

Political information and retrospective voting

Dieter Stiers, *Centre for Political Science Research, Leuven, Belgium*

Online Appendices

Appendix A: Variables used in the analyses

- *Sex*: Sex of the respondent: 0=male, 1=female.
- *Age*: Age of the respondent at the moment of interview.
- *Educational level*: Respondents are divided into three categories: (1) low educated: early childhood education, primary education, lower secondary education; (2) middle educated: upper secondary education, post-secondary non-tertiary education; (3) high educated: short-cycle tertiary education, bachelor or equivalent, master or equivalent, doctoral or equivalent.
- *Ideological position*: First, respondents were asked to position political parties on an ideological axis: In politics people sometimes talk of left and right. Where would you place [PARTY A] on a scale from 0 to 10 where 0 means the left and 10 means the right?. Subsequently, they were asked to position themselves on the same scale: 'Where would you place yourself on this scale?' – resulting in a variable ranging from 0 (ideological left) to 10 (ideological right).
- *Economic evaluations*: Retrospective sociotropic evaluation of the economic situation. The question was: 'Would you say that over the past twelve months, the state of the economy in [COUNTRY] has gotten better, stayed about the same, or gotten worse?'. Respondents answering that the economy got better or worse received a follow-up question asking 'would you say much better [worse] or somewhat better [worse]?'. Combining these questions leads to a scale ranging from 'much worse' (code 0), 'somewhat worse' (code 1), 'stayed the same' (code 2), 'somewhat better' (code 3), 'much better' (code 4). This variable is centered around the mean of each election under investigation respectively.
- *Political knowledge*: Index created by counting the number of correct answer to four factual questions about politics. The questions were:

-Which of these persons was the Finance Minister before the recent election - [CABINET MINISTER NAME - FIRST CHOICE], [CABINET MINISTER NAME - SECOND CHOICE], [CABINET MINISTER NAME - THIRD CHOICE], or [CABINET MINISTER NAME - FOURTH CHOICE]?;

-What was the current unemployment rate in [COUNTRY] as of [DATE] - [UNEMPLOYMENT RATE FIRST CHOICE], [UNEMPLOYMENT RATE - SECOND CHOICE], [UNEMPLOYMENT RATE - THIRD CHOICE], or [UNEMPLOYMENT RATE - FOURTH CHOICE]?;

-Which [PARTY, ALLIANCE, OR COALITION] came in second in seats in the [NAME OF THE LOWER HOUSE IN BICAMERAL SYSTEMS; OR ASSEMBLY, PARLIAMENT, OR CONGRESS IN UNICAMERAL SYSTEMS] [PARTY, ALLIANCE, OR COALITION - FIRST CHOICE], [PARTY, ALLIANCE, OR COALITION - SECOND CHOICE], [PARTY, ALLIANCE, OR COALITION - THIRD CHOICE], or [PARTY, ALLIANCE, OR COALITION - FOURTH CHOICE]?;

-Who is the current Secretary-General of the United Nations - Kofi Annan, Kurt Waldheim, Ban Ki-moon, or Boutros Boutros-Ghali?. This variable is centered around the mean of each election under investigation respectively.

- *Clarity of responsibility*: Index constructed of four variables: (1) whether the government in power is a single-party government (code 1) or a coalition government (code 0), (2) whether there was cohabitation within a semi-presidential system (code 0) or not (code 1), (3) the ideological cohesion of the government (i.e., the proportion of seats held by the parties in government that are of the same ideology as the dominant governing parties), and (4) the dominance of the main governing party (i.e., the share of cabinet posts for the head of government's party). These items are added up and divided by four.

Table A.1: Descriptive statistics of the variables in the analyses

Variable	Mean	Std. Dev.	Minimum	Maximum
Vote (dependent)	0.432	0.495	0	1
Sex	0.494	0.500	0	1
Age	0	16.274	-39.963	55.221
Educational level	2.131	0.779	1	3
Ideological position	5.489	2.592	0	10
Economy	0	0.908	-2.406	3.269
Knowledge	0	1.079	-3.101	3.554
Clarity of responsibility	0.627	0.252	0.182	1

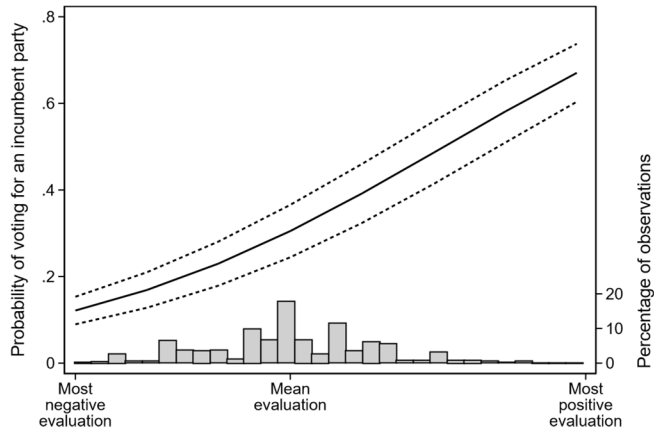
Appendix B: Results coding only the main party as incumbent party

Table B.1: Replication of Table 1 in the text coding only the main party as incumbent party

	(1) B (s.e.)	(2) B (s.e.)	(3) B (s.e.)	(4) B (s.e.)
Sex	0.119*** (0.028)	0.118*** (0.028)	0.120*** (0.028)	0.122** (0.029)
Age	0.004*** (0.001)	0.004*** (0.001)	0.005*** (0.001)	0.005*** (0.001)
Education: low				
Education: middle	-0.009 (0.040)	-0.007 (0.040)	-0.029 (0.040)	-0.033 (0.041)
Education: high	0.010 (0.043)	0.010 (0.043)	-0.007 (0.043)	-0.013 (0.043)
Ideological position	-0.004 (0.006)	-0.004 (0.006)	-0.012* (0.006)	-0.012* (0.006)
Evaluation economy	0.484*** (0.016)	0.486*** (0.016)	-0.091 (0.183)	-0.092 (0.183)
Political knowledge	0.003 (0.013)	-0.005 (0.013)	-0.006 (0.013)	0.089 (0.071)
Clarity of responsibility	0.721 (0.608)	0.713 (0.607)	0.675 (0.604)	0.661 (0.604)
Economy x knowledge		0.080*** (0.014)		-0.051 (0.042)
Economy x clarity			0.809** (0.266)	0.817** (0.267)
Knowledge x clarity				-0.148 (0.104)
Economy x knowledge x clarity				0.179*** (0.059)
Constant	-1.343** (0.418)	-1.341** (0.417)	-1.293** (0.415)	-1.289* (0.415)
<i>N</i> (individuals)	27338	27338	27338	27338
<i>N</i> (election studies)	30	30	30	30
<i>AIC</i>	31238.512	31209.467	30819.705	30753.402
<i>BIC</i>	31320.672	31299.843	30918.297	30884.858
Var (constant)	0.640*** (0.168)	0.639*** (0.168)	0.631*** (0.166)	0.631*** (0.166)
Var (economy)			0.114*** (0.032)	0.115*** (0.032)
Var (knowledge)				0.012* (0.005)

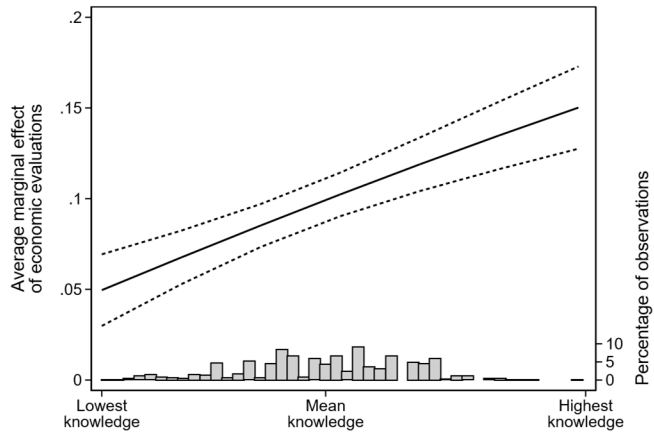
Note: Entries are log-odds coefficients, standard errors reported in parentheses. Data: CSES Module 4. Significance levels: *: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$.

Figure B.1: Marginal effect of economic evaluations



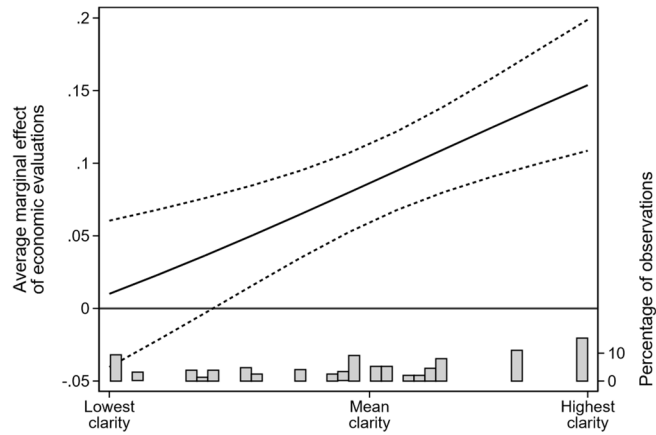
Note: The figure shows the predicted probability of voting for the PM party at different levels of economic evaluations. The estimates are based on Model 1 in Table B.1.

Figure B.2: Average marginal effect of economic evaluations at different levels of political knowledge



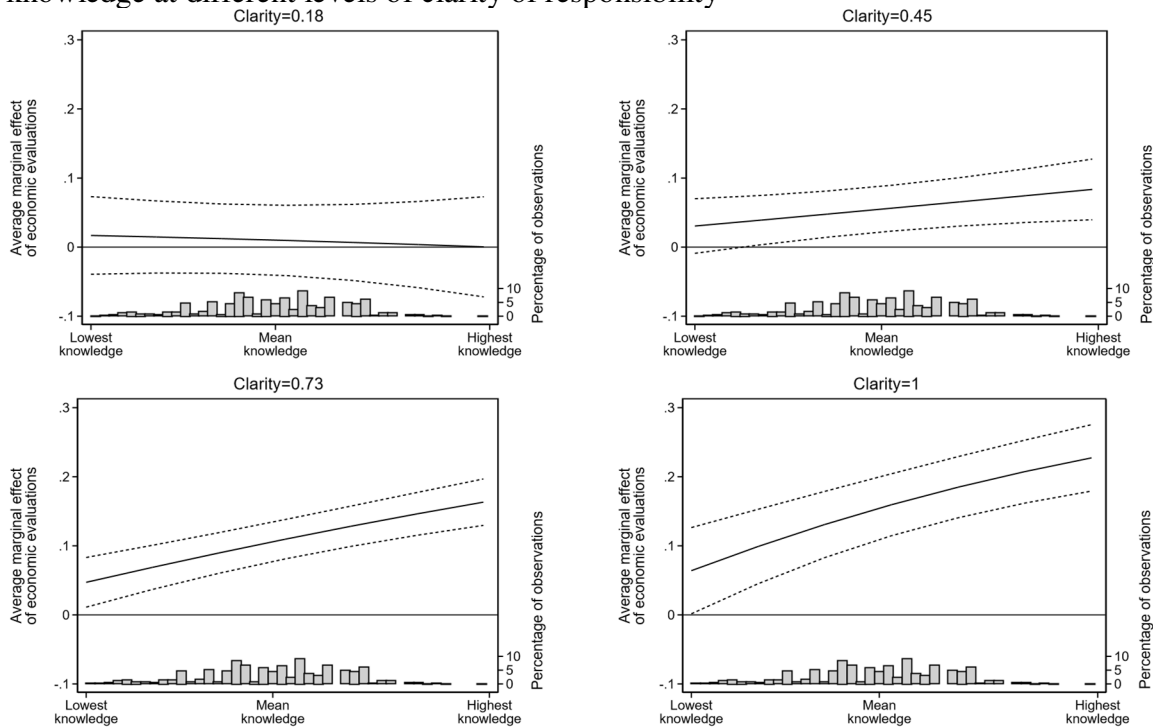
Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for the PM party at different levels of political knowledge. The estimates are based on Model 2 in Table B.1.

Figure B.3: Average marginal effect of economic evaluations at different levels of clarity of responsibility



Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for the PM party at different levels of government clarity. The estimates are based on Model 3 in Table B.1.

Figure B.4: Average marginal effect of economic evaluations at different levels of political knowledge at different levels of clarity of responsibility



Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for the PM party at different levels of political knowledge at the minimum and maximum level of government clarity, and the two values in-between. The estimates are based on Model 4 in Table B.1.

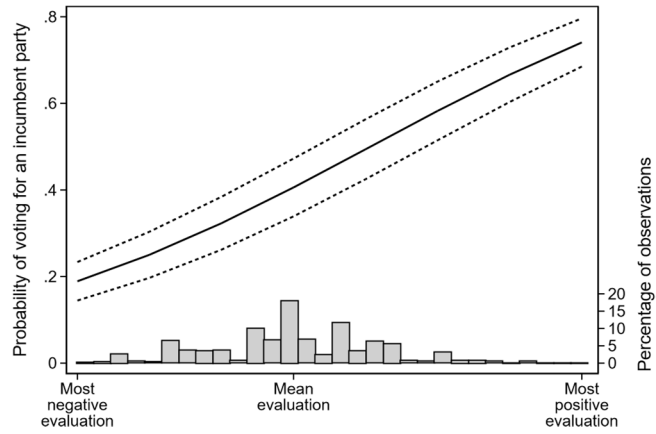
Appendix C: Results using institutional clarity of responsibility

Table C.1: Replication of Table 1 using institutional clarity of responsibility

	(1) B (s.e.)	(2) B (s.e.)	(3) B (s.e.)	(4) B (s.e.)
Sex	0.108*** (0.027)	0.107*** (0.027)	0.110*** (0.028)	0.109*** (0.028)
Age	0.008*** (0.001)	0.008*** (0.001)	0.008*** (0.001)	0.008*** (0.001)
Education: low				
Education: middle	-0.014 (0.039)	-0.013 (0.039)	-0.033 (0.039)	-0.036 (0.039)
Education: high	0.001 (0.041)	0.001 (0.041)	-0.021 (0.042)	-0.027 (0.042)
Ideological position	0.040*** (0.005)	0.041*** (0.005)	0.036*** (0.006)	0.036*** (0.006)
Evaluation economy	0.451*** (0.015)	0.452*** (0.015)	0.267 (0.143)	0.272 (0.142)
Political knowledge	-0.024 (0.013)	-0.028* (0.013)	-0.032* (0.013)	-0.057 (0.045)
Clarity of responsibility	0.460 (0.614)	0.454 (0.615)	0.442 (0.614)	0.442 (0.615)
Economy x knowledge		0.082*** (0.014)		0.099** (0.034)
Economy x clarity			0.404 (0.324)	0.397 (0.322)
Knowledge x clarity				0.078 (0.098)
Economy x knowledge x clarity				-0.039 (0.071)
Constant	-0.627* (0.271)	-0.629* (0.271)	-0.608* (0.271)	-0.610* (0.271)
<i>N</i> (individuals)	26987	26987	26987	26987
<i>N</i> (election studies)	29	29	29	29
<i>AIC</i>	32474.999	32443.357	31986.777	31943.610
<i>BIC</i>	32557.030	32533.591	32085.214	32074.860
Var (constant)	0.557*** (0.148)	0.558*** (0.149)	0.556*** (0.148)	0.558*** (0.149)
Var (economy)			0.146*** (0.041)	0.145*** (0.041)
Var (knowledge)				0.008* (0.004)

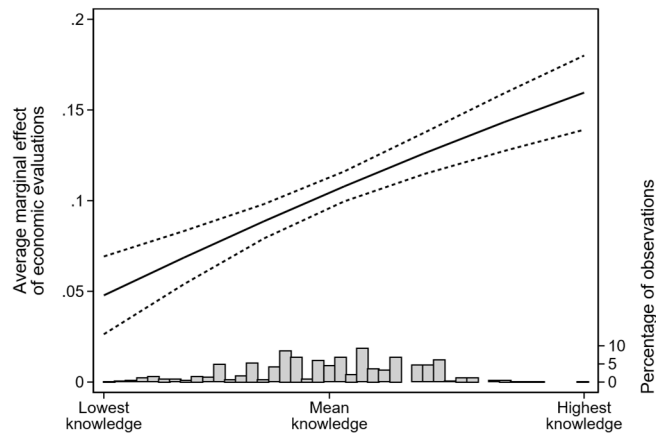
Note: Entries are log-odds coefficients, standard errors reported in parentheses. Data: CSES module 4. Significance levels: *: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$.

Figure C.1: Marginal effect of economic evaluations



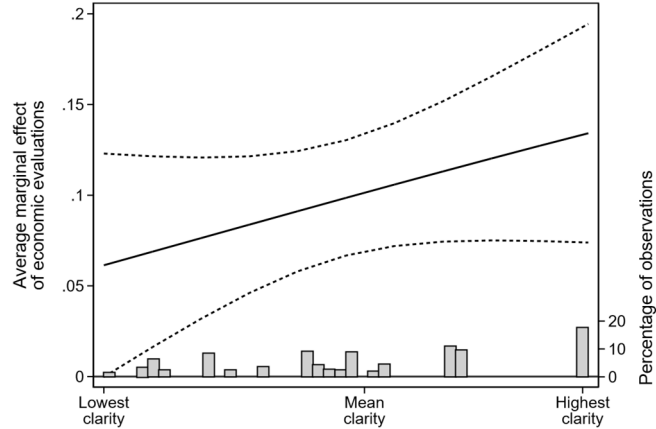
Note: The figure shows the predicted probability of voting for an incumbent party at different levels of economic evaluations. The estimates are based on Model 1 in Table C.1.

Figure C.2: Average marginal effect of economic evaluations at different levels of political knowledge



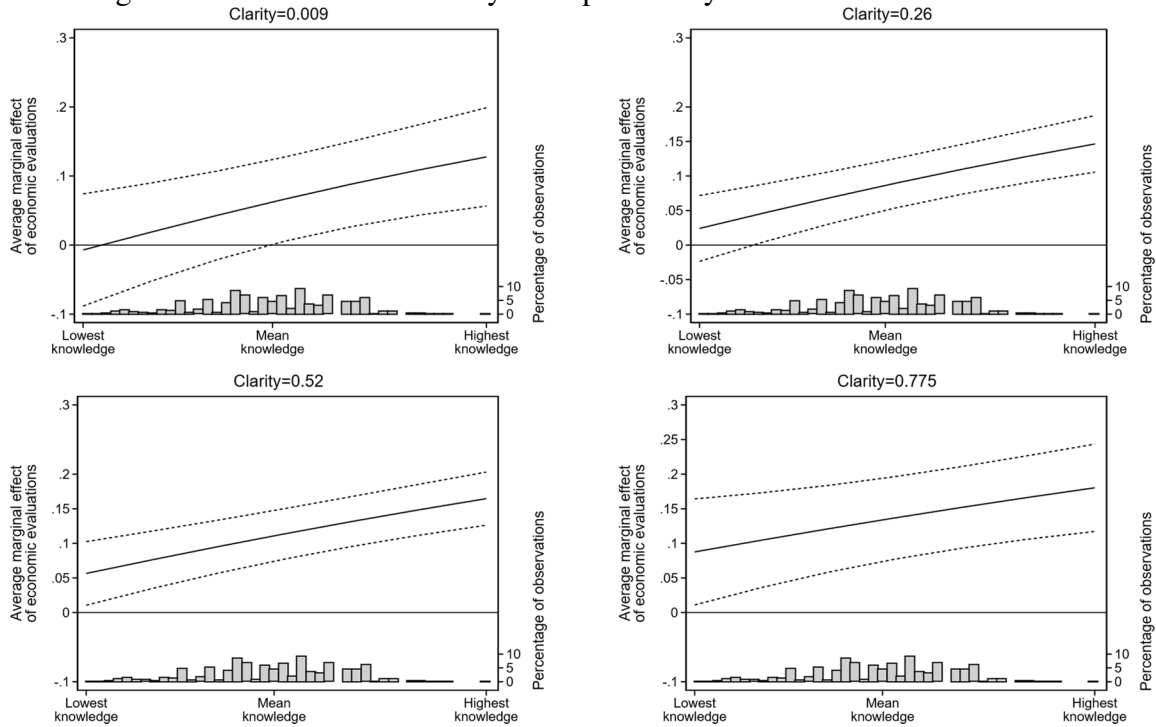
Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for and incumbent party at different levels of political knowledge. The estimates are based on Model 2 in Table C.1.

Figure C.3: Average marginal effect of economic evaluations at different levels of clarity of responsibility



Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for an incumbent party at different levels of institutional clarity. The estimates are based on Model 3 in Table C.1.

Figure C.4: Average marginal effect of economic evaluations at different levels of political knowledge at different levels of clarity of responsibility



Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for an incumbent party at different levels of political knowledge at the minimum and maximum level of institutional clarity, and the two values in-between. The estimates are based on Model 4 in Table C.1.

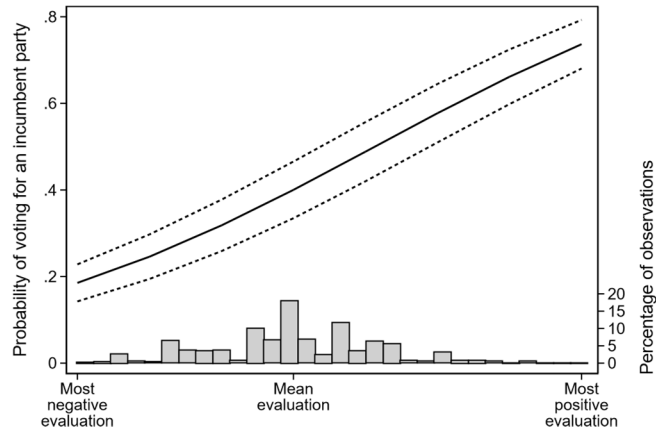
Appendix D: Results using a combined measure of clarity of responsibility

Table D.1: Replication of Table 1 using a combined measure of clarity of responsibility

	(1) B (s.e.)	(2) B (s.e.)	(3) B (s.e.)	(4) B (s.e.)
Sex	0.108*** (0.027)	0.107*** (0.027)	0.110*** (0.028)	0.109*** (0.028)
Age	0.008*** (0.001)	0.008*** (0.001)	0.008*** (0.001)	0.008*** (0.001)
Education: low				
Education: middle	-0.014 (0.039)	-0.012 (0.039)	-0.033 (0.039)	-0.037 (0.039)
Education: high	0.002 (0.041)	0.002 (0.041)	-0.019 (0.042)	-0.026 (0.042)
Ideological position	0.040*** (0.005)	0.041*** (0.005)	0.036*** (0.006)	0.036*** (0.006)
Evaluation economy	0.451*** (0.015)	0.452*** (0.015)	-0.033 (0.213)	-0.032 (0.212)
Political knowledge	-0.024 (0.013)	-0.028* (0.013)	-0.032* (0.013)	-0.023 (0.070)
Clarity of responsibility	-0.385 (0.755)	-0.396 (0.755)	-0.410 (0.753)	-0.423 (0.755)
Economy x knowledge		0.082*** (0.014)		0.023 (0.049)
Economy x clarity			0.847* (0.376)	0.849* (0.375)
Knowledge x clarity				-0.004 (0.124)
Economy x knowledge x clarity				0.103 (0.083)
Constant	-0.249 (0.427)	-0.247 (0.427)	-0.224 (0.426)	-0.218 (0.427)
<i>N</i> (individuals)	26987	26987	26987	26987
<i>N</i> (election studies)	29	29	29	29
<i>AIC</i>	32475.295	32443.623	31983.834	31940.015
<i>BIC</i>	32557.326	32533.857	32082.271	32071.265
Var (constant)	0.563*** (0.150)	0.563*** (0.150)	0.559*** (0.149)	0.561*** (0.150)
Var (economy)			0.131*** (0.037)	0.130*** (0.036)
Var (knowledge)				0.009* (0.004)

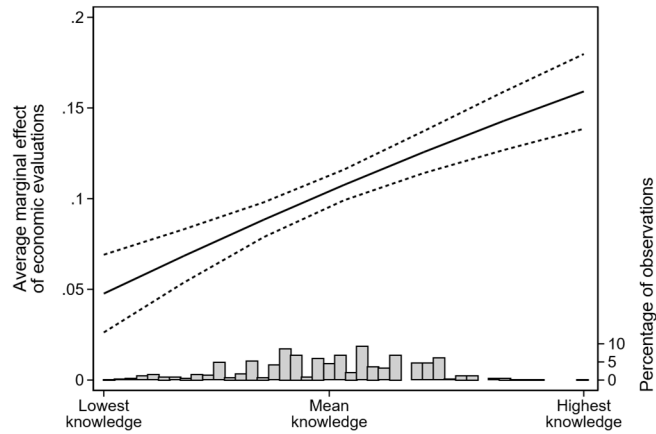
Note: Entries are log-odds coefficients, standard errors reported in parentheses. Data: CSES module 4. Significance levels: *: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$.

Figure D.1: Marginal effect of economic evaluations



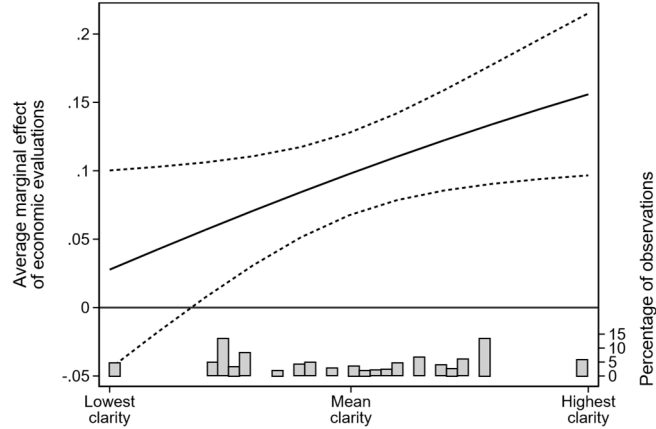
Note: The figure shows the predicted probability of voting for an incumbent party at different levels of economic evaluations. The estimates are based on Model 1 in Table D.1.

Figure D.2: Average marginal effect of economic evaluations at different levels of political knowledge



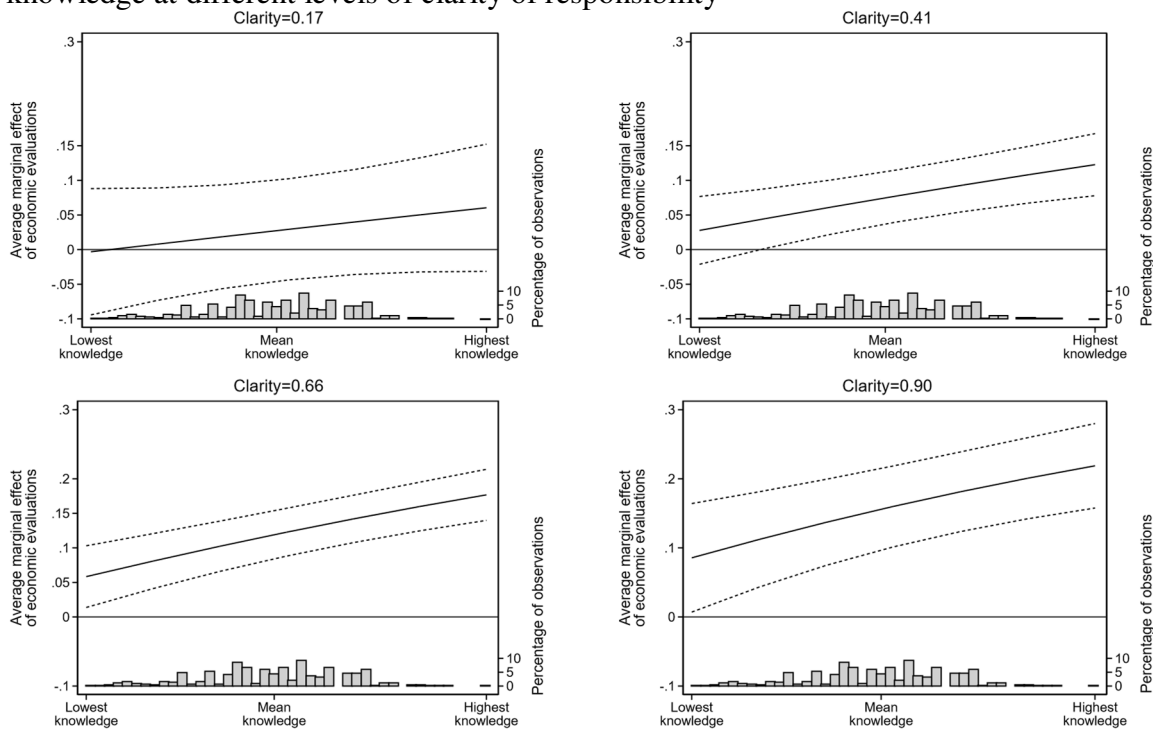
Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for and incumbent party at different levels of political knowledge. The estimates are based on Model 2 in Table D.1.

Figure D.3: Average marginal effect of economic evaluations at different levels of clarity of responsibility



Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for an incumbent party at different levels of a combined measure of clarity. The estimates are based on Model 3 in Table D.1.

Figure D.4: Average marginal effect of economic evaluations at different levels of political knowledge at different levels of clarity of responsibility



Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for an incumbent party at different levels of political knowledge at the minimum and maximum level of a combined measure of clarity, and the two values in-between. The estimates are based on Model 4 in Table D.1.

Appendix E: Elections under investigation and clarity of responsibility

Election	Clarity of responsibility	Election	Clarity of responsibility
Australia 2013	0.87	Montenegro 2012	1
Austria 2013	0.44	Norway 2013	0.65
Bulgaria 2014	0.71	New Zealand 2011	1
Brazil 2014	0.61	New Zealand 2014	1
Czech Republic 2013	0.59	Philippines 2016	0.75
Germany 2013	0.41	Poland 2011	0.61
Finland 2015	0.50	Portugal 2015	0.63
Great Britain 2015	0.60	Romania 2012	0.24
Greece 2012	0.70	Serbia 2012	0.55
Hong Kong 2012	0.73	Slovakia 2016	0.75
Iceland 2013	0.35	Slovenia 2011	0.32
Israel 2013	0.33	Sweden 2014	0.64
Japan 2013	0.74	Switzerland 2011	0.18
Kenya 2013	0.35	Turkey 2015	1
Mexico 2012	1	United States 2012	0.75
Mexico 2015	1		

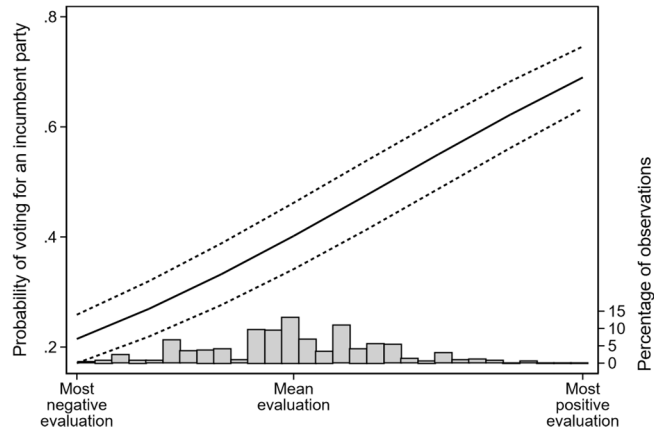
Appendix F: Results of models without control variables

Table F.1: Replication of Table 1 without control variables

	(1) B (s.e.)	(2) B (s.e.)	(3) B (s.e.)	(4) B (s.e.)
Evaluation economy	0.377*** (0.013)	0.378*** (0.013)	-0.083 (0.192)	-0.084 (0.192)
Political knowledge	-0.015 (0.011)	-0.018 (0.011)	-0.025* (0.011)	0.048 (0.062)
Clarity of responsibility	-0.645 (0.538)	-0.650 (0.538)	-0.656 (0.539)	-0.668 (0.540)
Economy x knowledge		0.074*** (0.012)		0.006 (0.036)
Economy x clarity			0.698* (0.279)	0.705* (0.279)
Knowledge x clarity				-0.117 (0.092)
Economy x knowledge x clarity				0.105* (0.051)
Constant	0.008 (0.370)	0.007 (0.370)	0.011 (0.370)	0.013 (0.371)
<i>N</i> (individuals)	32680	32680	32680	32680
<i>N</i> (election studies)	31	31	31	31
<i>AIC</i>	39918.433	39882.944	39135.884	39072.519
<i>BIC</i>	39960.405	39933.311	39194.646	39164.859
Var (constant)	0.505*** (0.130)	0.505*** (0.130)	0.507*** (0.131)	0.508*** (0.131)
Var (economy)			0.130*** (0.035)	0.130*** (0.035)
Var (knowledge)				0.010* (0.004)

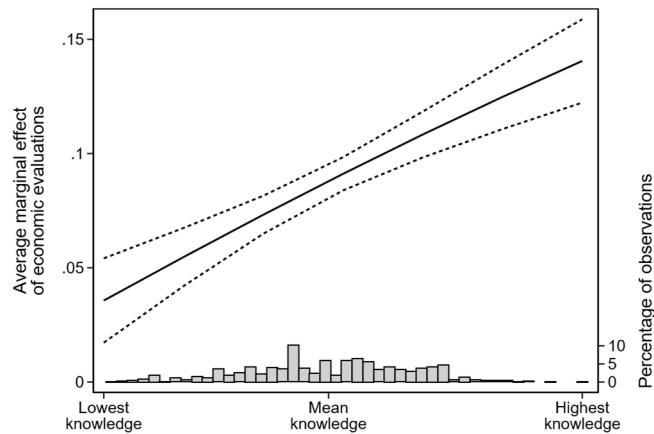
Note: Entries are log-odds coefficients, standard errors reported in parentheses. Data: CSES module 4. Significance levels: *: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$.

Figure F.1: Marginal effect of economic evaluations



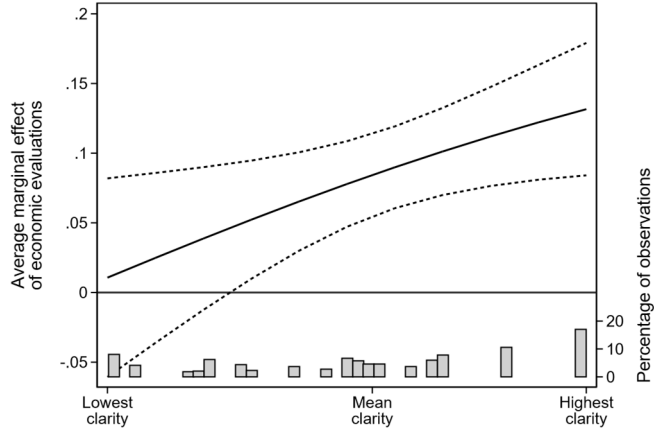
Note: The figure shows the predicted probability of voting for an incumbent party at different levels of economic evaluations. The estimates are based on Model 1 in Table F.1.

Figure F.2: Average marginal effect of economic evaluations at different levels of political knowledge



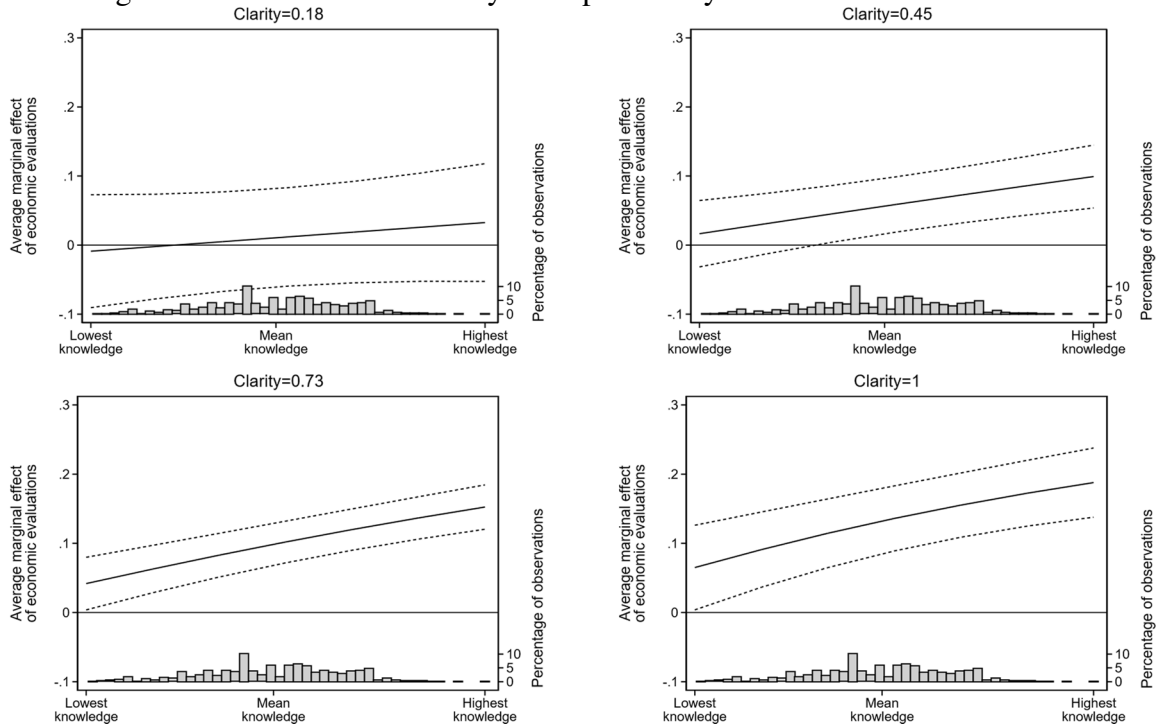
Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for and incumbent party at different levels of political knowledge. The estimates are based on Model 2 in Table F.1.

Figure F.3: Average marginal effect of economic evaluations at different levels of clarity of responsibility



Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for an incumbent party at different levels of government clarity. The estimates are based on Model 3 in Table F.1.

Figure F.4: Average marginal effect of economic evaluations at different levels of political knowledge at different levels of clarity of responsibility



Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for an incumbent party at different levels of political knowledge at the minimum and maximum level of government clarity, and the two values in-between. The estimates are based on Model 4 in Table F.1.

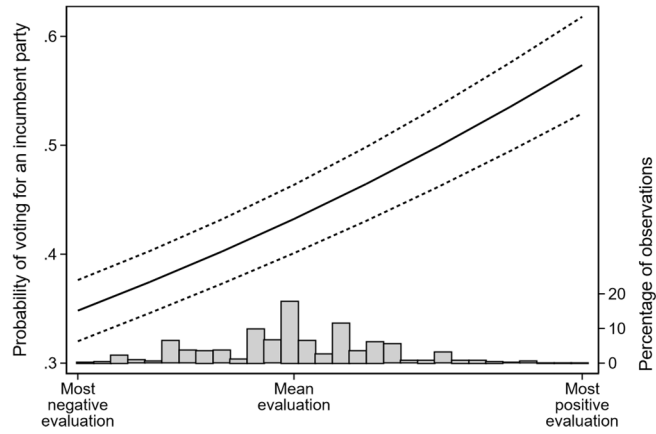
Appendix G: Results including party identification with the incumbent

Table G.1: Replication of Table 1 including party identification with the incumbent

	(1) B (s.e.)	(2) B (s.e.)	(3) B (s.e.)	(4) B (s.e.)
Sex	0.115*** (0.035)	0.115*** (0.035)	0.118*** (0.035)	0.117*** (0.035)
Age	0.003** (0.001)	0.003** (0.001)	0.003** (0.001)	0.003** (0.001)
Education: low				
Education: middle	0.043 (0.048)	0.044 (0.048)	0.024 (0.049)	0.022 (0.049)
Education: high	0.076 (0.052)	0.076 (0.052)	0.052 (0.053)	0.052 (0.053)
Ideological position	0.036*** (0.007)	0.036*** (0.007)	0.035*** (0.007)	0.035*** (0.007)
Party identification with incumbent	3.673*** (0.046)	3.671*** (0.046)	3.639*** (0.046)	3.638*** (0.046)
Evaluation economy	0.287*** (0.019)	0.289*** (0.019)	-0.008 (0.140)	-0.008 (0.140)
Political knowledge	-0.085*** (0.017)	-0.087*** (0.017)	-0.088*** (0.017)	-0.111* (0.055)
Clarity of responsibility	-0.815 (0.488)	-0.819 (0.489)	-0.833 (0.486)	-0.838 (0.486)
Economy x knowledge		0.042* (0.018)		-0.018 (0.052)
Economy x clarity			0.422* (0.204)	0.425* (0.204)
Knowledge x clarity				0.037 (0.082)
Economy x knowledge x clarity				0.086 (0.073)
Constant	-0.953** (0.337)	-0.952** (0.337)	-0.920** (0.335)	-0.918** (0.335)
<i>N</i> (individuals)	27026	27026	27026	27026
<i>N</i> (election studies)	30	30	30	30
<i>AIC</i>	22338.590	22335.330	22235.395	22235.453
<i>BIC</i>	22428.840	22433.785	22342.055	22374.931
Var (constant)	0.407*** (0.109)	0.407*** (0.109)	0.403*** (0.108)	0.403*** (0.108)
Var (economy)			0.060** (0.019)	0.059** (0.019)
Var (knowledge)				0.003 (0.003)

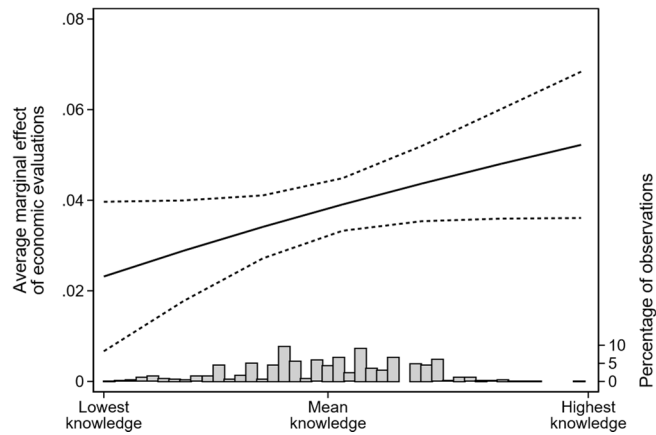
Note: Entries are log-odds coefficients, standard errors reported in parentheses. Data: CSES module 4. Significance levels: *: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$.

Figure G.1: Marginal effect of economic evaluations



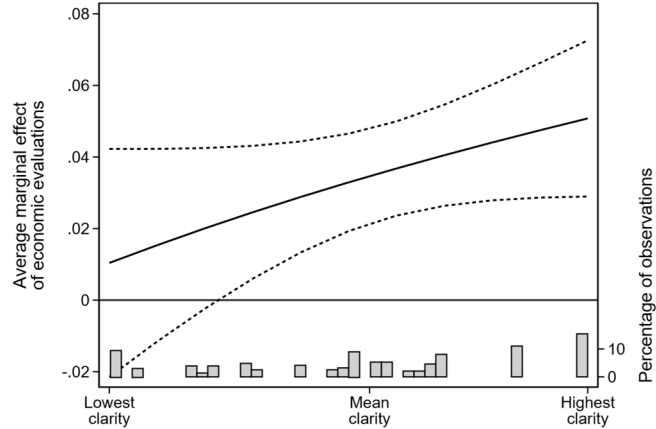
Note: The figure shows the predicted probability of voting for an incumbent party at different levels of economic evaluations. The estimates are based on Model 1 in Table G.1.

Figure G.2: Average marginal effect of economic evaluations at different levels of political knowledge



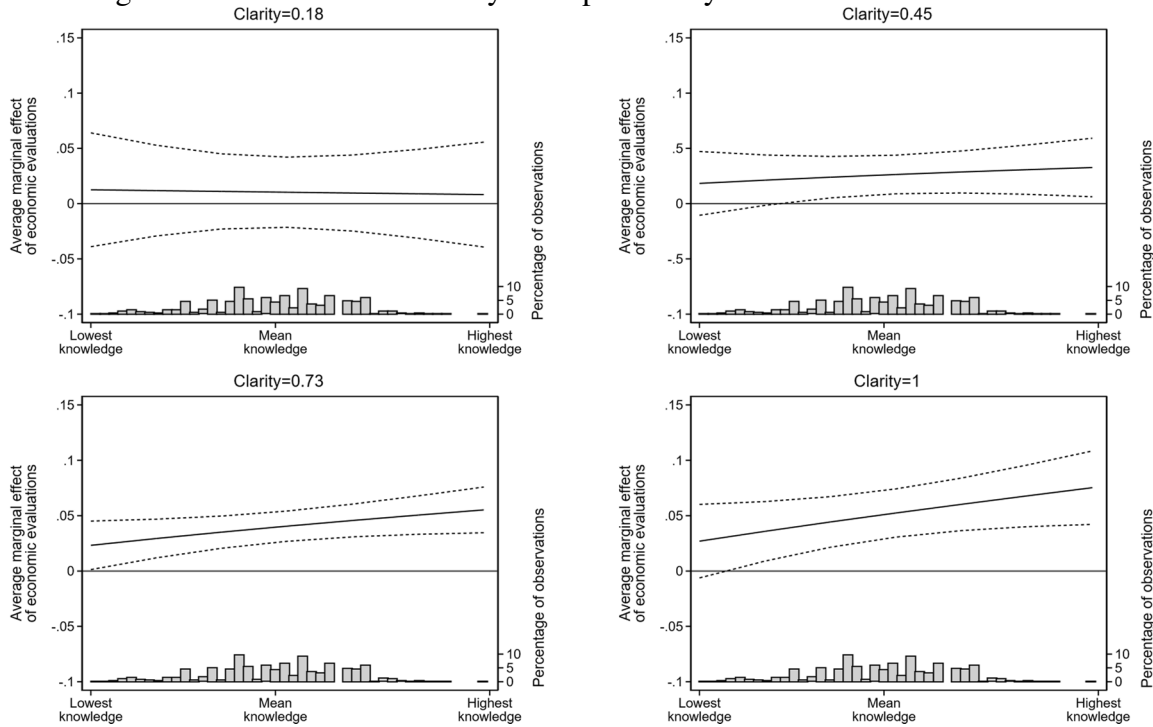
Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for and incumbent party at different levels of political knowledge. The estimates are based on Model 2 in Table G.1.

Figure G.3: Average marginal effect of economic evaluations at different levels of clarity of responsibility



Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for an incumbent party at different levels of government clarity. The estimates are based on Model 3 in Table G.1.

Figure G.4: Average marginal effect of economic evaluations at different levels of political knowledge at different levels of clarity of responsibility



Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for an incumbent party at different levels of political knowledge at the minimum and maximum level of government clarity, and the two values in-between. The estimates are based on Model 4 in Table G.1.

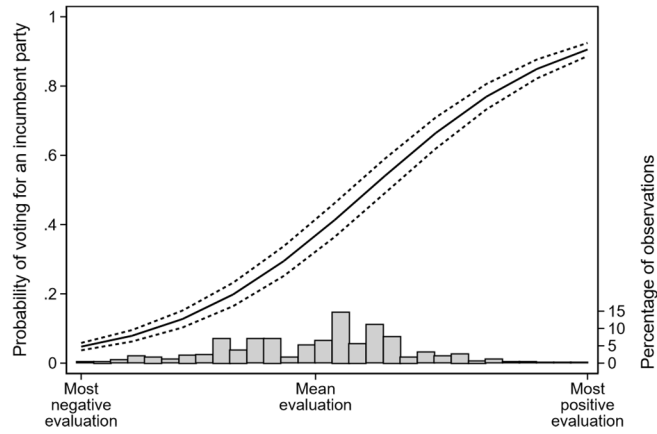
Appendix H: Replication using CSES modules 2 and 3

Table H.1: Replication of Table 1 using CSES modules 2 and 3

	(1) B (s.e.)	(2) B (s.e.)	(3) B (s.e.)	(4) B (s.e.)
Sex	0.042 (0.023)	0.042 (0.023)	0.048* (0.023)	0.050* (0.024)
Age	0.010*** (0.001)	0.010*** (0.001)	0.010*** (0.001)	0.010*** (0.001)
Education: low				
Education: middle	-0.055 (0.034)	-0.054 (0.034)	-0.052 (0.034)	-0.051 (0.035)
Education: high	-0.028 (0.031)	-0.028 (0.031)	-0.019 (0.031)	-0.023 (0.032)
Ideological position	0.069*** (0.005)	0.069*** (0.005)	0.078*** (0.005)	0.080*** (0.005)
Evaluation economy	1.300*** (0.019)	1.304*** (0.019)	0.948** (0.293)	0.946** (0.292)
Political knowledge	0.129*** (0.013)	0.107*** (0.014)	0.130*** (0.014)	0.143 (0.111)
Clarity of responsibility	-1.345*** (0.396)	-1.334*** (0.397)	-1.405*** (0.392)	-1.069** (0.337)
Economy x knowledge		0.156*** (0.021)		0.044 (0.057)
Economy x clarity			0.851* (0.427)	0.854* (0.425)
Knowledge x clarity				0.011 (0.160)
Economy x knowledge x clarity				0.184* (0.086)
Constant	0.251 (0.274)	0.246 (0.274)	0.215 (0.271)	0.205 (0.235)
<i>N</i> (individuals)	41892	41892	41892	41892
<i>N</i> (election studies)	42	42	42	42
<i>AIC</i>	46273.945	46218.700	44925.173	44751.863
<i>BIC</i>	46360.374	46313.772	45028.887	44890.149
Var (constant)	0.468*** (0.106)	0.468*** (0.106)	0.456*** (0.104)	0.340*** (0.072)
Var (economy)			0.526*** (0.121)	0.521*** (0.120)
Var (knowledge)				0.070*** (0.021)

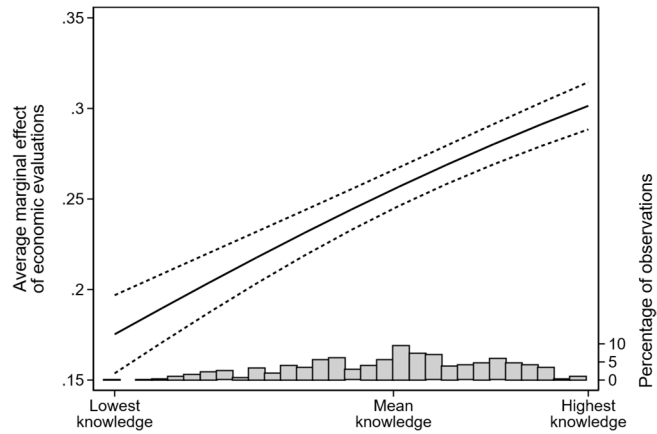
Note: Entries are log-odds coefficients, standard errors reported in parentheses. Data: CSES module 2-3. Significance levels: *: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$.

Figure H.1: Marginal effect of performance evaluations



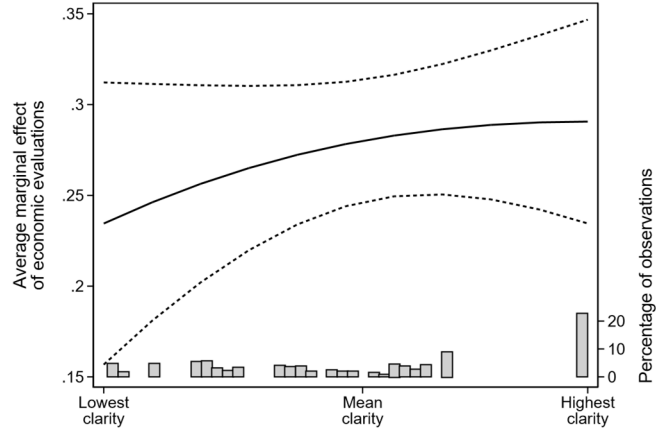
Note: The figure shows the predicted probability of voting for an incumbent party at different levels of performance evaluations. The estimates are based on Model 1 in Table H.1.

Figure H.2: Average marginal effect of performance evaluations at different levels of political knowledge



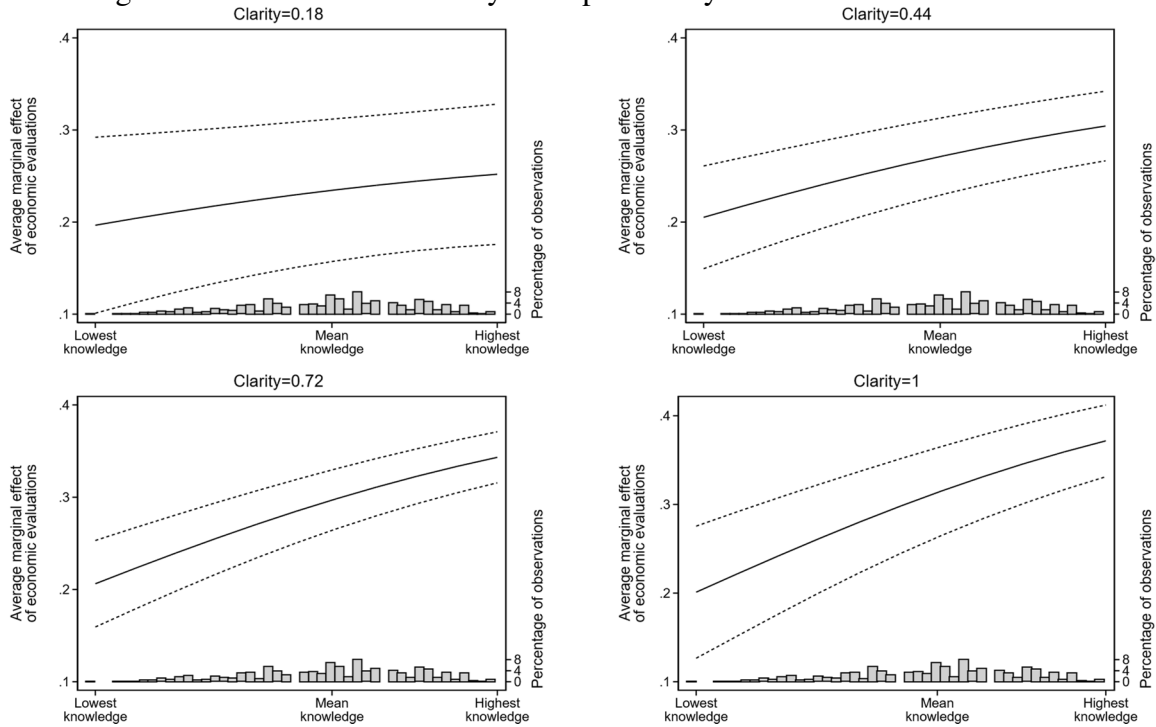
Note: The figure shows the average marginal effect of performance evaluations on the probability of voting for and incumbent party at different levels of political knowledge. The estimates are based on Model 2 in Table H.1.

Figure H.3: Average marginal effect of performance evaluations at different levels of clarity of responsibility



Note: The figure shows the average marginal effect of performance evaluations on the probability of voting for an incumbent party at different levels of government clarity. The estimates are based on Model 3 in Table F.1.

Figure H.4: Average marginal effect of economic evaluations at different levels of political knowledge at different levels of clarity of responsibility



Note: The figure shows the average marginal effect of performance evaluations on the probability of voting for an incumbent party at different levels of political knowledge at the minimum and maximum level of government clarity, and the two values in-between. The estimates are based on Model 4 in Table H.1.

Appendix I: Results using European Election Study data

To test the speculation that individual motivation for voters might be a part of the explanation of the results, I replicate the analyses with a motivational measure of political information. I argue that, while political knowledge measures the cognitive component, political interest measures the motivational component – i.e., the voter’s motivation to be involved in politics and political news. However, the CSES data do not include a measure of political interest. The data of the European Election Studies, however – also used by Hobolt et al. (2013) – include measures of both political knowledge and political interest. This allows to test whether the findings would be similar taking political interest as a measure of the motivation of the voter. Furthermore, to have a benchmark to compare the results of interest with, I first replicate the models using political knowledge – and this will indicate the robustness of the results reported in the main text as well. Whereas Hobolt et al. (2013) use the data of the 2009 study, I include both the data of 2009 and 2014 (van Egmond et al., 2013; Schmitt et al., 2016). This leads to a data set spanning 55 electoral cycles (i.e., the EU-27 in 2009 and the EU-28 in 2014) which provides sufficient variation in electoral and institutional contexts.

The coding of the variables included in the analyses closely follows the measures presented in the main text. The dependent variable indicates the respondent’s intention to vote for an incumbent party (code 1) or an opposition party (code 0). Following Hobolt et al. (2013, p. 173), the reported national vote intention is used rather than the party choice for the European elections, as it enables to include respondents that did not vote in the European election but would most likely vote in a national election, and because it better allows to investigate reward and punishment of incumbent parties following retrospective performance evaluations. The question probing the national vote intention was: ‘If there were a general election tomorrow, which party would you vote for?’.

The independent variables that are included mirror the variables included in the main analyses:

- *Sex*: Sex of the respondent: 0=male, 1=female
- *Age*: Age of the respondent at the moment of interview

- *Educational level*: Respondents are divided into three categories: (1) low educated: stopped full-time education before the age of 15; (2) middle educated: stopped fulltime education between ages 16 and 19; (3) high educated: stopped full-time education after the age of 20.
- *Ideological position*: First, respondents were asked to position political parties on an ideological axis: In political matters people talk of "the left" and "the right". What is your position? Please use a scale from 0 to 10, where '0' means "left" and '10' means "right". Which number best describes your position?
- *Economic evaluations*: Retrospective sociotropic evaluation of the economic situation. The question was: 'What do you think about the economy? Compared to 12 months ago, do you think that the general economic situation in (OUR COUNTRY) ...' and the respondents could answer using a scale ranging from 'is a lot worse' (code 0), 'is a little worse' (code 1), 'has stayed the same' (code 2), 'is a little better' (code 3), 'is a lot better' (code 4). This variable is centered around the mean of each election under investigation respectively.
- *Political knowledge*: Index created by counting the number of correct answer to four factual questions about politics. The questions were:
 - Switzerland is a member of the EU;
 - Each Member State elects the same number of representatives to the European Parliament;
 - There are (150% OF CORRECT NUMBER) members in the (LOWER HOUSE OF NATIONAL PARLIAMENT);
 - (NAME OF HEAD OF GOVERNMENT) belongs to (NAME OF CORRECT PARTY).

Note, however, that this latter question was slightly different in the European Election Study of 2014, as in this year, it referred to a specific cabinet member (e.g., British Secretary of State for Children in Britain). This variable is centered around the mean of each election under investigation respectively.

- *Clarity of responsibility*: Index constructed of four variables: (1) whether the government in power is a single-party government (code 1) or a coalition government (code 0), (2) whether there was cohabitation within a semi-presidential system (code 0) or not (code 1), (3) the ideological cohesion of the government (i.e., the proportion of seats held by the parties in government that are of the same ideology as the dominant governing parties), and (4) the

dominance of the main governing party (i.e., the share of cabinet posts for the head of government's party). These items are added up and divided by four.

- *Political interest*: In 2009, answer to the question: "To what extent would you say you are interested in politics? Very, somewhat, a little, or not at all?". Respondents could answer using the options 'not at all' (code 0), 'a little' (code 1), 'somewhat' (code 2), and 'very' (code 3). This variable is centered around the mean of each election under investigation respectively. In 2014, respondents were asked to rate the statement "you are very interested in politics" on a scale ranging from 0 (no, not at all), over 1 (no, not really), 2 (yes, to some extent) to 3 (yes, definitely).

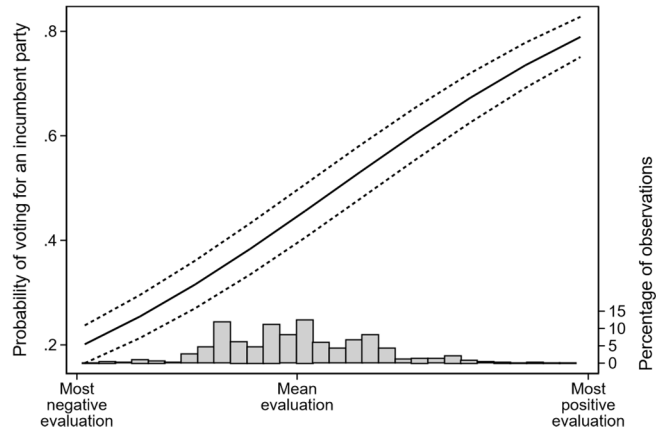
First, the analyses are replicated using political knowledge. The results are summarised in Table I.1

Table I.1: Replication of Table 1 using EES data

	(1) B (s.e.)	(2) B (s.e.)	(3) B (s.e.)	(4) B (s.e.)
Sex	0.112*** (0.026)	0.113*** (0.026)	0.108*** (0.027)	0.110*** (0.027)
Age	0.009*** (0.001)	0.009*** (0.001)	0.009*** (0.001)	0.009*** (0.001)
Education: low				
Education: middle	-0.054 (0.041)	-0.054 (0.041)	-0.074 (0.042)	-0.066 (0.043)
Education: high	-0.070 (0.043)	-0.070 (0.043)	-0.089* (0.044)	-0.081 (0.044)
Ideological position	0.047*** (0.005)	0.048*** (0.005)	0.047*** (0.005)	0.046*** (0.005)
Evaluation economy	0.442*** (0.015)	0.445*** (0.015)	-0.156 (0.134)	-0.162 (0.135)
Political knowledge	0.031* (0.013)	0.030* (0.013)	0.027* (0.013)	0.040 (0.067)
Clarity of responsibility	-1.626** (0.533)	-1.627** (0.533)	-1.696** (0.538)	-1.707** (0.540)
Economy x knowledge		0.055*** (0.013)		-0.027 (0.037)
Economy x clarity			1.179*** (0.238)	1.195*** (0.239)
Knowledge x clarity				-0.036 (0.119)
Economy x knowledge x clarity				0.133* (0.064)
Constant	0.621* (0.304)	0.621* (0.305)	0.661* (0.307)	0.657* (0.308)
<i>N</i> (individuals)	29167	29167	29167	29167
<i>N</i> (election studies)	55	55	55	55
<i>AIC</i>	35420.779	35406.130	34984.903	34906.055
<i>BIC</i>	35503.587	35497.218	35084.273	35038.548
Var (constant)	0.634*** (0.124)	0.635*** (0.125)	0.645*** (0.127)	0.649*** (0.128)
Var (economy)			0.112*** (0.026)	0.112*** (0.026)
Var (knowledge)				0.022*** (0.006)

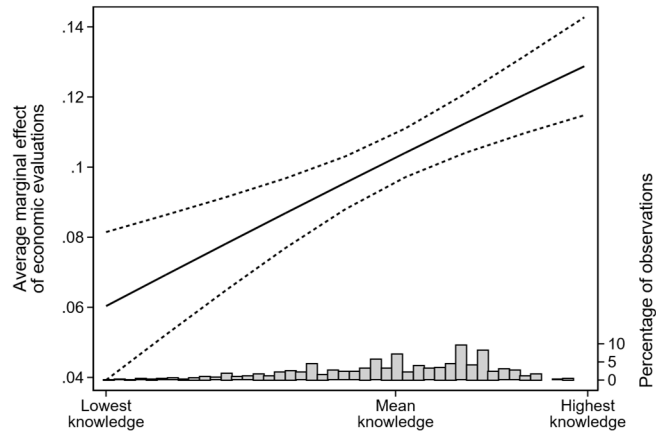
Note: Entries are log-odds coefficients, standard errors reported in parentheses. Data: EES 2009, 2014. Significance levels: *: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$.

Figure I.1: Marginal effect of economic evaluations



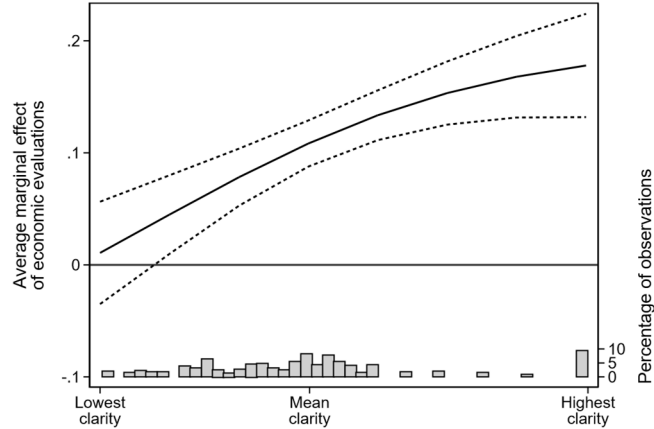
Note: The figure shows the predicted probability of voting for an incumbent party at different levels of economic evaluations. The estimates are based on Model 1 in Table I.1.

Figure I.2: Average marginal effect of economic evaluations at different levels of political knowledge



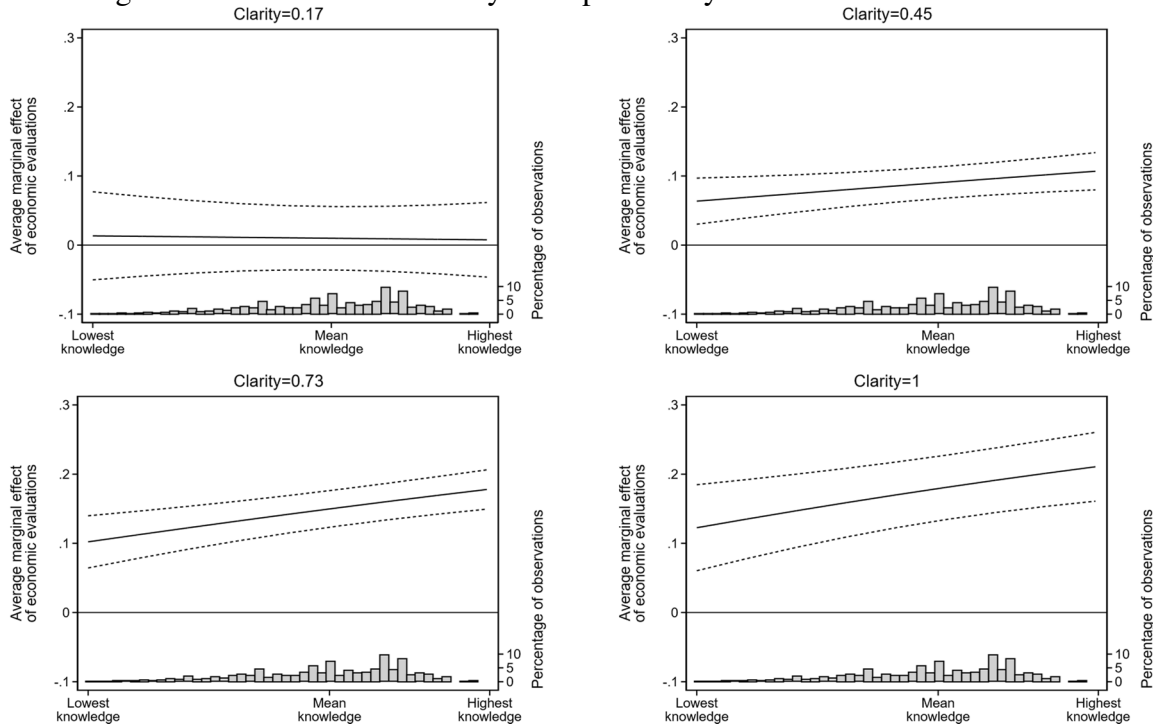
Note: The figure shows the average marginal effect of performance evaluations on the probability of voting for and incumbent party at different levels of political knowledge. The estimates are based on Model 2 in Table I.1.

Figure I.3: Average marginal effect of economic evaluations at different levels of clarity of responsibility



Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for an incumbent party at different levels of government clarity. The estimates are based on Model 3 in Table I.1.

Figure I.4: Average marginal effect of economic evaluations at different levels of political knowledge at different levels of clarity of responsibility



Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for an incumbent party at different levels of political knowledge at the minimum and maximum level of government clarity, and the two values in-between. The estimates are based on Model 4 in Table I.1.

The table and the figures provide strong support for the generalisability of the findings reported in the text. Also using the data of the 2009 and 2014 European Election Studies, political knowledge and clarity of responsibility positively moderate retrospective voting, and these data also result in a positive three-way interaction. To examine whether these results also hold using political interest, the analyses are conducted including a measure of the level of political interest of the voter. The results are summarised in Table I.2.

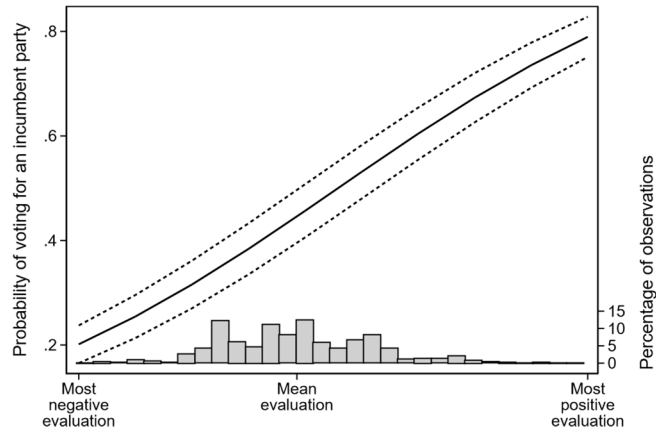
The results show that using political interest as a measure of the voter's motivation to be informed results in very similar conclusions. Although this is a preliminary test and the results do not show differences in effect sizes of knowledge or interest not whether they substitute or complement each other, but they do lend support to the speculation that voters' motivation is an important aspect in retrospective voting.

Table I.2: Replication of Table 1 using EES data including political interest

	(1) B (s.e.)	(2) B (s.e.)	(3) B (s.e.)	(4) B (s.e.)
Sex	0.100*** (0.026)	0.101*** (0.026)	0.097*** (0.026)	0.097*** (0.027)
Age	0.009*** (0.001)	0.009*** (0.001)	0.009*** (0.001)	0.009*** (0.001)
Education: low				
Education: middle	-0.042 (0.041)	-0.042 (0.041)	-0.064 (0.042)	-0.064 (0.042)
Education: high	-0.047 (0.043)	-0.047 (0.043)	-0.068 (0.044)	-0.068 (0.044)
Ideological position	0.047*** (0.005)	0.048*** (0.005)	0.047*** (0.005)	0.048*** (0.005)
Evaluation economy	-0.005 (0.016)	-0.003 (0.016)	-0.006 (0.016)	-0.044 (0.068)
Political knowledge	0.442*** (0.015)	0.443*** (0.015)	-0.158 (0.134)	-0.162 (0.135)
Clarity of responsibility	-1.628** (0.532)	-1.624** (0.532)	-1.699** (0.537)	-1.702** (0.539)
Economy x knowledge		0.109*** (0.016)		-0.016 (0.046)
Economy x clarity			1.184*** (0.238)	1.195*** (0.239)
Knowledge x clarity				0.051 (0.120)
Economy x knowledge x clarity				0.220** (0.080)
Constant	0.615* (0.304)	0.608* (0.304)	0.657* (0.307)	0.654* (0.308)
<i>N</i> (individuals)	29107	29107	29107	29107
<i>N</i> (election studies)	55	55	55	55
<i>AIC</i>	35355.895	35313.757	34916.339	34860.200
<i>BIC</i>	35438.682	35404.824	35015.684	34992.660
Var (constant)	0.632*** (0.124)	0.633*** (0.124)	0.643*** (0.126)	0.647*** (0.127)
Var (economy)			0.112*** (0.026)	0.113*** (0.026)
Var (knowledge)				0.017** (0.007)

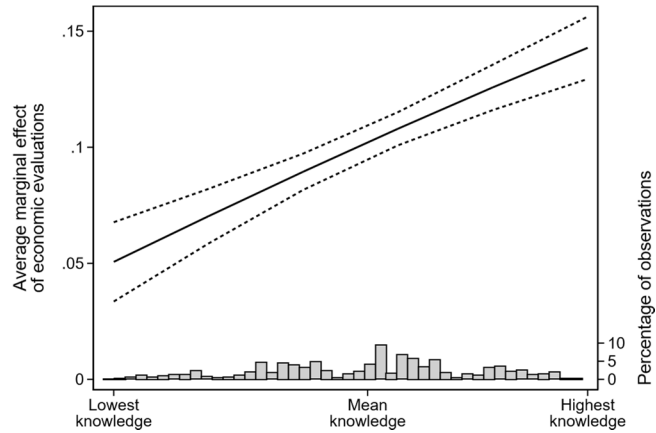
Note: Entries are log-odds coefficients, standard errors reported in parentheses. Data: EES 2009, 2014. Significance levels: *: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$.

Figure I.5: Marginal effect of economic evaluations



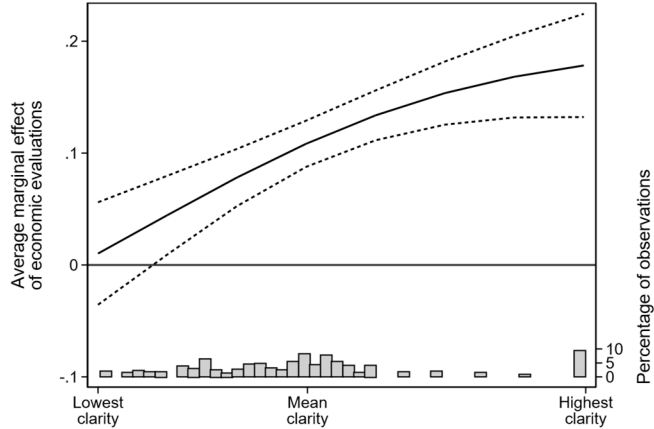
Note: The figure shows the predicted probability of voting for an incumbent party at different levels of economic evaluations. The estimates are based on Model 1 in Table I.2.

Figure I.6: Average marginal effect of economic evaluations at different levels of political interest



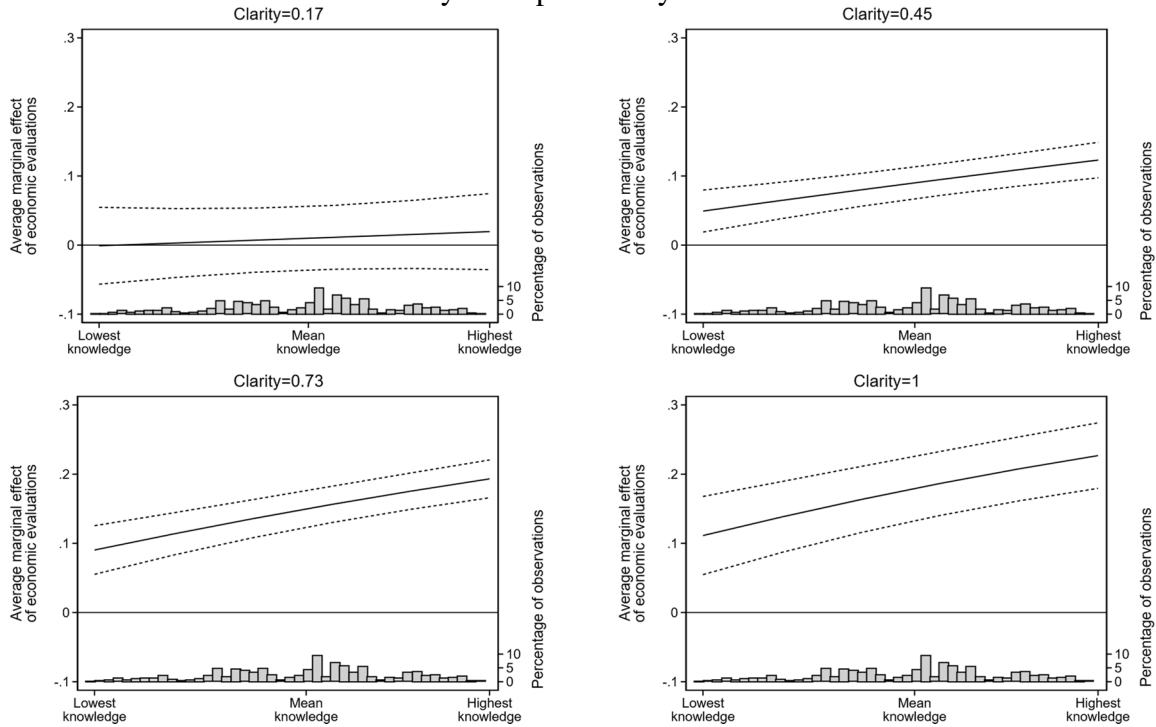
Note: The figure shows the average marginal effect of performance evaluations on the probability of voting for and incumbent party at different levels of political interest. The estimates are based on Model 2 in Table I.2.

Figure I.7: Average marginal effect of economic evaluations at different levels of clarity of responsibility



Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for an incumbent party at different levels of government clarity. The estimates are based on Model 3 in Table I.2.

Figure I.8: Average marginal effect of economic evaluations at different levels of political interest at different levels of clarity of responsibility



Note: The figure shows the average marginal effect of economic evaluations on the probability of voting for an incumbent party at different levels of political interest at the minimum and maximum level of government clarity, and the two values in-between. The estimates are based on Model 4 in Table I.2.

References

- Hobolt, Sarah, James Tilley, and Susan Banducci (2013). 'Clarity of Responsibility: How Government Cohesion Conditions Performance Voting', *European Journal of Political Research*, 52:2, 164-187.
- Schmitt, Hermann, Sarah Hobolt, Sebastian A. Popa, and Eftichia Teperoglou (2016). European Parliament Election Study 2014, Voter Study, First Post-Election Survey. *GESIS Data Archive, Cologne. ZA5160 Data file Version 4.0.0*, doi:10.4232/1.12628
- Van Egmond, Marcel, Wouter van der Brug, Sarah Hobolt, Mark N. Franklin, and Eliyahu V. Sapir (2013). European Parliament Election Study 2009, Voter Study. *GESIS Data Archive, Cologne. ZA5055 Data file Version 1.1.0*, doi:10.4232/1.11760.