographic characteristics appear to impact trust in banks in China. Satisfaction with current financial situation and the age of the respondent contribute to higher trust in banks, while being married and a higher level of education tend to decrease trust. Of particular interest for China are our findings that membership in the Communist Party and rural location are negatively associated with trust in banks. Both features have the highest economic significance and are quite robust in the estimations. Gender and income appear to have no bearing on trust in banks.

Access to information has no overall impact on trust in banks. While we could have expected specific media platforms to influence confidence in financial institutions in a positive or a negative sense in terms of spreading news, we observe no such distinction.

We do observe that economic values tend to impact trust in banks. Individuals who have a positive view of inequality as an incentive for individual effort and government ownership in the economy tend to trust banks more. These findings are at odds with the intuition that pro-market individuals should have greater trust in banks, but may reflect the high government ownership of banks in China.

We find no evidence of any influence of provincial characteristics on trust in banks with the exception of the positive impact of the size of the banking sector. Therefore, the economic and institutional framework at the provincial level does not seem to affect trust in banks.

The small insights gleaned here should help in understanding the factors that shape trust in banks in China. In terms of normative implications, our conclusions suggest that authorities wishing to foster trust in banks in China should notably aim to increase trust in banks in rural areas.

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Figure and tables

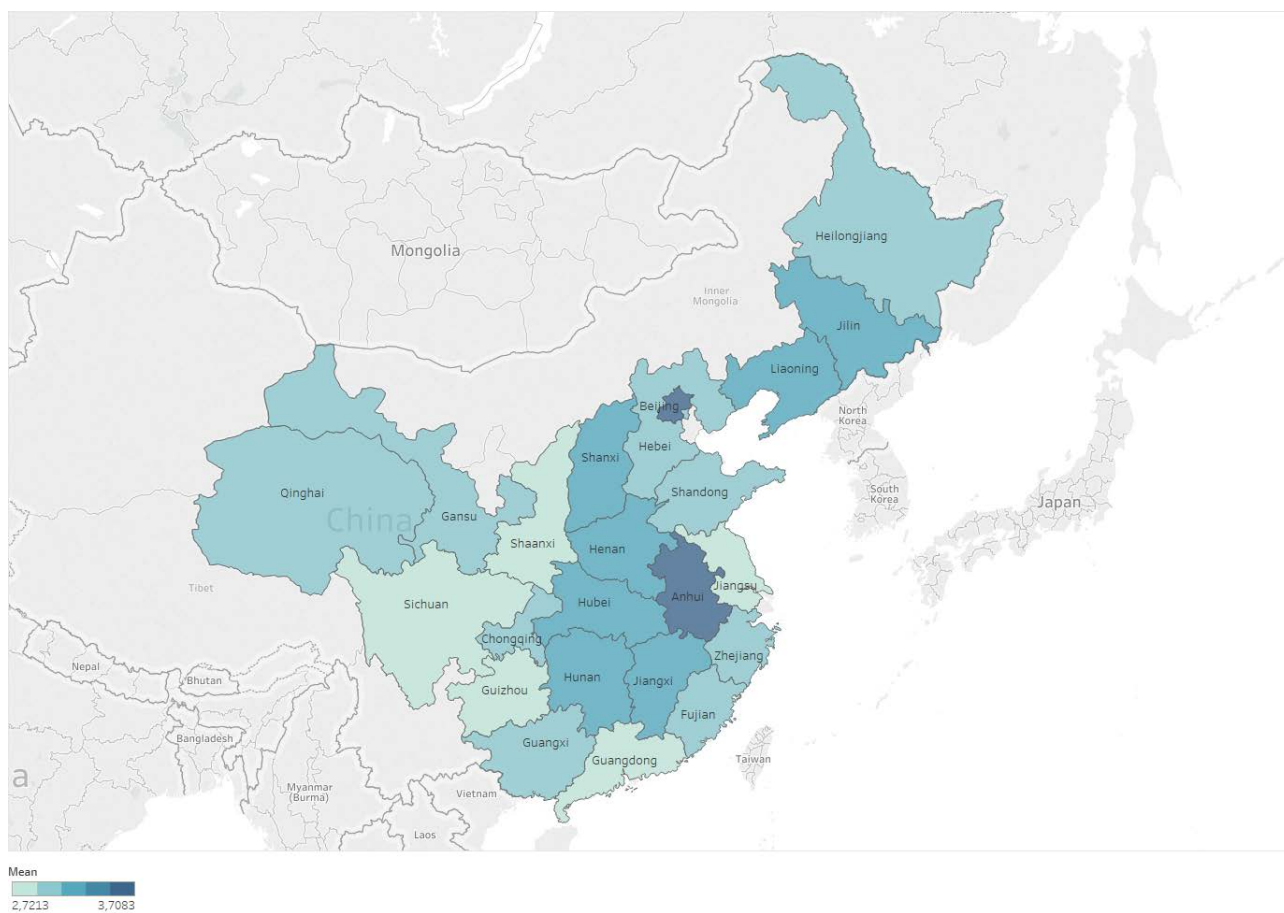Figure 1   Trust in banks by province

Table 1   Trust in banks by province
This table reports the main descriptive statistics concerning trust in banks by province.

Province	Obs.	Mean	Std. dev.
Anhui	24	3.708	0.550
Beijing	53	3.604	0.566
Chongqing	37	3.027	0.164
Fujian	33	2.970	0.394
Gansu	101	3.020	0.583
Guangdong	149	2.846	0.675
Guangxi	145	2.972	0.623
Guizhou	90	2.800	0.767
Hebei	152	3.105	0.577
Heilongjiang	51	2.980	0.648
Henan	85	3.165	0.652
Hubei	131	3.267	0.566
Hunan	108	3.157	0.598
Jiangsu	127	2.913	0.550
Jiangxi	36	3.194	0.467
Jilin	24	3.292	0.624
Liaoning	83	3.181	0.665
Qinghai	44	3.068	0.334
Shaanxi	76	2.842	0.634
Shandong	201	3.085	0.581
Shanxi	90	3.167	0.546
Sichuan	61	2.721	0.662
Zhejiang	74	2.959	0.386
Total	1975	3.055	0.616

Table 2   Descriptive statistics

This table displays descriptive statistics of the individual and province-level variables. Definitions of all variables are presented in the Appendix.

Individual-level variables	Obs.	Mean	Std. dev.
Married	2,116	0.830	0.376
Female	2,116	0.509	0.500
Education	2,116	0.397	0.489
Age	2,116	43.590	14.773
Income	1,914	4.470	1.844
Health	2,102	2.862	0.846
Financial situation	2,062	6.256	1.985
Rural	2,116	0.259	0.438
Communist party	2,116	0.087	0.283
Newspaper	1,939	0.192	0.394
Television	1,943	0.746	0.436
Internet	1,931	0.227	0.419
Inequality	1,964	4.500	2.751
Government role	1,832	5.773	2.482
Competition harmful	1,956	3.657	2.069
Province-level variables			
Inflation	2,116	105.463	0.301
NPL	2,116	1.039	0.253
Marketization	2,116	8.011	2.053
Bank assets	2,116	1.956	1.010
GRP	2,116	39,900.7	16,381.5
Government expenditures	2,116	0.196	0.091
Legal framework	2,116	8.874	4.992

Table 3   Determinants of trust in banks – ordered logit estimations

The dependent variable is the ordinal variable *Trust in banks*. Estimated coefficients are reported. *, ** and *** denote an estimate significantly different from 0 at the 10%, 5% and 1% level, respectively. Definitions of all variables are presented in the Appendix.

	(1)	(2)	(3)	(4)	(5)
Individual-level variables					
Married	-0.303**	-0.319**	-0.336**	-0.324**	-0.271
	[0.150]	[0.154]	[0.155]	[0.156]	[0.175]
Female	0.127	0.136	0.136	0.132	0.140
	[0.095]	[0.099]	[0.097]	[0.095]	[0.089]
Education	-0.275*	-0.343**	-0.328**	-0.285**	-0.247*
	[0.151]	[0.137]	[0.130]	[0.135]	[0.130]
Age	0.013***	0.014***	0.014***	0.012***	0.013***
	[0.004]	[0.005]	[0.004]	[0.004]	[0.005]
Income	0.015	-0.013	-0.002	0.010	-0.024
	[0.060]	[0.046]	[0.052]	[0.056]	[0.040]
Health	0.073	0.098	0.089	0.082	0.032
	[0.087]	[0.084]	[0.084]	[0.086]	[0.094]
Financial situation	0.094**	0.097**	0.098**	0.100**	0.118***
	[0.044]	[0.046]	[0.045]	[0.045]	[0.044]
Rural	-0.416*	-0.431*	-0.296	-0.309	-0.204
	[0.227]	[0.222]	[0.236]	[0.277]	[0.252]
Communist party	-0.650***	-0.615***	-0.654***	-0.652***	-0.501***
	[0.201]	[0.182]	[0.187]	[0.204]	[0.170]
Newspaper	0.096	0.007	0.060	0.080	-0.044
	[0.156]	[0.112]	[0.115]	[0.128]	[0.132]
Television	0.071	0.024	0.057	0.090	0.051
	[0.158]	[0.135]	[0.140]	[0.148]	[0.138]
Internet	-0.017	0.009	-0.051	-0.039	-0.098
	[0.145]	[0.154]	[0.146]	[0.147]	[0.141]
Inequality	0.069**	0.078**	0.073**	0.074**	0.062*
	[0.034]	[0.037]	[0.036]	[0.035]	[0.034]
Government role	0.069***	0.064**	0.068***	0.071***	0.035
	[0.023]	[0.026]	[0.025]	[0.024]	[0.025]
Competition harmful	0.055	0.039	0.047	0.057	0.078
	[0.043]	[0.042]	[0.042]	[0.043]	[0.050]
Province-level variables					
Inflation		0.136	0.430	0.296	
		[0.433]	[0.332]	[0.342]	
NPL		-0.663	-0.513	-0.528	
		[0.419]	[0.524]	[0.538]	
Marketization		-0.017			
		[0.077]			
Bank assets		0.278***			
		[0.098]			
GRP			0.000		
			[0.000]		
Government expenditures			0.011	-1.238	
			[1.726]	[1.776]	
Legal framework				-0.016	
				[0.039]	
Province fixed effects	no	no	no	no	yes
Observations	1,496	1,496	1,496	1,496	1,496
Pseudo R2	0.0304	0.0420	0.0376	0.0350	0.0850

Table 4   Determinants of trust in banks – ordered logit marginal effects

This table reports marginal effects for the estimations reported in Table 3. The values indicate marginal effects for Trust in banks outcome value 4, i.e. high trust in banks. *, ** and *** denote an estimate significantly different from 0 at the 10%, 5% and 1% level, respectively. Definitions of all variables used are presented in the Appendix.

	(1)	(2)	(3)	(4)	(5)
Individual-level variables					
Married	-0.049*	-0.050**	-0.054**	-0.052*	-0.039
	[0.026]	[0.026]	[0.026]	[0.027]	[0.026]
Female	0.019	0.020	0.021	0.020	0.019
	[0.015]	[0.015]	[0.015]	[0.015]	[0.012]
Education	-0.041*	-0.050**	-0.049**	-0.043**	-0.034*
	[0.022]	[0.020]	[0.019]	[0.020]	[0.018]
Age	0.002***	0.002***	0.002***	0.002***	0.002***
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]
Income	0.002	-0.002	-0.000	0.002	-0.003
	[0.009]	[0.007]	[0.008]	[0.009]	[0.006]
Health	0.011	0.015	0.014	0.013	0.004
	[0.013]	[0.012]	[0.013]	[0.013]	[0.013]
Financial situation	0.014**	0.014**	0.015**	0.015**	0.016***
	[0.007]	[0.007]	[0.007]	[0.007]	[0.006]
Rural	-0.061*	-0.061**	-0.043	-0.045	-0.028
	[0.034]	[0.031]	[0.035]	[0.042]	[0.034]
Communist party	-0.085***	-0.080***	-0.085***	-0.085***	-0.062***
	[0.023]	[0.019]	[0.021]	[0.025]	[0.018]
Newspaper	0.015	0.001	0.009	0.012	-0.006
	[0.025]	[0.017]	[0.018]	[0.020]	[0.018]
Television	0.011	0.004	0.009	0.014	0.007
	[0.024]	[0.020]	[0.021]	[0.022]	[0.019]
Internet	-0.003	0.001	-0.008	-0.006	-0.013
	[0.022]	[0.023]	[0.022]	[0.022]	[0.019]
Inequality	0.011*	0.012**	0.011*	0.011**	0.009*
	[0.005]	[0.005]	[0.006]	[0.005]	[0.005]
Government role	0.011***	0.010**	0.010***	0.011***	0.005
	[0.004]	[0.004]	[0.004]	[0.004]	[0.004]
Competition harmful	0.008	0.006	0.007	0.009	0.011
	[0.007]	[0.006]	[0.006]	[0.007]	[0.007]
Province-level variables					
Inflation		0.020	0.065	0.045	
		[0.065]	[0.051]	[0.053]	
NPL		-0.099	-0.078	-0.081	
		[0.063]	[0.081]	[0.084]	
Marketization		-0.002			
		[0.012]			
Bank assets		0.042***			
		[0.014]			
GRP			0.000		
			[0.000]		
Government expenditures			0.002	-0.189	
			[0.262]	[0.262]	
Legal framework				-0.002	
				[0.006]	
Province fixed effects	no	no	no	no	yes
Observations	1,496	1,496	1,496	1,496	1,496

Table 5   Determinants of trust in banks – logit model marginal effects

The dependent variable is dummy variable *High trust in banks*. Average marginal effects are reported. *, ** and *** denote an estimate significantly different from 0 at the 10%, 5% and 1% level, respectively. Definitions of all variables used are presented in the Appendix.

	(1)	(2)	(3)	(4)	(5)
Individual-level variables					
Married	-0.041	-0.044*	-0.045*	-0.043*	-0.045*
	[0.026]	[0.025]	[0.025]	[0.025]	[0.026]
Female	0.016	0.017	0.018	0.017	0.023
	[0.017]	[0.017]	[0.018]	[0.018]	[0.017]
Education	-0.038	-0.042	-0.044*	-0.039	-0.025
	[0.028]	[0.026]	[0.026]	[0.026]	[0.024]
Age	0.001	0.001	0.001	0.001	0.002
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]
Income	0.004	0.003	0.002	0.003	0.003
	[0.008]	[0.007]	[0.007]	[0.007]	[0.008]
Health	0.022*	0.024*	0.024*	0.024*	0.022
	[0.013]	[0.013]	[0.013]	[0.013]	[0.015]
Financial situation	0.017**	0.018**	0.017**	0.018**	0.018***
	[0.007]	[0.007]	[0.007]	[0.007]	[0.006]
Rural	0.013	0.013	0.026	0.028	0.024
	[0.035]	[0.033]	[0.030]	[0.032]	[0.056]
Communist party	-0.078**	-0.082**	-0.081**	-0.079**	-0.077**
	[0.036]	[0.035]	[0.034]	[0.034]	[0.031]
Newspaper	0.019	0.016	0.015	0.018	0.015
	[0.029]	[0.027]	[0.027]	[0.027]	[0.025]
Television	0.041*	0.044*	0.043*	0.046*	0.040
	[0.025]	[0.025]	[0.025]	[0.025]	[0.028]
Internet	0.031	0.032	0.029	0.031	0.031
	[0.025]	[0.027]	[0.027]	[0.026]	[0.024]
Inequality	0.010**	0.011**	0.010**	0.011**	0.007
	[0.005]	[0.005]	[0.005]	[0.005]	[0.005]
Government role	0.010***	0.010***	0.010***	0.010***	0.005
	[0.003]	[0.004]	[0.003]	[0.003]	[0.004]
Competition harmful	0.003	0.003	0.003	0.004	0.007
	[0.007]	[0.007]	[0.007]	[0.007]	[0.007]
Province-level variables					
Inflation		0.010	0.032	0.017	
		[0.066]	[0.053]	[0.056]	
NPL		-0.094	-0.079	-0.081	
		[0.072]	[0.061]	[0.066]	
Marketization		-0.003			
		[0.009]			
Bank assets		0.004			
		[0.016]			
GRP			0.000		
			[0.000]		
Government expenditures			-0.011	-0.152	
			[0.275]	[0.278]	
Legal framework				-0.003	
				[0.003]	
Province fixed effects	no	no	no	no	yes
Observations	1,606	1,606	1,606	1,606	1,576

Appendix   Definitions of variables

All variables come from Wave 6 of the World Values Survey unless other indicated.

Name	Definition and source
Dependent variables	
Trust in banks	Ordinal variable based on response to the question: *Could you tell me how much confidence you have in banks?* Scoring: *None at all* (1), *Not very much confidence* (2), *Quite a lot of confidence* (3), *A great deal of confidence* (4). Source: World Values Survey.
High trust in banks	Dummy variable equal to one if the respondent has *a great deal of confidence* or *quite a lot of confidence* in banks, and zero otherwise. Source: World Values Survey.
Individual-level variables	
Female	Dummy variable equal to one if the individual is a female and zero otherwise.
Married	Dummy variable equal to one if the individual is married and zero otherwise.
Age	Age in number of years.
Education	Dummy variable equal to one if the individual has secondary or tertiary education and zero otherwise.
Income	Self-reported level of respondent in national income hierarchy based on the question: *On this card is an income scale on which 1 indicates the lowest income group and 10 the highest income group in your country. We would like to know in what group your household is?* The figure reported ranges from 1 for lowest decile to 10 for highest income decile.
Health	Self-reported level of health based on the question: *How would you describe your state of health these days?* The possible answers are poor (1), fair (2), good (3), very good (4).
Financial situation	*How satisfied are you with the financial situation of your household?* The figure reported ranges from 1 (completely dissatisfied) to 10 (completely satisfied).
Rural	Dummy variable based on the size of town of the respondent. It equals to 1 if the size of the town has between 100,000 and 500,000 inhabitants and zero if the population exceeds 500,000.
Communist party	Dummy variable equals to one if the respondent answers that he/she is active or inactive member of the political party, zero otherwise.
Newspaper	Dummy variable equal to one if the individual answers "daily" to the statement: *People learn what is going on in this country and the world from various sources. For newspaper, please indicate whether you use it to obtain information daily, weekly, monthly, less than monthly or never.* Zero for any other response.
Television	Dummy variable equal to one if the individual answers "daily" to the statement: *People learn what is going on in this country and the world from various sources. For television, please indicate whether you use it to obtain information daily, weekly, monthly, less than monthly or never.* Zero for any other response.
Internet	Dummy variable equal to one if the individual answers "daily" to the statement: *People learn what is going on in this country and the world from various sources. For internet, please indicate whether you use it to obtain information daily, weekly, monthly, less than monthly or never.* Zero for any other response.
Inequality	Ordinal variable from 1 to 10 with 10 meaning full support for the position: *We need larger income differences as incentives for individual effort.*
Government role	Ordinal variable from 1 to 10 with 10 meaning full support for the position: *Government ownership of business and industry should be increased.*
Competition harmful	Ordinal variable from 1 to 10 with 10 meaning full support for the position: *Competition is harmful. It brings out the worst in people.*
Province-level variables	
Inflation	Inflation measured by the CPI (source: CEIC database)
NPL	Non-performing loans ratio (source: CEIC database)
Marketization	Marketization index (source: Fan, Wang and Zhang, 2011)
Bank assets	Ratio of banking sector assets to GRP (source: CEIC database)
GRP	Gross regional product per capita (source: CEIC database)
Government expenditures	Ratio of government expenditures to GRP (source: CEIC database)
Legal framework	Legal component of the marketization index (source: CEIC database)

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