Explaining the fall in citizens' trust in the ECB during the global financial crisis

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Abstract

The 2007-09 global financial crisis has been accompanied by a marked fall in the public trust in the ECB as measured by the European Commission's Eurobarometer survey. This stands in contrast with the common perception of central banks in general, and the ECB in particular, having played a fundamental role in preventing the financial crisis from developing into a full-blown Great Depression. As a matter of fact, the fall in trust in the ECB can be rather well explained based on previous, pre-crisis regularities. We find evidence that the fall in trust reflected the macroeconomic deterioration, a more generalised fall in the trust in European institutions in the wake of the crisis as well as the severity of the banking sector's problems, to which the ECB was somehow associated even though the ECB does not have direct supervisory responsibilities. Awareness of the ECB is associated with higher trust in it, suggesting that enhanced ECB communication may increase public trust.

Keywords: Trust, Eurobarometer, global financial crisis, public opinion, European Central Bank.

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1 Introduction

It is a widespread perception that the global financial crisis of 2007-09 had an immense impact on public opinion in at least two dimensions. First, the crisis was accompanied and sharpened, in particular at its peak with the collapse of Lehman Brothers, by a marked contraction of consumer confidence and spending. Second, the crisis has led to a reconsideration of long-held beliefs about the role of the market and the State as well as of the public image of financial intermediaries, supervisors and central banks.

While these two dimensions have received very large attention in the press and in the public debate and are of evident importance, there is very little formal empirical evidence available on the effect of the crisis on public opinion. For example, Roth (2009) notes an erosion of trust in European institutions, an increase in confidence in national institutions and the rise of strong anti-capitalist sentiments, but does not try to explain them in relation to personal or country characteristics. Hellwig and Coffey (2009) study the effect of the financial crisis on the British public opinion, using an original opinion survey conducted in November and December 2008. They find that perceptions of who is to blame for the crisis depend on education and political orientation; however, the scope of their analysis is quite limited, in particular on economic issues. Hayo and Shin (2002) is an earlier reference for this type of analysis for the Asian financial crisis of 1998-99, using survey data from South Korea.

In this paper, we provide a first analysis of the reaction of the European public opinion to the 2007-09 global financial crisis using individual-level data from the European Commission's Eurobarometer survey. This is a survey conducted at least twice a year covering around 27,000 individuals in 27 EU countries. Of particular importance for our analysis is the standard survey conducted in the autumn of 2008, about at the same time of the collapse of Lehman Brothers, as well as the special survey on the financial crisis conducted in February 2009, which includes specific new questions on the crisis. We focus in this paper, in particular, on the erosion in the public trust in the European Central Bank (ECB), exactly at the time in which the ECB and other main central banks took extraordinary measures to prevent the global financial crisis from developing into a full-blown new Great Depression, gaining widespread (though certainly not unanimous) praise by market participants and observers. *Figure 1* reports on the answers to the Eurobarometer question *"Please tell me if you tend to trust [the European Central Bank] or not to trust it?"*; the share of those responding "no trust" increased from around 25% to above 40% in late 2008 and early 2009, and were, for the first time, approximately equal to those who reported to trust the ECB. In terms of the share of those who report *not* to trust the ECB the autumn 2008 observation represents a five standard deviations event, i.e. almost as unlikely as the crisis itself in terms of the pre-crisis variability of the series. While there has been some recovery in trust in subsequent Eurobarometer surveys, the observation in the last survey that we cover in our paper (autumn 2009) is still three standard deviations below the pre-crisis average for no trust. The erosion of trust

is not limited to the ECB: *Figure 2* reports results from a survey conducted by the Bank of England where it is clearly visible how the share of those being "dissatisfied" with the Bank's monetary policy rises sharply during the financial crisis, mainly at the expense of the share of those declaring themselves "satisfied" with it. It seems, therefore, that central banks became unpopular exactly at the time in which they were living what has been considered as their 'finest hour'.

In economic terms, trust can be defined as "the belief or perception by one party (e.g. a principal) that the other party (e.g. an agent) to a particular transaction will not cheat" (Knack 2001). In the case of citizens and a central bank, trust can be defined as a belief that the central bank, as the agent in a principal-agent relationship, will deliver on its stated goals (in the case of the ECB price stability) to its principal-citizens. There is little doubt that public trust in policy-making institutions, not only central banks, is of fundamental importance for their long term success. This is even more so for independent central banks, who ultimately derive their democratic legitimacy from the public's trust in them. There is already a large literature emphasising how important trust is for economic performance. Most of the literature has focused on interpersonal trust as being a key determinant of economic growth.[1] There is, however, also a literature on how higher social cohesion and trust influence the quality of public policies (e.g., Putnam 1993). Moreover, interpersonal trust and confidence in government are found to be positively related (Knack and Kaefer 1997). Trust in public institutions creates a positive payoff in terms of economic efficiency: as citizens have to spend less time and effort protecting themselves from the possible poor functioning of institutions, they can devote more resources to productive activities. Finally, if (especially high-profile) public institutions are trusted and have a reputation for integrity, this can set a good example for the other public institutions, as well as the private sector.

Another field in which public trust in central banks may prove important is for the understanding of the formation of *household* inflation expectations, which has been the subject of a few studies recently (see Carroll 2003; Blanchflower and Mac Coille 2009; and Easaw et al. 2010).[2] Easaw et at. (2010), for example, is based on Italian individual-level data and finds that individuals' long run inflation expectations are consistently higher than the ECB's definition of price stability. That would suggest that respondents are either unaware of the ECB's definition of price stability or do not trust the ECB to deliver on it (or finally they are not fully sincere when they answer a questionnaire). If low public trust in central banks is associated with higher household inflation expectations, then swings in public trust in the ECB also affect its ability to deliver on its mandate, though the empirical relevance of this proposition is yet to be tested.

Moreover, the behaviour of trust in the ECB during the global financial crisis is

[1] A classic reference here is North (1990).

[2] There is, of course, a larger literature on the effect of central bank actions and polities on *financial market* inflation expectations, which we do not touch upon here.

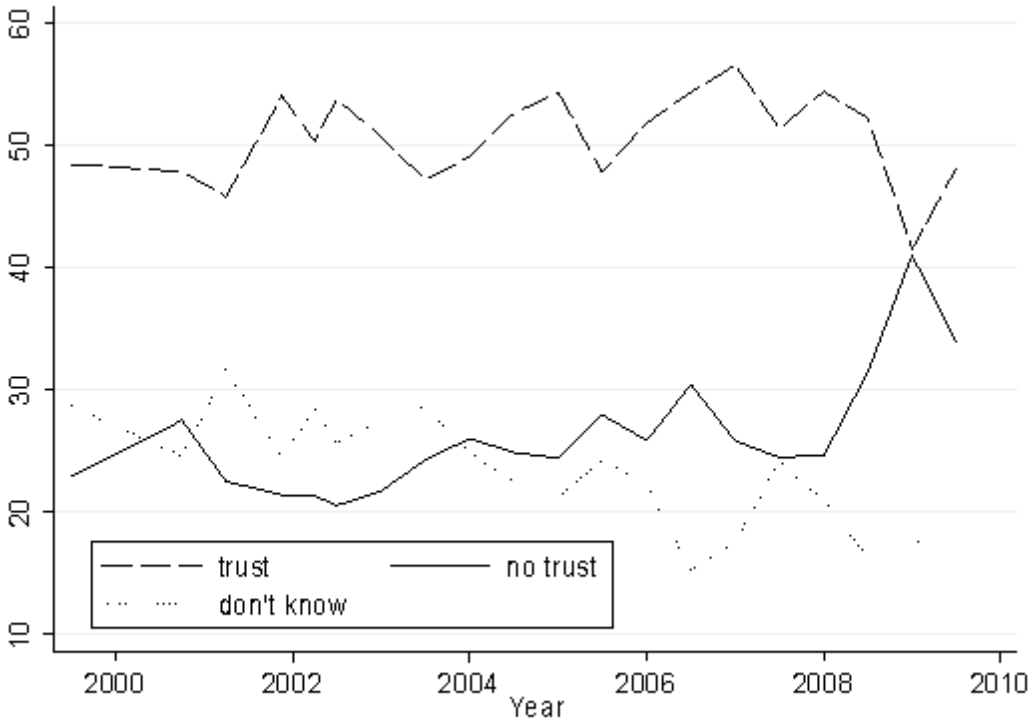

Figure 1: Source: Eurobarometer surveys. Answers to the question *"Do you trust the ECB?"*, in percentages.

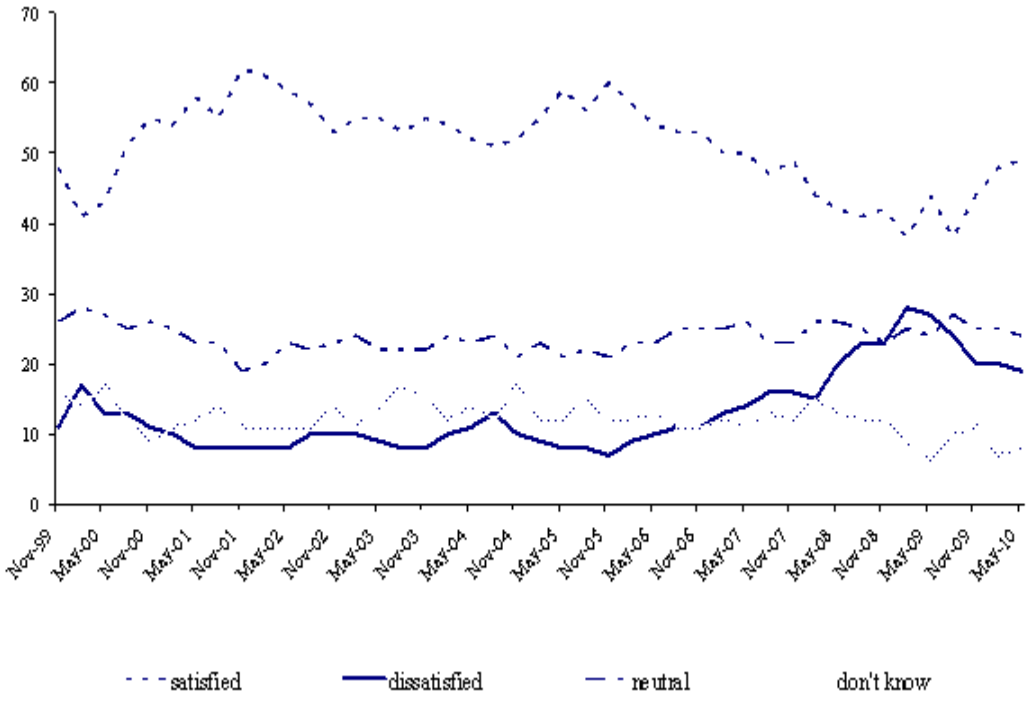

Figure 2: Source: Bank of England; answers to the question *"Overall, how satisfied or dissatisfied are you with the way the Bank of England is doing its job to set interest rates in order to control inflation?"*, in percentages.

particularly important for a currency union such as the euro area. Given the specific set-up of economic policies within the euro area (with its centralised monetary policy and decentralised fiscal and macroeconomic policies), a financial crisis was always seen as the "litmus test" for the existence and success of the euro even before the common currency was introduced. The information contained in the Eurobarometer survey is therefore of great interest and uniquely placed, also in an international perspective, in order to provide an answer to these important questions.

Against this background, in this paper we contemplate and test three, not necessarily mutually exclusive, hypotheses for the fall in public trust in the ECB associated with the global financial crisis. First, it could be that the fall in trust in the ECB is explained by economic developments (henceforth the *Economy Hypothesis*). Since the central bank is an important economic policy actor, the global financial crisis and the associated economic contraction is likely to reduce the central bank's popularity in the public opinion. Second, it is possible that the global financial crisis has exposed European policy actors ' limitations in preventing and solving global problems and the trust in the ECB has suffered because it is a European institution (the *Europe Hypothesis*). Third, as the banking sector was at the epicentre of the global financial crisis, its problems may have negatively impacted trust in the ECB through several channels: either the ECB is (perceived to be) a "bank" , or it is (wrongly) assumed to have direct supervisory and regulatory responsibilities for the banking sector, or, finally, its actions are seen as implying some form of bail-out of the financial sector which was seen as undeserved or inappropriate in the public opinion (henceforth the *Banks Hypothesis*). A further loss in the trust in the ECB not explained by the factors just mentioned could be, in our view, only be attributable to a loss of trust in the euro (area) itself.

We try to come up with testable implications of the three hypotheses and we conclude, from the empirical analysis, that *all of them appear to have played a role.* Hence, the fall in the public trust in the ECB can be explained by a combination of (i) the large and abrupt economic contraction due to the financial crisis, (ii) a generalised loss of confidence in Europe and European institutions, and (iii) the fact that the ECB is somehow associated to the banking sector in the public opinion, either as a supervisor and regulator or because its policies were seen as a bail-out of the banking sector. With these determinants, we are able to explain the fall in trust during the crisis entirely, mostly with the same elasticities estimated in the pre-crisis period. In other words, according to our model the fall in trust may have been correctly predicted based on a good pre-crisis model. This also implies that we do not find any "euro-specific" residual loss in trust to be explained, i.e. loss in trust in the euro (area) itself. Indeed, the Eurobarometer surveys shows that, between 2003 and the autumn of 2009, public support for the euro has consistently fluctuated around 60%, with no noticeable crisis impact. Finally, we find similar results for citizens in the EU countries who have not (yet) adopted the euro. In particular, for those countries we test the hypothesis that a better (worse) macroeconomic performance of

the home country compared with the euro area decreases (increases) trust in the ECB, but we soundly reject the hypothesis in our estimations. It appears, therefore, that trust in the ECB in pre-ins is not determined by relative performance considerations.

Another important result of this paper is the nexus between knowledge about the ECB and trust in it. We show that not only a higher knowledge leads to a higher degree of trust on average, but this is also particularly true during the global financial crisis. In fact, we do not find any clear fall in trust in the ECB for those who report to know about the ECB. This result suggests that the ECB, and central banks more generally, should invest more in getting themselves known to the general public, for example by using more intensely communication channels especially targeted at the general public.

To our knowledge, we are the first to investigate the public trust in a central bank both in normal and in crisis times using individual-level data. The availability of individual-level data allows us to control for the effect of different variables that influence trust in the ECB and identify the marginal effect at the individual level. There are some other papers analysing the public attitude towards the euro based on individual-level Eurobarometer data (e.g. Banducci et al. 2009), but none of them focuses on the trust in the ECB nor on the very special circumstances of the global financial crisis. van der Cruijsen and Eijffinger (2008) report on a survey of Dutch households on the perceived transparency of the ECB. These authors find that trust in the ECB and perceived transparency are positively correlated. Turning to papers using macro level variables only, Fischer and Volker (2008) study the determinants of the trust in the ECB using country-level information from the Eurobarometer survey, finding that higher inflation reduces trust.[3] Gros and Roth (2010) match the Eurobarometer data on trust in the ECB at country level with macroeconomic data also during the financial crisis, finding that GDP growth appears to be an important determinant of trust in crisis times, but not otherwise. This is not, however, a model of trust in the ECB during the financial crisis and does not address the question of whether and how the fall in trust during the crisis can be explained, which is instead central in our paper. Hence, our paper is breaking new ground in analysing how a key central bank is perceived by the public opinion, both in normal and crisis times, based on individual-level data.

The paper is organised as follows. Section 2 describes the data used in the study. Section 3 presents the empirical model and Section 4 the results for the euro area countries. Section 5 examines the role of public knowledge of the ECB in determining the trust in it, both in normal times and during the crisis. Section 6 looks at the trust in the ECB in the non-euro area countries, which has different determinants than in euro area countries. Section 7 concludes.

[3]For example, Jonung and Conflitti (2008) investigate the feelings of the European citizens towards the euro based on a special European Commission flash Eurobarometer survey conducted in September 2006.

2 Data

In this study we use data from the Eurobarometer survey, a large cross-national individual-level survey performed on behalf of the European Commission since 1973. The standard Eurobarometer surveys are conducted twice a year, in the spring and in the autumn. Each survey consists of around 1,000 face-to-face interviews per Member State (2,000 in Germany, 600 in Luxembourg and 1,300 in the United Kingdom), up to a total of over 27,000 individuals in the whole EU. The fieldwork normally straddles two months, for example the autumn survey is conducted in October and November.[4] Note that the survey is not a panel, i.e. the subjects are changed in each iteration.

Since we want to ensure a consistent set of variables in the surveys, in our empirical analysis we only rely on data from the biannual standard Eurobarometer surveys, up to the last survey in 2009. However, we also draw data from the special Eurobarometer survey *"Europeans and the economic crisis"* conducted in mid-January to mid-February 2009.[5]

In addition to the individual-level data from the Eurobarometer survey we also include a number of macroeconomic variables at the country level. These include annual HICP inflation and the unemployment rate, from Eurostat; total monthly stock returns and monthly bank stock returns, from Datastream. The macroeconomic data are integrated into the biannual survey data in the following way: we assume that the relevant observation is the average value of the variable in the six months before the fieldwork is conducted. For example, stock returns are the average monthly stock returns between month $t-7$ and month $t-1$, if t is the month when the fieldwork is conducted. Finally, we use information, collected by the ECB, on the government support measures to financial institutions since October 2008. These comprise (i) capital injections, (ii) asset support measures and (iii) asset support measures. It turns out that asset support has the best empirical performance and are therefore our main indicator of the government intervention in the financial sector (and therefore of the severity of the banking sector problems) in the wake of the crisis. Note that these data have no time variation, so they are introduced as country fixed effects.

The sample period for our analysis is 1999-2009. *Table 1* reports some descriptive statistics of the individual-level and macroeconomic data that we use in our estimations. We have around 146,000 individual-level observations in our sample for the euro area (around 115,000 in the pre-crisis period and 31,000 in the crisis period); the average age of the respondents is 45 years, with a (slight) majority of male, married and employed individuals.

[4]Importantly for our paper, the fieldwork for the autumn 2008 survey was carried out between 6 October and 6 November 2008, which coincides with the most acute phase of the global financial crisis.

[5]Note that we take the survey data from the "Mannheim EB Trendfile" maintained by the Leibnitz Institut fur Sozialwissenschaften up to 2002, and we integrate the post-2002 data using the same coding and format as much as possible. The last Eurobarometer data covered in this paper are those of Eurobarometer 71.3 (publication autumn 2009).

(Insert Table 1 about here)

3 The empirical model

We estimate the following probit model,

$$trust_{it}^{j} = \alpha x_{it}^{j} + \beta z_{t}^{j} + \gamma crisis_{t} + \delta v_{it}^{j} * crisis_{t} + \varepsilon_{it}^{j} \tag{1}$$

where $trust_{it}$ is the binary variable capturing trust in the ECB, at time t for individual i in country j, x_{it}^{j} is a vector of individual-specific variables (say gender, age, political affiliation), z_{t}^{j} is a vector of country-level variables (say inflation, the unemployment rate, and so forth), $crisis_{t}$ is a dummy variable capturing the global financial crisis[6] and v_{it}^{j} is a subset of $[x_{it}^{j}, z_{t}^{j}]$ that we let interact with the crisis dummy, in order to understand the mechanisms through which the crisis has propagated to the public opinion. Note that in this baseline version of the analysis we only estimate the model for euro area countries, since the ECB is the central bank of these countries only.[7] Later on, we also look at the pre-ins, i.e. the EU countries which have (still) not adopted the euro as their currency.

Operationally, we start from the simpler model

$$trust_{it}^{j} = \gamma crisis_{t} + \varepsilon_{it}^{j} \tag{2}$$

in order to quantify the effect of the crisis on trust. We then gradually expand the model by including, in this order, (i) general demographic controls, (ii) variables (at both individual and country level) that are relevant in order to shed light on the Economy Hypothesis as discussed in the Introduction; (iii) variables relevant for the Europe Hypothesis; (iv) variables relevant for the Banks Hypothesis. A fully successful explanation of the fall in the trust in the ECB in the wake of the global financial crisis would require that $\gamma = \delta = 0$, i.e. that the behaviour of the trust variable is entirely explained by the variables in $[x_{it}^{j}, z_{t}^{j}]$, with the same elasticities of the *pre-crisis* period. If $\gamma = 0$ but $\delta \neq 0$, then the model points to a *change of behaviour* of the public opinion during a crisis period compared with normal times.

We estimate the model using pooled probit, but correcting for survey weights since not all observations are equally representative of the population at large; for example, we have a slight majority of males in our sample whilst they are a slight minority in the whole population.

[6] The crisis dummy is taken to be 1 for the Eurobarometer surveys in autumn 2008 onwards and 0 otherwise. Later on, we also provide some robustness analysis by considering a different definition.

[7] In the baseline exercise we consider the euro area in changing composition, including a country as soon as it adopts the euro.

4 Results for the euro area

4.1 Baseline model

Table 2 reports the results of the baseline estimation, for individuals in the euro area countries alone. Note that the euro area is defined in changing composition; when a new Member State joins the euro area, its sampled individuals become part of the euro area sample. We relax this assumption later, in the robustness analysis.

Starting with the first column, we observe that the crisis leads to a strong and statistically significant fall in trust in the ECB, of about 8%, in line with the visual inspection of Figure 1. In the second column, we add a number of demographic factors. We find that the trust in the ECB is higher for men, married and highly educated individuals, as well as for persons with a more centre-right political orientation.[8] Age and employment status do not appear to matter much, which is rather surprising since there are clear differences in levels of trust when comparing the unconditional means distinguishing according to age and employment status[9]. As can be seen, the coefficient for the crisis dummy remains large and significant ($\gamma \neq 0$), so, not surprisingly, demographic factors alone cannot explain the drop in trust in the wake of the crisis.

Next, we add variables of economic performance and well-being in the third column of the table, in order to test for the Economy Hypothesis. We find that HICP inflation, general life satisfaction and general expectations for the economy in the next 12 months positively contribute to the trust in the ECB, while the unemployment rate in the country contributes negatively; stock returns for the whole stock market are instead insignificant. The result for HICP inflation is *prima facie* puzzling, but is anyway not robust, as we will see shortly. Again, the crisis dummy remains highly significant; therefore, we conclude that the Economy Hypothesis alone cannot explain the influence of the crisis in the public attitude towards the ECB.

In the fourth column we include variables that should cater for the Europe Hypothesis: the trust in the European Commission and the evaluation of whether EU membership is seen as a good thing overall. Both are positive and significant as expected, but once more they cannot make the coefficient of the crisis dummy insignificant, even if it is somewhat reduced in size compared with the initial specification. In the fifth column we include the variables that are related to the Bank Hypothesis,

[8] It is interesting to compare our results with those of Easaw et al. (2010) on household inflation expectations. We find that older, highly educated males have more trust in the ECB, and they find that they have lower expected inflation (see Table 1, page 26 in their paper). This somehow suggests that trust and expected inflation may be negatively correlated at the individual level, as may be expected.

[9] For instance, Eurobarometer survey 71.3 (published in the autumn of 2008) reports a much higher level of trust in the ECB among managers (60%) than among the unemployed (35%). Survey 68.1 (published May 2008) shows a clearly higher level of trust among the under-55s (49-50%) than among the over-55s (43%).

in particular (i) excess returns on bank stocks over total stock returns, as well as (ii) asset support measures by governments to the banking sector, as a share of the country GDP.

In the sixth column, we finally combine all the three hypotheses. It is notable that the coefficient for HICP inflation is now *negative*, suggesting that higher inflation in any given country does lead to a loss of trust in the ECB, as could have been expected (although the ECB is obviously not responsible for inflation developments in individual euro area countries). Excess stock returns in the banking sector are positive and significant, suggesting that the loss of trust in the ECB has been larger in countries where the banks have been hit harder by the crisis. In turn, this suggests that to some extent the public opinion associated the ECB with the banking sector, and lowered its trust into it once the health of the banking sector started to deteriorate. The asset support measures towards the financial sector only matters, and with the expected sign, during the crisis and not otherwise, again as expected, since government measures of this type were practically unknown and unheard of before the crisis. What is most notable in this estimation is that the interplay of the Economy, Europe and Banks dummies finally makes the crisis dummy insignificant.

Finally, the last column of the table also reports the coefficients δ, i.e. in interaction with the crisis dummy. Generally, the interaction terms are only weakly significant or insignificant at all. The interaction term for HICP inflation is significant at the 10 per cent level, but is small in absolute terms and has the "wrong" sign (national HICP inflation becomes less, not more relevant during the crisis period). The interaction with total stock returns is significant, but the variable is insignificant in the baseline regression. Overall, this evidence suggests that, by and large, a change in the elasticities was not a fundamental factor in determining the loss of trust in the ECB during the crisis. Hence, we find that the deterioration of trust in the ECB could have been largely predicted based on pre-crisis regularities.

(Insert Table 2 around here)

4.2 Robustness

We conduct a number of robustness checks on the baseline results reported in Table 2. Overall, our results are qualitatively robust to the changes we introduced. In particular, in *Table 3* we report the same results for the euro area in fixed composition (euro-12). The results are practically unchanged from the baseline exercise, although one demographic characteristic, the employment status, is now statistically significant with the expected sign: employed individuals trust the ECB more than those who have no employment.

(Insert Table 3 around here)

In *Table 4*, we change the definition of the crisis dummy, starting from the autumn 2007 Eurobarometer rather than from the autumn 2008 one. Taking the last column to the right as the benchmark model, we find that again the main results are the same as in the baseline exercise.

(Insert Table 4 around here)

In *Table 5*, we report the estimates for the pre-crisis period (i.e. prior to the autumn 2007 Eurobarometer), in order to check whether they are any different from the whole sample period that also includes the crisis period. Again, the only new element compared with the estimates for the full period is the significance of the variables that capture the health of the financial sector. In the pre-crisis sample, the two variables that we use to proxy financial sector health are insignificant, which suggests that before the crisis the ECB was not associated in any way to financial sector developments. It is only with the crisis that this association sprung to people's attention.

(Insert Table 5 around here)

5 The role of knowledge of the ECB to explain trust

An important variable that might affect the degree of trust in the ECB, as indeed in any other European or domestic institution, is the invididual level of knowledge about it. It is indeed difficult to trust an institution whose main characteristics are not well known. In the Eurobarometer survey, the following question is asked: *"Have you heard about the ECB?"* where possible answers are "Yes" and "No". About 85% of respondents report to have heard about the ECB, while a minority of about 15% hasn't. It turns out, however, that the 15% minority represents the "swing voters" in terms of the level of net trust in the ECB. *Figure 3* reports net trust in the ECB (i.e. the difference between the percentage of respondents who report to trust the ECB and the percentage of those who report not to trust it) between 2002 and 2008; unfortunately (given the potential importance of this variable), data are not available before 2002 and from 2009 onwards.

The evidence reported in Figure 3 is quite striking since it leads to two main conclusions; first, that the average level of trust is substantially lower in those who report not to have heard about the ECB; second, the fall in net trust associated with the global financial crisis is sharper for the minority who have answered not to have heard about the ECB. One may be tempted to dismiss the answers by those who report not to have heard about the ECB as irrelevant, but what they probably imply is that they either have a very shallow knowledge about it, or that they have

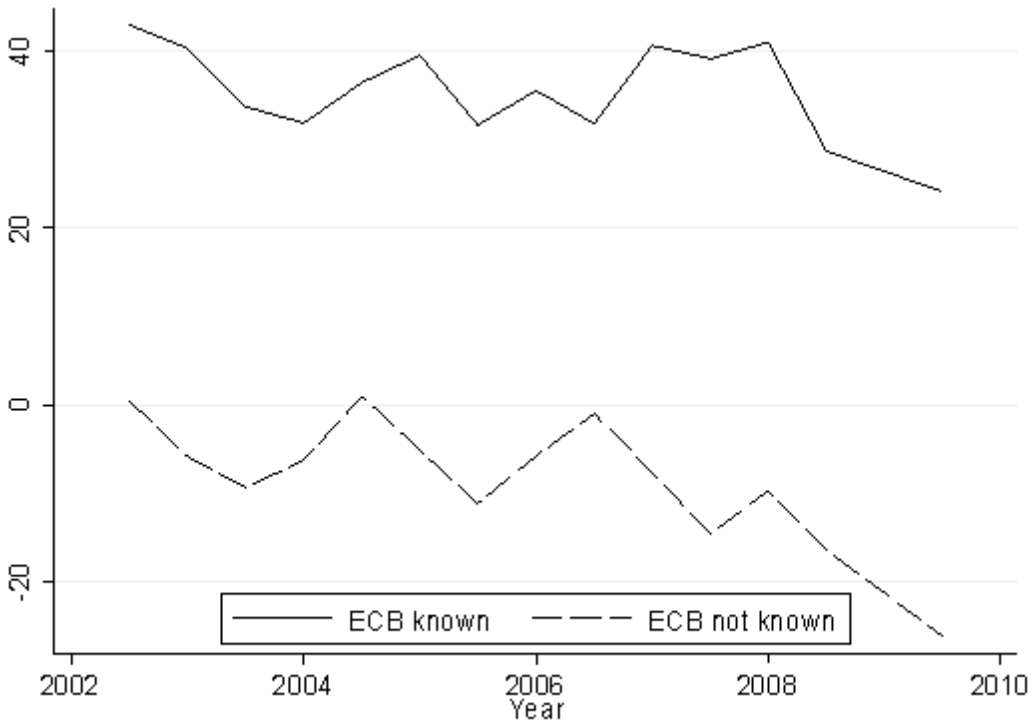

Figure 3: Source: Eurobarometer surveys. The figures reports *net trust*, computed as the difference between the percentage of those who report to trust the ECB and those who report not to trust it.

heard about it only in the context of responding to the Eurobarometer questionnaire (otherwise it would not make sense to answer the question about trust). In practice, there is a continuum of degrees of knowledge between knowing nothing at all and being fully and perfectly informed. From now on, we therefore interpret the question *"Have you heard about the ECB?"* as an indicator of knowledge about the ECB. Note that we have not put this variable in the baseline analysis due to limited data availability, but we report some results including it in this section.

Table 6 reports what is indeed already evident when looking at Figure 3: trust in the ECB is higher, the higher the knowledge about it, and to a staggering degree (individuals who know the ECB well are 28% more likely to trust it); and the loss of trust has been significantly lower in respondents who report to have heard about the ECB. *Table 7* reproduces the estimates in Table 2, i.e. the baseline exercise, only for those individuals who have reported to have heard about the ECB. The striking difference compared with the baseline results is that the crisis dummy is insignificant practically everywhere, and while the demographic and economic variables enter in a similar way, the crisis-specific variables (government asset support measures to the financial sector, bank excess returns) are now insignificant (see column (6)). It appears, therefore, that the impact of crisis-related events and variables only matters for respondents who have little knowledge of the ECB.[10]

(Insert Tables 6-7 around here)

These results have clear important implications for central bank communication, as they suggest that the best way to strengthen trust, also in a financial crisis, is to increase the public's knowledge about the central bank itself and its policies. While there is an enormous literature in other domains of central bank communication (see Blinder et al. 2008 for a survey), the role of communication with and to the general public is a very under-researched field, no doubt due to data limitations. This is likely to apply with particular force to the ECB and the euro area, with its plurality of languages and cultures.[11]

In most models used for monetary policy analysis, the private sector is presented as an indistinct representative agent which has a very good understanding of the macroeconomic environment and of the central bank policies. The degree of transparency and communication by a central bank is typically either on its current assessment of macroeconomic conditions or on the policies that the central banks intends to pursue in the future (see, e.g., Woodford 2005). That may be rather far from the truth for the household sector. van der Cruijsen et al. (2010) have conducted a survey on Dutch households on their degree of knowledge of the ECB. Their main result is the public has limited knowledge about the ECB. Indeed, the average number of

[10] [On the other hand, a more pessimistic interpretation of this result is that individuals with knowledge about the ECB did not trust it more despite the exceptional measures it put in place to avert a depression in the euro area.]

[11] See Padoa-Schioppa (2004).

correct answers to eleven straightforward statements about the ECB's objectives is less than five; for example, many respondents even think that the ECB's inflation target applies to individual countries, rather than the euro area as a whole. van der Cruijsen et al. also report that many individuals have a rather weak desire to be informed about the central bank, and this is an important barrier for central bank communication. Nevertheless, clear and comprehensible messages should contribute to making the ECB, and other central banks, better known to the general public.

6 Trust in the ECB in the pre-ins

So far, we have looked at trust in the ECB in the euro area countries, since the ECB is the central bank of the euro area. Nonetheless, it may also be interesting to look at trust in other EU countries (in jargon "pre-ins"), not least because most of these countries are expected, sooner or later, to join the euro area and therefore to have the ECB as their own central bank. In these countries, it could be that what matters in terms of trust in the ECB is not only country economic performance but also country performance in the euro area and the relation between the two. For example, individuals in a country with higher inflation than the euro area may trust the ECB more because its performance is better than the one of their own central bank. Therefore, we expand our specification to include not only the euro area macroeconomic variables, but also the differentials between the country and the euro area.

Figure 4 reports the behaviour of net trust in the ECB for the euro area and the pre-ins. The fall in net trust in the ECB in the wake of the global financial crisis is also pronounced in the pre-ins, and the level has generally been lower than in the euro area, possibly due to the fact that knowledge in the ECB is lower in the pre-ins countries.

Table 8 reports the regression results for the whole set of pre-ins. Many of the determinants are the same as in the euro area countries, in particular the demographic factors and the variables capturing the attitudes towards Europe (trust in the European Commission and the assessment of whether EU membership is a good thing). asset support measures are also significant and negatively signed when interacted with the crisis dummy. As to the macroeconomic variables, we find that euro area variables generally don't matter, with the exception of euro area stock returns. What is more surprising is that the differentials in HICP inflation and unemployment rate are *negatively* signed and statistically significant. Similar to what happens to individuals in euro area countries, the ECB is more or less trusted depending on the country's performance, even if this is even less warranted in the case of countries which don't even belong to the euro area. This suggests that the hypothesis that citizens trust the ECB more, the better the euro area is doing compared with their own country (relative comparison), is not supported by the data.

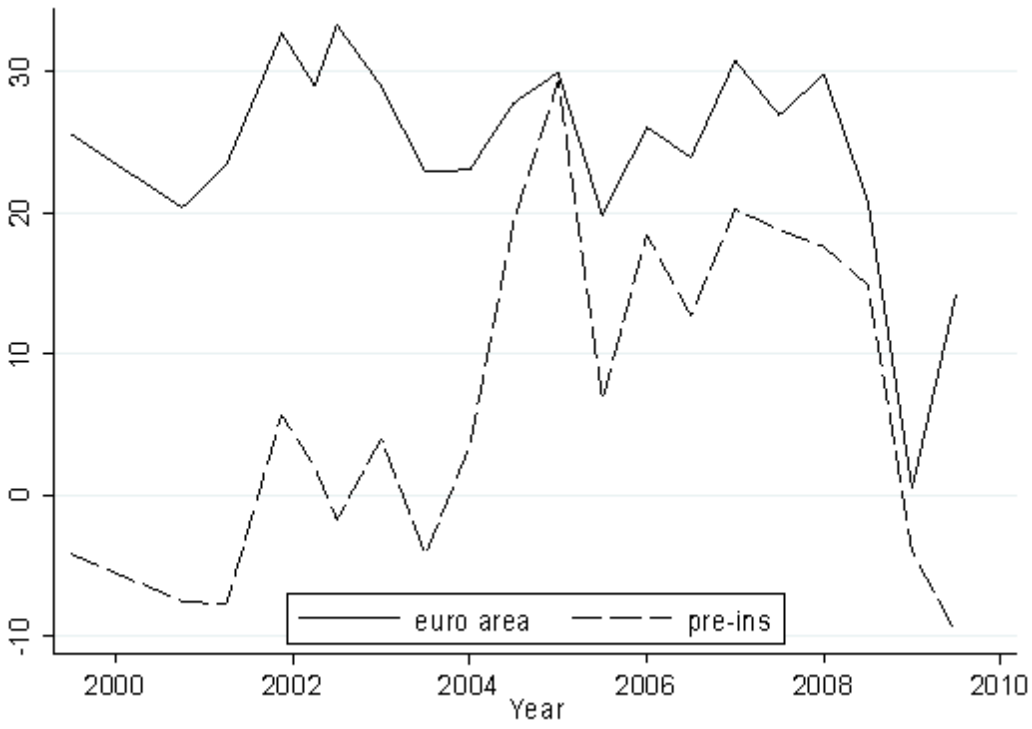

Figure 4: Source: Eurobarometer surveys. The figures reports *net trust*, computed as the difference between the percentage of those who report to trust the ECB and those who report not to trust it.

It may also be interesting to distinguish countries of the original EU-15 (Denmark, Sweden and UK) from the new Member States, who joined the EU from 2004 onwards. Results for the first set of countries are reported in *Table 8a*, for the latter set in *Table 8b*. In Denmark, Sweden and the UK results are generally more statistically significant but otherwise similar to those already reported in Table 8 for the total of pre-ins; the only difference is that the unemployment rate in the euro area is now statistically significant. For the new Member States (Table 8b), results are again qualitatively similar but much less statistically significant, in particular for the demographic factors.

(Insert Tables 8, 8a and 8b around here)

7 Conclusions

This paper has analysed the behaviour of European public opinion during the 2007-09 global financial crisis. In particular, the paper focuses on explaining the abrupt and sharp fall in the public trust in the ECB during the financial crisis, which stands somewhat in contrast with the widespread perception that central banks, including the ECB, have averted a repetition of the Great Depression in 2009 and have therefore been very successful in limiting the fall-out of the crisis. Why did the public lose trust in the ECB and other central banks exactly when central banks were living their finest hour?

We use individual-level data from the Eurobarometer survey to shed light on this question and we find that the fall in the public trust in the ECB can be well explained by a combination of three determinants: (i) the sharp deterioration in the economic situation during the crisis, (ii) the fall in public trust in the overall European project, possibly because citizens saw Europe as being unable to prevent or solve the global crisis, and (iii) the fact that the ECB was associated, in the public opinion, to bank losses and the related public support to the financial sector. These three factors are needed jointly for a satisfactory explanation. While the third factor appears to be partly specific to the crisis, the first two appear to matter in approximately the same way in normal times. The fall in public trust in the ECB may therefore have been largely predicted based on the pre-crisis elasticities. We conclude, therefore, that the loss of trust in the ECB reflected the fact that the ECB is a central bank, it's European *and* is a bank.

We also uncover the important role played by knowledge of the ECB in influencing the behaviour of trust. Indeed, respondents who are sufficiently aware of the ECB reported not only higher trust, but also a much smaller fall in trust during the financial crisis. It appears, therefore, that our study has a straightforward policy implication, namely that central banks such as the ECB should make themselves better known, if they want to keep up public trust in them, both in normal and crisis times. As

mentioned by Blinder et al. (2008), communication to the general public is an under-researched and yet fascinating area for future research.

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TABLE 1. Descriptive statistics for euro area countries

	Full sample					Pre-crisis					Crisis				
Variable	Obs.	Mean	Std. Dev.	Min	Max	Obs.	Mean	Std. Dev.	Min	Max	Obs.	Mean	Std. Dev.	Min	Max
Trust in ECB	145776	0.686	0.464	0.000	1.000	114662	0.702	0.457	0.000	1.000	31114	0.624	0.484	0.000	1.000
Sex: female	145776	0.482	0.500	0.000	1.000	114662	0.480	0.500	0.000	1.000	31114	0.486	0.500	0.000	1.000
Age	145776	45.095	17.802	15.000	99.000	114662	44.869	17.774	15.000	99.000	31114	45.927	17.880	15.000	97.000
Married	145776	0.612	0.487	0.000	1.000	114662	0.617	0.486	0.000	1.000	31114	0.594	0.491	0.000	1.000
Educational attainment	145776	2.013	0.774	1.000	3.000	114662	1.992	0.779	1.000	3.000	31114	2.089	0.749	1.000	3.000
Employed	145776	0.532	0.499	0.000	1.000	114662	0.537	0.499	0.000	1.000	31114	0.513	0.500	0.000	1.000
Retired	145776	0.216	0.411	0.000	1.000	114662	0.211	0.408	0.000	1.000	31114	0.232	0.422	0.000	1.000
Political orientation	145776	-0.053	0.533	-1.000	1.000	114662	-0.052	0.529	-1.000	1.000	31114	-0.057	0.548	-1.000	1.000
Total stock returns	145776	-0.698	3.566	-12.757	7.678	114662	0.118	2.844	-7.710	7.678	31114	-3.706	4.278	-12.757	2.932
HICP inflation	145776	2.488	1.177	-0.230	6.301	114662	2.378	1.002	0.016	5.987	31114	2.892	1.607	-0.230	6.301
Unemployment rate	145776	7.137	2.421	1.839	16.708	114662	7.192	2.371	1.839	12.420	31114	6.938	2.589	2.699	16.708
General satisfaction with life	145776	3.043	0.712	1.000	4.000	114662	3.056	0.703	1.000	4.000	31114	2.995	0.745	1.000	4.000
General expectations for the next 12 months	145776	0.177	0.642	-1.000	1.000	114662	0.216	0.635	-1.000	1.000	31114	0.032	0.648	-1.000	1.000
Trust in the European Commission	145776	0.655	0.475	0.000	1.000	114662	0.667	0.471	0.000	1.000	31114	0.611	0.487	0.000	1.000
EU membership is a good thing	145776	0.462	0.757	-1.000	1.000	114662	0.473	0.750	-1.000	1.000	31114	0.422	0.778	-1.000	1.000
Asset support (% of GDP)	145776	0.016	0.018	0.000	0.049	--	--	--	--	--	31114	0.015	0.018	0.000	0.049
Excess return of bank stocks	145776	-0.176	2.659	-15.642	8.938	114662	0.175	1.617	-7.124	6.217	31114	-1.469	4.623	-15.642	8.938
Heard of ECB	112269	0.874	0.332	0.000	1.000	91413	0.867	0.339	0.000	1.000	20856	0.905	0.294	0.000	1.000

Note: Sample period from 1999 (autumn survey) to 2009 (autumn survey).

TABLE 2: Determinants of trust in the ECB (euro area changing composition)

Dependent variable: trust in the ECB.

Dependent variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crisis dummy	-0.078***	-0.085***	-0.073***	-0.066***	-0.060**	-0.026	-0.096
	(0.020)	(0.020)	(0.018)	(0.018)	(0.028)	(0.021)	(0.078)
Sex: female		-0.034***	-0.036***	-0.031***	-0.033***	-0.033***	-0.034***
		(0.006)	(0.007)	(0.006)	(0.006)	(0.006)	(0.006)
Age		-0.000	0.001	0.001***	-0.000	0.001***	0.001***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Married		0.021***	0.012**	0.018***	0.022***	0.014***	0.014***
		(0.005)	(0.005)	(0.004)	(0.005)	(0.004)	(0.004)
Educational attainment		0.066***	0.049***	0.036***	0.064***	0.028***	0.027***
		(0.008)	(0.010)	(0.007)	(0.008)	(0.006)	(0.006)
Employed		-0.009	-0.011*	0.010***	-0.007	0.006**	0.006*
		(0.007)	(0.007)	(0.003)	(0.006)	(0.003)	(0.003)
Retired		-0.010	-0.017*	-0.003	-0.007	-0.009	-0.010
		(0.012)	(0.009)	(0.009)	(0.011)	(0.007)	(0.007)
Political orientation		0.035**	0.027**	0.032***	0.035***	0.026***	0.027***
		(0.014)	(0.012)	(0.008)	(0.013)	(0.007)	(0.007)
Total stock returns			0.001			0.002	0.000
			(0.001)			(0.002)	(0.001)
HICP inflation			0.011*			-0.013**	-0.024***
			(0.006)			(0.006)	(0.009)
Unemployment rate			-0.012**			-0.017***	-0.016***
			(0.005)			(0.005)	(0.006)
General satisfaction with life			0.088***			0.041***	0.038***
			(0.009)			(0.005)	(0.004)
General expectations for the next 12 months			0.048***			0.004	0.003
			(0.006)			(0.005)	(0.005)
Trust in the European Commission				0.601***		0.603***	0.611***
				(0.039)		(0.037)	(0.035)
EU membership is a good thing				0.094***		0.091***	0.091***
				(0.012)		(0.008)	(0.008)
Asset support (% of GDP)					1.341	0.164	0.190
					(1.072)	(0.797)	(0.787)
Asset support, interacted with crisis dummy					-1.050	-1.278*	-1.062
					(0.857)	(0.702)	(0.669)
Excess return of bank stocks					0.003*	0.005*	0.001
					-0.001	(0.003)	(0.005)
Interaction terms with crisis dummy							
Trust in the European Commission							-0.037
							(0.023)
EU membership is a good thing							0.003
							(0.007)
Excess return of bank stocks							0.004
							(0.004)
Total stock returns							0.005**
							(0.003)
HICP inflation							0.029**
							(0.013)
Unemployment rate							-0.003
							(0.007)
General satisfaction with life							0.012
							(0.011)
General expectations for the next 12 months							0.006
							(0.005)
# of observations	145,776	145,776	145,776	145,776	145,776	145,776	145,776
AIC	180842.5	178586.28	173951.9	112293.62	178277.46	110489.9	110320.99
BIC	180862.3	178675.29	174080.47	112402.41	178396.14	110618.47	110449.56
McFadden's adjusted R^2	0.4%	1.6%	4.2%	38.1%	1.8%	39.1%	39.2%
Cragg & Uhler's R^2	0.7%	2.8%	7.1%	53.1%	3.1%	54.2%	54.3%
McKelvey & Zavoina's R^2	0.8%	3.4%	8.4%	50.0%	3.8%	51.5%	51.7%

Note: Coefficients report marginal effects from probit regressions. Standard errors are robust and clustered at the country level. *, ** and *** denote significant at the 10, 5 and 1 percent level respectively (two-tailed tests).

TABLE 3: Determinants of trust in the ECB (euro area 12 fixed composition)

Dependent variable: trust in the ECB.

	(1)	(2)	(3)	(4)	(5)	(6)
Crisis dummy	-0.083***	-0.089***	-0.074***	-0.069***	-0.069**	-0.025
	(0.022)	(0.022)	(0.019)	(0.020)	(0.031)	(0.025)
Sex: female		-0.034***	-0.036***	-0.032***	-0.033***	-0.034***
		(0.006)	(0.007)	(0.006)	(0.006)	(0.006)
Age		-0.000	0.001	0.001***	-0.000	0.001***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Married		0.020***	0.010**	0.017***	0.020***	0.013***
		(0.005)	(0.005)	(0.004)	(0.005)	(0.004)
Educational attainment		0.065***	0.049***	0.035***	0.063***	0.027***
		(0.008)	(0.010)	(0.007)	(0.008)	(0.006)
Employed		-0.009	-0.012*	0.010***	-0.007	0.006*
		(0.007)	(0.007)	(0.003)	(0.006)	(0.003)
Retired		-0.012	-0.018*	-0.004	-0.009	-0.010
		(0.012)	(0.010)	(0.010)	(0.010)	(0.007)
Political orientation		0.034**	0.027**	0.032***	0.034**	0.027***
		(0.014)	(0.013)	(0.008)	(0.014)	(0.007)
Total stock returns			0.001			0.001
			(0.001)			(0.002)
HICP inflation			0.009			-0.016**
			(0.006)			(0.006)
Unemployment rate			-0.012**			-0.017***
			(0.005)			(0.005)
General satisfaction with life			0.088***			0.041***
			(0.009)			(0.005)
General expectations for the next 12 months			0.045***			0.003
			(0.006)			(0.005)
Trust in the European Commission				0.596***		0.599***
				(0.041)		(0.038)
EU membership is a good thing				0.097***		0.093***
				(0.012)		(0.009)
Asset support (% of GDP)					1.437	0.219
					(1.107)	(0.821)
Asset support, interacted with crisis dummy					-0.796	-1.361*
					(0.914)	(0.732)
Excess return of bank stocks					0.004	0.004
					(0.002)	(0.003)
# of observations	139,689	139,689	139,689	139,689	139,689	139,689
AIC	173,490	171,352	167,008	108,486	171,004	106,717
BIC	173,510	171,441	167,116	108,594	171,112	106,825
McFadden's adjusted R^2	0.4%	1.6%	4.1%	37.7%	1.8%	38.7%
Cragg & Uhler's R^2	0.7%	2.8%	7.0%	52.7%	3.2%	53.8%
McKelvey & Zavoina's R^2	0.8%	3.4%	8.3%	49.6%	3.8%	51.2%

Note: Coefficients report marginal effects from probit regressions. Standard errors are robust and clustered at the country level. *, ** and *** denote significant at the 10, 5 and 1 percent level respectively (two-tailed tests).

TABLE 4: Determinants of trust in the ECB (euro area changing composition, crisis dummy starting in autumn 2007)

Dependent variable: trust in the ECB.

	(1)	(2)	(3)	(4)	(5)	(6)
Crisis dummy	-0.042**	-0.050**	-0.043**	-0.034**	-0.020	-0.006
	(0.021)	(0.020)	(0.018)	(0.016)	(0.024)	(0.021)
Sex: female		-0.034***	-0.036***	-0.031***	-0.033***	-0.033***
		(0.006)	(0.007)	(0.006)	(0.006)	(0.006)
Age		-0.000	0.001	0.001***	-0.000	0.001***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Married		0.022***	0.012***	0.019***	0.022***	0.015***
		(0.005)	(0.004)	(0.004)	(0.005)	(0.004)
Educational attainment		0.065***	0.049***	0.035***	0.064***	0.028***
		(0.008)	(0.010)	(0.007)	(0.008)	(0.006)
Employed		-0.008	-0.010	0.011***	-0.006	0.006**
		(0.007)	(0.007)	(0.003)	(0.006)	(0.003)
Retired		-0.009	-0.016*	-0.002	-0.006	-0.008
		(0.012)	(0.009)	(0.010)	(0.011)	(0.007)
Political orientation		0.035**	0.027**	0.032***	0.035***	0.027***
		(0.014)	(0.012)	(0.008)	(0.013)	(0.007)
Total stock returns			0.003***			0.003*
			(0.001)			(0.002)
HICP inflation			0.012**			-0.013**
			(0.006)			(0.006)
Unemployment rate			-0.013**			-0.017***
			(0.005)			(0.005)
General satisfaction with life			0.088***			0.041***
			(0.009)			(0.005)
General expectations for the next 12 months			0.049***			0.006
			(0.006)			(0.005)
Trust in the European Commission				0.602***		0.604***
				(0.039)		(0.037)
EU membership is a good thing				0.093***		0.090***
				(0.011)		(0.008)
Asset support (% of GDP)					1.610	0.145
					(1.073)	(0.761)
Asset support, interacted with crisis dummy					-2.239***	
					(0.675)	
Excess return of bank stocks					0.003	0.005**
					(0.002)	(0.003)
Observations	145,776	145,776	145,776	145,776	145,776	145,776
AIC	181,250	178,995	174,193	112,540	178,458	110,638
BIC	181,270	179,084	174,321	112,649	178,577	110,767
McFadden's adjusted R^2	0.1%	1.4%	4.0%	38.0%	1.7%	39.0%
Cragg & Uhler's R^2	0.3%	2.4%	6.9%	53.0%	2.9%	54.1%
McKelvey & Zavoina's R^2	0.3%	2.9%	8.2%	49.8%	3.6%	51.4%

Note: Coefficients report marginal effects from probit regressions. Standard errors are robust and clustered at the country level. *, ** and *** denote significant at the 10, 5 and 1 percent level respectively (two-tailed tests).

TABLE 5: Determinants of trust in the ECB (euro area changing composition, pre crisis period)

Dependent variable: trust in the ECB.

	(2)	(3)	(4)	(5)	(6)
Sex: female	-0.025***	-0.026***	-0.023***	-0.025***	-0.026***
	(0.007)	(0.007)	(0.006)	(0.007)	(0.006)
Age	-0.001	0.000	0.001***	-0.001	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Married	0.019***	0.011***	0.018***	0.020***	0.014***
	(0.004)	(0.003)	(0.004)	(0.004)	(0.004)
Educational attainment	0.048***	0.036***	0.021***	0.046***	0.015***
	(0.008)	(0.009)	(0.005)	(0.008)	(0.005)
Employed	-0.004	-0.004	0.018***	-0.001	0.012***
	(0.008)	(0.007)	(0.004)	(0.006)	(0.004)
Retired	-0.006	-0.005	0.006	-0.002	-0.001
	(0.013)	(0.007)	(0.008)	(0.009)	(0.004)
Political orientation	0.033**	0.026**	0.031***	0.033**	0.028***
	(0.013)	(0.012)	(0.008)	(0.013)	(0.007)
Total stock returns		-0.003*			0.001
		(0.002)			(0.002)
HICP inflation		0.016*			-0.029***
		(0.008)			(0.008)
Unemployment rate		-0.012**			-0.014***
		(0.005)			(0.005)
General satisfaction with life		0.079***			0.031***
		(0.008)			(0.004)
General expectations for the next 12 months		0.046***			0.001
		(0.007)			(0.005)
Trust in the European Commission			0.604***		0.609***
			(0.040)		(0.036)
EU membership is a good thing			0.101***		0.099***
			(0.010)		(0.008)
Asset support (% of GDP)				1.250	0.274
				(1.098)	(0.731)
Asset support, interacted with crisis dummy					
Excess return of bank stocks				0.003	0.004
				(0.005)	(0.006)
Observations	95,177	95,177	95,177	95,177	95,177
AIC	115,241	112,510	70,536	115,037	69,571
BIC	115,317	112,623	70,631	115,131	69,684
McFadden's adjusted R^2	0.9%	3.2%	39.3%	1.0%	40.1%
Cragg & Uhler's R^2	1.5%	5.5%	54.1%	1.8%	55.0%
McKelvey & Zavoina's R^2	1.8%	6.6%	50.4%	2.2%	51.7%

Note: Coefficients report marginal effects from probit regressions. Standard errors are robust and clustered at the country level. *, ** and *** denote significant at the 10, 5 and 1 percent level respectively (two-tailed tests).

TABLE 6: The effect of the crisis and "Heard about the ECB"

Dependent variable: trust in the ECB.

Dependent variables	(1)	(2)
Heard of ECB	0.281***	0.258***
	(0.018)	(0.016)
Crisis dummy		-0.091***
		(0.017)
Heard of ECB interacted with crisis dummy		0.070***
		(0.016)
# of observations	112,269	112,269
AIC	134,313	134,159
BIC	134,332	134,197
McFadden's adjusted R^2	3.1%	3.2%
Cragg & Uhler's R^2	5.2%	5.4%
McKelvey & Zavoina's R^2	5.7%	5.9%

Note: Coefficients report marginal effects from probit regressions. Standard errors are robust and clustered at the country level. *, ** and *** denote significant at the 10, 5 and 1 percent level respectively (two-tailed tests).

TABLE 7: Based on responses by individuals who have "Heard about the ECB"

Dependent variable: trust in the ECB.

Dependent variables	(1)	(2)	(3)	(4)	(5)	(6)
Crisis dummy	-0.017	-0.024	-0.030*	-0.011	-0.007	-0.007
	(0.019)	(0.019)	(0.018)	(0.014)	(0.020)	(0.019)
Sex: female		-0.021***	-0.024***	-0.022***	-0.020***	-0.024***
		(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Age		-0.000	0.000	0.001***	-0.000	0.001***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Married		0.017***	0.008	0.016***	0.016***	0.012***
		(0.006)	(0.005)	(0.005)	(0.006)	(0.005)
Educational attainment		0.049***	0.034***	0.022***	0.048***	0.014***
		(0.007)	(0.009)	(0.005)	(0.007)	(0.004)
Employed		-0.012**	-0.016**	0.001	-0.011**	-0.002
		(0.006)	(0.006)	(0.004)	(0.006)	(0.004)
Retired		-0.007	-0.014*	-0.004	-0.004	-0.008
		(0.010)	(0.008)	(0.009)	(0.009)	(0.008)
Political orientation		0.037***	0.029**	0.033***	0.038***	0.028***
		(0.014)	(0.013)	(0.008)	(0.014)	(0.007)
Total stock returns			-0.002			-0.000
			(0.001)			(0.002)
HICP inflation			0.008			-0.015**
			(0.005)			(0.007)
Unemployment rate			-0.012***			-0.015***
			(0.004)			(0.005)
General satisfaction with life			0.081***			0.037***
			(0.009)			(0.005)
General expectations for the next 12 months			0.043***			0.006
			(0.007)			(0.005)
Trust in the European Commission				0.584***		0.584***
				(0.042)		(0.039)
EU membership is a good thing				0.077***		0.073***
				(0.011)		(0.007)
Asset support (% of GDP)					1.473*	0.120
					(0.847)	(0.706)
Asset support, interacted with crisis dummy					-2.084***	
					(0.663)	
Excess return of bank stocks					-0.003	-0.003
					(0.002)	(0.003)
# of observations	98,103	98,103	98,103	98,103	98,103	98,103
AIC	114810.1	113801.18	110896.46	71159.653	113460.17	70088.555
BIC	114829.1	113886.62	111019.88	71264.085	113574.09	70211.974
McFadden's adjusted R^2	0.0%	0.9%	3.4%	38.0%	1.2%	39.0%
Cragg & Uhler's R^2	0.1%	1.6%	5.7%	52.1%	2.1%	53.1%
McKelvey & Zavoina's R^2	0.1%	1.9%	6.9%	48.4%	2.6%	49.9%

Note: Coefficients report marginal effects from probit regressions. Standard errors are robust and clustered at the country level. *, ** and *** denote significant at the 10, 5 and 1 percent level respectively (two-tailed tests).

TABLE 8: Determinants of trust in the ECB, pre-ins

Dependent variable: trust in the ECB.

	(1)	(2)	(3)	(4)	(5)	(6)
Crisis dummy	-0.043*	-0.054**	-0.007	-0.059***	-0.050	0.008
	(0.024)	(0.025)	(0.036)	(0.014)	(0.031)	(0.017)
Sex: female		-0.039***	-0.041***	-0.041***	-0.046***	-0.046***
		(0.013)	(0.015)	(0.012)	(0.013)	(0.014)
Age		-0.001	0.000	0.001***	-0.001	0.001***
		(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
Married		0.025***	0.016***	0.012*	0.017*	0.009
		(0.005)	(0.006)	(0.007)	(0.009)	(0.008)
Educational attainment		0.079***	0.073***	0.048***	0.066***	0.026***
		(0.021)	(0.026)	(0.016)	(0.009)	(0.008)
Employed		-0.007	-0.009	0.007	-0.005	0.004
		(0.007)	(0.008)	(0.006)	(0.007)	(0.004)
Retired		-0.013	-0.017	-0.040***	-0.024	-0.038***
		(0.019)	(0.016)	(0.012)	(0.015)	(0.010)
Political orientation		0.059**	0.055**	0.027**	0.054	0.028**
		(0.028)	(0.027)	(0.013)	(0.034)	(0.013)
Euro area total stock returns			0.015***			0.011***
			(0.001)			(0.002)
euro area HICP			0.044**			0.011
			(0.021)			(0.011)
Euro area unemployment rate			0.004			-0.024*
			(0.032)			(0.014)
Total stock return differential			0.001			-0.002
			(0.002)			(0.003)
HICP differential			0.027**			-0.009**
			(0.012)			(0.004)
Unemployment rate differential			0.007			-0.015***
			(0.007)			(0.005)
General satisfaction with life			0.078***			0.047***
			(0.010)			(0.004)
General expectations for the next 12 months			0.058***			0.017***
			(0.013)			(0.005)
Trust in the European Commission				0.642***		0.638***
				(0.050)		(0.036)
EU membership is a good thing				0.102***		0.098***
				(0.005)		(0.008)
Asset support (% of GDP)					-1.558***	-1.087***
					(0.110)	(0.145)
Asset support, interacted with crisis dummy					-0.301	0.085
					(0.217)	(0.127)
Excess return of bank stocks					-0.004	-0.001
					(0.003)	(0.001)
Observations	71,268	71,268	71,268	71,268	71,268	71,268
AIC	91,542	89,645	87,417	51,729	86,887	50,194
BIC	91,560	89,728	87,509	51,821	86,979	50,285
McFadden's adjusted R^2	0.1%	2.2%	4.6%	43.6%	5.2%	45.2%
Cragg & Uhler's R^2	0.2%	3.8%	8.0%	59.3%	9.0%	61.0%
McKelvey & Zavoina's R^2	0.2%	4.6%	9.5%	55.5%	10.2%	57.9%

Note: Coefficients report marginal effects from probit regressions. Standard errors are robust and clustered at the country level. *, ** and *** denote significant at the 10, 5 and 1 percent level respectively (two-tailed tests).

TABLE 8a: Determinants of trust in Denmark, Sweden and the United Kingdom

Dependent variable: trust in the ECB.

	(1)	(2)	(3)	(4)	(5)	(6)
Crisis dummy	-0.018	-0.031	0.151***	-0.047	0.045***	0.077***
	(0.054)	(0.062)	(0.037)	(0.039)	(0.015)	(0.021)
Sex: female		-0.075***	-0.083***	-0.074***	-0.081***	-0.083***
		(0.006)	(0.003)	(0.009)	(0.005)	(0.009)
Age		-0.000	0.000	0.002***	-0.001	0.001***
		(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
Married		0.025	0.006	0.025**	0.021	0.021
		(0.020)	(0.024)	(0.013)	(0.023)	(0.020)
Educational attainment		0.113**	0.108***	0.067*	0.065***	0.027**
		(0.045)	(0.039)	(0.036)	(0.010)	(0.012)
Employed		-0.012**	-0.016***	0.006	-0.011	0.004
		(0.005)	(0.006)	(0.006)	(0.007)	(0.003)
Retired		-0.026	-0.025	-0.041***	-0.030	-0.050**
		(0.021)	(0.020)	(0.015)	(0.027)	(0.020)
Political orientation		0.070	0.064	0.046***	0.074	0.048***
		(0.046)	(0.047)	(0.010)	(0.053)	(0.014)
Euro area total stock returns			0.013***			0.014***
			(0.001)			(0.001)
euro area HICP			-0.013			0.005
			(0.015)			(0.005)
Euro area unemployment rate			-0.042			-0.038***
			(0.033)			(0.003)
Total stock return differential			0.001			0.002
			(0.004)			(0.003)
HICP differential			-0.098***			-0.048**
			(0.024)			(0.021)
Unemployment rate differential			-0.030			-0.050***
			(0.043)			(0.004)
General satisfaction with life			0.118***			0.040***
			(0.014)			(0.006)
General expectations for the next 12 months			0.036*			0.002
			(0.020)			(0.008)
Trust in the European Commission				0.570***		0.561***
				(0.075)		(0.039)
EU membership is a good thing				0.121***		0.113***
				(0.004)		(0.013)
Asset support (% of GDP)					-1.567***	-1.453***
					(0.303)	(0.019)
Asset support, interacted with crisis dummy					-1.035***	0.201**
					(0.086)	(0.081)
Excess return of bank stocks					-0.007**	-0.005*
					(0.003)	(0.003)
Observations	35,289	35,289	35,289	35,289	35,289	35,289
AIC	46,967	45,251	43,727	28,950	43,193	27,531
BIC	46,984	45,268	43,744	28,967	43,210	27,548
McFadden's adjusted R^2	0.0%	3.6%	6.8%	38.3%	8.0%	41.3%
Cragg & Uhler's R^2	0.0%	6.5%	12.0%	54.4%	13.8%	57.6%
McKelvey & Zavoina's R^2	0.0%	7.5%	13.9%	53.4%	15.5%	57.4%

Note: Coefficients report marginal effects from probit regressions. Standard errors are robust and clustered at the country level. *, ** and *** denote significant at the 10, 5 and 1 percent level respectively (two-tailed tests).

TABLE 8b: Determinants of trust in the non-euro area new EU Member States

Dependent variable: trust in the ECB.

	(1)	(2)	(3)	(4)	(5)	(6)
Crisis dummy	-0.077***	-0.089***	-0.021	-0.049***	-0.079***	0.003
	(0.025)	(0.024)	(0.018)	(0.016)	(0.020)	(0.028)
Sex: female		-0.012*	-0.011	-0.004	-0.013*	-0.004
		(0.007)	(0.008)	(0.007)	(0.007)	(0.008)
Age		-0.001	0.001	-0.000	-0.001	0.000
		(0.001)	(0.001)	(0.000)	(0.001)	(0.000)
Married		0.013**	0.009*	-0.000	0.012**	-0.001
		(0.005)	(0.005)	(0.009)	(0.006)	(0.009)
Educational attainment		0.064***	0.051***	0.010*	0.062***	0.004
		(0.006)	(0.007)	(0.006)	(0.006)	(0.007)
Employed		0.003	0.002	0.009	0.003	0.007
		(0.008)	(0.007)	(0.007)	(0.009)	(0.007)
Retired		-0.013	-0.015	-0.024	-0.015	-0.024*
		(0.017)	(0.013)	(0.015)	(0.017)	(0.013)
Political orientation		0.037	0.032	0.007	0.038	0.006
		(0.043)	(0.035)	(0.019)	(0.043)	(0.018)
Euro area total stock returns			0.009***			0.007***
			(0.002)			(0.002)
euro area HICP			0.007			-0.012
			(0.011)			(0.009)
Euro area unemployment rate			-0.018			-0.038**
			(0.021)			(0.015)
Total stock return differential			-0.006**			-0.003
			(0.003)			(0.004)
HICP differential			0.009**			-0.003
			(0.004)			(0.004)
Unemployment rate differential			-0.005			-0.006***
			(0.003)			(0.002)
General satisfaction with life			0.074***			0.032***
			(0.009)			(0.002)
General expectations for the next 12 months			0.097***			0.018***
			(0.006)			(0.004)
Trust in the European Commission				0.740***		0.734***
				(0.038)		(0.035)
EU membership is a good thing				0.083***		0.082***
				(0.008)		(0.006)
Asset support (% of GDP)					-4.269***	-2.843***
					(0.452)	(0.210)
Asset support, interacted with crisis dummy					-90.572***	-27.109
					(21.261)	(23.669)
Excess return of bank stocks					0.003	-0.000
					(0.002)	(0.002)
Observations	35,979	35,979	35,979	35,979	35,979	35,979
AIC	44,025	43,451	41,595	22,015	43,278	21,676
BIC	44,042	43,510	41,654	22,074	43,337	21,736
McFadden's adjusted R^2	0.4%	1.7%	5.9%	50.2%	2.1%	50.9%
Cragg & Uhler's R^2	0.7%	3.0%	10.0%	65.1%	3.7%	65.8%
McKelvey & Zavoina's R^2	0.9%	3.7%	11.8%	58.2%	4.4%	59.4%

Note: Coefficients report marginal effects from probit regressions. Standard errors are robust and clustered at the country level. *, ** and *** denote significant at the 10, 5 and 1 percent level respectively (two-tailed tests).