

Knell, Markus; Stix, Helmut

Conference Paper

Trust in Banks - Evidence from normal times and from times of crises

Beiträge zur Jahrestagung des Vereins für Socialpolitik 2010: Ökonomie der Familie - Session: Trusting Banks in a Financial Crisis, No. A1-V1

Provided in Cooperation with:

Verein für Socialpolitik / German Economic Association

Suggested Citation: Knell, Markus; Stix, Helmut (2010) : Trust in Banks - Evidence from normal times and from times of crises, Beiträge zur Jahrestagung des Vereins für Socialpolitik 2010: Ökonomie der Familie - Session: Trusting Banks in a Financial Crisis, No. A1-V1, Verein für Socialpolitik, Frankfurt a. M.

This Version is available at:

<https://hdl.handle.net/10419/37184>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Trust in Banks?

Evidence from normal times and from times of crises*

Markus Knell** and Helmut Stix***
Oesterreichische Nationalbank

November 2009

Abstract

Trust in financial institutions is of great importance for financial intermediation. Against this background, we study two questions: Has trust in banks declined during the global financial crisis and what factors determine the level of trust in banks? Employing survey evidence from Austrian households, we show that trust in banks is mainly affected by “subjective” variables like the individuals’ assessment of the current economic and financial situation and by their future outlooks. After controlling for these variables we show that the financial crisis has caused a reduction in trust (≈ -7.5 pp) which is sizable but not dramatic. Even at its lowest point (in the first quarter of 2009) 65% still report to have trust in the banking system, which is a higher percentage than for many other institutions. Furthermore, the drop is only slightly larger than the drop observed after a small, non-systemic crisis that occurred in 2006. Thus, the much-stressed notion of a genuine “trust crisis” is not reflected in our data. Finally, we provide evidence that the degree of individual information does not influence trust, that banking trust is contagious and that the extension of deposit insurance coverage in October 2008 had a positive effect on trust.

Keywords: Trust, Banking Sector, Financial Crisis

JEL-Classification: G01, G21, Z13, O16

*We thank Nora Prean for excellent research assistance and an anonymous referee for helpful comments and suggestions. The views expressed in this paper do not necessarily reflect those of the Oesterreichische Nationalbank or the European System of Central Banks.

**OeNB, Economic Studies Division, Otto-Wagner-Platz 3, POB-61, A-1011 Vienna; Phone: (+43-1) 40420 7218, Fax: (+43-1) 40420 7299, Email: Markus.Knell@oenb.at.

***OeNB, Economic Studies Division, Otto-Wagner-Platz 3, POB-61, A-1011 Vienna; Phone: (+43-1) 40420 7211, Fax: (+43-1) 40420 7299, Email: Helmut.Stix@oenb.at.

1 Introduction

Credit - the disposition of one man to trust another - is singularly varying. In England, after a great calamity, everybody is suspicious of everybody; as soon as that calamity is forgotten, everybody again confides in everybody” (Walter Bagehot, Lombard Street, 1873, p.65).

More than a century ago Walter Bagehot singled out trust as a crucial factor in any great financial crisis. It comes hardly as a surprise that also the great calamity of 2007/2008 has given rise to similar comments and assessments.¹ Despite its prominence in the public discussion empirical evidence on how trust evolves in crisis and non-crisis periods is scarce. While the deep distrust between banks in the course of the crisis could be inferred from the virtual breakdown of the interbank market (cf. Brunnermeier 2009), much less is known about whether the financial crisis also left a trail in the confidence of the broad public towards banks. More information on this issue is highly desirable since a decline of trust can have severe long-run consequences for financial markets and financial intermediation (Guiso, Sapienza & Zingales 2004, Guiso, Sapienza & Zingales 2008). As a more immediate threat, rising distrust in banks can also trigger financial panics and bank runs. The extension of deposit insurance coverage that was legislated by many countries in fall 2008 was primarily an attempt to secure the confidence of the broad public in the solidity of the banking system and to prevent a dangerous meltdown of deposits.

In light of the importance of and the scant evidence on this issue, our paper analyzes the development of public trust in banks. The central question we aim to answer is whether the financial crisis of 2007/08 was associated with a drop in the level of trust in banks. In particular, we employ information from a series of quarterly surveys that have been conducted by the Austrian National Bank between 2004 and today. These data provide information about trust in banks both in comparison to the level of trust in other institutions and in its development over time. This distinguishes our analysis from related work where missing trend data have prevented a long-run perspective.²

¹E.g.: “Something important was destroyed in the last few months. It is an asset crucial to production, even if it is not made of bricks and mortar. While this asset does not enter standard national account statistics or standard economic models, it is so crucial to development that its absence – according to Nobel laureate Kenneth Arrow – is the cause of much of the economic backwardness in the world. This asset is TRUST” (Sapienza & Zingales 2009). See also Shiller (2009), Akerlof & Shiller (2009) or Davies (2009).

²Cf., for example, the “Financial Trust Index” (<http://www.financialtrustindex.org>) by Paola Sapienza and Luigi Zingales. As the survey was launched only recently it does not allow to study the development of trust over a longer time period. “Ideally, one would like to analyze a series of surveys conducted over time to see, for example, how recent events affected trust in the stock market. Unfortunately, such time-series data do not yet exist” (Sapienza & Zingales 2009).

Our data show that trust in Austrian banks was – and still is – extraordinarily high. Over the entire sample period of 2004 to 2009 an average of over 76% of the population reports to have very high or high trust in banks. These high percentages put domestic banks in the group of the most trustworthy institutions in Austria (together with the Austrian National Bank and the police). The absolute level of trust in banks and its relative institutional ranking is also high by international comparisons. This might have to do with the fact that Austria has been one of the rare countries that did not have a single major banking crisis from 1945 to 2007 (see Rogoff & Reinhart 2009).

The global financial crisis has caused, however, a deterioration in the level of trust — from 79% before the third quarter of 2007 (the start of the subprime crisis in the US) to 72% afterwards with a minimum of 65% during the first quarter of 2009 (after the bankruptcy of Lehman Brothers). Although this drop is sizable, trust is still high and the domestic banking sector held its position among the most trustworthy national institutions.

In a further step we study whether we can explain the observed temporal fluctuations, that is we explore the determinants of trust in banks. This analysis is of interest for two reasons. First, it complements the existing literature that has focused so far mainly on the determinants of general trust (Alesina & La Ferrara 2002) and on trust in political institutions (Mishler & Rose 2001). Second, this approach enables us to find out whether the observed fall in trust is likely to be a permanent “level shift” or rather a transitory phenomenon that will disappear once the financial crisis is over. In particular, if changes in trust can be associated with changes in the explanatory variables then one can expect the level of trust to return to its pre-crisis value when – after the end of the turbulences – the independent variables again approach their normal values. If, on the other hand, our empirical model leaves most of the level shift in trust unexplained then this can be interpreted as a “trust problem” that might indicate a permanent decline.

In selecting the explanatory variables for our regression analysis we follow the related literature that asserts that institutional trust is related to an individual’s general level of trust and/or to the (perceived) performance of the institution (Hudson 2006). We thus include a number of explanatory variables that have been found to be important determinants of general trust as well as variables that might be related to the assessment of the performance of banks. The latter group includes a set of “subjective” variables that capture the individuals’ perception of their own and the general economic situation, their perceived prospects for the future and also their assessment of the stability of prices and of the currency. Our regressions deliver a number of interesting results. First, there are almost no differences in the level of trust towards banks along sociodemographic

lines (gender, education, income, etc.). This indicates that financial trust is a rather universal and widespread phenomenon and is not confined to specific sociodemographic subgroups of the population. Second, subjective sentiment variables play a much more important role than the sociodemographic characteristics. Also, sentiment variables exert an asymmetric impact in the sense that it is mainly the outlook of a worsening future situation that is related to a lower level of trust while a more optimistic perspective has almost no effect. Third, while being informative, our benchmark regression leaves a good part of the individual differences in trust unexplained. We argue and provide evidence that this is – *inter alia* – due to the fact that trust is not an isolated but rather a contagious phenomenon where a trustful and trustworthy environment has self-reinforcing effects. Forth, the events surrounding a small Austrian banking crisis that took place in the spring of 2006 in an otherwise still calm and optimistic environment also highlight the importance of contagion. Average trust decreased sizably (-6.6pp), both for customers and for non-customers of the involved bank thereby pointing to the role of contagious effects.

Extending the empirical model from the times before the financial crisis to the crisis period shows that the model is not able to fully account for the fall in banking trust that occurred in 2007/08. Therefore we analyze whether the reaction of individuals (i.e. the estimated parameters) have changed by allowing for interaction terms. We find that the coefficients of a small number of variables show a significant change. These include, e.g., variables related to the size of the village and to the age of the respondents and might thus indicate that longer and closer relations to a bank help to maintain trust in its performance. However, even in this more flexible specification we find that a significant portion of the fall in trust cannot be explained. In particular, the (unexplained) drop in trust of the average person is 7.5%. In order to shed more light on this issue we also perform a Blinder-Oaxaca decomposition. It leads to the conclusion that only about one third of the entire drop in trust can be attributed to changes in the subjective variables, i.e. to individuals' perception of the present and future economic situation. As far as this explained part is concerned one can thus expect that financial trust will return to its pre-crisis values after the end of the turbulences. The unexplained part (two thirds of the total decrease) is, however, more worrying since it might indicate a permanent shift in the level of trust in the banking system with possible effects on financial intermediation. The size of the unexplained drop ranges between -5pp to -8pp, depending on the specification. This is nonnegligible but also not dramatic. It is, e.g., in the neighborhood of the drop in average trust (-6.6pp) during the small and non-systemic crisis of 2006. We thus conclude that the drop is not large enough to call it a genuine “trust crisis”.

For the period after the culmination of the global financial crisis, fall 2008, our survey data provide information on an even broader set of variables which are more directly related to individuals' perception of the crisis and to their level of information. Amending these additional variables to our specifications gives further support to the conclusion that the subjective variables are the most important determinants of trust in banks. In particular, we find that individuals who have experienced lower than expected rates of return and who worry about the security of their savings show significantly lower levels of trust. This finding is in line with the presumption that institutional trust is related to the perceived or expected performance of the institution. Additionally, we find that the feeling of uncertainty (about the economic situation, the security of jobs and the stability of the financial system in general) increases distrust in the banking sector.

Additionally, we analyze the impact of one policy measure which has been implemented by many countries in fall 2008, the extension of deposit insurance coverages. We find that better information about this regulatory feature does in fact increase trust in the banking system although the level of significance of this result depends on whether one uses instrumental variables.

The paper is structured as follows. In the next section we briefly discuss the related literature and we provide some new evidence about the importance of trust for financial decisions. In section 3 we present our data, in section 4 we analyze the determinants of trust in normal times (until 2007Q2) and in section 5 we look at a small and isolated banking crisis that occurred in the spring of 2006. In section 6 we finally discuss the effects of the global financial crisis of 2007/08 and section 7 concludes.

2 Why trust matters? A view at the related literature and new results

The paper is related to the literature in several dimensions. In the literature one can find a large number of studies that analyze the relationship between trust and economic growth or other measures of economic performance (Knack & Keefer 1997). Most of this literature has in fact focused on the "general trust question" (i.e. trust in other people) and there exists less research that explicitly focuses on institutional trust, in particular on trust in financial institutions.³ It has been argued that the very nature of financial

³There exists some literature on trust in political institutions (e.g. Mishler & Rose 2001). Determinants of trust in various other institutions are studied e.g. in Hudson (2006), Torgler (2007), Fischer & Hahn (2008), Mosch & Prast (2008) and Gros & Roth (2009). Our paper is also (somewhat more loosely) related to the empirical literature on bank runs by providing microeconomic evidence about how problems of one bank affect agents' general trust in banks (Iyer & Puri 2008).

contracts require a particularly high level of trust: “While trust is fundamental to all trade and investment, it is particularly important in financial markets, where people depart with their money in exchange for promises. Promises that aren’t worth the paper they’re written on if there is no trust” (Sapienza & Zingales 2009). In accordance with this proposition, some papers have shown that trust is positively correlated with access to credit, the use of checks, lower interest rate margins, stock market capitalization, households investments in stocks and deeper and more efficient financial markets in general (see e.g. Porta et al. 1997, Calderon et al. 2002, Guiso et al. 2004, Guiso et al. 2008). In the course of the more recent events, Sapienza & Zingales (2009) show that the level of trust in banks and the likelihood of deposit withdrawals by U.S. citizens are related. A number of papers also investigates how trust and confidence evolve and how general and institutional trust interact with government regulation (Carlin et al. 2009, Aghion et al. 2009).

Evidence that trust matters can also be derived from the survey data used in this paper — although with some limitations as the survey does not contain much information on financial wealth and the portfolio composition of financial assets. In particular, respondents were asked whether certain financial assets have become more or less attractive because of the financial crisis. Table 1 (part A) summarizes survey responses: save assets like savings deposits or cash have become more attractive while stocks have become less attractive. Table 1 (part B) also summarizes results from simple probit regressions that relate answers on the attractiveness of the three assets to trust in banks (while controlling for the attractiveness of alternative assets). The probit regressions reveal that – *ceteris paribus* – individuals who do not fully trust banks do in fact find savings deposits less and stocks more attractive. This is the expected result that is in line with the related literature (Guiso et al. 2008). The last survey wave also contains information on the attractiveness of cash for saving purposes. Here (column 3), we do not find a direct effect of trust in banks. However, the attractiveness of cash is higher for those answering that the attractiveness of savings deposits and of stocks is lower. Both are influenced by trust in banks and hence we presume that trust in banks exerts an indirect effect on the attractiveness of cash.

Insert Table 1 about here

3 Data and descriptive statistics

Our primary data source is a representative survey by the Austrian National Bank that is conducted each quarter among roughly 2000 individuals. The set of questions also

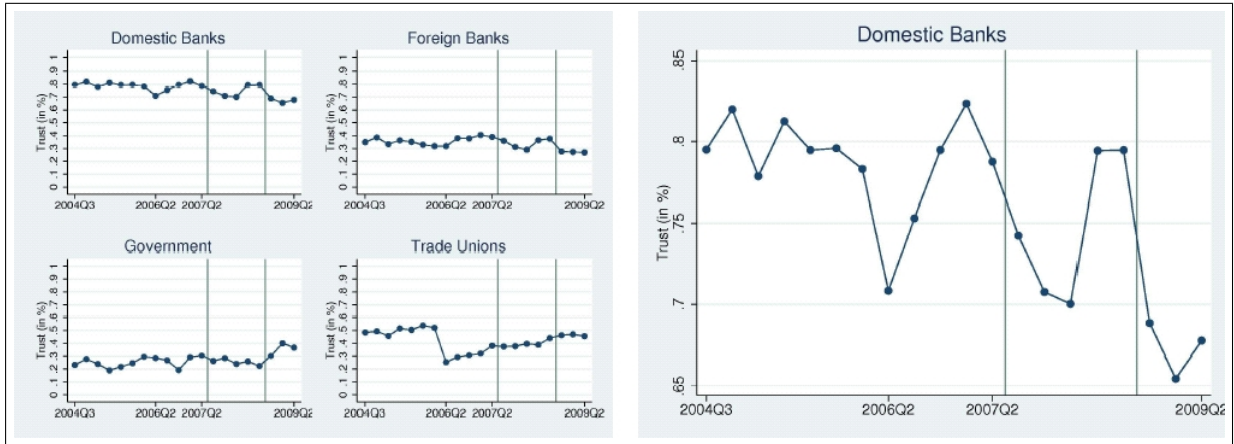


Figure 1: Share of people who report to have very large or large trust in each of the four institutions.

includes a section about trust in eleven institutions (4 financial institutions, 3 political institutions, 3 social partners and the police).⁴ We base our analysis on data from the third quarter of 2004 to the second quarter of 2009. For these periods we have been able to construct a homogeneous dataset that includes – besides the trust variables – a number of sociodemographic characteristics and answers to additional questions concerning individuals’ views on various issues.⁵

The fact that the survey cover observations from both the pre-crisis and from the crisis period is useful for identifying the effects of the recent financial turmoil. Following the now broadly accepted chronology of events, we treat the quarters from 2004Q3 to 2007Q2 as the pre-crisis period (“normal times”) while the later quarters (from 2007Q3 onwards) are defined as the crisis period.

Table 2 presents some descriptive statistics about trust in each of the eleven institutions. The left panel of Figure 1 depicts the temporal evolution of trust in four important institutions (domestic and foreign banks, the government and the trade unions). In the right panel of Figure 1 trust in domestic banks is magnified in order to better visualize the variability in the series.

Insert Figure 1 and Table 2 about here

Using the descriptive statistics in Table 2 and Figure 1 we can highlight some interesting properties of the level and change in trust in different institutions.

⁴The wording of these questions is (translated from German): “How high is your trust in <name of institution>? Very high/high/rather low/very low/don’t know.” For our analyses we construct a dummy variable that assigns a value of one to individuals that answer with “very high” or “high” and a value of zero to people with rather low or very low trust.

⁵For the last three quarters our dataset also includes a number of further questions that are related to specific aspects of individuals’ assessment of and reaction to the financial crisis.

- Table 2 documents that **trust differs widely across institutions**. It is highest for the police, the central bank and also – perhaps somewhat surprisingly – for domestic banks. Close to 80% of all surveyed individuals said that they have very high or high trust in these institutions. On the lower end of the scale one finds the political institutions where only between 18% and 32% of all respondents report high trust levels. Foreign (and/or relatively young) institutions like the ECB or foreign banks are in general met with lower trust, although they still manage to come out above the (domestic) political institutions.

Besides the vast differences in the average levels of trust there are two additional features of the data that indicate to what extent people are able and willing to differentiate between different institutions. First, the standard deviation of trust across institutions is 0.22 which is considerably larger than the average standard deviation for single institutions over time (0.05). Second, the correlation among the levels of trust in different institutions is rather low (average: 0.26).⁶

- As is visible in Figure 1 **institutional trust is rather stable over time**. This can also be inferred from the low standard deviations reported in Table 2. In this context it is worth highlighting that this amazing constancy emerges despite the fact that our dataset does not constitute a panel and that each quarter a new sample of 2000 representative individuals is surveyed.

For all institutions there seems to be a “natural” level around which trust fluctuates and to which it returns after it has been “shocked”. The fluctuations around the mean are likely to be due to particular events or institution-specific shocks (temporary shifts of sentiment, political crises and scandals, elections cycles etc.), but trust normally returns rather fast to its particular long-run value.⁷

- **Trust can change abruptly**. The case of the Austrian Federation of Trade Unions (the peak organization of all Austrian trade unions), offers an interesting example that further highlights the two observations mentioned above about the institution-specific long-run trust levels and their stability over time. Figure 1 reveals a significant drop in trust in the trade union in the second quarter of 2006 (of -27 percentage points) which is in fact the single largest drop in our sample. The reason for this

⁶Interestingly, the ranking of institutional trust in Austria is similar to the ranking that is reported in Alesina & La Ferrara (2002) for US institutions. In particular, the (rank) correlation coefficient is 0.71, statistically significant at the 5% level.

⁷The high stability of trust is well-documented for the level of *general* trust. As reported, e.g., by Porta et al. (1997) the correlation across countries between general trust in the 1980’s and in the 1990’s is larger than 0.9 (see also Rainer & Siedler 2009).

exceptional decrease was that in May 2006 the (at that time) fourth largest Austrian bank which was owned by the Austrian Federation of Trade Unions got close to a bankruptcy mainly because of heavy losses accumulated in security trading.⁸ In order to avoid the negative impact that the potential insolvency of this bank would have had on Austria's reputation as a stable financial marketplace, the government decided to design a rescue package for the troubled bank and the trade union had to sell the bank. Despite this exceptional event it is striking that after only two and a half years the trade unions managed to rebuild their reputation and trust has returned to almost exactly the value where it has been in the last pre-crisis quarter.

This case study is also interesting for the main topic of this paper because it represents a small and isolated shock to one financial institution that predates the general meltdown of financial markets starting in 2007. In particular, the bank's problems led to a considerable extent of uncertainty among its customers in early May 2006. Although data about the extent of deposit withdrawals are not publicly available, newspaper reports about long lines of customers which formed in front of the branches of the involved bank suggest that withdrawals might have been substantial. We will later use this episode to study the reaction of trust in banks to unfavorable news and the extent of possible contagion effects among the population.

- **The financial crisis has lowered trust in banks.** In particular, the average level of trust in domestic banks from the third quarter of 2007 onwards is only 72% (after an average of 79% before). In order to assess the magnitude of this decline we can note that the fall by 7pp is within the normal band of fluctuations and does not immediately stand out as a dramatic or completely exceptional movement.⁹ On the other hand, however, one can observe that trust in 2009Q1 and 2009Q2 are the lowest (65%) and second lowest (67%) level over the whole sample period. Also the fall by 14pp from 2008Q3 to 2009Q1 is the third largest peak-to-trough decline among all 11 institutions and time periods.

A comparison of the pre-crisis with the post-crisis period reveals another interesting aspect: there has not been an all-encompassing decrease of trust which would indicate a general trust crisis (as suggested by the quotation by Bagehot from the beginning). In fact, average trust across all 11 institutions decreased only slightly

⁸An informative chronology of this incidence can be found at <http://www.eurofound.europa.eu/eiro/2006/05/articles/at0605029i.htm>.

⁹This can be compared to Sapienza & Zingales (2009) who have asked respondents whether they have changed their trust in the last three months. The average answer indicates that they have decreased their trust in banks a little. Given the uncertainty surrounding retrospect answers we think that it is preferable to also have a series of "real time trust data".

(from 0.53 to 0.51) and also the standard deviation has remained about the same. The most remarkable finding of the last few quarters is perhaps a significant increase in trust in political institutions as shown in Figure 1 for trust in the government. This suggests that there might have been some substitution between trust in political institutions (government) and in financial institutions (banks) or between the demand for formal public regulation and the reliance on informal market self-regulation.¹⁰

The overall picture up to now suggests that trust in the financial system – despite some claims to the contrary – has not collapsed. This preservation of a rather high level of trust in the domestic banking system is likely to have contributed to the so far manageable consequences of the financial crisis and the absence of noticeable panics or bank-runs. Nevertheless, the decrease in financial trust is certainly not negligible and it is too early to say whether it constitutes a transitory phenomenon that will revert over time (as it has been the case for the trade unions) or whether it does represent a structural break involving a new long-run “equilibrium value” and a permanent decrease in trust. A crucial question in this context is whether the decline in trust is simply a consequence of the general economic downturn or whether it constitutes a genuine level shift. In the former case one can expect trust to return to its pre-crisis value while in the latter case confidence in the banking system might be damaged for a longer time with possible detrimental effects for financial intermediation. In order to distinguish between explained movements of trust and an unexplained level shift we have to use a more thorough empirical analysis.

4 The determinants of trust in banks in normal times

We start our analyses by a look at the determinants of financial trust during normal conditions (i.e. until 2007Q2). In Table 3 we present a number of probit regressions where the dummy variable “trust in domestic banks” is regressed on various independent variables. In choosing the set of independent variables we go back to the literature on dyadic and holistic trust (cf. Hudson 2006). A basic controversy in this literature is whether institutional trust is simply a function of an individual’s level of general trust or whether it is influenced by institutional performance. Without taking a stance on this issue we include

¹⁰We do not want to overemphasize this point since there has been also the formation of a new government in the same quarter. Nevertheless, the same substitutional increase in trust can also be observed for the other political institutions (parties, parliament) and also for some of the social partners. This finding is related to discussion whether trust and government regulation are substitutes or complements (see Carlin et al. 2009, Aghion et al. 2009).

explanatory variables that are related to both theoretical approaches. First, we take the usual set of sociodemographic variables that have been shown to have some explanatory power in specifications involving general trust (e.g. Alesina & La Ferrara 2002, Rainer & Siedler 2009). These include variables like age, education, income, the employment status, the marital situation etc. One should note that these and other sociodemographic characteristics might not only influence general trust but also the probability and the type of contact with financial institutions and the ability to assess the quality of bank's accomplishments. This might be an important factor if institutional trust is related to the (actual or perceived) performance of the institution.

Following this line of argument, we also include a set of additional variables that might directly influence a person's attitude towards banks and also his or her ability to judge their past and present performance. In order to capture the degree of information a person possesses about economic matters we include a dummy that indicates whether the person reads a "quality newspaper" (**QUALITY NEWS**). Since house owners might have a special connection to their bank due to the possible existence of mortgage contracts we also include a dummy variable that specifies whether the persons lives in an owner-occupied house (**HOUSE**). In a similar vain, trust might differ between individuals who have a savings account (the base category), who have only a transaction account or no banking account whatsoever (**ONLY GIRO**) or who have in addition also some investments in stocks (**ALSO SHARES**). Trust in banks might also be higher in rural areas where often only a small number of banks is present (**VILLAGE**). Finally, it might also be the case that political preferences shape the attitude towards banks (**PARTY LEFT**, **PARTY RIGHT**).

In addition to the sociodemographic variables we also use a number of variables that are related to individuals' perception of their own or the general economic situation and their prospects for the future. These variables might be important for two reasons. First, people might use the perception of their own economic situation as a predictor for the general economic situation and thus also for the prospects of financial institutions. Alternatively, one might assume that a pessimistic assessment of the own situation might influence a person's general view of the world and thus have a direct effect on his or her trusting behavior. Whatever the rationale for their influence, the existing literature has often shown that these subjective variables are important determinants of trust (cf. Rainer & Siedler 2009).¹¹ Central among these "subjective" variables is the one about

¹¹We want to stress, however, that the use of perception variables makes it almost impossible to pin down causality in a satisfactory manner. Trust, optimism and other personal attitudes and views of the world are probably formed in an all-encompassing and simultaneous way. We therefore regard our analysis as determining systematic relation between these subjective variables rather than attempting to provide evidence on causal mechanisms.

the assessment of the financial situation of the household (`FIN. SIT. VERY GOOD`, `FIN. SIT. RATHER BAD` and `FIN. SIT. BAD`). Two additional subjective variables capture individuals' assessment of their own (`EXP. FIN. SIT.`) or the economy's (`EXP. ECONOMY`) future situation (in three years time). They can take on three values: "better", "stays the same" and "worse", where the middle answer is always chosen to be the omitted category. Finally, we also include two variables that indicate whether respondents perceive inflation as unstable (`INFLATION UNSTABLE`) or whether they regard the euro as an unstable currency (`EURO UNSTABLE`). The latter variables might be important for various reasons. First, individuals might associate times of high inflation with low real interest rates which deteriorates their perception of the performance of banks in terms of returns. In addition, they might also view an inflationary environment as suboptimal for banking profitability. Finally, it might also be the case that individuals have a distorted picture of the sources of price increases and regard banks as partly responsible for inflationary developments.

Insert Table 3 about here

Table 3 column 1 presents the results of an estimation with this set of standard variables amended by a set of time dummies. Most time dummies are insignificant and the only two highly significant quarters are 2006Q2 and 2006Q3 which cover exactly the time of the small banking crisis described in section 2. We will analyze this period in more detail below. We want to note here only that these results show how fast trust has recovered from the rather local and isolated banking crisis in 2006. We therefore omit time dummies from our benchmark specifications and just add a dummy for the two exceptional quarters of this small crisis. We treat this regressions (as shown in column 2) as our benchmark specification.

Starting with the sociodemographic variables we find that younger people have significantly higher trust in banks and that the same is true for individuals who have children, who are separated, who own a company and who feel a strong attachment to either a left or a right party (the omitted category are people without any strong party affiliation). The only sizable coefficient among these variables can be observed for individuals with a right-wing orientation who show a 5.9pp higher level of trust. People with at most transaction accounts have a significantly lower level of trust (-3.7pp). In general one can say that the effect of these "objective" variables is small. This suggests that trust in banks is a universal phenomenon in Austria that is not much affected by important sociodemographic characteristics like gender, education or social status and is rather independent of a person's background. It is also interesting to note that neither the access to better information (`QUALITY NEWS`) nor a closer relationship to one's bank (`HOUSE`) has a systematic effect on trust.

The impact of the subjective variables, on the other hand, is stronger. This is particularly true for the variable that captures the assessment of the own financial situation. Individuals who regard their own situation as very good show a 4.2pp higher level of trust while individuals who see their situation as bad have a level of trust that is lower by 15.6pp. Besides the current situation it is also the future situation that has an important effect on trust, both as far as the own (-5.3pp) and in as far as the general economic situation is concerned (-6.3pp). Interestingly, it is mainly the outlook of a *worse* future situation that is related to a lower level of trust while a better outlook has no (or only a small) effect. The fact that the total importance of the entire economic outlook is somewhat more important than the own perspectives suggests that people do in fact take the implications of macroeconomic conditions for the profitability and trustworthiness of the banking industry into consideration. Finally, we see that people who regard the development of prices as unstable or the euro as an unstable currency show significantly higher levels of distrust in the banking system (-6.5pp and -9.9pp, respectively). As said before, this can have to do with expectations about the performance of banks in terms of real interest rates or with the perceived relation between an inflationary environment and the riskiness of banking.

The benchmark regression does not contain a measure of income. The reason for this is that many respondents refuse to answer questions on their income situation which reduces our sample size by almost one third. For some of our following period-specific analyses this loss is rather unfortunate. Furthermore, it is likely that refusals to answer the income question are non-random and might thus distort the findings. Despite these limitations, column 3 shows the results of a regression that includes household income as an additional explanatory variable. While the coefficient is significantly positive, this variable's inclusion leaves the levels of significance and the size of the other coefficients basically unchanged. Also the maximum impact of household income is rather small and a move from the lowest to the highest income category increases trust by only 5pp. Therefore and for the reasons stated above we will not include household income in further specification.

The pseudo- R^2 of the regressions is 0.07 for our benchmark model (in column 2). A good amount of the determinants of trust are thus left unexplained by the set of sociodemographic and subjective variables. Inter alia this might be due to the fact that trust is a phenomenon that crucially depends on rather intangible factors like personal attitudes or the direct influence of other people as emphasized by some theories of institutional trust. One can try to grasp the importance of these elements by including a "general trust level" and a "regional trust level" into the basic regression. The first is defined as

the average level of trust individuals have in seven non-financial institutions (for a list, see Table 2). The latter, on the other hand, is measured as the (unconditional) average trust level that could be observed in each quarter and in each of the 120 districts. If we add these variables (columns 4 and 5) both are highly significant and sizable. Being a generally trustful individual increases the trust in the banking system by 41pp. As far as contagious effects are concerned we observe that the move from a minimum-trust to a maximum-trust neighborhood will increase the probability to be a trusting individual by 50%.

In a similar fashion we want to know whether people who have more trust in the Austrian National Bank also have more trust in the private banking system. Given the role of the central bank in matters of supervision and regulation it makes sense to expect such a relation. In column 6 we add this trust variable. As we see, it is significant and also rather larger (0.27).

Of course one should be careful not to read too much into these results since they are prone to circular reasoning. On that account we are not going to use them in our following specifications. Nevertheless, the results are at least indicative that trust is a contagious phenomenon that is characterized by mutual influences and self-reinforcing processes.¹²

5 The effects of the small and isolated banking crisis in spring 2006

In order to further delve into the issue of contagion, we can use the small trust crisis of 2006. As apparent in column 1 of Table 3 the crisis of the (at that time) fourth largest Austrian bank in spring of 2006 has caused a noticeable decrease in average trust in two quarters (-8.3pp in the second and -4.9pp in the third quarter of 2006). In this section we want to investigate whether this decline in trust has been concentrated among customers of the troubled bank (who had most reason to be concerned) or whether it has been a wide-spread phenomenon. This is an interesting aspect from which one might get some insights into the rise, spread and disappearance of trust crises.

Our dataset does not contain information about the financial relations of the respondents and about the bank with which they have their checkings or savings account. We have been able, however, to collect detailed information about the number and identity of

¹²In order to check for the robustness of our results, we apply regressions for several subsamples as well as an ordered probit regression where banking trust is separated into four instead of two outcomes. The results from these robustness tests, which are summarized in Table B.1, do not alter our previous conclusions.

all bank branches in each of the 120 Austrian districts. From these data we calculated the regional density of the troubled bank. It is reasonable to assume that individuals living in regions with a high fraction of this bank's branches (mostly located in the Eastern parts of Austria) are more likely to have linkages or a bank account with this institute and are thus also more likely to be immediately affected by the crisis. In order to study this more thoroughly we have constructed three dummy variables that are defined with respect to the density of branches of the troubled bank: districts with no branches, districts where the share of branches is between 0% and 15% and districts with an even higher concentration.

As is visible from Table 4 the high-density districts have in fact shown the largest decrease in trust. This is what one would expect since – as argued above – individuals in these regions are most likely to be directly affected by the turbulences of the problem bank. On the other hand, also districts with *no* branches at all have shown a significant decrease of trust. The isolated crisis thus had contagious effects on all individuals, even on those without any connection to the bank in trouble. The results for the time dummies have indicated already that the crisis resolved quickly and that trust rebounded – on average – to pre-crisis levels already after two quarters. The results in column 2 of Table 4 furthermore demonstrate that this finding holds irrespective of the density of branches.

6 The effects of the large and global financial crisis starting in summer 2007

In this section we analyze whether one can explain the drop in banking trust after the onset of the financial crisis in 2007.

Insert Table 5 about here

In column 2 of Table 5 we have re-estimated the benchmark empirical model for the sample containing all time periods while in column 3 we focus exclusively on the crisis periods from 2007Q3 to 2009Q2. We get two basic results. First, the empirical model is not able to fully explain the drop in trust that has occurred after the outbreak of the crisis. Most time dummies for the crisis period are significantly negative ranging from -0.065 (2007Q3) to -0.1 (2009Q1). This conforms to the common opinion that the heyday of the crisis occurred around the beginning of 2009. The second and third quarter of 2008 seem to be exceptional periods since the respective time dummies are not negative but rather significantly positive. This suggests that during this period trust in banks has

quickly recovered after the first shocking news about the subprime crisis in August 2007. In fact, the rebound has been similarly fast than the one that could be observed after the small banking crisis in 2006. Presumably, the public became convinced that European banks were not particularly affected by the far away events in a peculiar segment of the US financial market.¹³ The big drop after the bankruptcy of Lehman brothers then reflects the realization that this supposed isolation of the domestic banking sector was only an illusion.¹⁴

Second, all estimated coefficients (with one exception) have the same sign as in the benchmark specification for normal times (column 1) and also their magnitudes are similar for most variables. The biggest differences occur for variables related to age, village size, education and the perceived outlook. The mere comparison between the coefficients in columns 1 and 3 does not reveal, however, whether the spotted differences are in fact significant. In order to detect systematic changes we use an interaction approach as shown in columns 4 and 5 of Table 5. In particular, we allow *all* variables of our benchmark model to take on different values before and after the crisis. This is a more flexible specification that reveals whether certain subgroups of the population have shown a particularly strong change in their trusting behavior. Only eight of the interacted coefficients come out statistically significant at a 95% or greater confidence level and only these significant interaction variables are shown in Table 5. Older individuals and people living in smaller villages have increased their level of trust vis-à-vis the average person (by 4.2pp and 4.8pp, respectively) during the crisis period. This is in line with the view that in matters of financial affairs “familiarity breeds confidence”. Older people typically look back at a long relationship with their house-bank which is likely to support trust. On the other hand, in small villages often only a few banks are present which also fosters a closer relationship between banks and their costumers. In addition, respondents who view the euro as a stable currency, who are currently in education and who are stockowners also show significantly higher trust levels in the crisis period. This might be due to the fact that these individuals are more knowledgable in financial matters. Finally, we also find that people who are attached to right-wing parties and who are better educated have lost trust during the crisis. One can speculate about possible mechanisms behind these results

¹³Given the public discussion in this period, one could also put forward an additional line of reasoning. According to this complementary explanation the decline in late 2007 is not so much related to the breakdown of the subprime market in the US but rather to a general concern about the rate of inflation and the macroeconomic situation. The recovery of trust in the middle of 2008 then also reflects an improvement in economic conditions.

¹⁴When comparing the time dummies in columns 2 and 3 of Table 5 one has to note that in the second column they capture the difference vis-à-vis normal times while in the third column they refer to differences *within* the crisis period itself.

but no explanation strikes us as particularly plausible.

In columns 4 and 5 of Table 5 we have also allowed for different province effects in both periods (not shown). Interestingly, the province with the largest negative drop (Vorarlberg, where average trust dropped by an extra 8.2pp) is the Austrian region with the largest share of foreign currency loans. Since individuals that hold these kind of loans are exceptionally vulnerable to various sources of financial market risk the significant regional drop in trust might reflect this exposure.

The inclusion or exclusion of time dummies has almost no effect on the general pattern of the results involving the interacted variables (cf. columns 4 and 5). For an accurate interpretation of these results it is important to look closer at the meaning of the time-specific dummies. In particular, the crisis-dummy measures the unexplained change in trust during the crisis period of the “base category individual”, i.e. the individual that has all the omitted characteristics. We have defined this benchmark individual in such a way that it always possesses the most frequent property and the time-specific dummies thus capture the effect for this “average individual”. The unexplained average drop in trust during the crisis is estimated to range between -0.062 (column 4) and -0.075 (column 5). This is in line with the unconditional fluctuations of trust that we have analyzed in section 3. While these changes are non-negligible they are nevertheless not dramatic. Interestingly, the unexplained drop in the course of the small and non-systemic banking crisis in 2006 was -0.066 (see 2006 CRISIS) and thus of a similar magnitude as the average unexplained drop during the global financial crisis.¹⁵ This raises some doubts whether it is appropriate to call the situation of the recent months a genuine “trust crisis”.

We also want to stress that this unexplained drop in trust cannot be solely attributed to a deterioration of the general economic situation since we control for these factors. In fact, the coefficient of the variable `EXP.ECONOMY WORSE` is one of the largest and also the fraction of the surveyed individuals who expect a deterioration of the economic situation increases from 25% to 31% during the crisis period.

One might argue that even the specifications in Table 5 are still rather restrictive since they only allow for one interaction effect.¹⁶ The model might explain a larger fraction of the drop in trust once it is estimated on a quarter-by-quarter basis. In order to investigate this issue we have also conducted a Blinder-Oaxaca decomposition. In particular, the difference in the expected value of trust in “normal times” ($E(T_n)$) and

¹⁵If we exclude 2008Q2 and 2008Q3 from the crisis period the coefficient of `DUMMY 2007Q3-2009Q2` increases to -0.094. The largest unexplained trust decline can be observed in 2009Q1 and — depending on the number and the exact definition of the interaction effects — it ranges between 10% and 15%.

¹⁶We also experimented with a number of additional specifications including different and more interaction effects. The results of these regressions (not shown) are similar to the ones documented in Table 5.

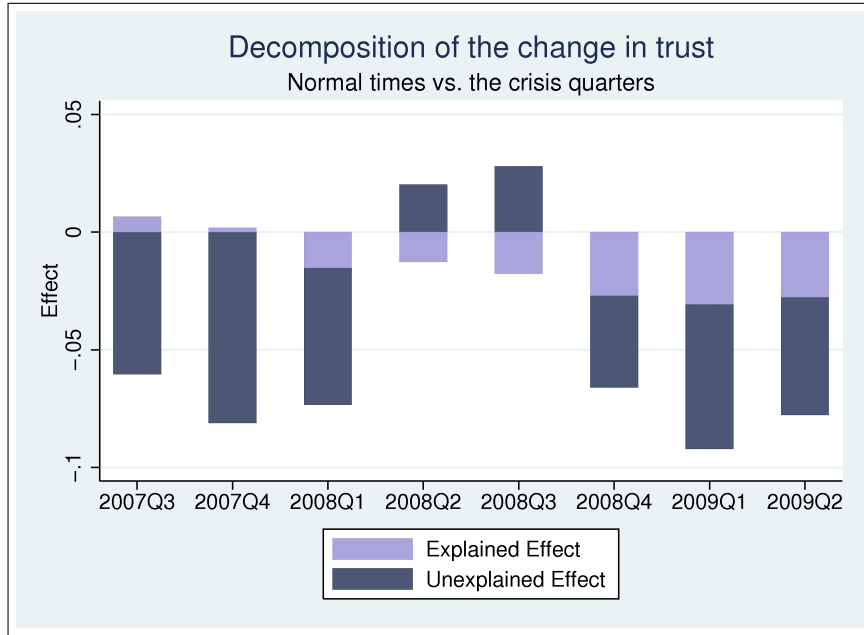


Figure 2: Decomposition of the change in trust during the crisis periods. The “explained effect” measures the effect of changes in the group size for fixed coefficients. The “unexplained effect” measures the effect of changes in the coefficients (including changes in the constant) for fixed group sizes.

the one of the crisis quarters ($E(T_i)$, where $i \in \{2007Q3, \dots, 2009Q2\}$) can be written as (see Jann 2008):

$$E(T_n) - E(T_i) = [E(X_n) - E(X_i)]' \beta_n + E(X_i)'(\beta_n - \beta_i) + [E(X_n) - E(X_i)]' (\beta_n - \beta_i),$$

where $[E(X_n) - E(X_i)]' \beta_n$ is the part that is explained by changes in the “endowments” (i.e. in the sociodemographic characteristics and in the perceptions of the current and the future situation) while the second two terms represent the unexplained part (the effect of changes in the coefficients and an interaction effect).¹⁷

Insert Figure 2 about here

In Figure 2 we show the results of the Blinder-Oaxaca decomposition for the 8 crisis quarters. As is apparent from the figure, changes in the “endowments” can only explain a smaller part of the changes in the level of trust. It is interesting, however, to note that the explained share rises over time. While it is only 20% in 2008Q1, it increases

¹⁷The coefficient effect includes also the change in the constant which represents the level of trust of the “base category” individual. The exact decomposition of the unexplained effect into a change in the constant and a change in the other coefficients depends on the definition of the base category (see Jann (2008, p. 9) and the references therein). Our basic individual again represents the average person.

to values between 30% and 40% in the last quarters of the sample. A closer look at the results reveal that the explained effect is almost exclusively driven by changes (i.e. mostly deteriorations) in the subjective perceptions of the present and/or future situation. This finding is of course not surprising since the surveys are representative and thus the main sociodemographic characteristics are basically identically in all quarters. The results of the decomposition thus suggest that about one third of the average drop in trust might recover as soon as people start to perceive their economic environment in a brighter light. On the other hand, the two-thirds that are unexplained and that are related to a change in the coefficients and to a change in the constant (the trust level of the average individual) might indicate a permanent shift in the level of trust towards the banking system.

6.1 Additional variables

One reason why our model can only explain a relatively small part of the observed changes in the level of trust might have to do with the fact that we have only a limited number of independent variables, in particular in as far as people's perception of the prospects of financial institutions is concerned. Furthermore, the subjective variables used so far are rather coarse measures of the heterogeneity of individual perceptions.

For the two survey waves 2008Q4 and 2009Q1 we have information on a much broader set of variables which are more directly related to the perception of the financial crisis and its consequences and which should provide a finer assessment of how the crisis is related to banking trust.¹⁸ The additional variables refer to whether the global financial crisis poses a threat to Austria or whether it poses a personal threat. As to the personal situation, we can detail this further because we have information on how likely a respondent considers a job loss. Furthermore, trust in banks is likely to depend on the past and expected development of the value of savings. We measure the past situation by asking whether returns on financial assets have been lower or higher than expected. Concerning the expected situation, we have information on whether the global financial crisis poses a threat to the value of various financial assets. Furthermore, we have information on respondents' assessment of the stability of the banking system, a factor which can be considered to be of great importance for the level of trust in banks.

In order to find out whether these crisis related variables affect people's trust in banks we have estimated the benchmark model (containing the same variables as before) for the last two survey waves and included these additional variables (Table 6).¹⁹ The findings

¹⁸Descriptive statistics are summarized in Table A.2.

¹⁹The table shows only the results of the additional variables and not of the variables which have been employed in previous estimations. Alternatively, we have also controlled for how well informed about the

suggest a significant and sizable role of the crisis related variables.²⁰ Trust in banks is lower by 10pp (column 1) for persons who consider the crisis to be a threat for Austria. If in addition, a personal threat is feared then this effect accumulates to 16pp. The separation of likely personal threats in column 2 into labor market and wealth consequences shows that the two dimensions of fear are almost equally important (-0.074 and -0.088, respectively). Interestingly, however, the negative effect of the job-related threat is confined to those individuals who are uncertain about their employment situation whereas no effect is found for those who are rather or very certain that they will lose their job. As far as the threat to wealth is concerned, it is only the threat to savings that lowers trust in the banking system which is the expected result. In column 3 we see that also the experience of lower than expected returns in the past affects people's trust in banks while a higher than expected return has no impact. Finally, the largest effect is found for those respondents who consider the entire financial system unstable (column 4) — their level of trust is lower by 19pp in comparison to those who perceive the financial system stable.²¹

Summing up, one could say that these results further underpin the view that uncertainty plays an essential role in this context. This can be concluded (i) from the finding that a threat to Austria affects trust in banks even if no personal consequences are expected by respondents, (ii) from the finding that the uncertainty of a job loss is important whereas no effect is found for a likely job loss and (iii) from the finding that a threat to savings accounts strongly affects trust in a negative way. Moreover, the importance of the subjective factors is worrisome since by their very nature they can change rapidly from one period to the next. This also highlights the significance of policy measures which reduce uncertainty and increase predictability.

This brings us to a last important issue on which we can provide some evidence. During the turmoil of September and October 2008 many countries have extended the coverage of their deposit insurance. In Austria, the government announced unlimited deposit insurance in early October, following other countries, notably Germany.²² However,

financial crisis respondents consider themselves and for the individual level of risk aversion. Inclusion of these variables does not affect the results qualitatively.

²⁰Compared to an estimation of the benchmark model for the same time period the Pseudo- R^2 increases from about 0.07 to 0.09 (or 0.11 if also `FINANCIAL SYSTEM UNSTABLE` is included).

²¹In general, the estimates are very stable both with respect to the significance and to the size of estimated parameters irrespective of whether all or only a subset of variables are included in the respective models. The only effect which vanishes if all variables are jointly included is that of lower than expected return on financial assets (columns 5 and 6). However, this is no surprise as this variable is highly correlated with the view that the entire financial system is unstable.

²²In the first place, the new deposit insurance coverage was only announced. Later in November, the law passed parliament.

unlimited coverage was guaranteed only until the end of 2010. By then, the Austrian government announced a switch to the planned European Union-wide limit of 100,000 euro. Obviously these measures were taken in reaction to (fears of) deposit outflows. With the benefit of hindsight we now know that no serious bank runs occurred. Given the available data, it is, however, hard to tell whether and to what extent the increase in deposit insurance contributed to a stabilization of the situation,

Our survey data allow us to shed some light on this issue. In particular, we have asked respondents in a closed question whether they know the limit of the Austrian deposit insurance system. The results show that 44% answer that they do not know, 17% said that deposit insurance is at its old limit (20,000 euro), 15% said that it is 100,000 euro and 24% gave the correct answer (unlimited coverage). This information is amended to our previous empirical model, including the crisis relevant variables (Table 7). In particular, we test whether those who answer that the new limit is 100,000 or that it is unlimited (`DEPOSIT INSURANCE INCREASED`) have more trust in banks than those who either do not know the limit or answer that the limit is still 20,000 euro. The estimates in column 1 suggest a positive correlation between knowledge of the new limit and trust in banks. However, this positive effect might be due to reverse causality or to omitted variables. One example would be that people who are concerned about their savings have an incentive to get informed. This would imply that a lower level of trust leads to higher knowledge. In column 2 we therefore attempt to instrument `DEPOSIT INSURANCE INCREASED` in order to get a causal interpretation. The size of the coefficient in this regression is almost the same as before although it is no longer statistically significant. The results are thus not conclusive although we regard the evidence at least as suggestive.²³

Insert Tables 6 and 7 about here

7 Conclusions

Domestic banks enjoy high trust in the institutional landscape of Austria. Although this trust has been eroded in the course of the financial crisis it is still quite solid. Even at its lowest point in the first quarter of 2009, 65% of all respondents reported to have high or

²³Several remarks are necessary at this point: First, we only have information on respondents' knowledge about deposit insurance coverage and not about whether respondents believe that the deposit insurance system can fulfill their promises. Second, we do not have information about respondents stock of financial assets, which would be important to judge by how much a respondent is covered by the deposit insurance limit. And third, it is rather difficult to find good instruments. We have chosen three sets of instruments: information about how intensively respondents followed media reports about the crisis, information about types of newspapers respondents read and variables related to financial literacy.

very high trust in banks. The trust loss of the average individual during the crisis period is about 7pp. This value is similar to the drop in trust that could be observed during the small banking crisis in spring 2006 where only one bank got into trouble. These results lead us to the conclusion that the current situation is not as severe as to be called a genuine “trust crisis”. This finding runs counter to recurrent claims in newspaper articles and various public statements. It is particularly surprising, given the great nervousity about financial markets and about banks that prevailed at the end of 2008 and the beginning of 2009. Also, Austrian banks have been mentioned rather critically by commentators in the media because of their exposure in Central, Eastern and Southeastern Europe.

The restrained decline in trust might be explained by the fact that policy measures, like the extension of deposit insurance coverage, were successful in maintaining trust. Furthermore, financial trust is likely to be influenced by the perceived and expected performance of banks and for a typical Austrian bank customer their performance through the crisis periods was satisfactory — no relevant bank collapsed and customers experienced no losses. This is also reflected in the fact that important sociodemographic characteristics like education do not matter and that interpersonal differences in the level of trust can be described mainly by subjective variables related to the economic sentiment and to uncertainties in relation to the financial crisis. This result, however, contains also a risky implication that points to the potential fragility of the situation. Trust, being itself an attitude, is not an easily tangible phenomenon. The fact that it is mainly related to other attitudes and subjective variables means that it can change quickly and in an unexpected and unprecedented manner from one period to the next.

As far as policy implications are concerned, our findings suggest that measures to stabilize the macroeconomic environment do not only have the usual direct impact on the economy but also an indirect impact on trust in banks via economic sentiment variables. The impact of uncertainty strongly highlights the important role of restoring and maintaining confidence, e.g. via communication policy. In this respect, the fact that we find a strong impact of pessimistic views but no corresponding positive impact of optimistic views implies a rather inconvenient message for policymakers: there might be little to gain from successful policy measures and communication strategies, but much too loose from wrong moves or outright mistakes.

Our paper has extended the literature by focusing on a temporal dimension of the trust question. In our view, a promising avenue for further research would be to extend the analysis also in the cross-sectional dimension. In particular, a panel of cross-country observations would provide important insights into (i) cross-country differences in the extent of how trust reacts to shocks and (ii) cross-country differences in how individuals

react to a loss in trust. We presume that a history of banking crises strongly affects both aspects. In Austria or in the Netherlands, no such crisis occurred in the post-World War II era such that the decline in trust is only rather small. Also, no deposit withdrawals were observed. In countries that had banking crisis, i.e. transition countries, it can be expected that households reacted more nervously in the time of the crisis.

References

- Aghion, P., Algan, Y., Cahuc, P. & Shleifer, A. (2009), Regulation and Distrust, NBER Working Papers 14648, National Bureau of Economic Research, Inc.
- Akerlof, G. A. & Shiller, R. J. (2009), *Animal Spirits : How Human Psychology Drives the Economy, and Why it Matters for Global Capitalism*, Princeton University Press, Princeton ; Oxford:.
- Alesina, A. & La Ferrara, E. (2002), ‘Who Trusts Others?’, *Journal of Public Economics* **85**(2), 207–234.
- Bagehot, W. (1873), *Lombard Street: A Description of the Money Market*, Dodo Press.
- Calderon, C., Chong, A. & Galindo, A. (2002), ‘Development and Efficiency of the Financial Sector and Links with Trust: Cross-Country Evidence’, *Economic Development and Cultural Change* **51**(1), 189–204.
- Carlin, B. I., Dorobantu, F. & Viswanathan, S. (2009), ‘Public Trust, the Law, and Financial Investment’, *Journal of Financial Economics* **92**(3), 321–341.
- Davies, H. (2009), Public Trust Has Economic Consequences. Business Daily (October 16), available at <http://www.businessdailyafrica.com/Opinionview/printVersion/-/r4vhw1z/-/index.html>.
- Fischer, J. A. & Hahn, V. (2008), Determinants of Trust in the European Central Bank, Working Paper Series in Economics and Finance 695, Stockholm School of Economics.
- Gros, D. & Roth, F. (2009), The Crisis and Citizens’ Trust in Central Banks. <http://www.voxeu.org/index.php?q=node/3943>.
- Guiso, L., Sapienza, P. & Zingales, L. (2004), ‘The Role of Social Capital in Financial Development’, *American Economic Review* **94**(3), 526–556.
- Guiso, L., Sapienza, P. & Zingales, L. (2008), ‘Trusting the Stock Market’, *The Journal of Finance* **63**(6), 2557–2600.
- Hudson, J. (2006), ‘Institutional Trust and Subjective Well-Being across the EU’, *Kyklos* **59**(1), 43–62.
- Iyer, R. & Puri, M. (2008), Understanding Bank Runs: The Importance of Depositor-Bank Relationships and Networks. NBER Working Paper No. 14280.

- Jann, B. (2008), A Stata Implementation of the Blinder-Oaxaca Decomposition, ETH Zurich Sociology Working Papers 5, ETH Zurich, Chair of Sociology.
- Knack, S. & Keefer, P. (1997), 'Does Social Capital Have an Economic Payoff? A Cross-Country Investigation', *The Quarterly Journal of Economics* **112**(4), 1251–88.
- Mishler, W. & Rose, R. (2001), 'What Are the Origins of Political Trust? Testing Institutional and Cultural Theories in Post-communist Societies', *Comparative Political Studies* **34**(1), 30–62.
- Mosch, R. & Prast, H. (2008), Confidence and Trust: Empirical Investigations for the Netherlands and the Financial Sector. forthcoming in *The Quarterly Journal of Economics*.
- Porta, R. L., Lopez-de Silanes, F., Shleifer, A. & Vishny, R. W. (1997), 'Trust in Large Organizations', *The American Economic Review* **87**(2), 333–338.
- Rainer, H. & Siedler, T. (2009), 'Does Democracy Foster Trust?', *Journal of Comparative Economics* **37**(2), 251 – 269.
- Rogoff, K. & Reinhart, C. M. (2009), *This Time Is Different: Eight Centuries of Financial Folly*, Princeton University Press.
- Sapienza, P. & Zingales, L. (2009), A Trust Crisis. Available online at <http://faculty.chicagobooth.edu/brian.barry/igm/atrustcrisis.pdf>.
- Shiller, R. J. (2009), 'Animal Spirits Depend on Trust', *The Wall Street Journal*. Available online at <http://online.wsj.com/article/SB123302080925418107.html>.
- Torgler, B. (2007), Trust in International Organizations: An Empirical Investigation Focusing on the United Nations. School of Economics and Finance Discussion Papers and Working Papers Series No. 213.

Appendix A Data description

The data are derived from a series of surveys commissioned by the Oesterreichische Nationalbank and conducted by IFES, a market research institute. The surveys were conducted on a quarterly basis in January/February (Q1), April/May (Q2), August/September (Q3) and November/December (Q4). In each quarter about 2000 people in Austria were interviewed face-to-face. The surveys are representative for the Austrian population aged 15 and over. For our estimations we restrict the sample to persons aged 18 or older. A definition of variables is available in Table A.3.

Below we show the summary statistics of our dataset.

Insert Tables A.1, A.2 and A.3 about here

Appendix B Supplementary Tables

Insert Table B.1 about here

Table 1: Attractiveness of Financial Assets and Trust in Banks

Part A: Descriptive evidence			
“Has the financial crisis affected your assessment of savings deposits/stocks/cash as savings?” - sample frequencies (in %)			
	stocks	savings deposits	cash
	(1)	(2)	(3)
less attractive	81.1	7.6	12.4
same	12.0	25.8	28.7
more attractive	6.9	66.6	58.9
Part B: Probit estimation results			
Effect of trust in banks on attractiveness of financial assets			
	(1)	(2)	(3)
LESS THAN VERY HIGH TRUST	0.246*** (0.071)	-0.103*** (0.036)	-0.109 (0.070)
STOCKS LESS ATTRACTIVE		0.492*** (0.044)	0.259*** (0.065)
SAVINGS. DEP. LESS ATTRACTIVE			0.455*** (0.067)
R2	0.389	0.192	0.465
P-obs.	0.374	0.721	0.433
P-pred.	0.305	0.755	0.358
LL	-98.21	-569.31	-300.06
N	243	1190	820

Note: In part A, the table shows descriptive evidence on the attractiveness of savings deposits, of stocks and of cash as savings. In part B, marginal effects and standard errors of probit models are summarized. The respective dependent variable is coded as 0 (the same) and 1 (more attractive). A positive marginal effect implies that the respective asset has become more attractive. The models include control variables which are not shown: sex, age, employment status, city size, house ownership, subjective assessment of the own financial situation, the economic situation, the inflation, the stability of the euro and province dummies. Furthermore, the model includes a variable controlling for risk preferences and two dummy variables measuring whether returns have been lower or higher than expected in the past. The sample has been restricted to individuals who have at least two different financial assets in their portfolio. Columns 1 and 2 refer to the sample from 2008Q4 and 2009Q1, column 3 to those from 2009Q2. * p<0.10, ** p<0.05, *** p<0.01

Table 2: Summary Statistics for Trust in Eleven Institutions

Institution	Mean (1)	SD (2)	\otimes Corr. (3)
Police	0.80	0.031	0.191
Austrian National Bank	0.79	0.045	0.253
Domestic Banks	0.76	0.052	0.247
Chamber of Labor	0.70	0.030	0.226
Chamber of Commerce	0.60	0.036	0.288
European Central Bank	0.55	0.060	0.293
Trade Unions	0.42	0.083	0.230
Foreign Banks	0.34	0.041	0.252
Parliament	0.32	0.038	0.301
Government	0.27	0.053	0.283
Political Parties	0.18	0.040	0.272
Average	0.52	0.046	0.258

Note: The table reports summary statistics for the level of trust in 11 different institutions based on data from 2004Q3 to 2009Q2. The numbers in column 3 report the average correlation with the respective 10 other institutions.

Table 3: Trust in Banks in Normal Times (2004Q3 - 2007Q2)

	(1)	(2)	(3)	(4)	(5)	(6)
MALE	-0.009 (0.006)	-0.010* (0.006)	-0.010 (0.007)	-0.007 (0.006)	-0.011* (0.006)	-0.012** (0.006)
AGE 18-35	0.033*** (0.007)	0.034*** (0.007)	0.045*** (0.008)	0.031*** (0.007)	0.034*** (0.008)	0.034*** (0.007)
AGE 60+	0.008 (0.010)	0.008 (0.010)	-0.004 (0.012)	0.005 (0.010)	0.010 (0.011)	0.004 (0.011)
EDU MED.	-0.002 (0.007)	-0.003 (0.007)	-0.003 (0.009)	-0.008 (0.007)	-0.000 (0.011)	-0.008 (0.008)
EDU HIGH	0.004 (0.008)	0.004 (0.008)	-0.002 (0.009)	-0.005 (0.008)	0.004 (0.009)	-0.014 (0.008)
HOUSE	0.005 (0.006)	0.005 (0.006)	0.001 (0.007)	0.012** (0.006)	0.001 (0.008)	0.004 (0.007)
CHILDREN	0.019*** (0.007)	0.020*** (0.007)	0.021*** (0.008)	0.011* (0.007)	0.014** (0.007)	0.018*** (0.007)
SEPARATED	0.019** (0.008)	0.020*** (0.008)	0.033*** (0.009)	0.020*** (0.007)	0.018** (0.007)	0.018** (0.008)
OWNER	-0.027** (0.012)	-0.026** (0.012)	-0.038** (0.015)	-0.011 (0.011)	-0.024** (0.010)	-0.026** (0.012)
IN EDUC.	0.013 (0.015)	0.012 (0.015)	0.018 (0.019)	0.022 (0.014)	0.012 (0.015)	0.023 (0.015)
UNEMPLOYED	-0.001 (0.014)	-0.000 (0.014)	0.006 (0.016)	0.008 (0.014)	-0.001 (0.013)	0.001 (0.015)
RETIRED	0.001 (0.010)	0.002 (0.010)	0.014 (0.012)	0.004 (0.010)	-0.000 (0.010)	0.004 (0.011)
PARTY LEFT	0.019*** (0.006)	0.019*** (0.006)	0.028*** (0.007)	-0.001 (0.006)	0.021*** (0.006)	0.006 (0.007)
PARTY RIGHT	0.059*** (0.007)	0.059*** (0.007)	0.059*** (0.008)	0.027*** (0.007)	0.060*** (0.007)	0.048*** (0.007)
QUALITY NEWS	-0.011 (0.008)	-0.011 (0.008)	-0.008 (0.009)	-0.004 (0.008)	-0.010 (0.009)	-0.012 (0.008)
VILLAGE	-0.008 (0.007)	-0.009 (0.007)	-0.002 (0.008)	-0.009 (0.007)	-0.003 (0.009)	0.002 (0.007)
ONLY GIRO	-0.036*** (0.008)	-0.037*** (0.008)	-0.039*** (0.009)	-0.033*** (0.007)	-0.032*** (0.007)	-0.027*** (0.008)
ALSO SHARES	-0.012 (0.008)	-0.014* (0.008)	-0.020** (0.010)	-0.008 (0.008)	-0.013 (0.009)	-0.016* (0.009)

Note: See continuation. Robust standard errors in parentheses.

Table 3: (cont'd) Trust in Banks in Normal Times (2004Q3 - 2007Q2)

	(1)	(2)	(3)	(4)	(5)	(6)
FIN. SIT. VERY GOOD	0.042*** (0.010)	0.042*** (0.010)	0.036*** (0.011)	0.033*** (0.010)	0.042*** (0.010)	0.037*** (0.010)
FIN. SIT. RATHER BAD	-0.064*** (0.008)	-0.064*** (0.008)	-0.048*** (0.009)	-0.041*** (0.007)	-0.063*** (0.009)	-0.048*** (0.008)
FIN. SIT. BAD	-0.156*** (0.019)	-0.156*** (0.019)	-0.155*** (0.021)	-0.108*** (0.018)	-0.148*** (0.020)	-0.132*** (0.020)
EXP. FIN. SIT. BETTER	-0.010 (0.008)	-0.010 (0.008)	-0.022** (0.009)	-0.013* (0.008)	-0.011 (0.010)	-0.018** (0.008)
EXP. FIN. SIT. WORSE	-0.054*** (0.009)	-0.053*** (0.009)	-0.061*** (0.010)	-0.043*** (0.009)	-0.054*** (0.012)	-0.041*** (0.009)
EXP. ECONOMY BETTER	0.018** (0.008)	0.017** (0.008)	0.005 (0.010)	-0.011 (0.009)	0.018** (0.009)	0.004 (0.009)
EXP. ECONOMY WORSE	-0.064*** (0.007)	-0.063*** (0.007)	-0.064*** (0.008)	-0.043*** (0.007)	-0.054*** (0.009)	-0.041*** (0.007)
INFLATION UNSTABLE	-0.065*** (0.008)	-0.065*** (0.008)	-0.076*** (0.009)	-0.042*** (0.008)	-0.061*** (0.009)	-0.046*** (0.008)
EURO UNSTABLE	-0.101*** (0.010)	-0.099*** (0.010)	-0.104*** (0.012)	-0.088*** (0.010)	-0.089*** (0.010)	-0.060*** (0.010)
2004Q4	0.023* (0.013)					
2005Q1	-0.015 (0.014)					
2005Q2	0.015 (0.013)					
2005Q3	0.014 (0.013)					
2005Q4	0.009 (0.013)					
2006Q1	-0.013 (0.014)					
2006Q2	-0.083*** (0.015)					
2006Q3	-0.049*** (0.015)					
2006Q4	-0.006 (0.014)					
2007Q1	0.007 (0.013)					
2007Q2	-0.023 (0.014)					
2006 CRISIS		-0.066*** (0.008)	-0.063*** (0.009)	-0.068*** (0.008)	-0.035*** (0.007)	-0.066*** (0.008)
HH INCOME			0.022*** (0.008)			
AVG. TRUST IN INST.				0.411*** (0.011)		
REG. TRUST LEVEL					0.414*** (0.033)	
TRUST IN OENB						0.269*** (0.010)
R2	0.067	0.065	0.074	0.130	0.089	0.117
P-obs.	0.787	0.787	0.793	0.787	0.787	0.789
P-pred.	0.801	0.801	0.809	0.820	0.806	0.812
LL	-10570.32	-10584.04	-7485.65	-9850.64	-10314.91	-9136.66
N	21842	21842	15854	21837	21834	20094

Note: Marginal effects of probit model; robust (clustered) standard errors in parentheses; results from province dummies not shown; * p<0.10, ** p<0.05, *** p<0.01.

Table 4: Spillover Effects of Bank Problems?

	(1)	(2)
2006 CRISIS X NO BRANCHES	-0.068*** (0.022)	-0.073*** (0.024)
2006 CRISIS X MED. DENSITY	-0.059*** (0.016)	-0.063*** (0.016)
2006 CRISIS X HIGH DENSITY	-0.127*** (0.029)	-0.129*** (0.029)
2006Q4 ONWARDS X NO BRANCHES		-0.009 (0.018)
2006Q4 ONWARDS X MED. DENSITY		-0.017 (0.014)
2006Q4 ONWARDS X HIGH DENSITY		0.005 (0.031)
χ^2	2.57	2.31
p-value	0.11	0.13
R2	0.066	0.066
P-obs.	0.787	0.787
P-pred.	0.801	0.801
LL	-10581.47	-10579.28
N	21842	21842

Note: Marginal effects of probit model; robust (clustered) standard errors in parentheses; the model is based on the benchmark model (column 2 of Table 3), results of all other variables not shown; “2006 CRISIS” takes a value of 1 in 2006Q2 and Q3, “2006Q4 ONWARDS” takes a value of 1 after 2006Q4. χ^2 refers to a test of equality of coefficients for “2006 CRISIS X NO BRANCHES” and “2006 CRISIS X HIGH DENSITY”; * p<0.10, ** p<0.05, *** p<0.01.

Table 5: Trust in Banks in Normal and Crisis Times (2004Q3 - 2009Q2)

	(1) Normal Times Baseline M.	(2) Entire Sample (1)+Time Dummies	(3) Crisis Times Baseline M.	(4) Entire Sample (1)+Interact. Terms.	(5) Entire Sample (2)+Interact. Terms.
MALE	-0.010* (0.006)	-0.015*** (0.005)	-0.025*** (0.008)	-0.010* (0.006)	-0.010* (0.006)
AGE 18-35	0.034*** (0.007)	0.035*** (0.006)	0.035*** (0.010)	0.036*** (0.008)	0.036*** (0.008)
AGE 60+	0.008 (0.010)	0.024*** (0.009)	0.052*** (0.014)	0.009 (0.011)	0.009 (0.011)
EDU MED.	-0.003 (0.007)	-0.009 (0.006)	-0.018* (0.010)	-0.004 (0.008)	-0.004 (0.008)
EDU HIGH	0.004 (0.008)	-0.008 (0.006)	-0.028** (0.011)	0.005 (0.008)	0.005 (0.008)
HOUSE	0.005 (0.006)	0.005 (0.005)	0.004 (0.009)	0.005 (0.007)	0.005 (0.007)
CHILDREN	0.020*** (0.007)	0.028*** (0.005)	0.043*** (0.009)	0.021*** (0.007)	0.021*** (0.007)
SEPARATED	0.020*** (0.008)	0.024*** (0.006)	0.031*** (0.010)	0.021*** (0.008)	0.021*** (0.008)
OWNER	-0.026** (0.012)	-0.027*** (0.010)	-0.027* (0.016)	-0.028** (0.013)	-0.028** (0.013)
IN EDUC.	0.012 (0.015)	0.043*** (0.011)	0.089*** (0.017)	0.013 (0.016)	0.013 (0.016)
UNEMPLOYED	-0.000 (0.014)	-0.011 (0.012)	-0.028 (0.022)	-0.000 (0.015)	-0.000 (0.015)
RETIRED	0.002 (0.010)	0.002 (0.008)	0.003 (0.015)	0.002 (0.011)	0.002 (0.011)
PARTY LEFT	0.019*** (0.006)	0.012** (0.005)	0.005 (0.009)	0.020*** (0.007)	0.020*** (0.007)
PARTY RIGHT	0.059*** (0.007)	0.045*** (0.006)	0.023** (0.010)	0.064*** (0.007)	0.064*** (0.007)
QUALITY NEWS	-0.011 (0.008)	-0.010 (0.007)	-0.007 (0.011)	-0.012 (0.009)	-0.012 (0.009)
VILLAGE	-0.009 (0.007)	0.011** (0.006)	0.046*** (0.010)	-0.009 (0.007)	-0.009 (0.007)
ONLY GIRO	-0.037*** (0.008)	-0.030*** (0.006)	-0.018* (0.010)	-0.039*** (0.008)	-0.039*** (0.008)
ALSO SHARES	-0.014* (0.008)	0.012* (0.007)	0.047*** (0.010)	-0.015* (0.009)	-0.015* (0.009)

Note: See continuation.

Table 5: (cont'd) Trust in Banks in Normal and Crisis Times (2004Q3 - 2009Q2)

	(1) Normal Times Baseline M.	(2) Entire Sample (1)+Time Dummies	(3) Crisis Times Baseline M.	(4) Entire Sample (1)+Interact. Terms.	(5) Entire Sample (2)+Interact. Terms.
FIN. SIT. VERY GOOD	0.042*** (0.010)	0.049*** (0.008)	0.059*** (0.014)	0.046*** (0.011)	0.045*** (0.011)
FIN. SIT. RATHER BAD	-0.064*** (0.008)	-0.072*** (0.006)	-0.086*** (0.010)	-0.068*** (0.008)	-0.068*** (0.008)
FIN. SIT. BAD	-0.156*** (0.019)	-0.116*** (0.013)	-0.101*** (0.019)	-0.164*** (0.019)	-0.164*** (0.019)
EXP. FIN. SIT. BETTER	-0.010 (0.008)	-0.010 (0.006)	-0.012 (0.011)	-0.011 (0.008)	-0.011 (0.008)
EXP. FIN. SIT. WORSE	-0.053*** (0.009)	-0.047*** (0.007)	-0.049*** (0.011)	-0.057*** (0.009)	-0.057*** (0.009)
EXP. ECONOMY BETTER	0.017** (0.008)	0.020*** (0.007)	0.021* (0.011)	0.019** (0.009)	0.019** (0.009)
EXP. ECONOMY WORSE	-0.063*** (0.007)	-0.072*** (0.006)	-0.088*** (0.010)	-0.067*** (0.008)	-0.067*** (0.008)
INFLATION UNSTABLE	-0.065*** (0.008)	-0.074*** (0.006)	-0.086*** (0.010)	-0.068*** (0.008)	-0.068*** (0.008)
EURO UNSTABLE	-0.099*** (0.010)	-0.081*** (0.008)	-0.058*** (0.012)	-0.105*** (0.011)	-0.105*** (0.011)
2006 CRISIS	-0.066*** (0.008)	-0.071*** (0.008)		-0.071*** (0.008)	-0.071*** (0.008)
2007Q3		-0.065*** (0.012)			
2007Q4		-0.085*** (0.012)	-0.018 (0.015)		-0.017 (0.014)
2008Q1		-0.077*** (0.012)	-0.012 (0.015)		-0.011 (0.014)
2008Q2		0.022** (0.010)	0.084*** (0.013)		0.074*** (0.012)
2008Q3		0.029*** (0.010)	0.091*** (0.013)		0.081*** (0.011)
2008Q4		-0.070*** (0.012)	-0.007 (0.015)		-0.007 (0.014)
2009Q1		-0.100*** (0.012)	-0.037** (0.016)		-0.034** (0.015)
2009Q2		-0.085*** (0.012)	-0.024 (0.015)		-0.022 (0.014)
... and significant interaction terms:			
DUMMY 2007Q3-2009Q2				-0.062*** (0.019)	-0.075*** (0.021)
AGE 60+				0.042*** (0.016)	0.039** (0.016)
EDU HIGH				-0.031** (0.014)	-0.030** (0.014)
IN EDUC.				0.069*** (0.020)	0.069*** (0.020)
PARTY RIGHT				-0.050*** (0.013)	-0.047*** (0.013)
VILLAGE				0.048*** (0.011)	0.049*** (0.011)
ALSO SHARES				0.054*** (0.012)	0.055*** (0.012)
FIN. SIT. BAD				0.055*** (0.019)	0.052*** (0.019)
EURO UNSTABLE				0.037*** (0.013)	0.043*** (0.012)
R2	0.065	0.073	0.081	0.073	0.077
P-obs.	0.787	0.761	0.721	0.761	0.761
P-pred.	0.801	0.776	0.737	0.776	0.777
LL	-10584.04	-18449.63	-7783.08	-18444.87	-18367.12
N	21842	36139	14297	36139	36139

Note: Marginal effects of probit model; robust (clustered) standard errors in parentheses; "Entire Sample" refers to the period from 2004Q3 to 2009Q2 (normal times plus crisis times); interaction terms means that variables are interacted with DUMMY 2007Q3-2009Q2; only interaction terms are shown which are significant at the 5% level; results from province dummies not shown; * p<0.10, ** p<0.05, *** p<0.01.

Table 6: Trust in Banks During the Financial Crisis (2008Q4–2009Q1)

	(1)	(2)	(3)	(4)	(5)	(6)
THREAT AUSTRIA	-0.104*** (0.019)	-0.112*** (0.017)	-0.110*** (0.018)	-0.087*** (0.019)	-0.096*** (0.018)	-0.079*** (0.019)
THREAT PERSONAL	-0.068*** (0.019)			-0.075*** (0.019)		-0.055*** (0.021)
JOB LOSS UNCERTAIN		-0.075** (0.030)	-0.074** (0.030)		-0.067** (0.030)	-0.067** (0.030)
JOB LOSS LIKELY		-0.013 (0.034)	-0.011 (0.034)		-0.003 (0.033)	0.001 (0.033)
THREAT TO SAVINGS ACC.		-0.085*** (0.023)	-0.088*** (0.023)		-0.095*** (0.023)	-0.074*** (0.025)
THREAT TO SHARES		-0.013 (0.042)	-0.011 (0.042)		-0.006 (0.041)	-0.002 (0.041)
THREAT TO PENSION ACC.		-0.042 (0.030)	-0.037 (0.030)		-0.039 (0.030)	-0.038 (0.030)
THREAT TO FX LOAN		0.018 (0.078)	0.014 (0.078)		0.008 (0.079)	0.022 (0.077)
RETURN LOWER THAN EXP.			-0.052** (0.020)		-0.030 (0.020)	-0.029 (0.020)
RETURN HIGHER THAN EXP.			0.009 (0.035)		0.008 (0.035)	0.009 (0.035)
FINANCIAL SYSTEM UNSTABLE				-0.198*** (0.019)	-0.194*** (0.019)	-0.195*** (0.019)
R2	0.086	0.089	0.090	0.112	0.114	0.116
P-obs.	0.679	0.679	0.679	0.679	0.679	0.679
P-pred.	0.693	0.694	0.694	0.698	0.699	0.699
LL	-2044.10	-2038.78	-2035.11	-1987.36	-1981.50	-1977.72
N	3564	3564	3564	3564	3564	3564

Note: Marginal effects of probit model; robust standard errors in parentheses; the model is based on the benchmark model (column 2 of Table 3), results of all other variables not shown; * p<0.10, ** p<0.05, *** p<0.01.

Table 7: Effect of Extending the Deposit Insurance Coverage (2008Q4–2009Q1)

	(1) probit model	(2) IV-regression (2SLS)
Effect relative to 20,000 euro or don't know		
DEPOSIT INSURANCE INCREASED	0.069*** (0.018)	0.076 (0.081)
R2	0.10	0.12
LL	-1805.08	
Score-test		0.02
p-value		0.88
Sargan-test		5.99
p-value		0.31
N	3195	3195

Note: Column 1 presents marginal effects of a probit model, column 2 marginal effects of a two stage least squares (linear) regression approach; robust standard errors in parentheses; both models are based on the model in column 1 of Table 6, results of all other variables not shown; the instruments are described in FN 16; * p<0.10, ** p<0.05, *** p<0.01; Score test refers to Wooldridge's robust score test for endogeneity, Sargan test for a test of overidentifying restrictions with 5 d.o.f.

Table A.1: Summary Statistics for the dependent and independent variables

	sample means		
	2004Q3-2007Q2	2007Q3-2008Q3	2008Q4-2009Q2
TRUST IN BANKS	0.79	0.73	0.67
MALE	0.42	0.44	0.46
AGE 18-35	0.28	0.29	0.30
AGE 60+	0.22	0.21	0.20
EDU MED.	0.19	0.19	0.17
EDU HIGH	0.26	0.27	0.27
HOUSE	0.52	0.48	0.40
CHILDREN	0.27	0.22	0.21
SEPARATED	0.19	0.20	0.21
OWNER	0.07	0.07	0.07
IN EDUC.	0.05	0.06	0.05
UNEMPLOYED	0.04	0.03	0.04
RETIRED	0.27	0.25	0.24
PARTY LEFT	0.37	0.35	0.35
PARTY RIGHT	0.26	0.26	0.29
QUALITY NEWS	0.21	0.18	0.17
VILLAGE	0.54	0.55	0.55
ONLY GIRO	0.19	0.22	0.22
ALSO SHARES	0.16	0.16	0.16
FIN. SIT. VERY GOOD	0.09	0.08	0.09
FIN. SIT. RATHER BAD	0.21	0.26	0.25
FIN. SIT. BAD	0.04	0.06	0.08
EXP. FIN. SIT. BETTER	0.20	0.20	0.20
EXP. FIN. SIT. WORSE	0.15	0.20	0.23
EXP. ECONOMY BETTER	0.15	0.13	0.19
EXP. ECONOMY WORSE	0.25	0.30	0.36
INFLATION UNSTABLE	0.20	0.27	0.31
EURO UNSTABLE	0.12	0.15	0.22
AVG. TRUST IN INST.	0.47	0.48	0.50
TRUST IN OENB	0.82	0.77	0.70
REG. TRUST LEVEL	0.76	0.71	0.65
No. of obs.	23171	11612	5841

Table A.2: Summary Statistics for the crisis related variables

	sample means
	<u>2008Q4-2009Q1</u>
THREAT AUSTRIA	0.66
THREAT PERSONAL	0.33
NOT EMPLOYED	0.38
JOB LOSS UNLIKELY	0.45
JOB LOSS UNCERTAIN	0.10
JOB LOSS LIKELY	0.06
RETURN LOWER THAN EXP.	0.30
RETURN HIGHER THAN EXP.	0.06
THREAT TO SAVINGS ACC.	0.18
THREAT TO SHARES	0.05
THREAT TO PENSION ACC.	0.08
THREAT TO FX LOAN	0.01
FINANCIAL SYSTEM UNSTABLE	0.42
DEP. INSURANCE: 20,000 EURO	0.17
DEP. INSURANCE: 100,000 EURO	0.15
DEP. INSURANCE: UNLIMITED	0.24
DEP. INSURANCE: DON'T KNOW	0.44
No. of obs.	3896

Table A.3: Variable Definition – Explanatory variables

MALE	=1 if respondent is male
EDU MED, EDU HIGH	EDU HIGH=1 if high school or university, EDU MED=1 if apprenticeship or middle school, EDU LOW=1 if only mandatory schooling (omitted)
HOUSE	=1 if privately owned home
CHILDREN	=1 if children in household
SEPARATED	=1 if marital status is separated or divorced
OWNER	=1 if owner of a small enterprise
IN EDUC.	=1 if in education
UNEMPLOYED	=1 if unemployed
RETIRED	=1 if retired
PARTY	“Generally speaking, which party do you prefer?”. PARTY LEFT=1 if social democrats or green party, PARTY RIGHT=1 if people’s party or freedom party, PARTY OTHER OR NO PARTY (omitted).
QUALITY NEWS	=1 if respondents reads quality newspapers, derived from answer on media consumption.
VILLAGE	=1 if respondent lives in a village with less than 10,000 inhabitants.
ONLY GIRO, ALSO SHARES	Derived from answers on ownership of assets: ONLY GIRO=1 if respondent has no bank account or only a transaction account, SAVINGS ACCOUNT (omitted)=1 if respondents holds a savings account, ALSO SHARES=1 if respondent holds savings accounts and stocks or mutual funds.
FIN. SIT.	“All in all, how would you judge the current financial situation of your household?” FIN. SIT. VERY GOOD=1 if very good, FIN. SIT. GOOD (omitted), FIN. SIT. RATHER BAD, FIN. SIT. BAD.
EXP. FIN. SIT.	“And how do you think will the financial situation of your household develop over the next 3 years”. EXP. FIN. SIT. BETTER=1 if much better or somewhat better, EXP. FIN. SIT. SAME (omitted), EXP. FIN. SIT. WORSE=1 if somewhat worse or much worse.

Note: See continuation.

Table A.3: (cont'd) Variable Definition – Explanatory variables

EXP. ECONOMY	“How do you think will the general economic situation be in 3 years? - better, worse or the same as today?”
INFLATION UNSTABLE	“If you think about the inflation development in Austria - how (price)stable do you currently consider the euro?”
EURO UNSTABLE	“And how stable to you consider the euro on international financial markets?”
2006 CRISIS	=1 in 2006Q2 and 2006Q3
HH INCOME	net household income, demeaned for each quarter
AVG. TRUST IN INST.	average level of (very high or high) trust in seven non-financial institutions (see Table 2).
REG. TRUST LEVEL	for each of the 120 Austrian districts and for each quarter, the average level of trust in banks that prevailed in a given district is calculated (excluding the respondent him/herself).
TRUST IN OENB	=1 if very high or high trust in Oesterreichische Nationalbank (Austrian National Bank)
NO BRANCHES, MED. DENSITY, HIGH DENSITY	percentage of branches of the bank involved in the 2006 crisis of all bank branches for 120 Austrian districts; NO BRANCHES=density of zero, MED. DENSITY=density > 0 and < 15, HIGH DENSITY=density > 15
THREAT AUSTRIA	“How much of a threat do you consider the current financial crisis for Austria?”, 1=if very or rather threatening
THREAT PERSONAL	“How much of a threat do you consider the current financial crisis for you personally?”, 1=if very or rather threatening
JOB LOSS	“If you think about your professional future. How likely is it that you will loose your job within the next two years?”, JOB LOSS UNCERTAIN=1 if don't know, cannot make a judgment yet, JOB LOSS LIKELY=1 if rather or very likely.

Note: See continuation.

Table A.3: (cont'd) Variable Definition – Explanatory variables

THREAT TO assets	Based on a series of questions: First respondents were asked whether they own certain types of assets. Subsequently, respondents were asked “And how much do you fear losses because of the financial crisis?”. An individual is defined to fear losses of he/she answers “very or rather threatened”. Information was collected for savings deposits (SAVINGS ACC.), shares (SHARES), privately sponsored pension accounts (PENSION ACC) and loans denominated in foreign currency (FX LOAN).
RETURN LOWER/HIGHER THAN EXP.	“If you think about the past years - How content have you been with the development of the value of your savings - by this we mean the interest earned and changes in value?”. RETURN HIGHER THAN EXPECTED if somewhat higher or much higher than expected, RETURN HIGHER THAN EXPECTED if somewhat lower or much lower than expected, RETURN AS EXPECTED (omitted).
FINANCIAL SYSTEM UNSTABLE	“Which impression do you have - how stable are Austrian banks or the domestic financial system?”
DEP. INSURANCE 20,000 EURO, etc.	“Do you know the current limit of the legal Austrian deposit insurance system”. Answers comprise “there is no deposit insurance coverage”, 20,000 euro, 100,000 euro, “no upper limit” and don’t know.

Note: Own translation. A codebook is available upon request.

Table B.1: Trust in Banks in Normal Times (2004Q3 - 2007Q2): Robustness Tests

	(1) Baseline M.	(2) Ordered Pr.	(3) Province Dummies	(4) HH Heads	(5) Savings Acc.	(6) Finc. Sit. Bad
MALE	-0.010* (0.006)	-0.034* (0.021)	-0.010* (0.006)	-0.000 (0.008)	-0.014* (0.007)	-0.016 (0.014)
AGE 18-35	0.034*** (0.007)	0.123*** (0.027)	0.035*** (0.008)	0.036*** (0.009)	0.031*** (0.009)	0.041** (0.017)
AGE 60+	0.008 (0.010)	0.029 (0.038)	0.008 (0.012)	0.009 (0.013)	0.011 (0.013)	-0.013 (0.024)
EDU MED.	-0.003 (0.007)	-0.012 (0.026)	-0.003 (0.011)	-0.004 (0.009)	-0.014 (0.009)	0.007 (0.018)
EDU HIGH	0.004 (0.008)	0.015 (0.029)	0.004 (0.009)	-0.006 (0.010)	0.000 (0.010)	0.008 (0.021)
HOUSE	0.005 (0.006)	0.016 (0.023)	0.003 (0.008)	0.005 (0.008)	0.002 (0.008)	-0.009 (0.015)
CHILDREN	0.020*** (0.007)	0.072*** (0.024)	0.015** (0.007)	0.025*** (0.009)	0.024*** (0.008)	0.016 (0.016)
SEPARATED	0.020*** (0.008)	0.072** (0.028)	0.019*** (0.007)	0.031*** (0.009)	0.028*** (0.009)	0.017 (0.016)
OWNER	-0.026** (0.012)	-0.092** (0.040)	-0.026** (0.011)	-0.016 (0.013)	-0.006 (0.015)	-0.090*** (0.032)
IN EDUC.	0.012 (0.015)	0.045 (0.056)	0.009 (0.015)	0.011 (0.022)	0.025 (0.018)	0.033 (0.036)
UNEMPLOYED	-0.000 (0.014)	-0.000 (0.052)	-0.005 (0.013)	-0.016 (0.019)	0.007 (0.019)	-0.007 (0.024)
RETIRED	0.002 (0.010)	0.007 (0.037)	0.001 (0.009)	0.013 (0.013)	0.004 (0.013)	0.034 (0.022)
PARTY LEFT	0.019*** (0.006)	0.067*** (0.023)	0.021*** (0.006)	0.027*** (0.008)	0.022*** (0.008)	0.021 (0.014)
PARTY RIGHT	0.059*** (0.007)	0.223*** (0.026)	0.063*** (0.007)	0.071*** (0.008)	0.065*** (0.008)	0.069*** (0.017)
QUALITY NEWS	-0.011 (0.008)	-0.040 (0.028)	-0.013 (0.009)	-0.005 (0.010)	-0.017* (0.010)	-0.048** (0.022)
VILLAGE	-0.009 (0.007)	-0.031 (0.025)	-0.009 (0.016)	-0.001 (0.009)	-0.002 (0.008)	-0.037** (0.017)
ONLY GIRO	-0.037*** (0.008)	-0.128*** (0.026)	-0.038*** (0.008)	-0.036*** (0.010)		-0.033** (0.015)
ALSO SHARES	-0.014* (0.008)	-0.050* (0.029)	-0.017** (0.008)	-0.013 (0.010)		-0.023 (0.025)

Note: See continuation. Robust standard errors in parentheses.

Table B.1: (cont'd) Trust in Banks in Normal Times (2004Q3 - 2007Q2): Robustness Tests

	(1) Baseline M.	(2) Ordered Pr.	(3) Province Dummies	(4) HH Heads	(5) Savings Acc.	(6) Finc. Sit. Bad
FIN. SIT. VERY GOOD	0.042*** (0.010)	0.160*** (0.039)	0.044*** (0.010)	0.048*** (0.012)	0.040*** (0.013)	
FIN. SIT. RATHER BAD	-0.064*** (0.008)	-0.219*** (0.025)	-0.065*** (0.009)	-0.058*** (0.009)	-0.069*** (0.010)	
FIN. SIT. BAD	-0.156*** (0.019)	-0.479*** (0.051)	-0.148*** (0.021)	-0.162*** (0.022)	-0.178*** (0.027)	-0.102*** (0.020)
EXP. FIN. SIT. BETTER	-0.010 (0.008)	-0.037 (0.028)	-0.010 (0.010)	-0.010 (0.010)	0.003 (0.010)	-0.011 (0.019)
EXP. FIN. SIT. WORSE	-0.053*** (0.009)	-0.182*** (0.029)	-0.055*** (0.011)	-0.056*** (0.011)	-0.043*** (0.011)	-0.056*** (0.016)
EXP. ECONOMY BETTER	0.017** (0.008)	0.064** (0.030)	0.019** (0.009)	0.013 (0.010)	0.013 (0.010)	0.069*** (0.022)
EXP. ECONOMY WORSE	-0.063*** (0.007)	-0.217*** (0.024)	-0.054*** (0.009)	-0.065*** (0.009)	-0.060*** (0.009)	-0.079*** (0.015)
INFLATION UNSTABLE	-0.065*** (0.008)	-0.219*** (0.026)	-0.067*** (0.009)	-0.075*** (0.010)	-0.060*** (0.010)	-0.062*** (0.016)
EURO UNSTABLE	-0.099*** (0.010)	-0.324*** (0.031)	-0.097*** (0.010)	-0.110*** (0.013)	-0.101*** (0.013)	-0.096*** (0.019)
2006 CRISIS	-0.066*** (0.008)	-0.224*** (0.025)	-0.064*** (0.012)	-0.071*** (0.010)	-0.073*** (0.010)	-0.103*** (0.018)
R2	0.065	0.065	0.086	0.072	0.063	0.057
P-obs.	0.787		0.787	0.777	0.798	0.684
P-pred.	0.801		0.806	0.792		
LL	-10584.04	-10584.04	-10347.19	-7133.78	-6648.39	-3151.60
N	21842	21842	21842	14487	14085	5360

Note: The table shows the estimation results of various robustness tests. Model (1) represents the benchmark model, model (2) is estimated by ordered probit where the dependent variable ranges from 1 (low trust) to 4 (high trust), model (3) contains dummy variables for Austrian provinces. The sample in column 4 is restricted to household heads, in column 5 to those with a savings account and in column 6 to those who consider their own financial situation as bad. The coefficients of all models but those in column 2 show marginal effects; robust (clustered) standard errors in parentheses; results from province dummies not shown. * p<0.10, ** p<0.05, *** p<0.01.