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Supervision: Evidence from a Survey of  
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Carin van der Cruijssen, Jakob de Haan, David-Jan Jansen and Robert Mosch \*

\* Views expressed are those of the authors and do not necessarily reflect official positions of De Nederlandsche Bank.

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De Nederlandsche Bank NV  
P.O. Box 98  
1000 AB AMSTERDAM  
The Netherlands

KNOWLEDGE AND OPINIONS ABOUT BANKING SUPERVISION:  
EVIDENCE FROM A SURVEY OF DUTCH HOUSEHOLDS

Carin van der Cruijssen<sup>a</sup>, Jakob de Haan<sup>a,b,c\*</sup>, David-Jan Jansen<sup>a</sup> and Robert Mosch<sup>a</sup>

<sup>a</sup> De Nederlandsche Bank

<sup>b</sup> University of Groningen, The Netherlands

<sup>c</sup> Cesifo, Munich, Germany

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*Abstract*

What does the general public know about banking supervision? What objectives does the public think bank supervisors should pursue? We investigate these issues using a survey among Dutch households. First, we find that the public's knowledge about banking supervision is far from perfect. We also find that respondents often expect more from supervisors than they can realistically achieve. Finally, our findings suggest that better-informed people have more realistic views on banking supervision. Realistic views on banking supervision lead to more prudent financial behaviour, which, in turn, contributes to financial stability. Therefore, the communication policies of banking supervisors should aim to improve the public's knowledge about banking supervision.

*JEL-codes:* D12, D84, E58, G21

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\* Corresponding author. De Nederlandsche Bank, PO Box 98, 1000 AB, Amsterdam, The Netherlands, E-mail: [j.de.haan@dnb.nl](mailto:j.de.haan@dnb.nl); Tel. +31-205245756.

## 1. Introduction

When the financial crisis struck the world economy, several banks failed. In other cases, financial institutions needed government support in order to survive. The authorities responsible for banking supervision came under criticism. Currently, various efforts are under way to enhance banking supervision.<sup>1</sup>

Public reactions to recent bank failures suggest that at the time, many people were unaware of the risks occurring in the financial sector. Individuals who underestimate such risks are more likely to take sub-optimal financial decisions. If the supervisor is blamed for the failure of a financial institution, this may harm the supervisor's credibility, and hence its effectiveness. Indeed, after some banks in the Netherlands had failed, public confidence in De Nederlandsche Bank (DNB)<sup>2</sup> dropped, from 91% in 2006 to 72% in 2010. If based on unrealistic expectations, confidence in supervisors (and financial institutions in general) will be affected during financial turmoil.<sup>3</sup>

It is therefore important for supervisors to understand what people know about banking supervision and what they expect supervisors to do. If the level of awareness is low, or if expectations are over-optimistic, the supervisor may want to address these gaps in the public's knowledge. In this paper, we discuss the following questions. First, what does the public know about banking supervision, and how does it obtain its information? Second, what does the public expect supervisors to do? Finally, what drives the public's opinions about banking supervision?

We investigate these issues using the Netherlands as a case study. Three characteristics make the Netherlands an interesting country to study in this context. First, the Dutch financial sector is relatively large, contributing about 7.5% to GDP and directly providing employment to about 3.5% of the workforce. Second, recent developments in the Dutch financial sector were quite tumultuous. A number of smaller banks went bankrupt and various large financial institutions received government support, in the form of either capital injections or nationalization. Third, the Dutch so-called Twin Peaks model of supervision is widely considered as a benchmark for other countries. Under this model, DNB is responsible for micro-prudential supervision, whereas the Netherlands Authority for the Financial Markets (AFM) exercises market conduct supervision.

This paper is related to the literature on financial literacy. Various papers in this field have shown how knowledge about financial issues is related to decision-making. For instance, Lusardi and Mitchell (2007) and Van Rooij, Lusardi and Alessie (2011a) find that more knowledgeable people are also more likely to plan for retirement. Likewise, Van Rooij, Lusardi and Alessie (2011b) conclude that people of low literacy are much less likely to invest in stocks. As far as we know, our

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<sup>1</sup> For instance, the Basel Committee on Banking Supervision has put forward far-reaching proposals (Basel III); see <http://www.bis.org/bcbs/basel3.htm>. See also Dewatripont, Rochet and Tirole (2010) for a discussion on lessons drawn from the financial crisis. For an assessment of EU and national authorities' response to the financial crisis, see Pisani-Ferry and Sapir (2010).

<sup>2</sup> De Nederlandsche Bank is both the central bank of the Netherlands and one of the Dutch banking supervisors.

<sup>3</sup> See Mosch and Prast (2008) for empirical research on confidence in the financial sector.

paper is the first to investigate knowledge and opinions about banking supervision. One closely related paper is Van der Cruijssen, Jansen and De Haan (2010) who reported that knowledge on the ECB's monetary policy contributed to an individual's ability to form realistic inflation expectations.

To organize our analysis, we use the framework proposed by Blinder and Krueger (2004) in their study on the determinants of opinions on U.S. economic policy. This framework links various factors, which influence opinions and knowledge, such as people's willingness to be informed, the sources they use, the type of job they have, and their level of education. We use data from the DNB Household Survey (DHS), a continuous Internet-based survey among Dutch households. We presented participants with thirteen statements about the responsibilities of banking supervisors in the Netherlands, asking them to indicate whether the statements were true or false. The number of correct answers was used to construct a proxy for knowledge. Likewise, we asked our respondents what they thought supervisors should do, in order to create a proxy for opinions.

Our main findings are as follows. First, perhaps unsurprisingly given the complexities of financial supervision, knowledge about micro-prudential supervision is far from perfect. Less than 15% of the respondents answered more than half of the knowledge questions correctly. Second, respondents expect more from supervisors than they can realistically deliver. For instance, three out of five respondents indicated that it should be the task of supervisors to prevent all bankruptcies. Finally, our results suggest that better knowledge about supervision is related to more realistic opinions. As realistic views on banking supervision lead to more prudent financial behaviour, thereby contributing to financial stability, communication policies of banking supervisors should aim to improve public knowledge about banking supervision.

The remainder of the paper is structured as follows. Section 2 sets out the methodological framework, while section 3 presents the outcomes of the survey. Sections 4 and 5 outline our proxies for knowledge and opinions about banking supervision, respectively. Section 6 presents our regression analysis. The final section offers the conclusions and policy recommendations.

## **2. A framework for the analysis**

Opinions about banking supervision are probably related to knowledge on the subject, which, in turn, depends on a number of factors. First, there are the benefits expected from acquiring information. Someone who sees no advantage in being informed about financial supervision will have little incentive to obtain the relevant information, so that their level of understanding will remain low. Second, given that someone does have an interest, the sources of information may become relevant. Most people do not receive their information about banking supervision directly from the supervisory authority but rather through 'intermediaries' such as television, radio and newspapers. Third, the intensity with which a particular media source is used is likely to matter for

a person's knowledge and opinions about banking supervision. Finally, several other variables, such as level of education, type of job or income level, may also be relevant.

All these factors are interrelated. To formalize the interdependencies between opinions ( $O$ ), knowledge ( $K$ ), desire to be informed ( $D$ ), and intensity of information ( $Q$ ), we use a framework similar to the one proposed by Blinder and Krueger (2004). Our basic model is:

$$(1) O_i = f(SI_i, K_i, ED_i, X_i) + e_{1,i}$$

where  $SI$  is self-interest,  $ED$  is education, and  $X$  is a vector that contains control variables such as gender, age and location. A person's knowledge about supervision depends on their educational background as well as their desire to be informed. And the sources of information and the intensity of information used ( $Q$ ) may also affect  $K$ . Finally,  $K$  depends on various control variables too. Thus we may write,

$$(2) K_i = g(ED_i, D_i, Q_i, X_i) + e_{2,i}$$

Following Blinder and Krueger (2004), we further posit that:

$$(3) Q_i = h_1(D_i, SI_i, ED_i, X_i) + e_{3,i}$$

The sources of information and the intensity of their use depend on the desire to be informed, self-interest, education, and various control variables. The stronger a person's wish to be informed about banking supervision and the stronger the self-interest, the more (different) sources of information they will use and the more information will be acquired. Finally, the level of education is also likely to affect the intensity of the sources used to get information. First, highly educated persons will read different newspapers than people with low levels of education. Also, they may attach more importance to newspapers than to, say, television. Second, individuals with lower degrees of education may use fewer sources of information. Third, there is evidence that the level of education matters for the diversity of media sources used. For instance, Grabe, Kamhawi and Yegiyani (2009) show that highly educated persons tend to be better at remembering items read in newspapers and on the Internet. By contrast, the lower educated perform best in recalling news presented on television.

The desire to be informed depends on self-interest, education and various covariates. Self-interest may be relevant for several reasons. For example, individuals with savings have strong interest in knowing what one can expect from banking supervisors. The higher a person's bank

savings are, the more they will want to know about the risks involved and the maximum amount to be repaid in case their bank fails.

$$(4) D_i = h_2(SI_i, ED_i, X_i) + e_{4,i}$$

In section 6, we present reduced-form regressions based on equations 1 to 4. In the end, we study determinants of opinions by estimating:

$$(5) O_i = \beta_0 + \beta_1 * K_i + \beta_2 * D_i + \beta_3 * SI_i + \beta_4 * Q_i + \beta_5 * ED_i + \beta_6 * X_i + \varepsilon_i$$

where  $\varepsilon$  is assumed to be white noise.

### 3. The survey

Our investigation draws on the DNB Household Survey (DHS), a continuous Internet-based survey among Dutch households. The survey is conducted by Tilburg University's CentERdata. The so-called CentERpanel forms a representative sample of the Dutch population. It consists of almost 2,500 members who answer questionnaires via their home computers. The DHS has been widely used in research on a broad spectrum of topics. For instance, Van der Crujisen and Eijffinger (2010) used the DHS to study the transparency of the European Central Bank, whereas Jonker (2007) focused on payment instruments, and Hurd, Van Rooij and Winter (2011) investigated stock market expectations.

Our survey contains questions about households' knowledge and opinions about banking supervision (see Appendix 1 for further details). The questionnaire was answered in March 2010. The response rate of 85% is high (2,103 respondents on a sample of 2,475 panel members). We have detailed background information on the CentERpanel members. We use this information to construct control variables ( $X$ ): the age of the respondent (*age*), a dummy that equals 1 if the respondent is male (*male*), a variable that measures the social status of the respondent (*status*), which ranges from 1 (low status) to 5 (high status). We also control for the degree of urbanisation by including a variable called *city*, which ranges from 1 for respondents living in a rural area to 5 for respondents living in a very strongly urbanized area. The fifth characteristic we control for is household income (*income*). This variable is based on twelve gross monthly household income categories. It ranges from 1 (EUR 500 or less) to 12 (EUR 7,500 or more). Another variable included in the analysis is the respondents' level of education (*education*). This is a dummy that is 1 for respondents who have completed higher vocational and/or university education, and 0 otherwise.

We also know whether the respondent is the household's member responsible for its financial affairs; if so, the dummy variable *account* is 1, otherwise it is 0.

Table 1 provides information on our respondents' gender, age, household size, gross monthly income, education level, and on where they live, and whether they live together with a partner. The average respondent turns out to be male, in his early 50s, living with a partner, and earning a gross monthly income of around EUR 4,000. Table 1 also compares the survey means to the Dutch population based on data provided by Statistics Netherlands (CBS).<sup>4</sup>

[Insert Table 1]

In our survey, we ask various questions on the saving behaviour of household members. One of the questions (Q14) addresses whether the respondent currently has a savings account with a bank. It turns out that 55% of the respondents have savings at one bank, 34% have savings at more than one bank and the remaining 11% has no bank savings. We construct a dummy *savings* equal to 1 for respondents that have bank savings and equal to 0 otherwise. This is our proxy for self-interest (*SI*). It is likely that respondents with a savings account wish to be better informed about banking supervision.

We have measured respondents' desire to be informed (*D*) by asking them the following question (Q21): "*To what extent do you agree with the following statement? It is important to be well-informed on banking supervision.*" Respondents could choose one of five answers ranging from "*fully disagree*" to "*fully agree*". We constructed a variable *desire* that ranges from 1 (fully disagree) to 5 (fully agree). Figure 1 summarizes the outcomes. The desire to be informed is strong: 62% of the respondents (fully) agree with the statement. Only 8% of the respondents do not think it important to be well-informed about banking supervision. Compared to Dutch households' desire to be informed on the policy of the European Central Bank (see Van der Cruijssen, Jansen and De Haan, 2010), the desire to be informed on banking supervision is strong.

[Insert Figure 1]

Both the intensity with which and the media source through which supervisory information is obtained (*Q*) are likely to matter for both knowledge about and expectations of banking supervision. Therefore, we asked the following question: "*Which information source do you use to acquire information on banking supervision and how often?*" Response options were "*never*",

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<sup>4</sup> On various dimensions, such as age, gender, income and education, the sample is not fully representative for the Dutch population. We checked, therefore, whether re-weighting the observations would change our conclusions. This turned out not to be the case (results are available on request).



“occasionally (less than once a month)”, “regularly (more than once a month, but less than once a week)”, and “often (at least once a week)”. For each type of information we constructed a variable ranging from 1 to 4 measuring the information intensity via a particular media channel (*Q\_tv*, *Q\_radio*, *Q\_newspaper*, *Q\_magazines*, *Q\_internet*, *Q\_friends*, *Q\_family*, *Q\_colleagues*). Table 2 summarizes the outcomes. Information on banking supervision is acquired most intensively from newspapers. The second most important source of information is television. Among our list of information channels, colleagues were least important.

[Insert Table 2]

Because respondents’ knowledge and opinions about banking supervision are likely to be affected by their experiences during the current crisis, we asked respondents whether any bank they banked with had gone bankrupt or needed government support during the past three years. We used this information to construct two dummy variables: *bankrupt* and *bailout* which equal 1 in case of bankruptcy or bailout, respectively, and 0 otherwise. During the three years preceding the survey, two banks collapsed in the Netherlands: the Internet savings bank Icesave in October 2008 (with about 140,000 private deposit holders) and DSB Bank in October 2009 (with about 300,000 private deposit holders). Furthermore, the Dutch Government nationalized the Dutch part of Fortis/ABN AMRO and granted capital support to the financial conglomerates ING, SNS Reaal, and Aegon. The latter four financial institutions held a combined share of about 57% of Dutch retail deposits at the time the survey was conducted. The bankruptcies and government support actions received wide press coverage in the Netherlands.

About 10% of respondents were customer of a bank that went bankrupt. Most of these respondents held accounts with DSB, quite a few with Icesave. About 1% of respondents (23 persons) permanently lost money with an average of EUR 1,551. Most respondents who lost money (86%) had more savings than were guaranteed under the Deposit Guarantee Scheme (DGS), which is limited at EUR 100,000 per person. Only 14% of respondents who lost money had savings accounts that were not covered by the DGS, such as subordinated deposit accounts.<sup>5</sup>

About 44% of respondents are (or used to be) customers of a bank that was bailed out. Remarkably, 14% of respondents had no idea whether their bank received government support. The rest of the respondents (42%) answered that their bank had received no government support. This figure is very close to the 43% market share in retail deposits held by unsupported banks.

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<sup>5</sup> These figures are based on 21 of the 23 respondents who lost money. Two respondents were not asked Q27c, because they reported a negative amount as answer to Q27b.

## 4. Knowledge about banking supervision

### 4.1 Knowledge about tasks and responsibilities of banking supervisors

Several questions were asked to determine households' knowledge about banking supervision. The initial questions intended to measure knowledge about the tasks and responsibilities of Dutch supervisors. The second set of questions aimed to determine public knowledge about the DGS. These questions were introduced by the following text: *"The next four questions are intended to measure your knowledge about banking supervision in the Netherlands. It is no problem if you don't know the right answer. To give a fair impression of your current knowledge it is important that you don't look up any answers."* This introduction prevents guesswork – note that respondents always have the option to answer *"I don't know"* – and looking up of correct answers.

Under the Dutch Twin Peaks supervisory architecture, two institutions are responsible for financial supervision: DNB and AFM. While they supervise a broad set of financial institutions, this paper focuses on the supervision of banks. DNB exercises so-called *prudential banking supervision*, which aims to promote the soundness of banks, while AFM is responsible for *market conduct banking supervision*. AFM examines whether banks treat their clients properly, that the relationships between banks are sound, and that financial market processes are orderly and transparent. DNB is responsible for the DGS under which deposits of up to EUR 100,000 in most accounts will be refunded to the accountholder if a bank fails.

We asked the CentERpanel the following open question: *"Which institute(s) is (are) responsible for banking supervision in the Netherlands?"* (Q22). In itself it is not relevant whether people know the names of the supervisory authorities. However, the answer is a useful indicator of relevant knowledge because it is unlikely that people who are otherwise well-informed about banking supervision should not know the names of the supervisors, given their wide media coverage during the financial crisis. The question is also interesting from the viewpoint of the Twin Peaks structure. Are people aware of the distribution of responsibilities? As it turns out, the two supervisors are not equally well known to the public.

About half of the respondents (48.0%) think that only DNB is responsible for banking supervision. A small share of respondents (4.6%) believes that AFM is the only banking supervisor in the Netherlands. Clearly, DNB is better known than AFM. This is not surprising, because DNB received stronger media coverage than AFM during the crisis. A possible reason is that the financial crisis is seen more as a prudential than as a market conduct issue. Another reason could be that AFM, as a relatively new institution, still lacks familiarity among the public. DNB (established in 1814) has been around much longer than AFM (established in 2002) and attracts more media attention because it is also the central bank. About 1 in 5 respondents (18.6%) gave the correct answer to question 22, identifying DNB and AFM as the institutions responsible for banking

supervision in the Netherlands. More than one in ten respondents (13.7%) answered they did not know who is responsible for banking supervision in the Netherlands. The remainder of respondents either mentioned other institutions or combinations of DNB or AFM, or both, with other institutions. A substantial share of respondents (21.8%) identified neither DNB nor AFM as supervisory authorities, quite a high figure, we think, in view of all the recent media attention about banking supervision and the strong desire in our respondents to be informed about banking supervision.

Next, we asked question 23: *“According to you, which are tasks and responsibilities of De Nederlandsche Bank (DNB) and which of the Netherlands Authority for the Financial Markets (AFM)?”* We gave the CentERpanel a list of 13 tasks and responsibilities, numbered K1-K13 (see Appendix 1 for full details). For each of these, the survey participants were asked to report whether *“DNB”, “AFM”, “DNB & AFM”, or “neither”* was responsible. In addition, they could opt for *“I don’t know”*. Table 3 summarizes the responses. If at first sight it might not seem that relevant whether people know which supervisory authority is responsible for which task, it is relevant from the viewpoint of the Twin Peaks structure. Understanding financial supervision is hardly possible without understanding (the basics of) the Twin Peaks system. Note, however, that we come up with an alternative knowledge indicator in our sensitivity analysis in Section 6, which treats the supervisors as if they were in a ‘Single Peak’ system. This hardly affects our general results.

[Insert Table 3]

The responsibilities identified in K1, K8, K11, K12 and K13 are not among the duties of either DNB or AFM. Obviously, because of moral hazard problems, capacity constraints and unforeseen events, banking supervisors cannot promise never to let a bank fail (K1). However, half the respondents (49%) think that one of the tasks of banking supervisors is to never let banks go bankrupt. Likewise, a majority of respondents (63%) believes that supervisors have to prevent banks from selling products to customers who cannot really afford them (K8). It is known to only 12% that a court of law decides on the bankruptcy of a bank and not the supervisors (K11). Three-quarters of the public think that supervisors have to inform the outside world if a bank has financial problems (K12). Finally, many respondents (74%) incorrectly assume that supervisors will refund any deposits when a bank goes bankrupt (K13). In practice, repayment depends on the type of account and is topped at EUR 100,000 per person per bank.

AFM supervises the careful treatment of customers by banks (K2), sees that banks do not provide misleading information (K5) and that openness is observed in financial markets (K6), and ensures that banks are candid towards their customers about the costs of bank products (K7). About 1 in 3 respondents knows that AFM is responsible for task K2. This applies as well to tasks

K5 and K7. However, even more respondents believe that these tasks are shared with DNB. The answer “*DNB & AFM*” also is the most popular one in response to the question which supervisor ensures openness in financial markets (K6).

DNB supervises the financial health of banks (K3), promotes financial stability (K9) and decides on banking authorizations (K10). The last responsibility is best known (to 45% of the respondents). On the other two tasks, however, the option “*DNB & AFM*” scored highest.

To summarize, it is clear that a large share of the Dutch public is only poorly aware of the tasks and responsibilities of DNB and AFM. The average share of correct answers per question is 25%. Less than 15% of all respondents answered 7 or more of the 13 questions correctly. Where the public errs, it is invariably towards more extensive supervisory powers than are actually given. This may – at least partially – explain the reputation loss that DNB and other supervisors suffered over the past few years. Poor knowledge gave rise to high expectations which when they were not met during the financial crisis, led to loss of trust. In other words, the public blamed the supervisors for something they had never promised or been asked to do. Improving public knowledge about the tasks and responsibilities of banking supervision thus is an essential first step towards restoring trust in the supervisors.

Based on the respondents’ answers we have constructed a proxy *K* for knowledge about supervision. Correct knowledge about a particular task or responsibility is rewarded with a score of 1. Therefore, *K* may range from 0 (all answers wrong or I don’t know) to 13 (all answers correct). In practice, however, the highest knowledge score a CentERpanel member obtained was 11. Figure 2 summarizes the knowledge scores.

[Insert Figure 2]

#### *4.2 Knowledge about the deposit guarantee scheme*

In addition, we asked a few questions on the DGS. First we asked “*Are you familiar with the existence of the Deposit Guarantee Scheme?*” (Q24). About 37% of the panel members reported awareness of the DGS, the rest answered “*no*”. We used this information to construct a dummy *know\_DGS* that is 1 for respondents that answered “*yes*”. Before asking more questions on the DGS, we gave the CentERpanel an explanation of the DGS: “*Occasionally, a bank may become unable to repay its depositors. When this happens, the Deposit Guarantee Scheme enters into operation. This provides for the reimbursement of the accountholders, so that they do not lose any money.*”

From the answers to the following questions it is clear that while the term “Deposit Guarantee Scheme” did not ring a bell, the brief explanation of the DGS did. We asked respondents “*Repayment under the deposit guarantee scheme is limited to a maximum amount. Do you know this amount?*” Just over one half of the respondents (55%) replied “*yes*”. They were then asked to fill in

the amount. 82% of the respondents who believed they knew the amount actually did. We have constructed a dummy *know\_DGS\_amount* that equals 1 for respondents who knew the correct amount and 0 for the respondents who either gave a wrong answer or replied they did not know the amount. Overall, 45% of the respondents knew the maximum DGS amount. We can compare these results with those of February 2006, when the DNB Household Survey contained similar questions about the DGS. Knowledge about the DGS has increased since then. In 2006, 29% (2010: 37%) of respondents were familiar with the DGS and 16% (2010: 55%) believed they knew the maximum amount. The financial crisis has apparently increased the knowledge about the DGS. However, despite extensive media coverage during the financial crisis, 55% of the respondents were still ignorant of one of its main characteristics, that is, the maximum amount.

## **5. Opinions about banking supervision: outcomes**

To gain information about respondents' opinions on what should be the tasks of banking supervisors, we put forward 14 statements labelled O1-O14 (see Appendix 1 for full details) and asked the panel members "*To what extent do you agree with the following statements?*" The response options given ranged from "*fully disagree*" to "*fully agree*". The variables O1-O14 range from 1 (fully disagree) to 5 (fully agree). Table 4 shows the results.

[Insert Table 4]

It is quite remarkable that the "*fully agree*" option is ticked most often, although the percentage ranges between 25% (O10) and 67% (O5). To some extent, respondents' opinions are in line with current supervisory practice. For instance, 93% of the respondents (totally) agree with the view that supervisors have to supervise the financial health of banks (O1). Likewise, the high scores on O2, O3, O5, O8, O9 are in line with the tasks and responsibilities of AFM and DNB. AFM monitors openness on financial markets (O2) and checks that banks give proper information about the cost of banking products (O3) and do not provide misleading information to their clients (O5). DNB contributes to the stability of the financial sector (O8), and decides on banking authorizations (O9).

An important share of the respondents expressed views that differed from current practice, namely with regard to O4, O6, O7, O10, O13 and O14. Two of these are clearly unrealistic. For instance, 63% of the respondents (totally) agreed with the view that supervisors have to ensure that banks never go bankrupt (O6). However, a commitment from the supervisors that they would never let a bank fail would create huge moral hazard problems. Similarly, although a majority of our respondents think that supervisors should inform the public when a bank has problems (O13) this is often too dangerous because such a message could cause a bank run. As for the other four views that differ from current practice: supervisors are currently prohibited by law from explaining why

they failed to save a bank that has gone bankrupt (O14); not the supervisor but a court of law decides on the bankruptcy of a bank (O10); supervisors are not required to prevent banks from selling products to customers who cannot really afford them (O4); and for logistical reasons, guaranteed savings cannot currently be paid out within a few days after the bankruptcy of a bank (O7). However, changes in laws, mandates and organizations could make these wishes come true.

We have applied Principal Component Analysis to the statements, restricting the number of factors to 2. The idea behind the use of two factors is that there are two types of statement. The first covers tasks and responsibilities that are current practice. By contrast, the second type of statement includes tasks and responsibilities which are not current practice and/or unrealistic to expect. Figure 3 shows the resulting component loadings after rotation. It is clear that apart from O4, all constructs have a high loading on one of the components and a low loading on the other. We have therefore constructed two indicators that will be used in the empirical analysis.<sup>6</sup> The variable  $O_A$  is the average of O1, O2, O3, O5, O8, O9, O12 and O14, while  $O_B$  is the average of O4, O6, O7, O10, O11 and O13. As a result,  $O_A$  and  $O_B$  each range from 1 to 5.  $O_A$  includes tasks and responsibilities which are current practice or realistic to expect from Dutch banking supervisors, while  $O_B$  includes tasks and responsibilities that are not current practice or unrealistic to expect, because they are either impossible to realize or hard to perform. In section 6, we carry out a sensitivity analysis by dividing  $O_B$  in tasks and responsibilities that are ‘unrealistic’ and those that are ‘not current practice but not impossible’.

## 6. Opinions on banking supervision: regression analyses

### 6.1 Main results

To improve our insight into households’ opinions about banking supervision we run OLS regressions for equation (5) using  $O_A$  and  $O_B$  as dependent variable. We want to analyse whether better knowledge about banking supervision ( $K$ ) leads to more realistic opinions. In view of the construction of the dependent variables, the hypotheses to be tested are that the coefficient of  $K$  is positive for  $O_A$  and negative for  $O_B$ . Likewise, the coefficients of the dummy variables reflecting knowledge of the DGS ( $know\_DGS$ ,  $know\_DGS\_amount$ ) are expected to be positive for  $O_A$  and negative for  $O_B$ .

Apart from *education* ( $ED$ ), we also include our proxy for self-interest  $SI$ , i.e. a dummy indicating whether the respondent has a savings account (*savings*), and our proxy for the *desire* to be informed ( $D$ ). We also take up our proxies for  $Q$  to check what difference it makes whether information on supervision is received through the media, friends, family or colleagues. We include:  $Q\_tv$ ,  $Q\_radio$ ,  $Q\_newspaper$ ,  $Q\_magazines$ ,  $Q\_internet$ ,  $Q\_friends$ ,  $Q\_family$ , and  $Q\_colleagues$ . The

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<sup>6</sup> Cronbach’s alpha statistics indicate that none of these variables should be dropped in constructing  $O_A$  and  $O_B$ .

variables included in the  $X$  vector of control variables are: *age*, *male*, *status*, *city*, *income*, and *account*. Furthermore, we test whether opinions depend on experiences with bankruptcy and bailouts by including the dummies *bankrupt* and *bailout*.

[Insert Table 5]

Table 5 shows the results. Most importantly, we find that an individual's level of knowledge is positively related to the degree of realism in their opinions on banking supervision. The coefficient for  $K$  is positive where  $O_A$  is the dependent variable, and negative when using  $O_B$  as the dependent variable. This indicates that more knowledge leads to more realistic opinions (as measured by  $O_A$ ) and less unrealistic opinions (as measured by  $O_B$ ). However, the effects are small. Answering an additional knowledge question correctly will shift opinions by at most 0.05 points. As opinions are measured on a scale between 1 and 5, this is not a very sizeable shift. For measures of knowledge regarding the Deposit Guarantee Scheme, similar conclusions hold. In this latter case, however, the level of statistical significance is lower than it is for the  $K$  measure.

Regarding the linkage between opinions and the intensity with which intermediary households receive information about supervision, we find that respondents who obtain information intensively via television tend to expect much from supervisors, including demands they cannot fulfil. By contrast, respondents who receive information intensively via newspapers tend to have more realistic opinions.

As regards the other variables included in the model, we find that respondents who have a stronger wish to be informed about supervision also want supervisors to do more: the coefficients for *desire* in the models for  $O_A$  and  $O_B$  are positive and significantly different from zero. In addition, we find that a stronger self-interest is related to more realistic expectations: the coefficient of *savings* is positive and significant in the model for  $O_A$ . We also find that personal experiences with the crisis matter for expectations of banking supervision. Respondents whose bank had gone bankrupt in the past three years and respondents who were (or had been) clients of a bank that needed government support wanted the supervisors to do more.

All control variables have a significant impact on opinions.<sup>7</sup> Older persons expect more from supervisors, while male respondents have more modest wishes, whether realistic or unrealistic. Respondents with higher incomes, with higher levels of education, who are responsible for the finances of their household and who have savings, have stronger realistic wishes. Survey participants who have a higher social status and people who live in a relatively urbanized area have less unrealistic wishes.

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<sup>7</sup> The dummy variables indicating that the respondent has a partner and is homeowner have not been included as they invariably turned out to be insignificant.

## 6.2 Detailed outcomes

We also estimate ordered probit regressions for each statement O1-O14. The regression outcomes are presented in Tables A1, A2, and A3 in Appendix 2. The results are broadly in line with the findings as reported in Table 5. Table A2 reveals that while the coefficient on education is negative and significant for O6, it is positive and significant for O12. Relatively well-educated respondents are less likely to think that supervisors should never allow banks to go bankrupt. By contrast, they are more likely to think that supervisors should supervise the bankers' remuneration. From Table A2 we learn furthermore that respondents who hold a savings account have stronger feelings regarding supervision of banks' customer care (O11). Perhaps unsurprisingly, Table A2 shows that respondents whose bank had collapsed expressed a stronger wish to be informed by banking supervisors when a bank runs into problems (O13). While this is understandable given respondents' past experience, it does not indicate that experience has taught them anything about what may realistically be expected from a supervisor. In addition, individuals whose bank had been bailed out wished more strongly for the prompt repayment of their guaranteed savings by the supervisors. Also, they were more likely to wish for supervisors deciding on the bankruptcy of banks.

## 6.3 Sensitivity analysis

We investigate the sensitivity of the results along two dimensions. First, we investigate the effects of changing our definition of knowledge ( $K$ ). Under this, admittedly strict, definition, this measure focuses on whether people were able to assign a particular supervision task to the correct supervisory authority. Therefore, we also employ a more flexible criterion, which measures awareness that a particular issue is actually a supervisory task. Thus we drop the requirement that respondents associate the *correct* supervisor with a particular supervisory responsibility. The only relevant criterion is whether or not the respondent is able to correctly identify supervisory tasks. Table 6 shows the results when we use the alternative definition of knowledge ( $K_{alt}$ ). This turns out to have no effect on the sign and significance of any variables except knowledge. The effect of  $K_{alt}$  on realistic opinions doubles in size and the level of significance increases, while its effect on unrealistic opinions disappears.

[Insert Table 6]

A second sensitivity analysis focuses on the opinions that respondents formulated. So far, we have made a distinction between realistic and unrealistic opinions, based on principal components analysis. As an alternative strategy, we now make an *a priori* classification of the various



supervisory tasks. We distinguish between tasks belonging to prudential supervision and to consumer protection (market conduct supervision). Also, the difference between realistic and unrealistic opinions may not be as clear-cut as we have so far assumed. Some issues, while not current practice, are not unrealistic per se. Table 7 proposes an *a priori* classification of the elements of question 20 along these two dimensions.

[Insert Table 7]

Based on this classification, we re-estimate the regressions for opinions. We use five dependent variables based on the classification in Table 7. The dependent variables are computed as the averages for the individual opinion questions in each category. As such, they can be interpreted as the average opinion (measured on a scale between 1 and 5) on a particular type of issue. Table 8 shows the estimation results. Regarding the knowledge variables, there are a few interesting differences. For instance, the number of correctly answered questions ( $K$ ) is especially strongly related to opinions on prudential supervision, whereas in the case of consumer protection, the level of significance is marginal. Moreover, there is a particularly strong negative correlation between an individual's level of knowledge and their lack of realism. With respect to the DGS, better-informed people hold higher expectations of supervision, in particular regarding consumer protection. Finally, the constant terms offer some interesting insights as well. People expect most from consumer protection, even if some of its elements are not current practice. For the remaining covariates, there are no clear differences with the results in Table 5.

[Insert Table 8]

## **7. Conclusions and policy recommendations**

This paper is the first to unravel the relationship between knowledge and opinions about banking supervision. Based on a survey among Dutch households, we draw the following conclusions. First, the public's knowledge about micro-prudential supervision is far from perfect. Only 1 in 5 respondents knows the names of the two Dutch financial supervisors. Fewer than half of them know the maximum amount guaranteed under the Deposit Guarantee Scheme. Although the financial crisis has led to strong media coverage on financial supervision and more than 60% of the respondents profess to have an interest in financial supervision, knowledge on banking supervision remains fragmented. The public's understanding of the Twin Peaks system is feeble. Respondents show limited knowledge about which supervisory tasks are performed by which of the two supervisors.

At the same time, we find that the public sets high standards for supervisors to meet. Almost two-thirds of the respondents want supervisors to ensure that banks never go bankrupt and more than 80% expect supervisors to warn the public when a bank runs into problems. The respondents also voice strong opinions on the Deposit Guarantee Scheme. Close to 80% of the people would like the Deposit Guarantee Scheme to pay out within three days. Currently, this takes three months in the Netherlands. In addition, people strongly value clarifications on bankruptcies. A large majority of the respondents state that in case of a bankruptcy, the supervisors should explain why they failed to save the institution. At the moment, regulations forbid Dutch supervisors to release information on individual banks, even after their default. These findings confirm the hypothesis that the public has unrealistically high expectations about banking supervision. This sentiment may encourage risky saving behaviour. When proven incorrect, moreover, it may cause public confidence in the financial sector and the banking supervisors to plummet.

Third, regression and probit analyses reveal interesting correlations. For instance, we find that some individuals expect more from supervisors than others. This is true for persons who are older, female, have a wish to be informed about supervision, use television as an important source of information and have a savings account. The experience of having been a customer of a failed or bailed-out bank also raises expectations of what supervisors should do. The learning effect on customers whose banks were bailed out by the government appears to be weak. Three factors seem to have a positive effect on realistic opinions and a negative effect on unrealistic opinions: knowledge, level of education, and the use of newspapers as one's main source of information.

Our findings lead us to make two policy recommendations. First, supervisors should, where possible, bring practice in line with the wishes of the public. Room for improvement exists, for example, with respect to communications after a bankruptcy and the swiftness of refunds under the Deposit Guarantee Scheme. Second, supervisors should make an effort to take away unrealistically high public expectations. This might imply changes in the communication policies of especially prudential supervisors, who tend to have their communication geared towards supervised institutions rather than the public. Supervisors should improve their public profile, targeting the public at large, as by launching special Internet sites, publishing printed and educational materials, making their appearance at public events and issuing public warnings against high-risk financial products on its website and through the media. The aim of these programmes should be to raise the public's risk awareness with regard to the financial sector. Our regression results suggest the existence of multiple 'focus groups', for which targeted communication strategies could be developed. Finally, supervisors should focus more on the message that supervision is no guarantee against bankruptcy. As our results suggest, even the customers of banks that went bankrupt or were bailed out take time to learn.

This paper has explored the basic relationships between public knowledge and opinions about banking supervision. In future work, we intend to link knowledge and opinions to confidence in banks and supervisors, actual saving behaviour, and the danger of bank runs. We also intend to repeat the survey regularly. This will enable us to obtain more insight into the effects of circumstances, such as the state of the economy, and the effects of communication policies on knowledge.

### **Acknowledgements**

We thank Joris Knobens, Maarten van Rooij, Federica Teppa and Kostas Tsatsaronis for useful comments. We also thank participants in the DNB/ECB/RuG conference on *'Monetary policy and financial stability: what role for communication?'* for useful suggestions. Corrie Vis (CentERdata) was extremely helpful in arranging the survey. Any errors or omissions are, of course, our own responsibility. Views expressed in this paper do not necessarily coincide with those of De Nederlandsche Bank.

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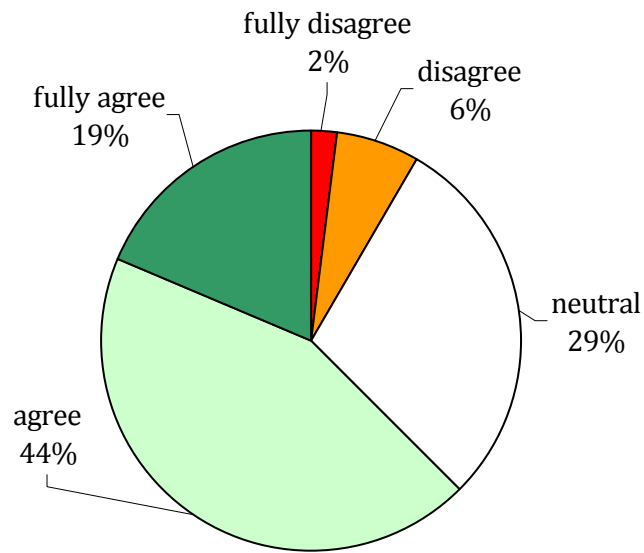
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Figures and tables

Figure 1. Desire to be well-informed about banking supervision

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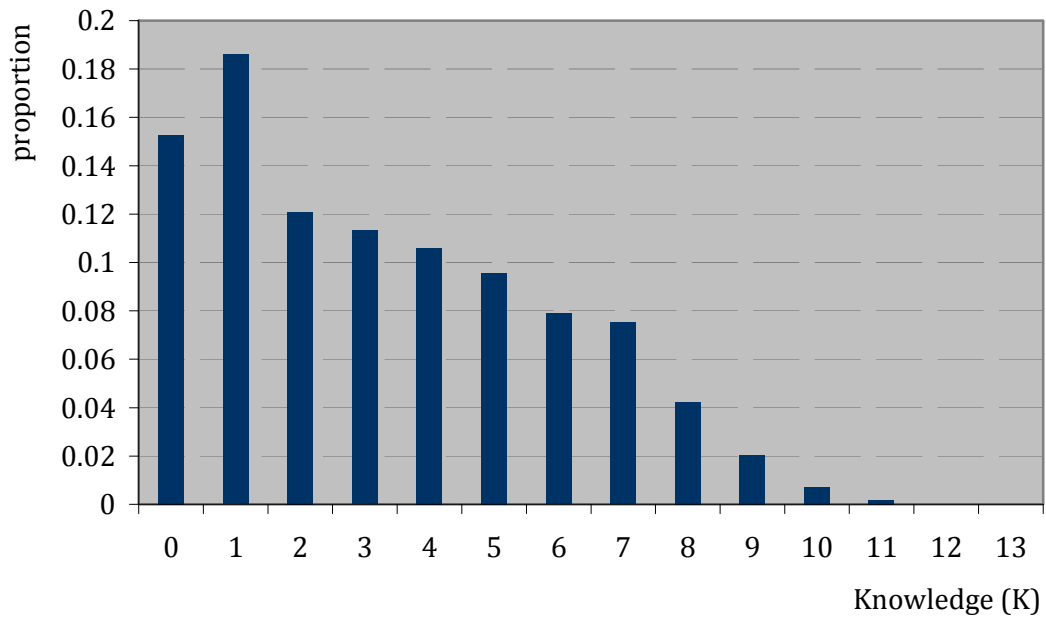
I find it important to be well-informed on banking supervision.



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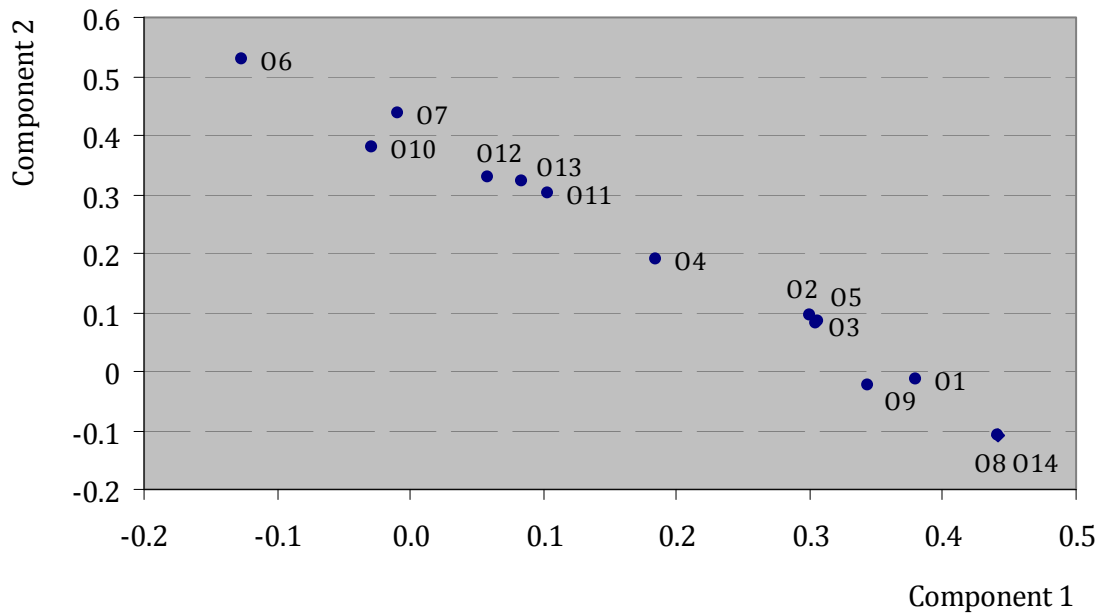
Note: CentERpanel, March 2010, N=2103.

**Figure 2. Knowledge about supervisory tasks and responsibilities**



Note: CentERpanel, March 2010, N=2103.

**Figure 3. Component loadings**



Note: Rotation orthogonal varimax.

**Table 1. Summary statistics**

	Survey mean	Population mean	Difference
Age	52.3	47.0	5.3 ***
Sex (% males)	53.5%	49.1%	4.4% ***
Education (0=low, 1=high)	0.38	0.25	0.13 ***
Household size	2.6	2.2	0.4 ***
Monthly gross household income (*1000 euros)	3.97	4.63	-0.67***
Partner (1=living together with partner, 0=otherwise)	0.78	0.62	0.16 ***
City weighted average (1=rural, 5=highly urbanized)	2.99	3.04	-0.05*

Note: CentERpanel, March 2010, N=2103. \*\*\*p<0.01, \*p<0.1.

**Table 2. Information about banking supervision**

	Never	Occasionally (less than once a month)	Regularly (more than once a month, but less than once a week)	Often (at least once a week)
Television	17%	41%	28%	14%
Radio	39%	34%	20%	7%
Newspapers	17%	32%	32%	18%
Magazines	58%	29%	10%	2%
Internet	42%	31%	19%	8%
Friends	53%	37%	9%	1%
Family	57%	33%	9%	1%
Colleagues	65%	26%	7%	2%
Other source, ...	29%	37%	22%	13%

Note: CentERpanel, March 2010, N=2103. Other was chosen by 43 respondents.

**Table 3. Knowledge about supervisory tasks and responsibilities**

		DNB	AFM	DNB & AFM	Neither	I don't know
K1	never let banks go bankrupt	21%	3%	25%	30%√	21%
K2	supervision of due customer care by banks	13%	30%√	29%	10%	19%
K3	supervision of banks' financial health	37%√	7%	41%	1%	14%
K4	supervision of bankers' remuneration	13%	16%	30%√	21%	20%
K5	prevention of misleading information by banks	9%	31%√	41%	3%	17%
K6	ensuring openness about what is going on in financial markets	11%	23%√	43%	5%	17%
K7	ensuring openness about the cost of banking products	9%	31%√	35%	7%	18%
K8	preventing the sale of bank products to customers that cannot really afford them	9%	25%	29%	18%√	19%
K9	promoting the stability of the financial sector	28%√	7%	46%	2%	16%
K10	power to decide on the issue/withdrawal of banking authorizations	45%√	7%	29%	2%	18%
K11	power to pronounce bankruptcy on a bank	33%	5%	30%	12%√	20%
K12	disclosing banks' financial problems	29%	9%	37%	8%√	18%
K13	ensuring that all customers of a failed bank are fully reimbursed	42%	3%	29%	7%√	18%

Note: CentERpanel, March 2010, N=2103. √ indicates the correct answer.



**Table 4. Opinions about banking supervisors**

	I think that banking supervisors...	fully disagree	disagree	neutral	agree	Fully agree
01	have to supervise the financial health of banks	0%	0%	7%	33%	60%
02	have to ensure openness about what is going on in financial markets	0%	1%	12%	39%	48%
03	have to ensure openness about the cost of banking products	0%	1%	8%	33%	57%
04	have to prevent the sale of bank products to customers that cannot really afford them	0%	2%	12%	27%	59%
05	have to prevent banks from providing misleading information	0%	1%	7%	25%	67%
06	have to ensure that no bank ever goes bankrupt	2%	8%	28%	29%	34%
07	have to ensure swift reimbursement of guaranteed savings when my bank fails.	1%	3%	17%	32%	47%
08	have to promote the stability of the financial sector	0%	1%	16%	40%	43%
09	should have power to decide on issuing banking authorizations	1%	2%	19%	34%	45%
010	have to decide on the bankruptcy of a bank	2%	8%	37%	29%	25%
011	have to supervise observance of due customer care by banks	0%	3%	18%	39%	40%
012	have to supervise bankers' remuneration	1%	4%	17%	28%	50%
013	have to disclose banks' financial problems	1%	2%	14%	32%	51%
014	have to explain, when a bank goes bankrupt why they failed to save it	1%	3%	18%	32%	47%

Note: CentERpanel, March 2010, N=2103.

**Table 5. The impact of knowledge on opinions about banking supervision**

VARIABLES	O_A	O_B
Age	0.01*** (0.00)	0.01*** (0.00)
Male	-0.06** (0.03)	-0.12*** (0.03)
Status	-0.01 (0.01)	-0.04*** (0.01)
City	-0.00 (0.01)	-0.02** (0.01)
Income	0.01** (0.01)	-0.00 (0.01)
Account	0.07*** (0.03)	0.04 (0.03)
Education	0.07** (0.03)	0.01 (0.03)
Savings	0.13*** (0.05)	0.08 (0.05)
Desire	0.16*** (0.01)	0.20*** (0.02)
Q_tv	0.06*** (0.02)	0.07*** (0.02)
Q_radio	-0.03* (0.01)	-0.01 (0.02)
Q_newspapers	0.04** (0.02)	0.00 (0.02)
Q_magazines	-0.02 (0.02)	-0.02 (0.02)
Q_internet	0.01 (0.01)	0.01 (0.02)
Q_friends	-0.01 (0.03)	-0.02 (0.03)
Q_family	-0.00 (0.03)	0.04 (0.03)
Q_colleagues	-0.04* (0.02)	-0.04 (0.03)
Bankrupt	0.03 (0.04)	0.07 (0.04)
Bailout	0.09*** (0.02)	0.05* (0.03)
K	0.01** (0.00)	-0.05*** (0.01)
know_DGS	0.05* (0.03)	-0.06* (0.03)
know_DGS_amount	0.06** (0.02)	0.03 (0.03)
Constant	3.04*** (0.09)	2.99*** (0.10)
Observations	2028	2028
R-squared	0.25	0.24

This table reports results from OLS regressions where variables measuring the public's opinions of supervision are the dependent variables. O\_A includes tasks and responsibilities that are realistic to expect from banking supervisors, while O\_B includes tasks and responsibilities that are unrealistic to expect. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Robust standard errors are shown in parentheses.

**Table 6. Determinants of opinions using an alternative definition of knowledge**

VARIABLES	O_A	O_B
Age	0.01*** (0.00)	0.01*** (0.00)
Male	-0.06** (0.03)	-0.14*** (0.03)
Status	-0.02 (0.01)	-0.05*** (0.01)
City	-0.01 (0.01)	-0.03*** (0.01)
Income	0.01** (0.01)	-0.01 (0.01)
Account	0.07*** (0.03)	0.03 (0.03)
Education	0.06** (0.03)	-0.02 (0.03)
Savings	0.13*** (0.05)	0.05 (0.05)
Desire	0.15*** (0.01)	0.20*** (0.02)
Q_tv	0.06*** (0.02)	0.06*** (0.02)
Q_radio	-0.03** (0.01)	-0.01 (0.02)
Q_newspapers	0.03* (0.02)	-0.01 (0.02)
Q_magazines	-0.02 (0.02)	-0.02 (0.02)
Q_internet	0.00 (0.01)	0.01 (0.02)
Q_friends	-0.01 (0.03)	-0.01 (0.03)
Q_family	-0.00 (0.03)	0.05 (0.03)
Q_colleagues	-0.03 (0.02)	-0.05* (0.03)
Bankrupt	0.03 (0.04)	0.08* (0.04)
Bailout	0.08*** (0.02)	0.03 (0.03)
K_alt	0.02*** (0.01)	0.00 (0.01)
know_DGS	0.04* (0.03)	-0.11*** (0.03)
know_DGS_amount	0.05** (0.02)	-0.01 (0.03)
Constant	3.01*** (0.09)	3.02*** (0.10)
Observations	2028	2028
R-squared	0.26	0.21

This table reports results from two OLS regressions where variables measuring the public's expectations of supervision are the dependent variables. The knowledge measure used here is less strict than the one used in table 5. O\_A includes tasks and responsibilities that are realistic to expect from banking supervisors, while O\_B includes tasks and responsibilities that are unrealistic to expect. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Robust standard errors are shown in parentheses.

**Table 7. A priori classification of opinions about supervision**

		Type of supervision	
		<i>Prudential</i>	<i>Consumer protection</i>
<b>Degree of realism</b>	<i>Current practice</i>	01 08 09 012	02 03 05 011 012
	<i>Not current practice*</i>	07 014	04
	<i>Unrealistic</i>	06 010 013	

Note: \* At the time the survey was conducted (March 2010).

**Table 8. Results based on *a priori* classification of opinions**

	Opinions on prudential supervision			Opinions on consumer protection	
	(1) <i>Current practice</i>	(2) <i>Not current practice</i>	(3) <i>Unrealistic</i>	(4) <i>Current practice</i>	(5) <i>Not current practice</i>
	(01 08 09 012)	(07 014)	(06 010 013)	(02 03 05 011 012)	(04)
Age	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)
Male	-0.05* (0.03)	-0.08** (0.03)	-0.13*** (0.03)	-0.09*** (0.03)	-0.07* (0.04)
Status	-0.01 (0.01)	-0.03* (0.02)	-0.05*** (0.02)	-0.02* (0.01)	-0.01 (0.02)
City	-0.01 (0.01)	-0.02 (0.01)	-0.02 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Income	0.01 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	-0.01 (0.01)
Account	0.07** (0.03)	0.07** (0.03)	0.02 (0.03)	0.06** (0.03)	0.09** (0.04)
Education	0.08*** (0.03)	0.02 (0.04)	-0.01 (0.04)	0.05* (0.03)	0.06 (0.04)
Savings	0.14*** (0.05)	0.13** (0.05)	0.03 (0.05)	0.12*** (0.05)	0.08 (0.06)
Desire	0.17*** (0.02)	0.17*** (0.02)	0.20*** (0.02)	0.17*** (0.02)	0.15*** (0.02)
Q_tv	0.07*** (0.02)	0.06*** (0.02)	0.05** (0.02)	0.07*** (0.02)	0.07** (0.03)
Q_radio	-0.04** (0.02)	-0.03 (0.02)	-0.00 (0.02)	-0.02 (0.02)	-0.01 (0.02)
Q_newspapers	0.03* (0.02)	0.02 (0.02)	0.00 (0.02)	0.02 (0.02)	0.02 (0.02)
Q_magazines	-0.01 (0.02)	-0.04* (0.02)	-0.00 (0.02)	-0.03 (0.02)	-0.04 (0.03)
Q_internet	-0.01 (0.02)	0.02 (0.02)	0.02 (0.02)	0.00 (0.02)	0.00 (0.02)
Q_friends	-0.02 (0.03)	-0.02 (0.03)	-0.02 (0.03)	0.01 (0.03)	-0.02 (0.04)
Q_family	0.00 (0.03)	0.02 (0.03)	0.04 (0.03)	0.01 (0.03)	0.02 (0.04)
Q_colleagues	-0.02 (0.02)	-0.03 (0.03)	-0.06* (0.03)	-0.04* (0.02)	-0.02 (0.03)
Bankrupt	0.04 (0.04)	0.03 (0.05)	0.08* (0.05)	0.05 (0.04)	-0.01 (0.06)
Bailout	0.07*** (0.03)	0.11*** (0.03)	0.06* (0.03)	0.05** (0.02)	0.04 (0.03)
K	0.00 (0.01)	-0.03*** (0.01)	-0.06*** (0.01)	-0.01 (0.01)	-0.01* (0.01)
know_DGS	0.06* (0.03)	-0.01 (0.03)	-0.06 (0.04)	-0.02 (0.03)	0.01 (0.04)
know_DGS_amount	0.05** (0.03)	0.05 (0.03)	-0.00 (0.03)	0.07*** (0.03)	0.08** (0.04)
Constant	2.93*** (0.09)	3.06*** (0.11)	2.97*** (0.11)	3.08*** (0.09)	3.25*** (0.12)
Observations	2028	2028	2028	2028	2028
R-squared	0.23	0.17	0.20	0.22	0.11

Note: This table reports OLS regressions where opinions on supervision are regressed on measures of knowledge, information media and various controls. The dependent variables are constructed as the average response per category in question 20 of our survey.

## **Appendix 1. The questionnaire**

In the first part of this questionnaire you will first be asked a few questions about confidence in general and then a few questions about confidence in financial institutions. In the second part of this questionnaire you will be asked questions on banking supervision. In this questionnaire you can't scroll back to the previous question.

...

In the Netherlands banks are supervised. The second part of the questionnaire is meant to provide more insight into your expectations of and knowledge about banking supervision. We would also like to learn about the factors that influence your choice for a particular bank.

The goal of the following questions is to learn about what you do with your savings. With savings we mean the money that you lay by for future expenditures on a savings or checking account.

...

### **Q14**

Currently, do you have a savings account with a bank?

- yes, with one bank
- yes, with several banks
- no

...

## Q20

To what extent do you agree with the following statements?

	fully disagree	disagree	neutral	agree	fully agree
* have to supervise the financial health of banks					
* have to ensure openness about what is going on in financial markets					
* have to ensure openness about the cost of banking products					
* have to prevent the sale of bank products to customers that cannot really afford them					
* have to prevent banks from providing misleading information					
* have to ensure that no bank ever goes bankrupt					
* have to ensure swift reimbursement of guaranteed savings when my bank fails					
* have to promote the stability of the financial sector					
* should have power to decide on issuing banking authorizations					
* have to decide on the bankruptcy of a bank					
* have to supervise observance of due customer care by banks					
* have to supervise bankers' remuneration					
* have to disclose banks' financial problems					
* have to explain, when a bank goes bankrupt why they failed to save it					

**Q21**

To what extent do you agree with the following statement?

It is important to be well-informed about banking supervision.

- fully disagree
- disagree
- neutral
- agree
- fully agree

The next four questions are intended to measure your knowledge about banking supervision in the Netherlands. It is no problem if you don't know the right answer. To give a fair impression of your current knowledge it is important that you don't look up any answers.

**Q22**

Which institute(s) is (are) responsible for banking supervision in the Netherlands?

**Q23** According to you, which are tasks and responsibilities of De Nederlandsche Bank (DNB) and which of the Netherlands Authority for the Financial Markets (AFM)?

	DNB	AFM	DNB & AFM	Neither	I don't know
* never let banks go bankrupt					
* supervision of due customer care by banks					
* supervision of banks' financial health					
* supervision of bankers' remuneration					
* prevention of misleading information by banks					
* ensuring openness about what is going on in financial markets					
* ensuring openness about the cost of banking products					
* preventing the sale of bank products to customers that cannot really afford them					
* promoting the stability of the financial sector					
* power to decide on the issue/withdrawal of					



banking authorizations

- \* power to pronounce bankruptcy on a bank
  - \* disclosing banks' financial problems
  - \* ensuring that all customers of a failed bank are fully reimbursed
- 

**Q24**

Are you familiar with the existence of the Deposit Guarantee Scheme?

- yes
- no

“Occasionally a bank may become unable to repay its depositors. When this happens, the Deposit Guarantee Scheme enters into operation. This provides for the reimbursement of the accountholders, so that they do not lose any money.”

**Q25a**

Repayment under the Deposit Guarantee Scheme is limited to a maximum amount. Do you know this amount?

- yes
- no

*if Q25a= yes*

**Q25b**

What is the maximum amount?

**Q26**

From which information source do you acquire information on banking supervision and how often?

	Never	Occasionally (less than once a month)	Regularly (more than once a month, but less than once a week)	Often (at least once a week)
Television				
Radio				
Newspapers				
Magazines				
Internet				
Friends				
Family				
Colleagues				
Other source,...				

**Q27a**

During the past 3 years, did a bank where you were a customer go bankrupt?

- yes, DSB
- yes, Icesave
- yes, other...
- no

*if Q27a= yes*

**Q27b**

What amount of savings do you think you have permanently lost as a result of this? If you have lost nothing fill in a 0 (zero).

*if Q27b>0*

**Q27c**

Why did you lose money?

- Because I had more savings than the guaranteed amount.
- Because my savings were in an account that was not covered by any guarantee.

**Q28**

During the past 3 years, did a bank where you were a customer survive with the help of government support?

- yes
- no
- I don't know

...

## Appendix 2. Additional tables

**Table A1. Better knowledge results in more realistic expectations about banking supervision: 01, 03, 05, 08, 09, 014**

	01	03	05	08	09	014
Age	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)
Male	-0.07 (0.06)	-0.10 (0.06)	-0.14** (0.07)	-0.06 (0.06)	0.01 (0.06)	-0.06 (0.06)
Status	-0.01 (0.03)	-0.03 (0.03)	-0.01 (0.03)	-0.03 (0.03)	0.00 (0.03)	-0.03 (0.03)
City	-0.02 (0.02)	0.01 (0.02)	-0.02 (0.02)	-0.01 (0.02)	-0.03 (0.02)	-0.01 (0.02)
Income	0.02* (0.01)	0.00 (0.01)	0.03** (0.01)	0.01 (0.01)	0.02* (0.01)	0.01 (0.01)
Account	0.16*** (0.06)	0.08 (0.06)	0.06 (0.06)	0.09* (0.06)	0.11* (0.06)	0.09* (0.06)
Education	0.16** (0.07)	0.09 (0.07)	0.11 (0.07)	0.15** (0.06)	0.11* (0.06)	0.15** (0.06)
Savings	0.24*** (0.09)	0.19** (0.09)	0.16* (0.09)	0.23*** (0.09)	0.16* (0.08)	0.23*** (0.09)
Desire	0.29*** (0.03)	0.31*** (0.03)	0.25*** (0.03)	0.28*** (0.03)	0.29*** (0.03)	0.28*** (0.03)
Q_tv	0.19*** (0.04)	0.12*** (0.04)	0.18*** (0.04)	0.09** (0.04)	0.07* (0.04)	0.09** (0.04)
Q_radio	-0.10** (0.04)	0.01 (0.04)	-0.06 (0.04)	-0.03 (0.04)	-0.07* (0.04)	-0.03 (0.04)
Q_newspapers	0.10** (0.04)	0.04 (0.04)	0.05 (0.04)	0.06* (0.04)	0.08** (0.04)	0.06* (0.04)
Q_magazines	-0.06 (0.04)	-0.08* (0.04)	-0.09** (0.05)	-0.01 (0.04)	-0.01 (0.04)	-0.01 (0.04)
Q_internet	-0.01 (0.04)	0.00 (0.04)	0.03 (0.04)	0.02 (0.03)	0.01 (0.03)	0.02 (0.03)
Q_friends	0.00 (0.07)	0.05 (0.06)	0.02 (0.07)	-0.05 (0.06)	-0.10 (0.06)	-0.05 (0.06)
Q_family	-0.08 (0.06)	-0.02 (0.06)	-0.01 (0.07)	0.02 (0.06)	0.05 (0.06)	0.02 (0.06)
Q_colleagues	-0.08 (0.05)	-0.10** (0.05)	-0.14** (0.05)	-0.05 (0.05)	-0.03 (0.04)	-0.05 (0.05)
Bankrupt	0.13 (0.10)	0.07 (0.10)	0.03 (0.10)	0.02 (0.09)	0.00 (0.09)	0.02 (0.09)
Bailout	0.21*** (0.06)	0.15*** (0.06)	0.14** (0.06)	0.17*** (0.06)	0.14** (0.05)	0.17*** (0.06)
K	0.03** (0.01)	0.02 (0.01)	0.01 (0.01)	0.01 (0.01)	0.02** (0.01)	0.01 (0.01)
know_DGS	0.12* (0.07)	0.02 (0.06)	0.04 (0.07)	0.11* (0.06)	0.24*** (0.06)	0.11* (0.06)
know_DGS_amount	0.05 (0.06)	0.13** (0.06)	0.15** (0.06)	0.10* (0.06)	0.06 (0.06)	0.10* (0.06)
Observations	2028	2028	2028	2028	2028	2028
McKelvey & Zavoina's Pseudo R-squared	0.10	0.09	0.10	0.09	0.10	0.09

Note: Table reports parameter estimates for ordered probit models. Robust standard errors are shown in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table A2. Better knowledge results in more realistic expectations about banking supervision: 04, 06, 07, 010, 011, 012 and 013**

	04	06	07	010	011	012	013
Age	0.01*** (0.00)	0.02*** (0.00)	0.02*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.02*** (0.00)	0.01*** (0.00)
Male	-0.09 (0.06)	-0.21*** (0.06)	-0.16*** (0.06)	-0.12** (0.06)	-0.07 (0.06)	-0.14** (0.06)	-0.15*** (0.06)
Status	-0.03 (0.03)	-0.11*** (0.03)	-0.06** (0.03)	-0.01 (0.03)	-0.04 (0.03)	-0.04 (0.03)	-0.08*** (0.03)
City	-0.01 (0.02)	-0.02 (0.02)	-0.04** (0.02)	-0.02 (0.02)	-0.04** (0.02)	-0.04** (0.02)	-0.03* (0.02)
Income	-0.01 (0.01)	-0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)	0.01 (0.01)
Account	0.13** (0.06)	0.01 (0.05)	0.10* (0.06)	-0.00 (0.05)	0.14** (0.06)	0.04 (0.06)	0.07 (0.06)
Education	0.11 (0.07)	-0.06 (0.06)	-0.05 (0.06)	0.01 (0.06)	0.00 (0.06)	0.13** (0.06)	0.08 (0.07)
Savings	0.11 (0.08)	-0.03 (0.08)	0.12 (0.08)	0.05 (0.08)	0.23*** (0.08)	0.12 (0.08)	0.08 (0.08)
Desire	0.24*** (0.03)	0.26*** (0.03)	0.26*** (0.03)	0.21*** (0.03)	0.30*** (0.03)	0.30*** (0.03)	0.32*** (0.03)
Q_tv	0.12*** (0.04)	0.07* (0.04)	0.11*** (0.04)	0.05 (0.04)	0.07* (0.04)	0.14*** (0.04)	0.09** (0.04)
Q_radio	-0.01 (0.04)	0.01 (0.03)	-0.06 (0.04)	0.01 (0.03)	-0.00 (0.04)	-0.04 (0.04)	-0.04 (0.04)
Q_newspapers	0.03 (0.04)	0.02 (0.03)	0.01 (0.04)	-0.01 (0.03)	0.02 (0.04)	-0.03 (0.04)	0.03 (0.04)
Q_magazines	-0.06 (0.04)	0.00 (0.04)	-0.11*** (0.04)	0.04 (0.04)	-0.05 (0.04)	0.01 (0.04)	-0.06 (0.04)
Q_internet	0.00 (0.03)	0.02 (0.03)	0.05 (0.03)	0.01 (0.03)	0.02 (0.03)	-0.03 (0.03)	0.03 (0.03)
Q_friends	-0.05 (0.06)	-0.02 (0.06)	-0.04 (0.06)	-0.09 (0.06)	-0.00 (0.06)	-0.03 (0.06)	0.00 (0.06)
Q_family	0.05 (0.06)	0.09 (0.06)	0.06 (0.06)	0.08 (0.06)	0.06 (0.06)	0.03 (0.06)	-0.01 (0.06)
Q_colleagues	-0.06 (0.05)	-0.12*** (0.05)	-0.05 (0.05)	-0.06 (0.05)	-0.04 (0.05)	-0.00 (0.06)	-0.02 (0.05)
Bankrupt	-0.02 (0.09)	0.06 (0.08)	0.06 (0.09)	0.11 (0.09)	0.02 (0.08)	0.12 (0.09)	0.19** (0.09)
Bailout	0.08 (0.06)	0.01 (0.05)	0.14*** (0.05)	0.13** (0.05)	0.09 (0.05)	-0.01 (0.06)	0.09 (0.06)
K	-0.03** (0.01)	-0.10*** (0.01)	-0.09*** (0.01)	-0.07*** (0.01)	-0.04*** (0.01)	-0.05*** (0.01)	-0.04*** (0.01)
Know_DGS	0.03 (0.07)	-0.09 (0.06)	-0.12* (0.06)	0.01 (0.06)	-0.07 (0.06)	-0.06 (0.06)	-0.14** (0.06)
Know_DGS_amount	0.10 (0.06)	-0.03 (0.06)	0.04 (0.06)	-0.04 (0.06)	0.09 (0.06)	0.07 (0.06)	0.06 (0.06)
Observations	2028	2028	2028	2028	2028	2028	2028
McKelvey & Zavoina's Pseudo R-squared	0.07	0.11	0.09	0.08	0.07	0.07	0.04

Note: Table reports parameter estimates for ordered probit models. Robust standard errors are shown in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table A3. Knowledge does not affect opinions about banking supervision:**

<b>O2</b>	
	<b>O2</b>
Age	0.01*** (0.00)
male	-0.21*** (0.06)
status	-0.04 (0.03)
city	-0.01 (0.02)
income	0.02* (0.01)
account	0.17*** (0.06)
education	0.08 (0.07)
savings	0.15* (0.09)
desire	0.33*** (0.03)
Q_tv	0.13*** (0.04)
Q_radio	-0.06 (0.04)
Q_newspapers	0.04 (0.04)
Q_magazines	-0.01 (0.04)
Q_internet	0.04 (0.03)
Q_friends	0.01 (0.06)
Q_family	0.02 (0.06)
Q_colleagues	-0.12** (0.05)
bankrupt	0.18* (0.10)
bailout	0.17*** (0.06)
K	-0.01 (0.01)
know_DGS	0.01 (0.06)
know_DGS_amount	0.03 (0.06)
Observations	2028
McKelvey & Zavoina's Pseudo	0.05
R-squared	

Note: Table reports parameter estimates for ordered probit models. Robust standard errors are shown in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

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