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# Is Monetary Policy Too Complex for the Public? Evidence from the UK

Adriel Jost\*

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**Central banks have increased their engagement in the information and education of the broad public. But what can be said about the nonprofessional's knowledge of monetary policy and central banking? Based on the Bank of England's Inflation Attitudes Survey, I construct a score to capture the central banking knowledge of the respondents. I show that the average British person displays limited knowledge of central banking. At the same time, the data reveal that satisfaction with the Bank of England's policies increases with a better understanding of monetary policy.**

*Keywords:* Economic literacy; Monetary policy; Bank of England

*JEL classification:* D83, E52, E58, I21

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# 1 Introduction

Many central banks have enhanced their communication and information to the general public over the past 20 years, for example, through educational programmes (Fluch, 2007). For the Bank of England, it is a “key strategic objective” to build public understanding of and support for price stability as well as the chosen approach to achieve this target (Bank of England, 2003). Thus, central banks justify their educational efforts with the claim that people’s knowledge and support of the central banks’ tasks and strategies increase the effectiveness of monetary policy.

Using a knowledge score based on data from the Bank of England’s Inflation Attitudes Survey, this study addresses two questions related to the central banks’ efforts to inform and educate the broad public. First, it provides evidence on how well informed the general public actually is. Second, it examines the link between the public’s understanding and approval of the central bank’s policies.

The main findings are that, first, knowledge among the British population is, on average, rather limited. Concerning socio-demographic factors, the data show the importance of gender, age, social class, income, education and housing tenure for the results. Second, satisfaction with the Bank of England’s policy depends on the knowledge score. The less someone knows about central banking, the less likely he or she will be satisfied with the institution.

British data are relevant for at least two reasons. First, due to the role of expectations, the knowledge and support of the wider public is particularly important when a central bank pursues an inflation target. The Bank of England was one of the first central banks to introduce an inflation-targeting approach of this kind. Second, the country has its own currency. The results are more universally valid than results for countries in a currency union, such as the Euro area. In the case of a currency union, survey results regarding a national central bank remain ambiguous because the national central bank does not pursue its own monetary policy.

This study adds to the growing literature covering the general public’s knowledge of central banks. In general, it is poorly understood how nonprofessionals understand economic phenomena (Leiser & Krill, forthcoming). The existing literature points to a rather low level of

knowledge of monetary policy and central banking. Binder (2017) concludes, based on survey results from the 1950s until today, that the US public generally lacks knowledge of monetary policy and central banks. Based on Dutch household survey data, van der Crujisen, Jansen & de Haan (2015) find that knowledge of the ECB's objectives is rather poor. At the same time, the households exhibit a lack of awareness of their limited knowledge and show little desire to be better informed. Their study also shows that more-intensive use of information improves understanding and that better knowledge relates to people's ability to formulate realistic inflation expectations. Finally, Fluch, Fritzer & Rumler (2013) show for Austria that the level of public knowledge of central banking proves to be rather limited. Only a third of the respondents knew the ECB's inflation target. Two-thirds were unable to assess the effects of deflation. The data show that people's education level strongly influences their knowledge about these subjects.

In a different approach, Dräger, Lamla & Pfajfar (2015) use data from the Survey of Consumers conducted by Thompson Reuters and the University of Michigan ("Michigan Survey"). The results are somewhat more positive. They show that a substantial share of the respondents have expectations that are consistent with the Fisher equation, the Taylor rule and the Philipps curve. In addition, they argue that central bank communication improves people's understanding of these concepts. Similarly, Carvalho & Nechio (2014), also using data from the Survey of Consumers, show that the extent of the understanding depends positively on the respondents' income and education levels. The results differ over the business cycle. During times of recession and/or labour market weakness, the answers are more consistent with Taylor rule principles.

Concerning the relationship between knowledge and the satisfaction with and trust in central banks, Kaltenthaler, Anderson & Miller (2010) show that lack of knowledge is an important source of mistrust. Based on their own German database, Hayo & Neuenkirch (2014) come to the same conclusion.

This paper also relates to the extensive literature on financial literacy. The literature review by Lusardi & Mitchell (2014) shows the consistent influence of socio-demographic factors on financial literacy. Specifically, it points to the hump-shaped life cycle profile (financial literacy

is the lowest among the young and the old) and a large gender gap (with women of all ages performing worse). In addition, higher levels of income and education are associated throughout the literature with higher levels of financial literacy. In a multi-country survey, OECD/INFE (2013) gives further evidence of the described influence of socio-demographic factors, especially the gender gap.<sup>1</sup> However, in a meta-study on the effects of financial literacy, Fernandes, Lynch & Netemayer (2014) show that an increase in financial literacy has negligible effects on financial behaviour. This paper shows that similar socioeconomic demographics that are associated with general financial literacy are also associated with knowledge about monetary policy.

The literature on expectation formation, especially on inflation expectations, is also closely related to this paper. For example, based on evidence from a laboratory experiment, Burke & Manz (2014) show that economic literacy influences inflation expectations. Based on the Bank of England's Inflation Attitudes Survey, Blanchflower & Kelly (2008) show the influence of socio-demographic factors on inflation expectations. Individuals with higher age, income and education believe that prices will rise at a slower pace than their younger, less educated and affluent counterparts. They also present evidence (mainly based on high non-response rates) that the public has low levels of knowledge regarding inflation developments.<sup>2</sup>

Finally, a vast body of literature on central bank transparency and communication exists. However, most of the literature covers central banks' communication with financial market participants, as opposed to their communication with the general public (Blinder, Ehrmann, Fratzscher, de Haan & Jansen, 2008).<sup>3</sup> This paper helps to fill this gap by providing data on the general public's knowledge of the central banks' goals and organisation.

The remainder of the paper is structured as follows. Section 2 provides details of the survey

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<sup>1</sup>Regarding specific knowledge of economic policy, Blinder & Krueger (2004) show that economic status and political involvement explain the differences in the literacy. In their study, gender only plays a comparably minor role.

<sup>2</sup>In addition, Blanchflower & Kelly (2008) deduce low levels of knowledge from the high non-response rate to the question about how satisfied the respondents are with the job the Bank of England is doing.

<sup>3</sup>Blinder et al. (2008) argue: "It may be time to pay some attention to communication with the general public. Admittedly, studying communication with the general public will pose new challenges to researchers – not least because financial market prices will be less relevant. But the issues are at least as important. In the end, it is the general public that gives central banks their democratic legitimacy, and hence their independence" (p. 941).

setup, the data and the knowledge score. Section 3 discusses the socio-demographic determinants of the results, while section 4 describes the developments over time. Section 5 highlights the relationship between the knowledge score and monetary policy preferences. Section 6 investigates the relationship between people's knowledge of central banking and satisfaction with the Bank of England's policy. Finally, section 7 concludes.

## **2 Data**

### **2.1 Survey**

The Bank of England's Inflation Attitudes Survey has been conducted since 2001.<sup>4</sup> The quarterly survey mainly includes questions on the interest rates and inflation expectations. Once a year, the survey also contains questions on the knowledge and understanding of the monetary policy process. All questions have remained identical over the years. The market research interviewers use Computer Assisted Personal Interviewing (CAPI) for the in-home face-to-face interviews. The surveys are based on random location samples and are conducted in randomly selected districts. Approximately 4,000 people aged 16 and over are questioned for each survey. The design and weights of the sample reflect known population data on age, gender, social class and region, so the sample is representative of all adults in Great Britain. Using a weighting factor in the calculations does not lead to qualitatively different results throughout the analyses of this paper. In total, I use 16 yearly surveys between 2001 and 2016. In total, the repeated cross-section dataset comprises 63,478 individuals.

### **2.2 Knowledge questions**

The basis of a knowledge score is knowledge questions in economic literacy surveys. Useful questions cover observable, objective facts. Knowledge questions should not be confused with attitude questions. If someone prefers low unemployment over low inflation, it reflects an attitude and not an inaccurate understanding of monetary policy. One should not assume a low level of knowledge only because someone's attitude differs from that of the central bank.

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<sup>4</sup>The surveys are carried out by GfK NOP.

Table 1 provides the five knowledge questions in the Inflation Attitudes Survey that match this definition. Correct answers are in bold.

<b>Q9</b> <i>(Rates_Short)</i>	<b>How strongly do you agree with the following statements?</b> <b>a: A rise in interest rates would make prices in the high street rise more slowly... ...in the short term - say a month or two.</b>
A <i>(Rates_Medium)</i>	Strongly agree; Agree; Neither agree nor disagree; <b>Disagree; Strongly disagree;</b> Don't know <b>b: A rise in interest rates would make prices in the high street rise more slowly... ...in the medium term - say a year or two.</b>
A	<b>Strongly agree; Agree;</b> Neither agree nor disagree; Disagree; Strongly disagree; Don't know
<b>Q11</b> <i>(Group_OpenQ)</i>	<b>Each month, a group of people meets to set Britain's basic interest rate level. Do you know what this group is?</b>
A	No answer possibilities are provided. Correct answers: <b>Monetary policy committee or Bank of England</b>
<b>Q12</b> <i>(Group)</i>	<b>Which of these groups do you think sets the interest rates?</b>
A	Government ministers; Civil servants; <b>Bank of England;</b> High street banks; European Central Bank; No idea
<b>Q13</b> <i>(Independ)</i>	<b>In fact, the decisions are taken by the Monetary Policy Committee of the Bank of England. Which of these do you think describes the Monetary Policy Committee?</b>
A	Part of the Government; A Quango, wholly appointed by the Government; <b>An independent body, partly appointed by the Government;</b> A completely independent body; No idea

Notes: Selected questions from the Inflation Attitudes Survey of the Bank of England, including answer possibilities provided to respondents. Correct answers in bold.

Table 1: Inflation Attitudes Survey: Knowledge questions

Knowledge has been categorized into three different dimensions (Anderson et al., 2001): Factual knowledge (basic elements, including knowledge of specific details and of events and people), conceptual knowledge (interrelationships among the basic elements, including knowledge of principles, generalizations and models) and procedural knowledge (methods, techniques, algorithms).

In monetary policy, factual knowledge includes knowledge of the institutional set-up (e.g., monetary policy goal by law). Conceptual knowledge entails knowledge on the monetary policy transmission (e.g., interest rate channel or credit channel) and monetary policy strategy (e.g., Taylor rule). Procedural knowledge would include knowledge on the instruments and tools to implement monetary policy (e.g., open market operations).

The Inflation Attitudes Survey covers two of these dimensions: Questions 11, 12 and 13 (interest rate setting group and the relationship between the central bank and the government)



require factual knowledge. Conceptual knowledge is needed to answer questions 9a and 9b (the relationship between interest rates and prices). The survey does not include knowledge of the Bank of England’s inflation goal, which is important to form inflation expectations. Nevertheless, the five questions cover a broad enough range to deduce the respondents’ knowledge of central banking.

For each question, Table 2 includes the fraction of correct answers and the fraction of those with no answer (“Don’t know” or “No idea”). A particularly high fraction could not provide an answer to question 11. In contrast, question 12 is the only question that was correctly answered by the majority of respondents. The difference between these two questions lies in the provided answer possibilities. Question 11 is asked as an open question without answer possibilities, while question 12 provides five options.

Question	Fraction of correct answers	Fraction of “Don’t knows”
Q9a: Rise in interest rates (short term)	0.22	0.23
Q9b: Rise in interest rates (medium term)	0.38	0.24
Q11: Interest rate setting group (open question)	0.39	0.53
Q12: Interest rate setting group	0.67	0.13
Q13: Description MPC: Independence	0.35	0.20

Notes: Fraction of those respondents who provided correct answers and fraction of those who provided the answer “Don’t know” to selected questions from the Inflation Attitudes Survey of the Bank of England (2001-2016).

Table 2: Knowledge questions: Fraction of correct answers and fraction of “Don’t know”s

Correlation among the correct answers to the five questions is low (Table 3). While the answers to questions 11 and 12 exhibit the highest correlation, even this correlation is below 0.5. The answers to question 9a are slightly negatively correlated with those in question 9b, due to respondents making no distinction between the consequences of interest rate hikes in the short and long term, resulting in one correct and one wrong answer.

Because of the low correlation among the correct answers, there is little redundancy in the data. In a principal component analysis among the correct answers, even the fifth factor explains 10% of the variation (Table 4).

	Q9a	Q9b	Q11	Q12	Q13
<b>Q9a</b> ( <i>Rates_Short</i> )	1				
<b>Q9b</b> ( <i>Rates_Medium</i> )	-0.05	1			
<b>Q11</b> ( <i>Group_OpenQ</i> )	0.09	0.07	1		
<b>Q12</b> ( <i>Group</i> )	0.10	0.11	0.48	1	
<b>Q13</b> ( <i>Independ</i> )	0.06	0.09	0.11	0.20	1

Notes: Correlation among correct answers to selected questions (Q9, Q11, Q12, Q13) from the Inflation Attitudes Survey of the Bank of England (2001-2016).

Table 3: Knowledge questions: Correlation table

	Eigenvalue	Proportion explained	Cumulative proportion explained
<b>Factor 1</b>	1.63	0.33	0.33
<b>Factor 2</b>	1.05	0.21	0.54
<b>Factor 3</b>	0.94	0.19	0.72
<b>Factor 4</b>	0.87	0.17	0.90
<b>Factor 5</b>	0.51	0.10	1.00

Notes: Results based on a principal component analysis among correct answers to selected questions (Q9, Q11, Q12, Q13) from the Inflation Attitudes Survey of the Bank of England (2001-2016).

Table 4: Knowledge questions: Principal component analysis

## 2.3 Score

The literature on composite indicators widely discusses different weighting methodologies. Often, they come to the conclusion that equal weights "remain least objectionable" (Sharpe & Andrews, 2012). Other methodologies might be technically and mathematically more rewarding, but they usually lack any intuition, which makes it difficult to defend them. Thus, the simplest but also the most promising way to construct the knowledge score is to take the sum of all correctly answered knowledge questions from the Inflation Attitudes Survey for each respondent. Not answering a question correctly or claiming to be unable to answer at all leads to zero points in a question. Answering each question correctly leads to a maximum of 5 points.

For robustness tests, I include an alternative measure based on the loadings of the principal component analysis.<sup>5</sup> The decision about how many factors should be used usually depends on the following criteria: (1) the Eigenvalues (above 1), (2) the variance explained (at least 70% or 80%), (3) the scree test (breaks in a linear display of the Eigenvalues), and (4) the loadings (interpretation of content). The criteria are thereby somewhat arbitrary and do not need to be

<sup>5</sup>The appendix includes a third knowledge score, based on equally weighted conceptual (Questions 9a and 9b) and a factual knowledge score (Question 11, 12 and 13). Its development is very similar to the two other knowledge scores.

followed strictly.

According to the first criterion, factor 5 should be dropped because its Eigenvalue is clearly below 1. Factors 3 and 4 only marginally fail this criterion and thus do not need to be dropped. Applying the second criterion in its strong version, factors 3 and 4 should be used. These factors should also be included according to the scree test, which displays breaks after the first and fourth factors (see Figure 5 in the appendix). The loadings in Table 5 reveal that factors 1 and 2 capture questions 11 and 12 and 9a and 9b, respectively. Factor 3 depends on different questions, but mostly on question 13. Thus, the first three factors cover all questions and should be used according to this criterion. In summary, factors 1, 2 and 3 should be taken into account. Factor 5 should not be used. The decision about factor 4 is less straightforward. The stronger version of the variance explanation criterion as well as the scree test speak in favour of this factor, while the other criteria are not clearly against using it. Hence, I use four factors for the knowledge score.

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
<b>Q9a</b> ( <i>Rates_Short</i> )	0.26	<b>-0.70</b>	0.46	<b>0.49</b>	0.01
<b>Q9b</b> ( <i>Rates_Medium</i> )	0.28	<b>0.73</b>	0.23	<b>0.58</b>	0.03
<b>Q11</b> ( <i>Group_OpenQ</i> )	<b>0.77</b>	-0.10	-0.40	0.00	0.48
<b>Q12</b> ( <i>Group</i> )	<b>0.82</b>	-0.03	-0.22	-0.05	<b>-0.52</b>
<b>Q13</b> ( <i>Independ</i> )	0.46	0.16	<b>0.68</b>	<b>-0.53</b>	0.10

Notes: Loadings based on a principal component analysis among the correctness to answers to selected questions (Q9, Q11, Q12, Q13) from the Inflation Attitudes Survey of the Bank of England.

Table 5: Knowledge questions: Loadings (principal component analysis)

Table 6 provides summary statistics for all important variables of the dataset, including the knowledge score and its alternative, monetary policy attitudes and satisfaction with the Bank of England’s policy and several socio-demographic factors.

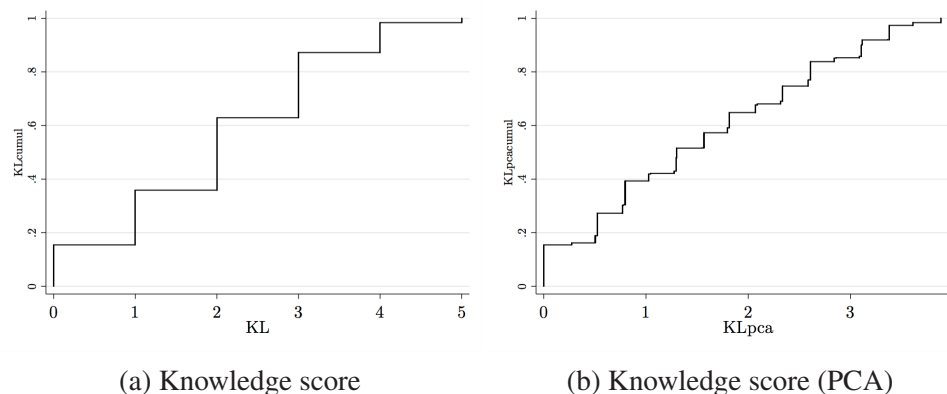
The overall results according to the two alternative knowledge scores confirm a rather low central banking knowledge. For the knowledge score based on equally weighted questions, the mean of the total sample is 2.00. Only 1.5% of the respondents answered all questions correctly; 15% of the respondents did not give any correct answer. Almost 30 percent of the respondents provided two correct answers. The mean of the PCA-based knowledge score is

Variables	Observations	Mean	Std. dev.	Knowledge score
<b>Knowledge score</b>	<b>63478</b>	2.00	1.29	
<b>Knowledge score (PCA)</b>	<b>63478</b>	1.52	1.11	
<b>Inflation target preferences</b>	<b>53917</b>	0.62	0.49	
1 = Is too high (lower)	13382 (24.8%)			1.84
2 = About right	33212 (61.6%)			2.23
3 = Is too low (higher)	7322 (13.6%)			2.35
<b>Inflation aversion</b>	<b>48446</b>	0.21	0.41	
Higher interest rates = 0	38054 (78.5%)			2.20
Higher inflation = 1	10392 (21.4%)			2.25
<b>Satisfaction with BoE</b>	<b>56512</b>	3.39	1.01	
1 = Very dissatisfied	3570 (6.3%)			1.72
2 = Fairly dissatisfied	6358 (11.3%)			1.94
3 = Neither dissatisfied/satisfied	15895 (28.1%)			1.78
4 = Fairly satisfied	25805 (45.7%)			2.40
5 = Very satisfied	4884 (8.7%)			2.63
<b>Age category</b>	<b>63478</b>	3.69	1.70	
1 = 15-24	7945 (12.5%)			1.38
2 = 25-34	10969 (17.3%)			1.82
3 = 35-44	11277 (17.8%)			2.12
4 = 45-54	10087 (15.9%)			2.25
5 = 55-64	8883 (14.0%)			2.30
6 = 65+	14317 (22.5%)			2.03
<b>Gender</b>	<b>63478</b>	0.54	0.50	
0 = Male	29353 (46.2%)			2.29
1 = Female	34125 (53.7%)			1.76
<b>Social class</b>	<b>63478</b>	2.71	1.12	
1 = AB	11736 (18.5%)			2.59
2 = C1	16957 (26.7%)			2.22
3 = C2	12984 (20.5%)			1.97
4 = DE	21801 (34.3%)			1.54
<b>Employment status</b>	<b>63478</b>	0.51	0.50	
0 = Working	30825 (48.6%)			2.18
1 = Not working	32653 (51.4%)			1.83
<b>Income category</b>	<b>33739</b>	2.62	1.20	
1 = <9500	8313 (24.6%)			1.62
2 = 9500-17499	8402 (24.9%)			2.01
3 = 17500-24999	4912 (14.6%)			2.33
4 = >25000	12112 (35.9%)			2.59
<b>Education level</b>	<b>61764</b>	1.96	0.70	
1 = Low (GCSE)	16460 (26.7%)			1.71
2 = Medium (A-Level)	31239 (50.1%)			1.97
3 = High (Uni)	14065 (22.8%)			2.46
<b>Housing tenure</b>	<b>63478</b>	2.31	1.11	
1 = Owned outright	18623 (29.4%)			2.26
2 = Mortgage	20449 (32.2%)			2.31
3 = Rent	10621 (16.7%)			1.42
4 = Other	13784 (21.7%)			1.63

Notes: The dataset is based on the Q1 editions from the Inflation Attitudes Survey of the Bank of England (2001-2016).

Table 6: Inflation Attitudes Survey: Summary statistics

1.52. The distribution of the two scores is similar (Figure 1). While a significant portion of respondents could not answer any questions, only a few respondents populate the right tail of the distribution functions.



Notes: (a) Cumulative distribution of knowledge score based on equally weighted questions. (b) Cumulative distribution of alternative knowledge score with weights based on factor loadings of principal component analysis. Knowledge scores are based on selected questions (Q9, Q11, Q12, Q13) from the Inflation Attitudes Survey of the Bank of England (2001-2016).

Figure 1: Knowledge score: Distribution

A closer look at the 9801 respondents who could not answer any questions reveals that 31.6% of this sample did not even try to answer a question but chose “Don’t know” instead. Another 3.4% provided an answer for each question but always missed the correct answer.

### 3 Socio-demographic determinants of the knowledge score

The knowledge scores of the respondents vary significantly across different socio-demographic groups (see Table 6). The score of respondents between age 55 and 64 is 0.92 points higher than the score of young people between 15 and 24. There is also a gender gap in this dataset. Male respondents exhibit distinctly higher knowledge scores than females. The gender gap is a common feature in financial literacy studies, with the females’ lack of interest in financial topics as one of the reasons provided (Hung, Yoong & Brown, 2012). Respondents from the higher social classes A and B could answer an average of almost one additional question correctly compared to respondents from the lower social classes D and E.<sup>6</sup> The same is true for respondents with

<sup>6</sup>The definitions used are the NRS social grades, today maintained by the Market Research Society. Social classes A, B, C1, C2, D and E correspond to the occupation of the head of the household (A = upper middle class, B = middle class, C1 = lower middle class, C2 = skilled working class, D = working class, E = non-working.)

an income of over 25'000 pounds compared to respondents with lower income. Employment status is also associated with different knowledge scores, with a lower knowledge score of those not working, although the effect is comparably small. Not surprisingly, education also seems to have a positive influence on the knowledge score. Finally, homeowners are better informed than others. Interestingly, only a small difference between mortgage owners and those who own the house outright emerges. Because mortgage owners have more incentives to follow interest rate developments, their higher knowledge score could have been expected to be higher. One explanation could be that those who own the house outright were mortgage owners before they redeemed it. In addition, homeowners without a mortgage also have incentives to monitor interest rate developments, because house prices and investments outside the real estate market also depend on interest rates. This incentive might be less distinct in cases where the house was inherited.

Of the available socio-demographic attributes provided by the survey, one factor seems to play only a minor role: regional origin. Almost no difference can be detected in the average knowledge score of the respondents in different regions.

To extract the influence of single determinants of people's knowledge of central banking, I use the following linear regression equation:

$$\kappa_i = \alpha + \beta * X_i + \epsilon_i \quad (1)$$

where  $\kappa_i$  is the knowledge score of individual  $i$  (based on equally weighted questions or weights according to PCA, depending on the specification),  $\alpha$  is a constant,  $X_i$  is a vector of respondent-specific explanatory variables and dummies (age, gender, social class, employment status, income, education, tenure, dummies for survey year and region),  $\beta$  is a vector of coefficients, and  $\epsilon_i$  is the error term.

Table 7 shows the results of the OLS regressions on different dependent variables. The knowledge score based on equally weighted questions is a variable with possible integer outcomes between 0 and 5. Thus, the knowledge score is a count variable. For such cases, Poisson models can be useful. However, interpretation of the coefficients is easier if one uses a linear

model instead. The findings do not differ from those based on a Poisson model (see Table 15 in the appendix).

In specifications (1a), (1b) and (1c), the basic knowledge score (equally weighted questions) is the dependent variable. Specifications (2a) and (2b) were run on the alternative knowledge score (weighted according to PCA). The differences between the results of the different knowledge scores are small. Specification (1c) includes variables for the macroeconomic environment.<sup>7</sup> While unemployment rates and, to a lesser degree, inflation rates have a statistically significant influence, they only marginally alter the coefficients of the other variables. The unemployment rate itself has a small negative influence on the knowledge score. A higher unemployment rate is thus related to a lower knowledge score, in contrast to Carvalho & Nechio (2014). Similarly, a lower inflation rate (i.e., during a crisis) is negatively correlated with the knowledge score.

The influence of age, gender, social class, employment status, income, education and housing tenure are statistically significant.<sup>8</sup> In general, the results fit very well with the results of existing studies in monetary policy and financial literacy. I discuss the economic significance of the results according to specification (1b).

Older people are generally better informed than younger people (similar to van der Crujisen et al., 2015, OECD/INFE, 2013). However, literacy is lower again among people aged 65 and older (this common life cycle profile in financial literacy is called “hump-shaped” in Lusardi & Mitchell, 2014). Controlling for other attributes, people between 55 and 64 have a 0.85 point higher knowledge score than those aged between 15 and 24.

Concerning gender, being female is associated with a 0.48 point lower knowledge score. This gender gap is similar to that of van der Crujisen et al. (2015). Gender differences are usually less significant after controlling for socio-economic conditions, but they still exist (OECD/INFE, 2013 and Lusardi & Mitchell, 2014 for further discussion).<sup>9</sup> Regressions for

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<sup>7</sup>The survey is conducted at the beginning of a year. The corresponding unemployment and inflation rates are based on yearly values from the year before.

<sup>8</sup>Multicollinearity is not an issue. No variance inflation factors (VIFs) above 5 are reported.

<sup>9</sup>Including interaction terms in the model to capture correlations of gender with other socio-demographic factors

Independent variables	(1) Score		(2) Score: PCA		
	(1a)	(1b)	(1c)	(2a)	(2b)
Coefficients					
<i>Age</i>					
25-34	0.33*** (0.018)	0.26*** (0.018)	0.26*** (0.018)	0.18*** (0.017)	0.12** (0.017)
35-44	0.57*** (0.018)	0.49*** (0.018)	0.49*** (0.018)	0.30*** (0.017)	0.23*** (0.017)
45-54	0.71*** (0.019)	0.63*** (0.019)	0.63*** (0.019)	0.36*** (0.017)	0.29*** (0.017)
55-64	0.85*** (0.020)	0.77*** (0.020)	0.77*** (0.020)	0.42*** (0.018)	0.35*** (0.018)
65+	0.72*** (0.020)	0.65*** (0.020)	0.65*** (0.020)	0.32*** (0.019)	0.27*** (0.019)
<i>Gender</i>					
Female	-0.48*** (0.009)	-0.47*** (0.009)	-0.47*** (0.009)	-0.32*** (0.009)	-0.31*** (0.009)
<i>Social class</i>					
AB	0.53*** (0.016)	0.46*** (0.017)	0.47*** (0.017)	0.34*** (0.015)	0.29*** (0.015)
C1	0.39*** (0.014)	0.36*** (0.014)	0.36*** (0.014)	0.25*** (0.012)	0.23*** (0.012)
C2	0.18*** (0.014)	0.16*** (0.014)	0.16*** (0.014)	0.12*** (0.013)	0.11* (0.013)
<i>Employment status</i>					
Not working	-0.09*** (0.012)	-0.05*** (0.012)	-0.06*** (0.012)	-0.07*** (0.011)	-0.05*** (0.011)
<i>Income</i>					
9500-17499		0.13*** (0.018)	0.12*** (0.018)		0.08*** (0.014)
17500-24999		0.23*** (0.022)	0.22*** (0.021)		0.14*** (0.020)
>25000		0.26*** (0.021)	0.25*** (0.019)		0.17*** (0.018)
Not known		-0.10*** (0.015)	-0.10*** (0.015)		-0.12*** (0.014)
<i>Education</i>					
Medium (A-Level)	0.28*** (0.012)	0.26*** (0.012)	0.25*** (0.012)	0.16*** (0.011)	0.14*** (0.011)
High (degree)	0.49*** (0.016)	0.47*** (0.016)	0.46*** (0.016)	0.27*** (0.015)	0.26*** (0.015)
<i>Housing tenure</i>					
Owned outright	0.39*** (0.016)	0.39*** (0.016)	0.40*** (0.016)	0.25*** (0.015)	0.26*** (0.015)
Mortgage	0.47*** (0.016)	0.43*** (0.016)	0.44*** (0.016)	0.30*** (0.014)	0.28*** (0.014)
Other	0.10*** (0.015)	0.10*** (0.015)	0.09*** (0.015)	0.06*** (0.014)	0.06*** (0.014)
<i>Unemployment</i>			-0.04*** (0.005)		
<i>Inflation</i>			0.02*** (0.005)		
<i>Fixed effects</i>	Year, region	Year, region	Region	Year, region	Year, region
<i>Constant</i>	0.93*** (0.029)	1.08*** (0.031)	1.28*** (0.035)	0.98*** (0.027)	1.07*** (0.029)
<i>R squared</i>	0.21	0.22	0.22	0.11	0.12
<i>Observations</i>	61764	61764	61764	61764	61764

Notes: Dataset is based on the Inflation Attitudes Survey of the Bank of England (2001-2016). Coefficients are based on linear regressions. Significance level: \*\*\* = 1%, \*\* = 5%, \* = 10%. Robust standard errors in parentheses. Dependent variables: (1) Knowledge score based on equally weighted questions; (2) Knowledge score based on weights according to PCA. Reference categories: *Age*: 15-24; *Gender*: Male; *Class*: DE; *Employment status*: Working; *Income*: <9500; *Education*: Low (GCSE) <40; *Tenure*: Rent. Unemployment and inflation data are used with a time lag of one year (example: figures from 2000 for 2001 survey data).

Table 7: Knowledge score and sociodemographic factors: Estimation results



each year show that the coefficient for gender has decreased slightly since 2001. The gender gap has been closing slightly.

Being in the highest social classes A or B increases the respondents' knowledge score by 0.53 points, compared to members of the lowest social classes D and E, again controlling for other attributes (van der Crujisen et al., 2015 present a similar outcome). The effect is thus similar to the effect of gender.

Higher income correlates with a better understanding (similar to Carvalho & Nechio, 2014). The knowledge score of persons with an income between 17'500 and 25'000 pounds is 0.26 points higher than that of persons with an income of less than 9'500 pounds. Social class and income may correlate with interest in monetary policy and thus lead to higher knowledge scores. The income effect is somewhat lower than the effects of age, gender and social class. Excluding income (columns 1a and 2a) does not qualitatively change the results, but the omission increases the coefficients of the variables age, social class and education, due to the correlation of these variables with income.<sup>10</sup>

Being employed is associated with a higher knowledge score. The coefficient of unemployment status becomes insignificant if the reported income is excluded from the model, due to the high correlation with the income variable (see Table 14 in the appendix).

A higher education level is also associated with a higher knowledge score (in line with Carvalho & Nechio, 2014, Fluch et al., 2013 and Lusardi & Mitchell, 2014). A university degree increases the knowledge score by 0.47 points.

Finally, homeowners (who either own the house outright or bought it through a mortgage) are better informed than those who rent their house or apartment. The coefficient of those who own the house through a mortgage is slightly higher, at 0.43. The difference is small, but statistically significant.

In summary, a male, who is around 60 years old, owns a house, belongs to social classes A

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does not increase the level of explanation.

<sup>10</sup>Table 14 in the appendix provides regression results for two different samples: one for those respondents who did not provide income data and one for only those who did provide. The results differ only slightly.

or B, has a university degree and an income above 25'000 pounds has an expected knowledge score of 3.45 (according to specification 1b). In contrast, a female around 20 years old who rents an apartment and belongs to social classes D or E, has a GCSE level education and an income below 9500 pounds has an expected knowledge score of 0.56.

The socio-demographic characteristics of the respondents who answered “Don’t know” differ from those who tried but failed to provide correct answers. Young female respondents with low education and income and belonging to lower social classes were less likely to provide an answer. The results above thus overestimate somewhat the effects of socio-demographic characteristics on knowledge. They also partly reflect the fact that the same socio-demographic characteristics play a role in the likelihood of answering. It is thereby impossible to differentiate between the respondents who provided a correct answer by knowledge and those who answered correctly by chance. In any case, the effects of socio-demographic characteristics are still highly statistically significant after excluding all respondents who did not provide answers.

Table 8 presents regressions on single questions.<sup>11</sup> Several differences emerge. While the R squared for questions 11 (*Group\_OpenQ*) and 12 (*Group*) is comparably large at 0.16 and 0.19, respectively, the explanatory factors only play a minor role in explaining the other questions. The gender gap is especially large for questions 11 and 12. Generally, socio-demographic factors seem to have less influence on the knowledge differences in the conceptual questions (Q9a: *Rates\_Short* and Q9b: *Rates\_Medium*) and in the question on the independence of the central bank (Q13: *Independ*). One reason for these differences might be that random guessing is more prevalent in the multiple-choice questions, leading to less-predictable results. In contrast, random guessing is not possible when answering open question 11, while question 11 might have had an influence on answering the corresponding question 12.

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<sup>11</sup>For better comparability to the previous results, I use OLS regressions. Results stemming from logit models do not lead to other conclusions; see Table 16 in the appendix.

Independent variables	Q9a (Rates_Short)	Q9b (Rates_Medium)	Q11 (Group_OpenQ)	Q12 (Group)	Q13 (Independ)
Coefficients					
<i>Age</i>					
25-34	0.02*** (0.006)	0.01 (0.008)	0.10*** (0.006)	0.14*** (0.007)	0.00 (0.007)
35-44	0.04*** (0.006)	0.02** (0.008)	0.18*** (0.006)	0.23*** (0.007)	0.03*** (0.007)
45-54	0.07*** (0.007)	0.01 (0.008)	0.24*** (0.007)	0.28*** (0.007)	0.03*** (0.008)
55-64	0.08*** (0.007)	0.01 (0.008)	0.30*** (0.007)	0.35*** (0.008)	0.04*** (0.008)
65+	0.04*** (0.007)	-0.01 (0.008)	0.27*** (0.007)	0.34*** (0.008)	0.02** (0.008)
<i>Gender</i>					
Female	-0.05*** (0.003)	-0.08*** (0.004)	-0.18*** (0.004)	-0.14*** (0.003)	-0.02** (0.004)
<i>Social class</i>					
AB	0.05*** (0.006)	0.05*** (0.007)	0.14*** (0.006)	0.14*** (0.006)	0.10*** (0.007)
C1	0.03*** (0.005)	0.04*** (0.005)	0.10*** (0.005)	0.12*** (0.005)	0.08*** (0.005)
C2	0.01 (0.005)	0.02*** (0.006)	0.03*** (0.005)	0.06*** (0.005)	0.03*** (0.005)
<i>Employment status</i>					
Not working	0.00 (0.004)	-0.01** (0.005)	-0.01** (0.005)	-0.02*** (0.005)	-0.01*** (0.005)
<i>Income</i>					
9500-17499	0.03*** (0.006)	0.01* (0.008)	0.03*** (0.007)	0.05*** (0.007)	0.02** (0.007)
17500-24999	0.04*** (0.006)	0.01 (0.009)	0.04*** (0.007)	0.08*** (0.008)	0.06*** (0.009)
>25000	0.03*** (0.007)	0.03*** (0.008)	0.06*** (0.009)	0.09*** (0.007)	0.05*** (0.008)
Not known	-0.01** (0.005)	-0.04*** (0.006)	0.00 (0.006)	-0.01** (0.006)	-0.03*** (0.006)
<i>Education</i>					
Medium (A-Level)	0.03*** (0.004)	0.01** (0.005)	0.08*** (0.005)	0.08*** (0.005)	0.06*** (0.005)
High (degree)	0.05*** (0.006)	0.02*** (0.007)	0.16*** (0.006)	0.14*** (0.006)	0.10*** (0.007)
<i>Housing tenure</i>					
Owned outright	0.01** (0.006)	0.05*** (0.007)	0.12*** (0.006)	0.14*** (0.006)	0.07*** (0.006)
Mortgage	0.03*** (0.006)	0.05*** (0.007)	0.12*** (0.006)	0.16*** (0.006)	0.07*** (0.006)
Other	0.01 (0.005)	0.00 (0.006)	0.02 (0.006)	0.04*** (0.006)	0.03*** (0.006)
<i>Fixed effects</i>	Year, region	Year, region	Year, region	Year, region	Year, region
<i>Constant</i>	0.14*** (0.011)	0.36*** (0.013)	0.08*** (0.012)	0.32*** (0.013)	0.23*** (0.013)
<i>R squared</i>	0.02	0.03	0.16	0.19	0.05
<i>Observations</i>	61764	61764	61764	61764	61764

Notes: Dataset is based on the Inflation Attitudes Survey of the Bank of England (2001-2016). Coefficients are based on linear regressions. Significance level: \*\*\* = 1%, \*\* = 5%, \* = 10%. Robust standard errors in parentheses. Dependent variables: Correct answers to single questions. Reference categories: *Age*: 15-24; *Gender*: Male; *Class*: DE; *Employment status*: Working; *Income*: <9500; *Education*: Low (GCSE) <40; *Tenure*: Rent.

Table 8: Knowledge questions and sociodemographic factors: Estimation results

## 4 Historical development of the knowledge score

Since 2001, both knowledge scores have developed in similar ways (Figure 2). Until 2011, the results were quite stable. Since then, a slight downward trend can be detected.<sup>12</sup> However, the trend stopped again in 2015. The downturn is not due to composition effects: The coefficients of the year dummies in the regressions shown in Table 7 are significantly lower after 2012 than before 2012.

Since 2001, several events that were important for the Bank of England and the British financial sector took place. Carvalho & Nechio (2014) show that public understanding increases during recessions and labour market downturns.<sup>13</sup> The global financial crisis, including the bailout of banks and unprecedented measures by the Bank of England, might have played a role when the average knowledge score (based on equally weighted questions) slightly increased from 1.98 in 2008 to 2.11 in 2011. At the same time, both the unemployment rate and inflation increased. Overall, however, the knowledge score is negatively related to the unemployment rate (as shown in the previous section).

How can this downturn since 2011 be explained? While all questions contributed to the downturn, it is mainly driven by questions 9b (*Rates\_Medium*), 12 (*Group*) and 13 (*Independ*) (see Figure 7 in the appendix). Regarding question 13, the rate of correct answers has not completely recovered. The average respondent still knows less about the relationship between the government and the central bank than before 2012.<sup>14</sup> The changes in the government (in 2010) and the position of the governor (in 2013) might have had an influence on the the general public's perception of this relationship. However, the downturn since 2011 remains somewhat puzzling, even if one considers various relevant events.

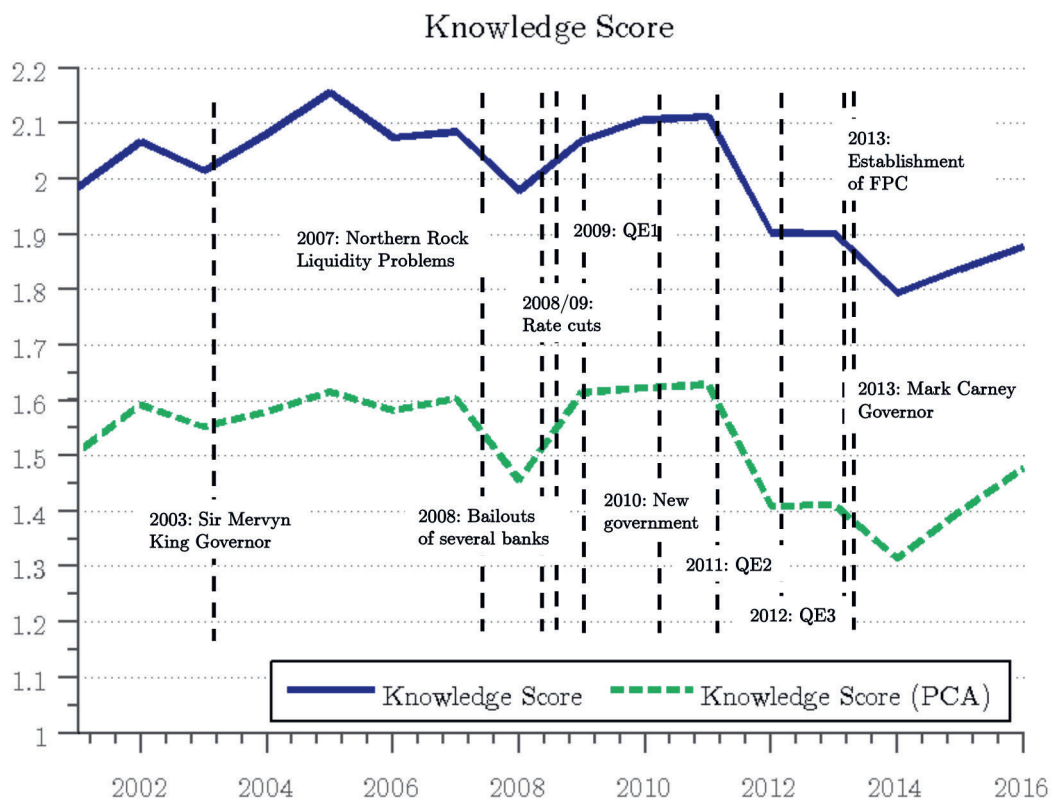
All age groups performed statistically significantly worse since 2011. It is thus useful to take a closer look at the development of the different age groups' knowledge scores. While the

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<sup>12</sup>The 95% confidence interval is approximately +/- 0.04 points above/below the values. The downtrend is thus statistically significant.

<sup>13</sup>The authors do not use any time lags to discuss the correlation between public understanding and recessions.

<sup>14</sup>In particular, more respondents incorrectly answered that the central bank is a part of the government, and more respondents did not have any answer.



Notes: The knowledge score is on selected questions (Q9, Q11, Q12, Q13) from the Inflation Attitudes Survey of the Bank of England. Unemployment and inflation rates are from the Office for National Statistics.

Figure 2: Knowledge score: Economic developments

knowledge scores of age groups 65+ and 15-24 are again near their historical averages, those of the age groups between 25 and 64 have not fully rebounded yet. Table 9 shows the pre-2012 average compared to the post-2012 averages. The knowledge score of age group 25-34 is 0.35 points below its pre-2012 level, and that of age group 35-44 is 0.29 points below the previous level. The knowledge scores of age groups 45-54 and 55-64 are also clearly below the pre-2012 level. In total, the knowledge of different age groups adjusted to each other, so that the difference between the group with the most-limited knowledge (those below 24) and the groups with a greater degree of knowledge has become smaller.

The difference between the knowledge score of those above and below 25 defines what people learned through public education, throughout their job and for their private interest. This difference has decreased during the last few years. This reduction could lead to the conclusion that education and communication regarding central bank topics have become less effective over

Age group	Knowledge score (averages)			Difference (pre-/past-2011)
	Total sample	2001-2011	2012-2016	
15-24	1.38	1.41	1.33	-0.08***
25-34	1.82	1.93	1.57	-0.35***
35-44	2.10	2.19	1.91	-0.29***
45-54	2.25	2.31	2.10	-0.22***
55-64	2.30	2.36	2.18	-0.18***
65+	2.03	2.06	1.98	-0.08***

Notes: Average knowledge score (based on equally weighted questions) among different age groups for the periods 2001-2016, 2001-2011, and 2012-2016 and the difference between the latter two averages. Significance level: \*\*\* = 1%. The knowledge score is based on selected questions (Q9, Q11, Q12, Q13) from the Inflation Attitudes Survey of the Bank of England.

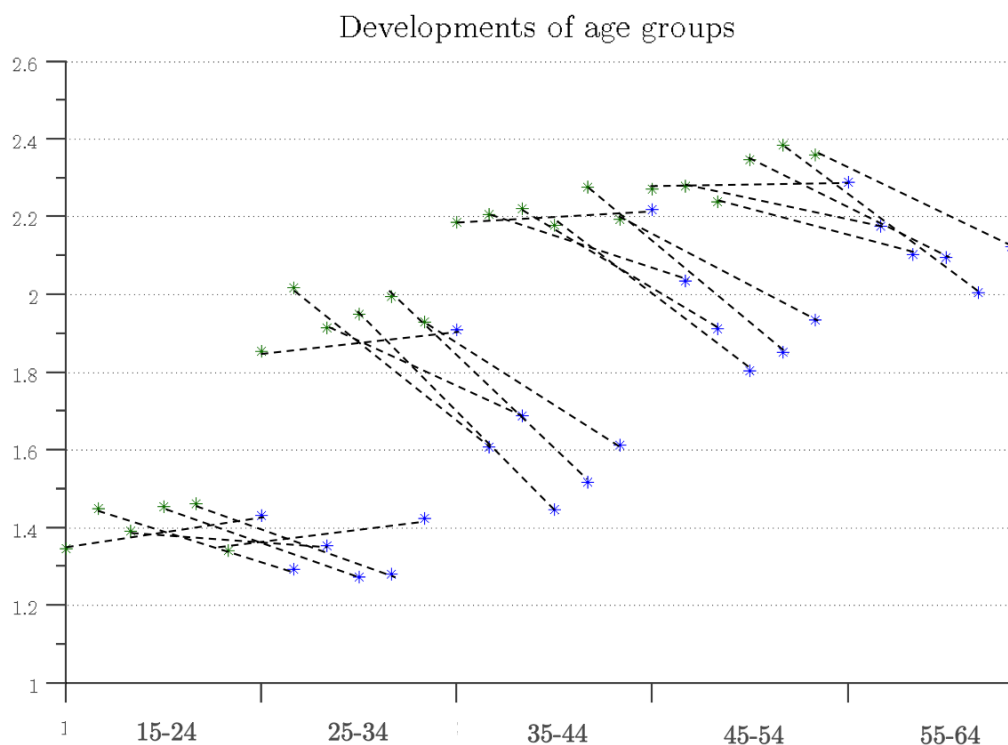
Table 9: Knowledge score: Age groups

the years. The sample period from 2001 to 2016 allows a comparison of the same cohorts over a 10 years period. Figure 3 presents the average knowledge scores for the different age groups in different years. The same cohorts in different years are connected with a line. For example, the average knowledge score of the 15-24 age group in 2001 can be compared with that of the 25-34 age group in 2011. The results show that age groups 25-34 and 35-44 perform especially worse 10 years later when the respondents' age is 35-44 and 45-54, respectively. Excluding any composition effects, it seems that the same questions became slightly less comprehensible on average for the same sort of people.<sup>15</sup> Of course, I cannot exclude that unknown factors related to the survey realization led to lower knowledge rates after 2011.

## 5 The knowledge score as a determinant of attitudes

Does a higher knowledge score lead to attitudes that are more in line with those of the central bank? The answer to this question represents a first step in the discussion on the link between understanding monetary policy and approval of the central bank. Two additional questions in the Bank of England Inflation Attitudes Survey help to answer this question (Table 10). Question 10 addresses the general attitudes towards monetary policy, whereas question 4 examines a specific inflation target. Question 10 remains ambiguous because no exact figures are provided. If inflation falls below the target rate, an inflation-targeting central bank would also prefer higher prices. In contrast, question 4 explicitly asks for the support of the pursued inflation target of

<sup>15</sup>However, there is no similar trend downwards in "Don't know"s.



Notes: Comparison of average knowledge scores (based on unweighted questions) for different age-related cohorts. Specifically, the average knowledge score of age group 15-24 in 2001 is connected with that of age group 25-34 in 2011, etc. The knowledge score is based on selected questions (Q9, Q11, Q12, Q13) from the Inflation Attitudes Survey of the Bank of England.

Figure 3: Knowledge score: Cohorts since 2001

the central bank.

<b>Q4 (Target)</b>	<b>The government has set an inflation target of 2.0%. Do you think this target...</b>
A	...is too high?; ...or too low?; ...or about right?; No idea
<b>Q10 (Aversion)</b>	<b>If a choice had to be made, either to raise interest rates to try to keep inflation down; or keep interest rates down and allow prices in the shops to rise faster, which would you prefer:</b>
A	Interest rates to rise; Prices to rise faster; No idea

Notes: Selected questions from the Inflation Attitudes Survey of the Bank of England, including answer possibilities provided to respondents.

Table 10: Inflation Attitudes Survey: Monetary policy attitude questions

Concerning question 10, most respondents (60%) preferred higher interest rates over higher inflation. Only 16% of the respondents chose the opposite. Nearly one quarter (24%) could not answer the question. In answer to question 4, the majority of respondents (52%) decided that the inflation target of 2% is appropriate, 21% said that this inflation target is too high, and 12% claimed that it is too low; 15% did not answer the question.

From the bivariate relationship, it remains unclear whether the respondents' choice between



higher interest rates and higher inflation rates depends on their knowledge of central banking (Table 6). Those who prefer higher inflation rates have a slightly higher knowledge score. However, the difference is so small that this general question does not give a clear hint that knowledge plays a role in attitudes. In contrast, the results regarding the inflation target preferences differ more. Those who prefer a lower inflation target exhibit a distinctively lower average knowledge score. At the same time, those who prefer a higher target even have a slightly higher knowledge score than those who agree with the current target. In other words, higher levels of knowledge come, on average, with lower inflation aversion.

I use the following regression equation to test whether respondents' knowledge scores have an influence on their responses to the two questions about attitudes:

$$\phi_i = \alpha + \beta * \kappa_i + \gamma * X_i + \epsilon_i \quad (2)$$

where  $\phi_i$  is the monetary policy preference of respondent  $i$  (based on Q4 or Q10, depending on the specification),  $\alpha$  is a constant,  $\kappa_i$  is the knowledge score (based on equally weighted questions),  $X_i$  is a vector of respondent-specific control variables (age, gender, social class, employment status, income, education, tenure and dummies for the survey year and region),  $\beta$  is a coefficient,  $\gamma$  is a vector of coefficients, and  $\epsilon_i$  is the error term.

As the dependent variable for question 10, I use a binary variable that equals 1 for those who prefer higher inflation and 0 for those who prefer higher interest rates. Including the respondents who did not have an answer would require the use of multinomial logistic regression (see Table 17 in the appendix for these results). The multinomial logistic regression on the answers to question 4 show that those with a lower knowledge score prefer a lower target, and those with a higher knowledge score prefer a higher target (see Table 18 in the appendix). The sizes of the inflation target and knowledge scores are thus positively correlated, and the use of an ordered variable for the inflation target (1 = too high, 2 = about right, 3 = too low) seems appropriate. Alternatively, one could build a binary variable that equals 1 for those who agree with the Bank of England's target and 0 for those who do not agree (see Table 19 in the appendix for these results). However, these results are difficult to interpret because of the mutually cancelling



Independent variables	(1) Higher inflation vs. higher interest rates		(2) Inflation target	
	(1a)	(1b)	(2a)	(2b)
	Coefficients			
<i>Knowledge score</i>	0.01*** (0.002)	0.00 (0.001)	0.07*** (0.002)	0.04*** (0.002)
<i>Age</i>				
25-34		0.03*** (0.079)		0.01 (0.011)
35-44		0.02** (0.080)		0.06*** (0.011)
45-54		-0.02** (0.008)		0.16*** (0.011)
55-64		-0.05*** (0.008)		0.22*** (0.012)
65+		-0.06*** (0.008)		0.23*** (0.012)
<i>Gender</i>				
Female		-0.02* (0.004)		-0.09*** (0.005)
<i>Social class</i>				
AB		-0.01 (0.007)		0.08*** (0.009)
C1		-0.01** (0.005)		0.06*** (0.008)
C2		-0.01 (0.006)		0.01 (0.008)
<i>Employment status</i>				
Not working		-0.03*** (0.005)		0.00 (0.007)
<i>Income</i>				
9500-17499		0.00 (0.007)		0.01 (0.011)
17500-24999		0.00 (0.009)		0.00 (0.012)
>25000		-0.01 (0.008)		0.04*** (0.011)
Not known		0.00 (0.006)		0.00 (0.009)
<i>Education</i>				
Medium (A-Level)		-0.01 (0.005)		0.01 (0.007)
High (degree)		-0.01 (0.006)		0.02** (0.009)
<i>Housing tenure</i>				
Owned outright		0.01 (0.006)		0.04** (0.009)
Mortgage		0.12*** (0.006)		0.01 (0.009)
Other		-0.02** (0.006)		0.00 (0.010)
<i>Fixed effects</i>	-	Year, region	-	Year, region
<i>Constant</i>	0.20*** (0.004)	0.22*** (0.013)		1.60*** (0.018)
<i>R squared</i>	0.00	0.05	0.02	0.06
<i>Observations</i>	48446	47227	53916	52550

Notes: Dataset is based on the Inflation Attitudes Survey of the Bank of England (2001-2016). Coefficients are based on linear regressions. Significance level: \*\*\* = 1%, \*\* = 5%, \* = 10%. Robust standard errors in parentheses. Dependent variables: *Inflation vs. Interest rates*: Preferences for higher interest rates = 0, preferences for higher inflation = 1. *Inflation target*: 1 = Too high, 2 = About right, 3 = Too low. Independent variable: *Knowledge score*: Equally weighted questions. Reference categories: *Age*: 15-24; *Gender*: Male; *Class*: DE; *Employment status*: Working; *Income*: <9500; *Education*: Low (GCSE) <40; *Tenure*: Rent

Table 11: Knowledge score and attitudes: Estimation results

effects concerning the knowledge score.

The results without control variables indicate that the respondents' knowledge has a greater influence on their preference for a specific inflation target than on their choice between higher inflation or interest rates (columns 1a and 2a in Table 11). Including socio-demographic factors as control variables lowers the influence of knowledge. The knowledge score is no longer statistically significant in the regression on the choice between higher inflation and interest rates (column 1b). Socio-demographic factors directly influence the inflation aversion without relying on the knowledge score as a mediator. For example, respondents with debts (i.e., mortgage owners) have a 12 percentage point higher probability of preferring higher inflation over higher interest rates. The influence of age and employment status is also statistically significant (older and unemployed persons prefer higher interest rates).

Concerning the inflation target preferences, the knowledge score remains statistically significant, including when taking into account various control factors (column 2b). The effect is rather small, however, as the maximum knowledge score increases the inflation target variables (which is defined as an ordered variable between 1 and 3) by only 0.20 points. Age has the greatest influence among the control variables. Gender, social class and income also significantly influence the inflation target preferences. Factors such as employment status and housing tenure only play a subordinate role.<sup>16</sup>

In summary, the results of this section indicate that knowledge plays a role in the support for the central bank. Respondents' knowledge of central banking would appear to influence inflation target preferences. Higher knowledge scores are thereby related to a preference that is more in line with the actual target of the central bank. However, only those individuals who prefer an inflation target lower than 2% exhibit a lower knowledge score. Thus, higher knowledge scores seem first and foremost to be related to less inflation aversion. In addition, the relationship between knowledge and the general attitude towards monetary policy measured

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<sup>16</sup>In column (1) in Table 21 in the appendix, the single questions are used as explanatory variables instead of the knowledge score. It becomes clear that the results are mainly driven by questions 11 (*Group\_OpenQ*) and 12 (*Group*). Knowledge related to factual questions seems more important for the inflation aversion than knowledge of conceptual issues.

as a choice between higher inflation and higher interest rates remains ambiguous.

## 6 The knowledge score as a determinant of satisfaction

From a central bank’s perspective, a higher knowledge score should lead to a higher level of satisfaction with its policies. The assumption is that well-informed nonprofessionals should come to the same conclusion about the appropriateness of policies as the central bank. For a central bank, public support is important because it increases the effectiveness of its measures (e.g., Bank of England, 2003). Does a better understanding of central banking indeed lead to a less critical view of the Bank of England’s policies? I examine this question with an additional question from the Inflation Attitudes Survey of the Bank of England. The survey includes one question about the respondents’ satisfaction with the Bank of England (Table 12).

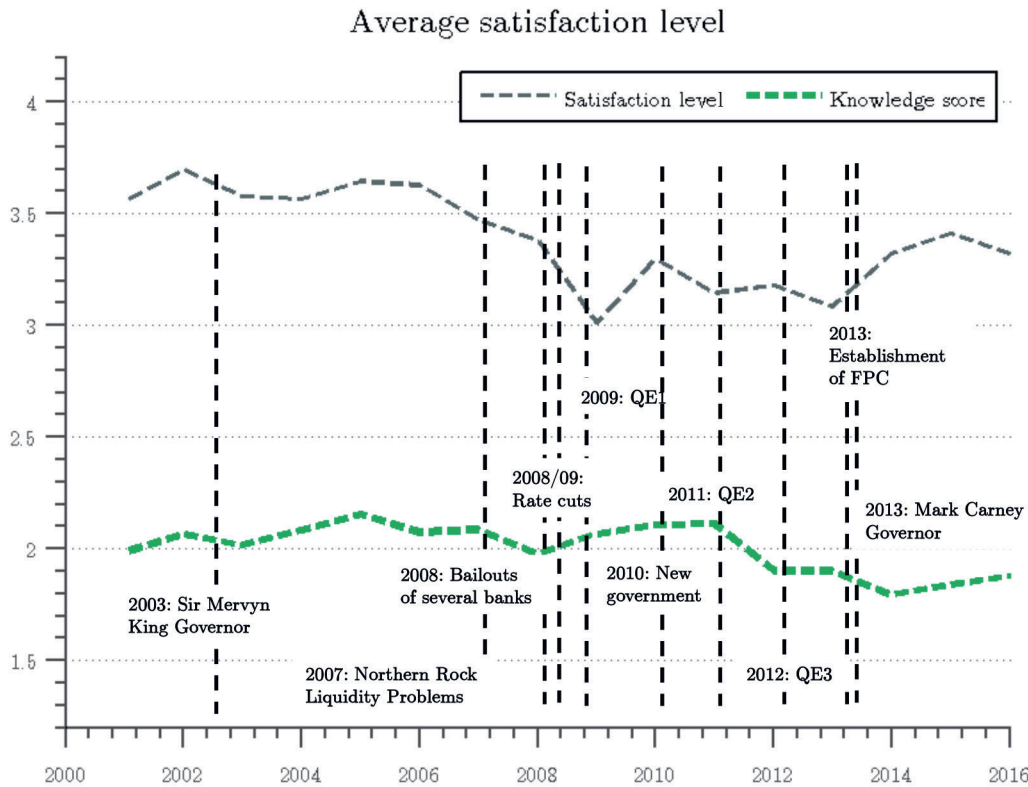
<b>Q14</b> ( <i>Satis</i> )	<b>Overall, how satisfied or dissatisfied are you with the way the Bank of England is doing its job to set interest rates in order to control inflation?</b>
A	Very satisfied; Fairly satisfied; Neither dissatisfied nor satisfied; Fairly dissatisfied; Very dissatisfied; No idea

Notes: Selected question from the Inflation Attitudes Survey of the Bank of England, including answer possibilities provided to respondents.

Table 12: Inflation Attitudes Survey: Satisfaction question

The majority of respondents (41%) are fairly satisfied with the central bank’s policies. A smaller portion (25%) are neither satisfied nor dissatisfied. Only a few are very satisfied (8%), and only a minority are not satisfied (fairly dissatisfied: 10%, very dissatisfied: 6%); 11% could not answer the question. Over time, the data show that satisfaction has decreased since the outbreak of the financial crisis (see Figure 4).

Table 6 shows that less-satisfied respondents exhibit distinctly lower knowledge scores. Whereas the average knowledge score is 1.6 among those who are very dissatisfied with the policies, the score is nearly 2.5 among those who are very satisfied (based on the knowledge score with equally weighted questions). Between these two extremes, the knowledge score decreases with less satisfaction, with the exception of those who are neither satisfied nor dissatisfied. They perform even slightly worse than those who are fairly dissatisfied. Respondents



Notes: The figure shows the average knowledge score and the satisfaction with policies of the Bank of England (Q13) between 2001 and 2016. The knowledge score and the satisfaction level are based on selected questions (Q9, Q11, Q12, Q13, Q14) from the Inflation Attitudes Survey of the Bank of England.

Figure 4: Inflation Attitudes Survey: Average satisfaction with policy since 2001

with less knowledge (especially not knowing the interest rate setting group) were more likely to refrain from providing a clear opinion.

Again, I run regressions to test the relationships between respondents' satisfaction with the central bank and their knowledge score. The regressions are based on the following equation:

$$\sigma_i = \alpha + \beta * \kappa_i + \beta * X_i + \epsilon_i \quad (3)$$

where  $\sigma_i$  is respondent  $i$ 's satisfaction with the Bank of England's policy (ordered or binary, depending on the specification),  $\alpha$  is a constant,  $\kappa_i$  is the knowledge score (equally weighted questions),  $X_i$  is a vector of the respondent-specific control variables (age, gender, social class, employment status, income, education, tenure, dummies for the survey year and region),  $\beta$  is a coefficient,  $\gamma$  is a vector of coefficients, and  $\epsilon_i$  is the error term.

The results of a linear regression without control variables are presented in Table 13 (column

Independent variables	(1) Satisfaction (ordered variable)		(2) Satisfaction (binary variable)	
	(1a)	(1b)	(2a)	(2b)
Coefficients				
<i>Knowledge score</i>	0.18*** (0.003)	0.12*** (0.004)	0.10*** (0.002)	0.07*** (0.002)
<i>Age</i>				
25-34		-0.03* (0.016)		0.01 (0.008)
35-44		0.02 (0.016)		0.06*** (0.008)
45-54		0.05*** (0.017)		0.09*** (0.009)
55-64		0.11*** (0.018)		0.12*** (0.009)
65+		0.19*** (0.019)		0.16*** (0.009)
<i>Gender</i>				
Female		-0.15*** (0.008)		-0.08*** (0.004)
<i>Social class</i>				
AB		0.13*** (0.014)		0.05*** (0.007)
C1		0.08*** (0.012)		0.03*** (0.006)
C2		0.04*** (0.013)		0.02*** (0.006)
<i>Employment status</i>				
Not working		0.00 (0.011)		0.00 (0.005)
<i>Income</i>				
9500-17499		0.01 (0.017)		0.01 (0.008)
17500-24999		0.05** (0.020)		0.03*** (0.009)
>25000		0.07*** (0.017)		0.04*** (0.008)
Not known		-0.03** (0.014)		-0.01 (0.007)
<i>Education</i>				
Medium (A-Level)		0.02 (0.011)		0.00 (0.005)
High (degree)		0.09*** (0.014)		0.02*** (0.007)
<i>Housing tenure</i>				
Owned outright		0.07*** (0.015)		0.04*** (0.007)
Mortgage		0.16*** (0.013)		0.09*** (0.007)
Other		0.03* (0.015)		0.01 (0.01)
<i>Fixed effects</i>		Year, region		Year, region
<i>Constant</i>	3.01*** (0.008)	3.23*** (0.028)	0.33 (0.004)	0.38*** (0.014)
<i>R squared</i>	0.05	0.11	0.06	0.12
<i>Observations</i>	56512	55133	56512	55133

Notes: Dataset is based on the Inflation Attitudes Survey of the Bank of England (2001-2016). Coefficients are based on linear regressions. Significance level: \*\*\* = 1%, \*\* = 5%, \* = 10%. Robust standard errors in parentheses. *Satisfaction*: (1) 1 = Very dissatisfied, 5 = Very satisfied, (2) 0 = Very/fairly dissatisfied or neither satisfied/dissatisfied, 1 = Very or fairly satisfied. *Knowledge score*: Equally weighted questions. Reference categories: *Age*: 15-24; *Gender*: Male; *Class*: DE; *Employment status*: Working; *Income*: <9500; *Education*: Low (GCSE) <40; *Tenure*: Rent

Table 13: Knowledge score and satisfaction: Estimation results

1a).<sup>17</sup> They show that knowledge is indeed positively correlated with levels of satisfaction with the Bank of England's policies. A knowledge score that is one point higher increases respondents' satisfaction level by 0.18 points. People seem more dissatisfied with the policies because they do not understand central banking and monetary policy. While an increase of 0.18 points is small, regressions for each year show that the coefficients have remained stable since 2001.

Using control variables, the coefficient for the knowledge score adjusts only slightly (column 1b). In this specification, respondents' satisfaction with the central bank increases by 0.12 points with every additional point in their knowledge score. Knowledge would thus appear to have an impact on the satisfaction with monetary policy. Socio-demographic factors show that young people, female respondents and those coming from a lower social class are notably less satisfied with the Bank of England. All these factors are positively correlated with the knowledge score. Central banks therefore have good incentives to strengthen their communication and teaching efforts especially to these groups.<sup>18</sup>

Alternatively, I run regressions on a binary dependent variable where 1 is coded for those who are very or fairly satisfied with the Bank and 0 for all others (columns 2a and 2b). The results are similar to the regressions on the ordered variable.<sup>19</sup> An additional correct answer increases the probability of being satisfied by 10 percentage points (without control variables) and 7 percentage points (with control variables). To some extent, this result stems from the higher likelihood of choosing "neither satisfied nor dissatisfied" when not knowing the interest rate setting group.

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<sup>17</sup>The satisfaction level is defined as an ordinal measure between 1 (very dissatisfied) and 5 (very satisfied). Satisfaction is an ordered dependent variable. Therefore, I could have applied an ordered logistic regression model to the data. However, interpretation of the coefficients is much more intuitive with a linear model, which led me to choose an OLS regression. Again, I excluded those respondents who did not answer these questions. Including their answers and using a multinomial logistic regression does not alter the results. See Table 20 in the appendix. Using logistic regressions instead of the linear regression model does not change the results either.

<sup>18</sup>Column (2) in Table 21 in the appendix indicates the relative influence of individual questions to the results. Answers to question 9a (*Rates\_Short*) have a different impact on the overall results than do responses to the other questions. A correct answer to this question is negatively correlated with satisfaction, although the effect is very small. Falsely thinking that central banks have influence in the short term might promote expectations that a central bank can never fulfil.

<sup>19</sup>Logit regressions also do not provide any different conclusions.

In summary, one can conclude that satisfaction with the central banks' measures corresponds to the people's understanding of monetary policy. To underline this conclusion, it is important to be aware that the knowledge score is based on objective facts and not on attitudes shaped by the central bank. From a central bank perspective, the results support the need for public economic education.

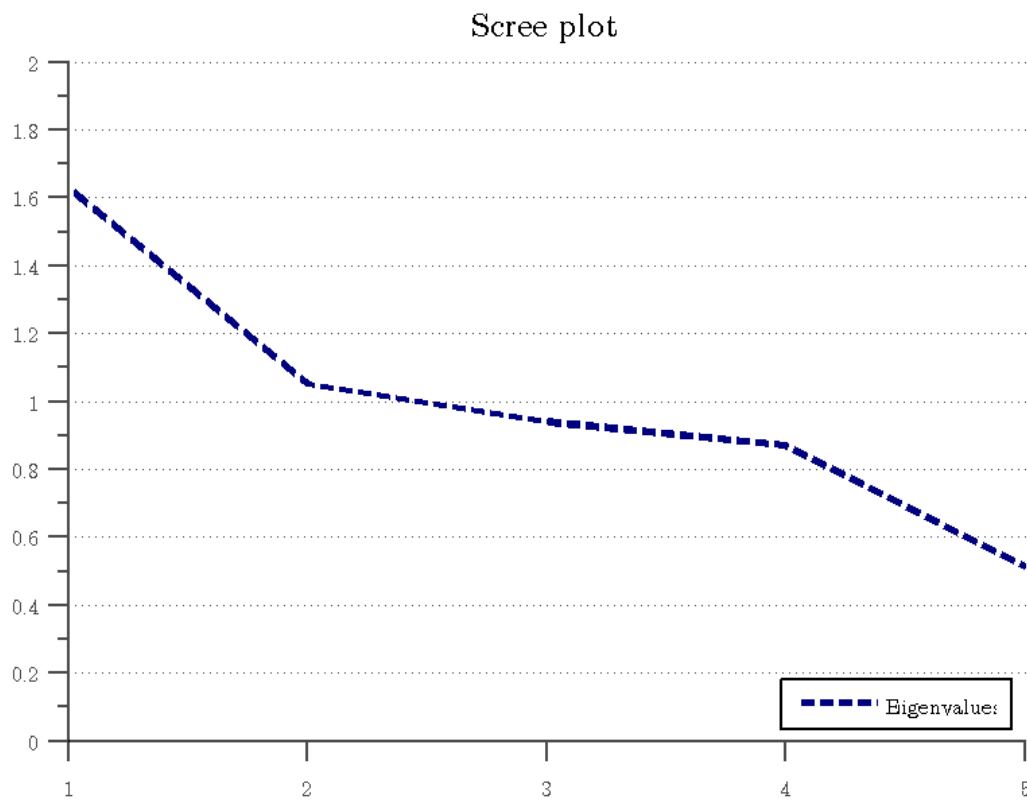
## **7 Conclusion**

According to central banks, public understanding of monetary policy and of the role of central banks should ensure public support and thus enable successful monetary policy (see, e.g., Bank of England, 2003). Based on data from the Bank of England's Inflation Attitude Survey, I show that satisfaction with the Bank of England indeed increases with a better understanding of monetary policy. However, the results show that the average British person's knowledge of central banking is limited.

Many central banks already put significant resources into public information and education (Fluch, 2007). In doing so, they use various tools: public speeches, interviews, information on websites, videos and also tools for teachers and schools. The analysis of the socio-demographic determinants of people's knowledge of central banking showed that central banks should target their communication towards young people with low levels of education and incomes and towards women in particular. Because children, adolescents and students already feature in central banks' key target groups (Fluch, 2007), central banks may not only need to improve the quantity and target group orientation, but also the quality and adequacy of their communication.

Finally, no one can be forced to learn. People may simply have no incentives to learn about monetary policy, especially if they are generally satisfied with the central bank. Lusardi, Michaud & Mitchell (forthcoming) show that some level of financial ignorance can be optimal because financial literacy is expensive to acquire. All the more, ignorance in monetary policy may be appropriate, as monetary policy knowledge is less necessary in everyday decisions than financial knowledge.

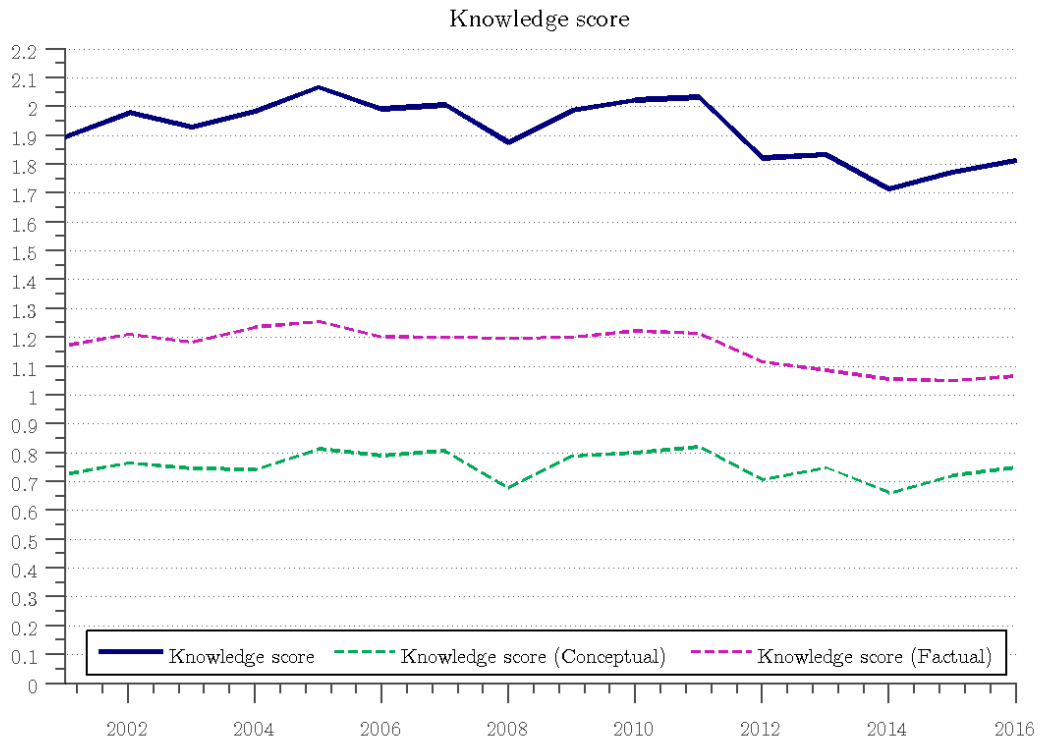
## A Construction of the knowledge score



Notes: Results based on a principal component analysis among correct answers to selected questions from the Inflation Attitudes Survey of the Bank of England for the period 2001-2016 (Q9, Q11, Q12, Q13).

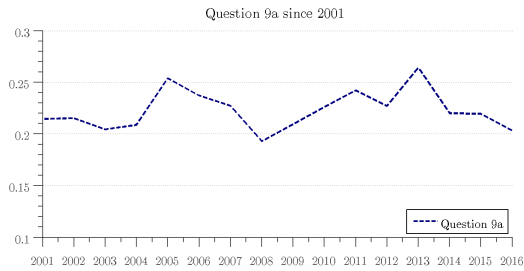
Figure 5: Knowledge score: Principal component analysis (Scree plot)





Notes: The overall knowledge score is based on selected questions (Q9, Q11, Q12, Q13) from the Inflation Attitudes Survey of the Bank of England, weighted half for the conceptual knowledge score and half for the factual knowledge score. The conceptual knowledge score is based on questions 9a and 9b (green dotted line) and the factual knowledge score is based on questions 11, 12 and 13 (pink dotted line).

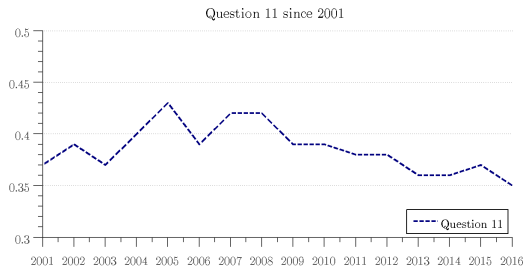
Figure 6: Knowledge score: Average since 2001



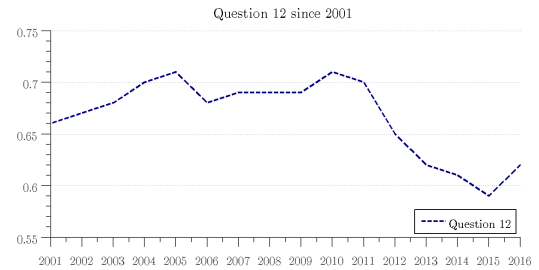
(a) Q9a: *Rates\_Short*



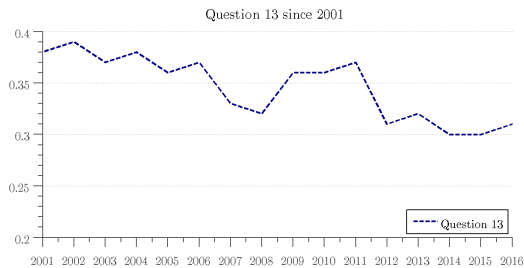
(b) Q9b: *Rates\_Medium*



(c) Q11: *Group\_OpenQ*



(d) Q12: *Group*



(e) Q13: *Independ*

Notes: Fraction of respondents who provided correct answers to selected questions from the Inflation Attitudes Survey of the Bank of England between 2001 and 2016.

Figure 7: Knowledge questions: Corrects answers since 2001

## B Alternative specifications and models

Independent variables	(1) Score	
	(1d): No income data provided	(1e): Income data provided
<i>Age</i>		
25-34	0.30*** (0.025)	0.16*** (0.028)
35-44	0.55*** (0.025)	0.38*** (0.028)
45-54	0.71*** (0.026)	0.50*** (0.029)
55-64	0.82*** (0.027)	0.67*** (0.030)
65+	0.70*** (0.027)	0.56*** (0.032)
<i>Gender</i>		
Female	-0.46*** (0.014)	-0.49*** (0.013)
<i>Social class</i>		
AB	0.48*** (0.024)	0.43*** (0.023)
C1	0.35*** (0.019)	0.35*** (0.019)
C2	0.18*** (0.020)	0.12*** (0.020)
<i>Employment status</i>		
Not working	-0.08*** (0.017)	-0.02 (0.016)
<i>Income</i>		
9500-17499		0.15*** (0.019)
17500-24999		0.28*** (0.023)
>25000		0.33*** (0.022)
<i>Education</i>		
Medium (A-Level)	0.29*** (0.018)	0.22*** (0.016)
High (degree)	0.53*** (0.024)	0.40*** (0.021)
<i>Housing tenure</i>		
Owned outright	0.37*** (0.023)	0.40*** (0.023)
Mortgage	0.40*** (0.023)	0.44*** (0.022)
Other	0.08*** (0.023)	0.10** (0.021)
<i>Fixed effects</i>	Year, region	Year, region
<i>Constant</i>	0.90*** (0.042)	1.18*** (0.043)
<i>Observations</i>	28396	33368
<i>R squared</i>	0.18	0.23

Notes: Dataset is based on Inflation Attitudes Survey of the Bank of England (2001-2016). Coefficients are based on linear regressions. Significance level: \*\*\* = 1%, \*\* = 5%, \* = 10%. Robust standard errors in parentheses. (1): Only respondents who did not provide income data. (2): Only respondents who provided income data. Reference categories: *Age*: 15-24; *Gender*: Male; *Class*: DE; *Employment status*: Working; *Income*: <9500; *Education*: Low (GCSE) <40; *Tenure*: Rent.

Table 14: Knowledge score and sociodemographic factors: Estimation results (II)

Independent variables	(1) Score: Incidence rate ratios
<i>Age</i>	
25-34	1.21*** (0.015)
35-44	1.36*** (0.016)
45-54	1.45*** (0.017)
55-64	1.55*** (0.019)
65+	1.48*** (0.019)
<i>Gender</i>	
Female	0.79*** (0.004)
<i>Social class</i>	
AB	1.26*** (0.010)
C1	1.22*** (0.009)
C2	1.11*** (0.009)
<i>Employment status</i>	
Not working	0.96 (0.006)
<i>Income</i>	
9500-17499	1.07*** (0.011)
17500-24999	1.11*** (0.012)
>25000	1.11*** (0.011)
Not known	0.95*** (0.009)
<i>Education</i>	
Medium (A-Level)	1.14*** (0.008)
High (degree)	1.25*** (0.010)
<i>Housing tenure</i>	
Owned outright	1.26*** (0.012)
Mortgage	1.29*** (0.012)
Other	1.08** (0.011)
<i>Fixed effects</i>	Year, region
<i>Observations</i>	61764

Notes: Dataset is based on Inflation Attitudes Survey of the Bank of England (2001-2016). Incidence rate ratios are based on a Poisson regression. Significance level: \*\*\* = 1%, \*\* = 5%, \* = 10%. Robust standard errors in parentheses. Reference categories: *Age*: 15-24; *Gender*: Male; *Class*: DE; *Employment status*: Working; *Income*: <9500; *Education*: Low (GCSE) <40; *Tenure*: Rent.

Table 15: Knowledge score and sociodemographic factors: Estimation results (ordered logit)

Independent variables	Q9a (Rates_Short)	Q9b (Rates_Medium)	Q11 (Group_OpenQ)	Q12 (Group)	Q13 (Independ)
Odds ratios					
<i>Age</i>					
25-34	1.13*** (0.047)	1.02 (0.034)	1.95*** (0.084)	1.81*** (0.066)	1.00 (0.035)
35-44	1.29*** (0.053)	1.07** (0.036)	3.00*** (0.126)	2.84*** (0.105)	1.12*** (0.040)
45-54	1.50*** (0.063)	1.06 (0.037)	3.85*** (0.164)	3.96*** (0.154)	1.15*** (0.041)
55-64	1.58*** (0.070)	1.06 (0.039)	5.10*** (0.229)	5.91*** (0.254)	1.21*** (0.046)
65+	1.27*** (0.059)	0.96 (0.036)	4.57*** (0.211)	5.22*** (0.220)	1.10** (0.043)
<i>Gender</i>					
Female	0.75*** (0.015)	0.70*** (0.012)	0.42*** (0.008)	0.45*** (0.009)	0.89** (0.016)
<i>Social class</i>					
AB	1.29*** (0.044)	1.25*** (0.037)	1.91*** (0.060)	2.23*** (0.082)	1.53*** (0.047)
C1	1.18*** (0.034)	1.18*** (0.029)	1.679*** (0.045)	1.81*** (0.049)	1.44*** (0.037)
C2	1.08* (0.032)	1.11*** (0.028)	1.21*** (0.033)	1.27*** (0.034)	1.18*** (0.031)
<i>Employment status</i>					
Not working	1.01 (0.025)	0.95* (0.021)	0.94** (0.022)	0.93*** (0.022)	0.93*** (0.021)
<i>Income</i>					
9500-17499	1.19 (0.047)	1.06*** (0.036)	1.14*** (0.042)	1.26*** (0.046)	1.07* (0.038)
17500-24999	1.23 (0.057)	1.05* (0.042)	1.23*** (0.053)	1.55*** (0.072)	1.26*** (0.052)
>25000	1.19 (0.048)	1.10 (0.039)	1.32*** (0.051)	1.81*** (0.075)	1.24*** (0.045)
Not known	0.93*** (0.032)	0.82*** (0.023)	1.04 (0.033)	0.92*** (0.027)	0.84*** (0.025)
<i>Education</i>					
Medium (A-Level)	1.17*** (0.032)	1.05** (0.024)	1.48*** (0.036)	1.55*** (0.039)	1.35*** (0.033)
High (degree)	1.31*** (0.045)	1.11*** (0.032)	2.15*** (0.067)	2.33*** (0.082)	1.57*** (0.047)
<i>Housing tenure</i>					
Owned outright	1.10*** (0.039)	1.26*** (0.038)	1.83*** (0.060)	1.87*** (0.060)	1.42*** (0.046)
Mortgage	1.22*** (0.043)	1.25*** (0.037)	1.86*** (0.060)	2.09*** (0.066)	1.42*** (0.044)
Other	1.06 (0.037)	1.02 (0.030)	1.13 (0.039)	1.16*** (0.035)	1.17*** (0.036)
<i>Fixed effects</i>	Year, region	Year, region	Year, region	Year, region	Year, region
<i>Constant</i>	0.16*** (0.011)	0.56*** (0.032)	0.10*** (0.009)	0.34*** (0.022)	0.29*** (0.018)
<i>Observations</i>	61764	61764	61764	61764	61764

Notes: Dataset is based on the Inflation Attitudes Survey of the Bank of England (2001-2016). Odds ratios are based on logit regressions. Significance level: \*\*\* = 1%, \*\* = 5%, \* = 10%. Robust standard errors in parentheses. Reference categories: *Age*: 15-24; *Gender*: Male; *Class*: DE; *Employment status*: Working; *Income*: <9500; *Education*: Low (GCSE) <40; *Tenure*: Rent.

Table 16: Knowledge questions and sociodemographic factors: Estimation results (logit regressions)

<b>Inflation aversion</b>	<b>Independent variables</b>	<b>Relative risk ratios</b>
<i>Raising rates</i>	(Base outcome)	
<i>Higher inflation</i>	Knowledge score	0.99 (0.010)
	...	...
<i>No idea</i>	Knowledge score	0.59*** (0.006)
	...	...

Notes: 61764 observations based on the Inflation Attitudes Survey of the Bank of England (2001-2016). Relative risk ratios are based on a multinomial logistic regression. Significance level: \*\*\* = 1%, \*\* = 5%, \* = 10%. Robust standard errors in parentheses. *Knowledge score*: Equally weighted questions.

Table 17: Knowledge score and attitudes (higher inflation vs. higher interest rates): Multinomial logistic regression

<b>Inflation target</b>	<b>Independent variables</b>	<b>Relative risk ratios</b>
<i>Is too high</i>	Knowledge score	0.88*** (0.008)
	...	...
<i>Is too low</i>	Knowledge score	1.06*** (0.013)
	...	...
<i>Is about right</i>	(Base outcome)	
<i>No idea</i>	Knowledge score	0.54*** (0.007)
	...	...

Notes: 61764 observations based on the Inflation Attitudes Survey of the Bank of England (2001-2016). Relative risk ratios are based on a multinomial logistic regression. Significance level: \*\*\* = 1%, \*\* = 5%, \* = 10%. Robust standard errors in parentheses. *Knowledge score*: Equally weighted questions.

Table 18: Knowledge score and attitudes (inflation target): Multinomial logistic regression

Independent variables	(3) Inflation target (binary: agreement with BoE's target)	
	(3a)	(3b)
Coefficients		
<i>Knowledge score</i>	0.03*** (0.002)	0.01*** (0.002)
<i>Age</i>		
25-34		-0.02** (0.009)
35-44		0.00 (0.009)
45-54		0.00 (0.010)
55-64		0.03*** (0.010)
65+		0.06*** (0.010)
<i>Gender</i>		
Female		-0.03*** (0.004)
<i>Social class</i>		
AB		0.05*** (0.007)
C1		0.03*** (0.006)
C2		0.00 (0.006)
<i>Employment status</i>		
Not working		0.00 (0.006)
<i>Income</i>		
9500-17499		-0.01 (0.008)
17500-24999		-0.01 (0.010)
>25000		0.03*** (0.009)
Not known		-0.01 (0.007)
<i>Education</i>		
Medium (A-Level)		0.00 (0.006)
High (degree)		0.02*** (0.007)
<i>Housing tenure</i>		
Owned outright		0.05** (0.008)
Mortgage		0.05 (0.008)
Other		0.02 (0.007)
<i>Fixed effects</i>	-	Year, region
<i>Constant</i>	0.55*** 0.00	0.59*** (0.015)
<i>R squared</i>	0.01	0.03
<i>Observations</i>	53916	52550

Notes: Dataset is based on the Inflation Attitudes Survey of the Bank of England (2001-2016). Coefficients are based on linear regressions. Significance level: \*\*\* = 1%, \*\* = 5%, \* = 10%. Robust standard errors in parentheses. Dependent variable: *Inflation target*: 1 = About right, 0 = Too low or too high. Independent variable: *Knowledge score*: Equally weighted questions. Reference categories: *Age*: 15-24; *Gender*: Male; *Class*: DE; *Employment status*: Working; *Income*: <9500; *Education*: Low (GCSE) <40; *Tenure*: Rent

Table 19: Knowledge score and inflation target: Binary variable

<b>Satisfaction</b>	<b>Independent variables</b>	<b>Relative risk ratios</b>
<i>Very satisfied</i>	Knowledge score	1.47*** (0.023)
	...	...
<i>Fairly satisfied</i>	Knowledge score	1.35*** (0.013)
	...	...
<i>Neither satisfied/dissatisfied</i>	(Base outcome)	
<i>Fairly dissatisfied</i>	Knowledge score	1.07*** (0.015)
	...	...
<i>Very dissatisfied</i>	Knowledge score	0.95*** (0.016)
	...	...
<i>No idea</i>	Knowledge score	0.47*** (0.008)
	...	...

Notes: 61764 observations based on the Inflation Attitudes Survey of the Bank of England (2001-2016). Relative risk ratios are based on a multinomial logistic regression. Significance level: \*\*\* = 1%, \*\* = 5% , \* = 10%. Robust standard errors in parentheses. *Knowledge score*: Equally weighted questions.

Table 20: Knowledge score and satisfaction: Multinomial logistic regression



Independent variables	(1) Inflation target (ordered variable)	(2) Satisfaction (ordered variable)
Coefficients		
<i>Q9a: Rates_Short</i>	-0.01* (0.006)	-0.03** (0.010)
<i>Q9b: Rates_Medium</i>	0.01** (0.005)	0.10*** (0.008)
<i>Q11: Group_OpenQ</i>	0.10*** (0.006)	0.22*** (0.009)
<i>Q12: Group</i>	0.04*** (0.007)	0.21*** (0.011)
<i>Q13: Independ</i>	0.01* (0.005)	0.03*** (0.008)
<i>Age</i>		
25-34	0.00 (0.011)	-0.05* (0.016)
35-44	0.05*** (0.011)	-0.01 (0.017)
45-54	0.14*** (0.011)	0.02 (0.017)
55-64	0.20*** (0.012)	0.06*** (0.018)
65+	0.21*** (0.012)	0.13*** (0.019)
<i>Gender</i>		
Female	-0.08*** (0.005)	-0.13*** (0.008)
<i>Social class</i>		
AB	0.07*** (0.009)	0.01*** (0.014)
C1	0.06*** (0.008)	0.01*** (0.012)
C2	0.01 (0.008)	0.01*** (0.013)
<i>Employment status</i>		
Not working	0.00 (0.006)	0.01 (0.011)
<i>Income</i>		
9500-17499	0.01 (0.011)	0.01 (0.017)
17500-24999	0.00 (0.012)	0.05* (0.019)
>25000	0.03*** (0.012)	0.07*** (0.017)
Not known	-0.01 (0.009)	-0.04*** (0.014)
<i>Education</i>		
Medium (A-Level)	0.01 (0.007)	0.01 (0.011)
High (degree)	0.01 (0.009)	0.08*** (0.014)
<i>Housing tenure</i>		
Owned outright	0.04*** (0.009)	0.05*** (0.015)
Mortgage	0.00 (0.009)	0.14*** (0.015)
Other	0.00 (0.009)	0.03 (0.015)
<i>Fixed effects</i>	Year, region	Year, region
<i>Constant</i>	1.62*** (0.018)	3.25*** (0.028)
<i>R squared</i>	0.06	0.12
<i>Observations</i>	52550	55133

Notes: Dataset is based on Inflation Attitudes Survey of the Bank of England (2001-2016). Coefficients based on linear regression. Dependent variable: (1) Inflation target (Q4); (2) Satisfaction (Q14). Significance level: \*\*\* = 1%, \*\* = 5%, \* = 10%. Robust standard errors in parentheses. *Knowledge score*: Equally weighted questions. *Inflation target*: 1 = Too high, 2 = About right, 3 = Too low. *Inflation aversion*: Preferences for higher interest rates = 0, preferences for higher inflation = 1. Reference categories: *Age*: 15-24; *Gender*: Male; *Class*: DE; *Employment status*: Working; *Income*: <9500; *Education*: Low (GCSE) <40; *Tenure*: Rent

Table 21: Knowledge score and attitudes/satisfaction: Estimation results (incl. single questions)

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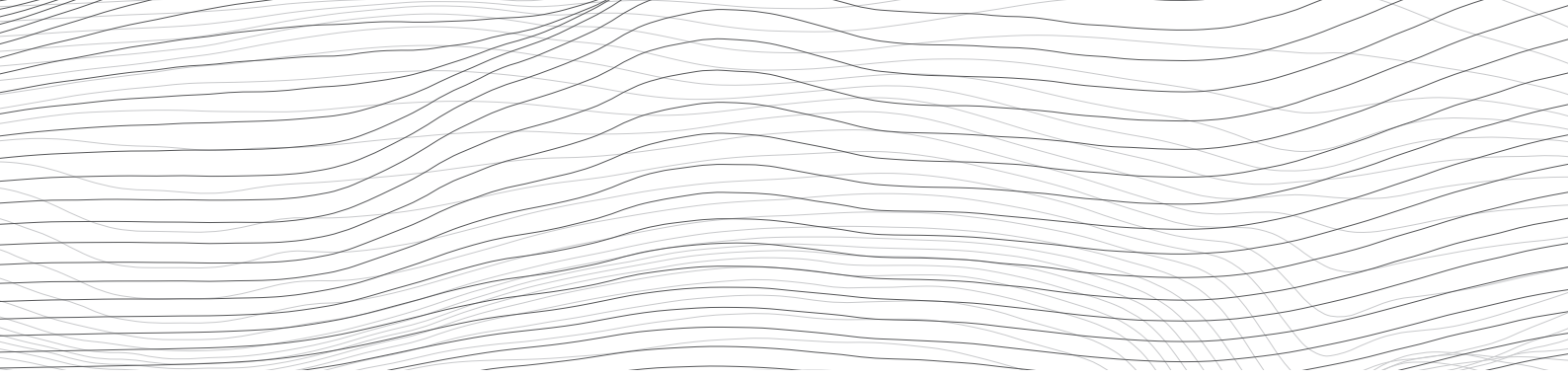


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