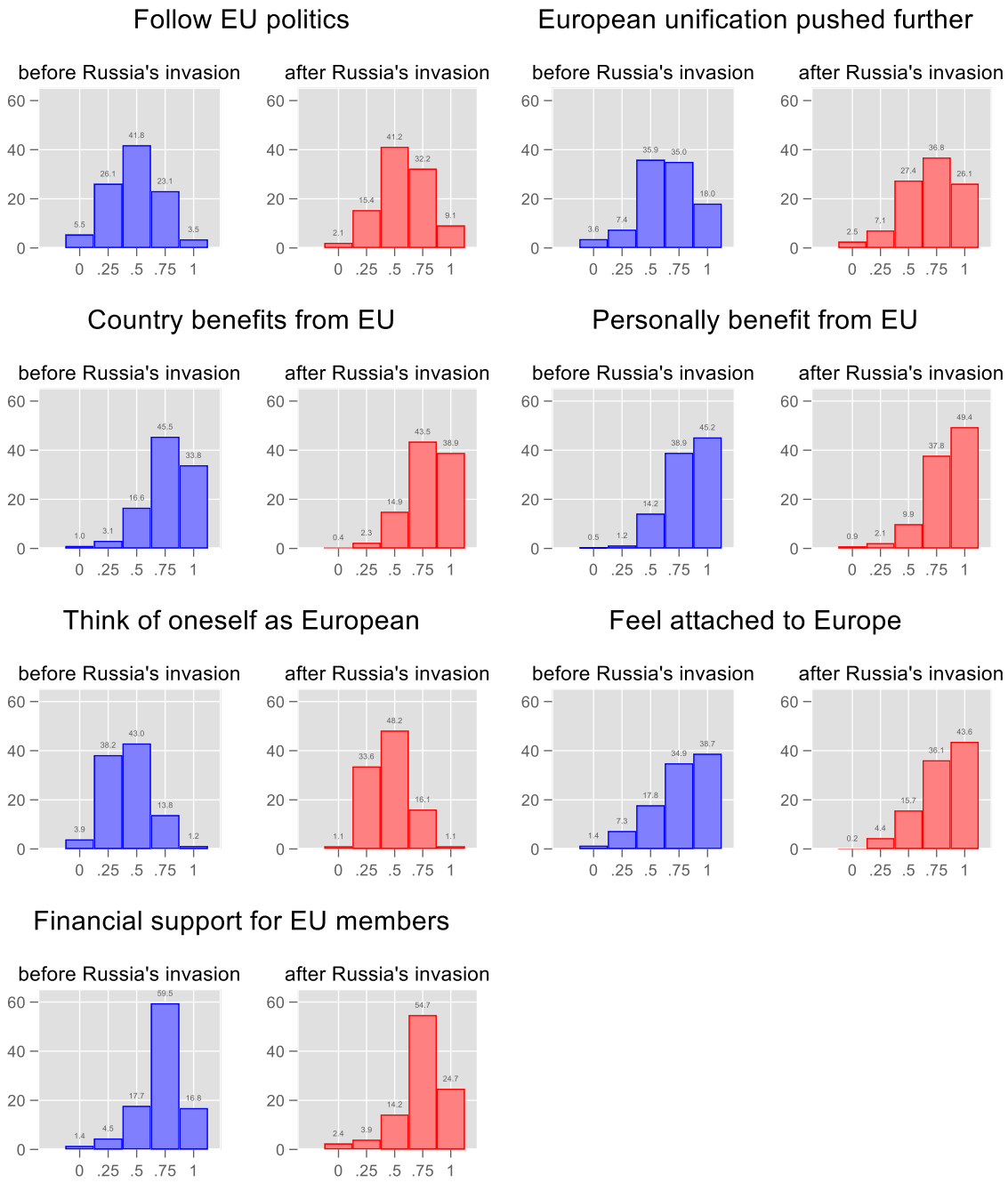
Online Appendix

to

Rallying around the EU flag: Russia's invasion of Ukraine and attitudes toward European integration

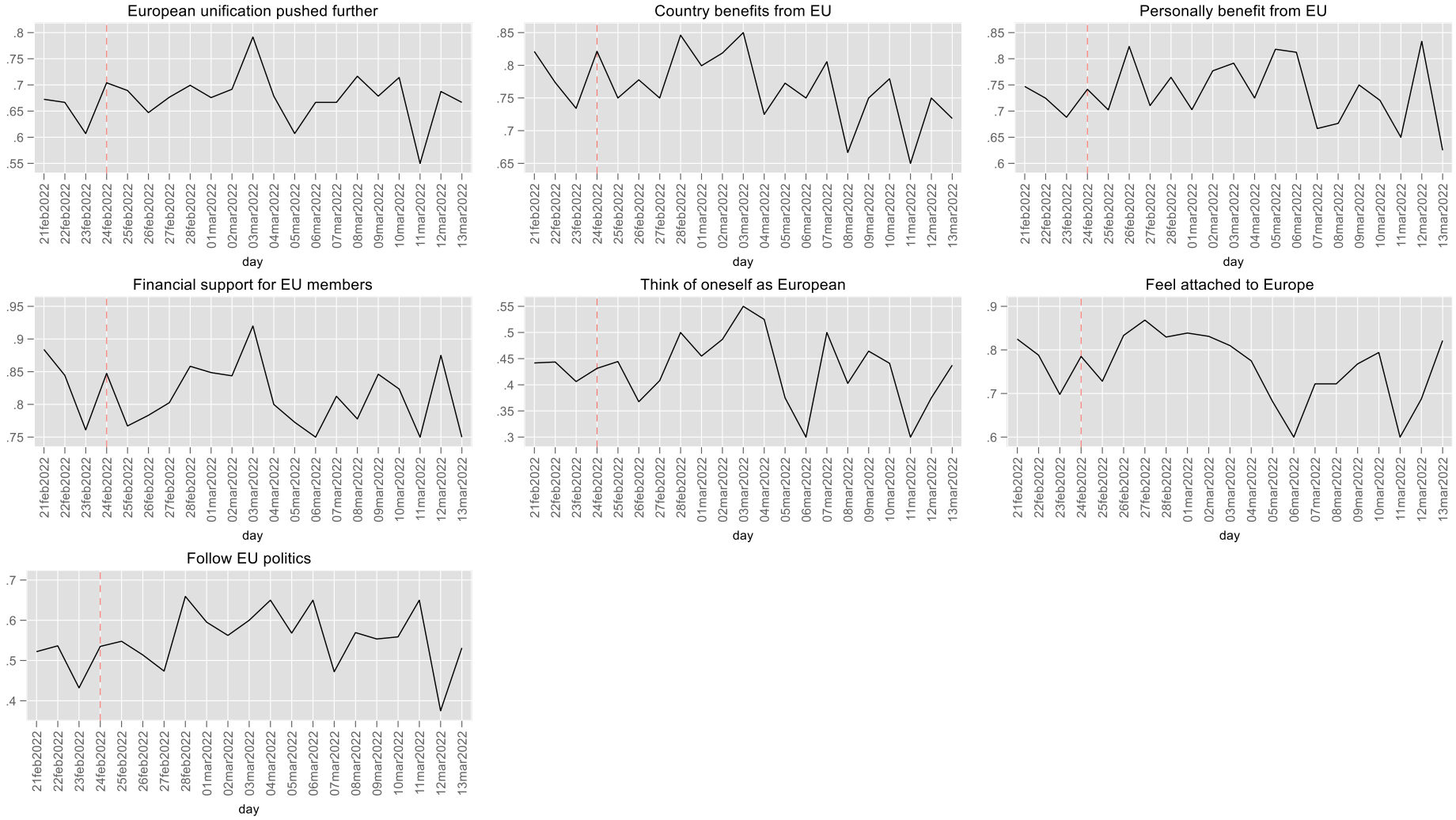
Appendix A: Distribution of Outcome Variables Before and After Russia's Invasion of Ukraine

Figure A1: Histograms with distribution of outcome variables before and after Russia's invasion of Ukraine



Note: Y-axis indicates percentages. Re-scaled versions of the outcome variables shown (range from 0 to 1), as used for the linear regressions.

Figure A2: Means of outcome variables per day



Appendix B: Regression Tables for Main Results

Table B1: Bivariate linear model

	(1) Follow EU politics	(2) European unification pushed further	(3) Country benefits from EU	(4) Personally benefit from EU	(5) Think of oneself as European	(6) Feel attached to Europe	(7) Financial support for EU members
Ukraine war	0.095***	0.051**	0.025*	0.014	0.031**	0.041**	0.024+
	(0.014)	(0.017)	(0.013)	(0.012)	(0.012)	(0.014)	(0.013)
Constant	0.48***	0.64***	0.77***	0.82***	0.43***	0.76***	0.71***
	(0.0094)	(0.011)	(0.0087)	(0.0081)	(0.0082)	(0.010)	(0.0084)
Observations	1086	865	1061	1052	1056	1070	1015
R^2	0.041	0.010	0.0037	0.0012	0.0062	0.0074	0.0033

Robust standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table B2: Intermediate linear model

	(1) Follow EU politics	(2) European unification pushed further	(3) Country benefits from EU	(4) Personally benefit from EU	(5) Think of oneself as European	(6) Feel attached to Europe	(7) Financial support for EU members
Ukraine war	0.085***	0.045*	0.015	0.0018	0.017	0.035*	0.021
	(0.014)	(0.018)	(0.013)	(0.012)	(0.012)	(0.015)	(0.013)
Gender							
Male	0.064***	0.050**	0.012	-0.014	0.017	0.011	-0.0046
	(0.015)	(0.018)	(0.014)	(0.013)	(0.013)	(0.015)	(0.014)
Other	0.13*	0.13+	0.088	0.11**	0.081	0.0026	-0.039
	(0.057)	(0.076)	(0.057)	(0.039)	(0.068)	(0.083)	(0.12)
Age	0.0080**	0.0052	0.0026	-0.0024	0.0037	-0.0043	0.00099
	(0.0030)	(0.0033)	(0.0030)	(0.0034)	(0.0035)	(0.0036)	(0.0031)
Constant	0.40***	0.58***	0.75***	0.94***	0.37***	0.97***	0.69***
	(0.078)	(0.087)	(0.078)	(0.085)	(0.089)	(0.089)	(0.081)
Country dummies	yes	yes	yes	yes	yes	yes	yes
Observations	1085	864	1060	1051	1055	1069	1014
R^2	0.14	0.059	0.062	0.10	0.057	0.076	0.035

Robust standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The omitted gender category is “Female”.

Table B3: Full linear model

	(1) Follow EU politics	(2) European unification pushed further	(3) Country benefits from EU	(4) Personally benefit from EU	(5) Think of oneself as European	(6) Feel attached to Europe	(7) Financial support for EU members
Ukraine war	0.099***	0.076**	0.056**	0.032+	0.034+	0.081***	0.045*
	(0.022)	(0.027)	(0.019)	(0.019)	(0.019)	(0.023)	(0.021)
Gender							
Male	0.064***	0.050**	0.012	-0.014	0.017	0.011	-0.0045
	(0.015)	(0.018)	(0.014)	(0.013)	(0.013)	(0.015)	(0.014)
Other	0.14*	0.14+	0.10+	0.13**	0.087	0.021	-0.030
	(0.058)	(0.080)	(0.056)	(0.040)	(0.069)	(0.083)	(0.11)
Age	0.0079**	0.0048	0.0023	-0.0027	0.0035	-0.0046	0.00075
	(0.0029)	(0.0034)	(0.0029)	(0.0033)	(0.0035)	(0.0035)	(0.0032)
Trend	-0.0022	-0.0048	-0.0060**	-0.0045*	-0.0025	-0.0069**	-0.0036
	(0.0026)	(0.0030)	(0.0021)	(0.0021)	(0.0022)	(0.0026)	(0.0023)
Constant	0.40***	0.60***	0.77***	0.96***	0.38***	1.00***	0.70***
	(0.078)	(0.089)	(0.077)	(0.084)	(0.089)	(0.088)	(0.083)
Country dummies	yes	yes	yes	yes	yes	yes	yes
Observ.	1085	864	1060	1051	1055	1069	1014
R^2	0.15	0.061	0.069	0.11	0.058	0.082	0.037

Robust standard errors in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The omitted gender category is “Female”.

Appendix C: Results from Ordered and Binary Probit Regressions

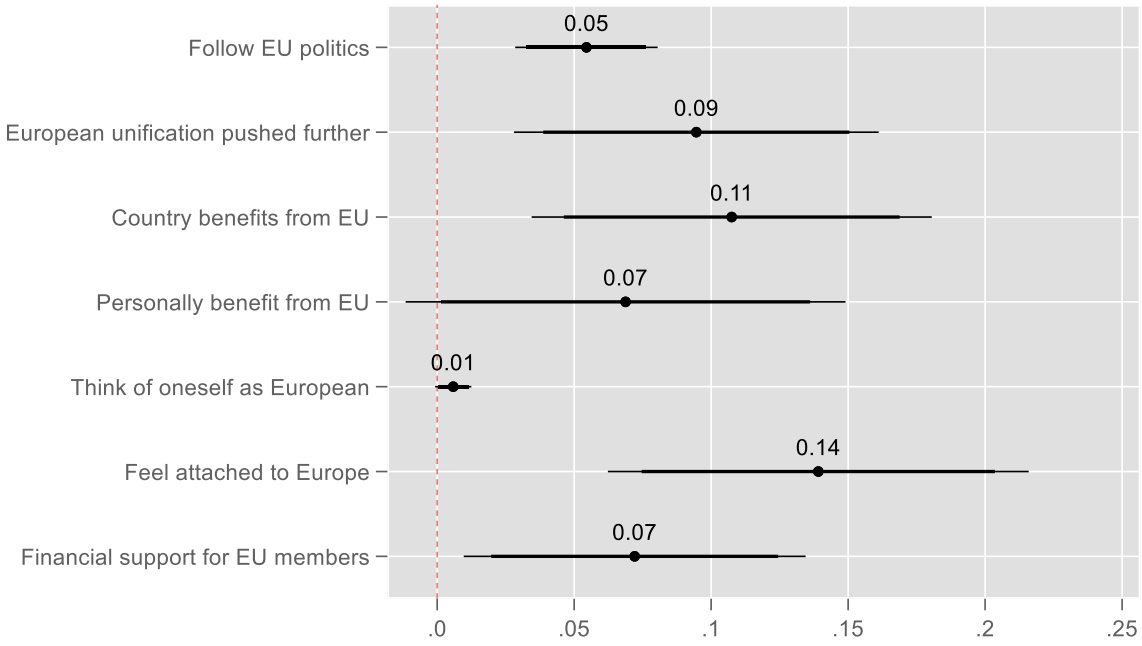
Table C1: Regression table for ordered probit model

	(1) Follow EU politics	(2) European unification pushed further	(3) Country benefits from EU	(4) Personally benefit from EU	(5) Think of oneself as European	(6) Feel attached to Europe	(7) Financial support for EU members
Ukraine war	0.49***	0.33**	0.30**	0.19+	0.20+	0.38***	0.26*
	(0.11)	(0.12)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
Gender							
Male	0.31***	0.24**	0.097	-0.069	0.090	0.069	0.0016
	(0.074)	(0.081)	(0.076)	(0.076)	(0.074)	(0.074)	(0.074)
Other	0.69*	0.69+	0.62	0.96*	0.50	0.15	0.061
	(0.30)	(0.42)	(0.38)	(0.46)	(0.37)	(0.42)	(0.34)
Age	0.039**	0.028	0.016	-0.016	0.017	-0.018	0.013
	(0.014)	(0.018)	(0.017)	(0.019)	(0.020)	(0.016)	(0.017)
Trend	-0.011	-0.020	-0.033**	-0.025*	-0.015	-0.034**	-0.018
	(0.013)	(0.013)	(0.011)	(0.012)	(0.012)	(0.012)	(0.013)
Cut1	-1.32***	-1.46**	-2.37***	-3.43***	-1.74***	-3.55***	-1.72***
	(0.39)	(0.46)	(0.46)	(0.51)	(0.50)	(0.43)	(0.46)
Cut2	-0.13	-0.85+	-1.73***	-2.93***	-0.046	-2.60***	-1.19**
	(0.38)	(0.45)	(0.44)	(0.51)	(0.51)	(0.43)	(0.46)

Cut3	1.08**	0.25	-0.76+	-1.92***	1.28*	-1.79***	-0.39
	(0.38)	(0.45)	(0.44)	(0.50)	(0.51)	(0.43)	(0.45)
Cut4	2.29***	1.27**	0.52	-0.70	2.62***	-0.79+	1.24**
	(0.39)	(0.46)	(0.44)	(0.50)	(0.53)	(0.43)	(0.45)
Country dummies	yes	yes	yes	yes	yes	yes	yes
Observations	1085	864	1060	1051	1055	1069	1014
Pseudo-R^2 (McKelvey/Zavoina)	0.16	0.074	0.15	0.22	0.066	0.23	0.12

Robust standard errors in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The omitted gender category is “Female”.

Figure C1: Average marginal effects from ordered probit model



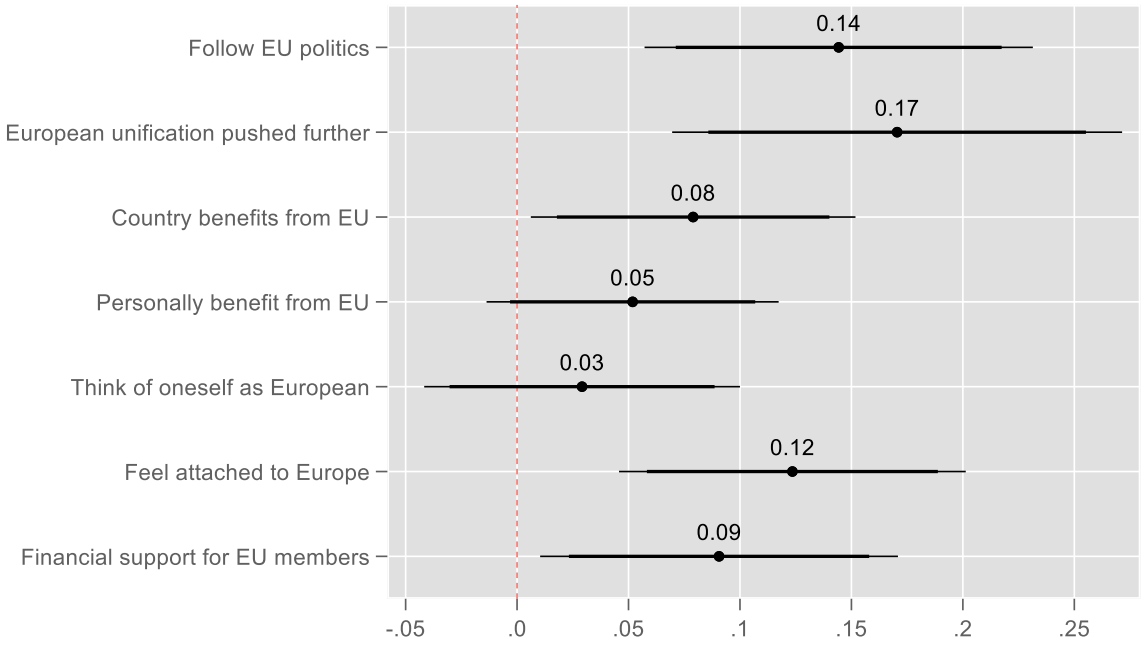
Note: Average marginal effects from ordered probit regressions on the probability to hold a maximum positive orientation towards Europe/the European Union (i.e., the dependent variable taking its maximum) on the Russian invasion dummy. Specification follows the “full” model as shown in equation (1) in the main text. Only EU citizens included. 95% (thin) and 90% (thick) confidence intervals shown.

Table C2: Regression table for binary probit model

	(1) Follow EU politics	(2) European unification pushed further	(3) Country benefits from EU	(4) Personally benefit from EU	(5) Think of oneself as European	(6) Feel attached to Europe	(7) Financial support for EU members
Ukraine war	0.42**	0.46**	0.30*	0.24	0.13	0.43**	0.32*
	(0.13)	(0.15)	(0.14)	(0.16)	(0.15)	(0.14)	(0.15)
Gender							
Male	0.44***	0.39***	0.013	-0.14	0.23*	0.016	-0.070
	(0.088)	(0.094)	(0.097)	(0.10)	(0.10)	(0.092)	(0.095)
Other	0.50	0.78+	0.58	0	0.31	-0.16	-0.17
	(0.39)	(0.45)	(0.55)	(.)	(0.49)	(0.43)	(0.41)
Age	0.061**	0.018	0.016	-0.015	0.061*	-0.021	-0.017
	(0.021)	(0.020)	(0.023)	(0.030)	(0.026)	(0.021)	(0.021)
Trend	-0.00053	-0.035*	-0.031*	-0.028	-0.019	-0.038*	-0.033*
	(0.015)	(0.016)	(0.015)	(0.017)	(0.017)	(0.016)	(0.016)
Constant	-1.56**	-0.0037	0.98	2.41**	-2.20***	2.00***	1.32*
	(0.55)	(0.53)	(0.62)	(0.84)	(0.67)	(0.58)	(0.57)
Country dummies	yes	yes	yes	yes	yes	yes	yes
Observations	1073	857	1043	1026	1048	1057	1003
Pseudo-R^2 (McKelvey/Zavoina)	0.16	0.091	0.052	0.14	0.079	0.12	0.050

Robust standard errors in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The omitted gender category is “Female”.

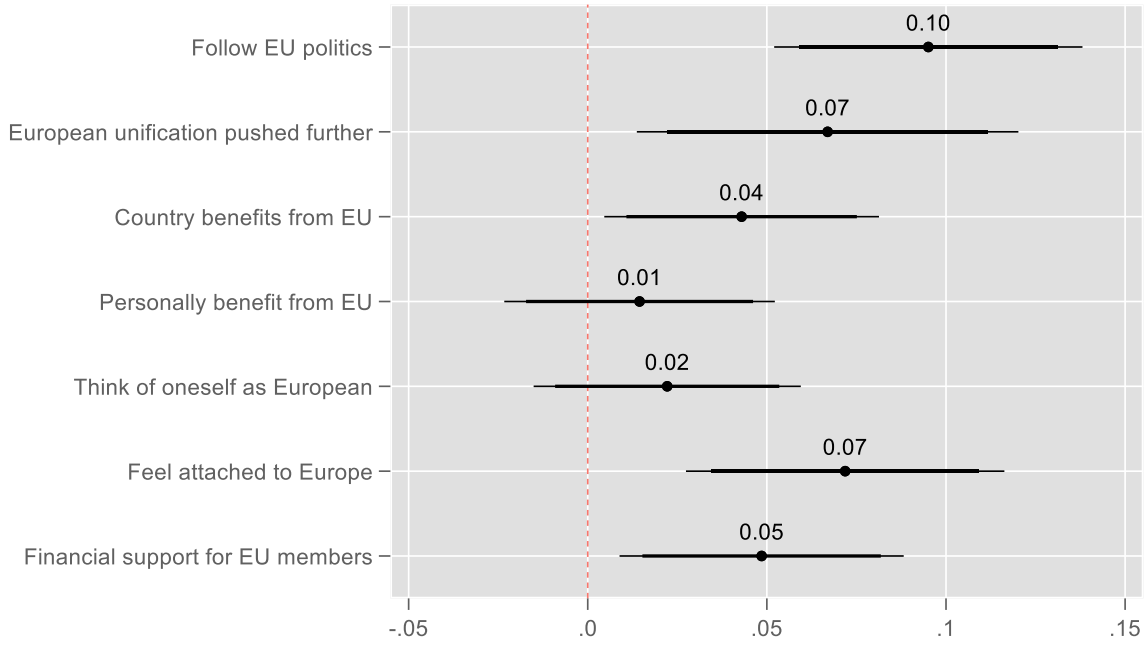
Figure C2: Average marginal effects for binary probit model



Note: Average marginal effects from (binary) probit regressions on the probability to hold a positive orientation towards Europe/the European Union on the Russian invasion dummy. Answers on the original five-point scales dichotomized as follows: Values 0, 1, and 2 recoded to 0; values 3 and 4 recoded to 1. That is, we took only those responses as support for European integration that explicitly reflected such a support, while coding answers at the mid-point as “no support”. Specification follows the “full” model as shown in equation (1) in the main text. Only EU citizens included. 95% (thin) and 90% (thick) confidence intervals shown.

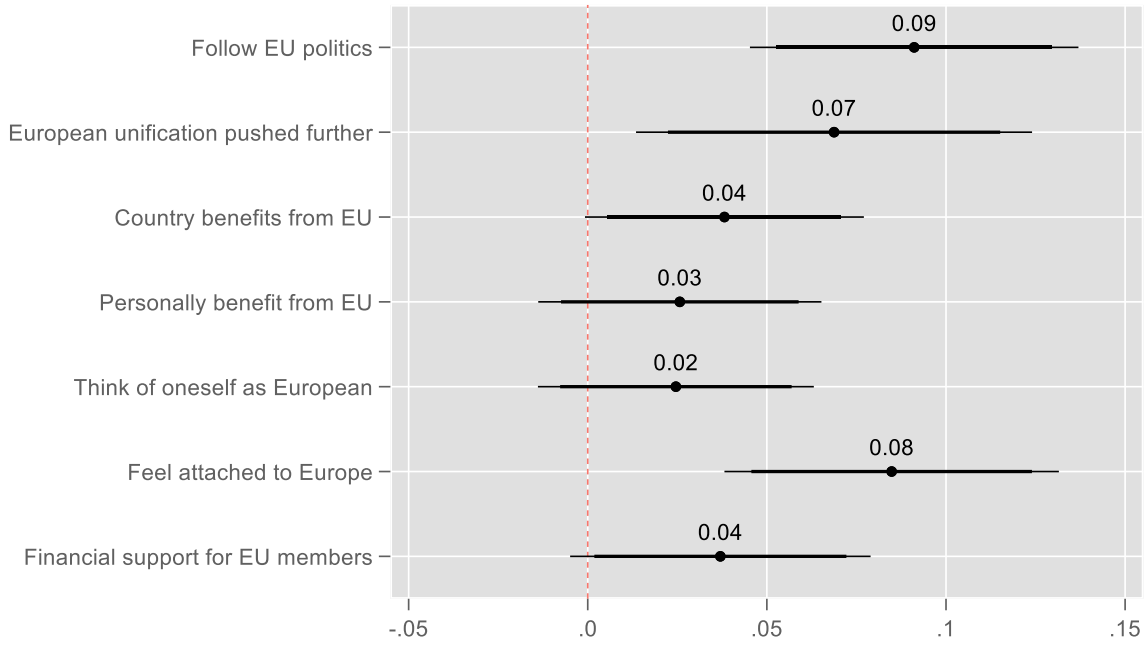
Appendix D: Results from Robustness Checks for the Linear Model

Figure D1: Result with home university country dummies



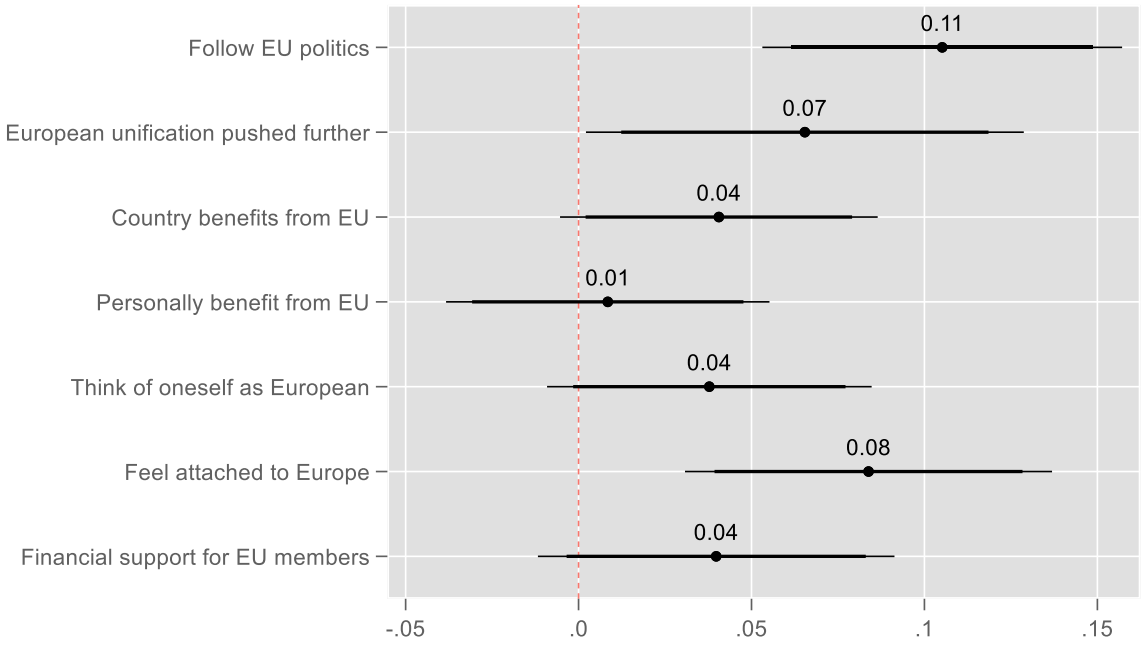
Note: Coefficients from linear regressions of orientations towards Europe/the European Union on the Russian invasion dummy. Specification follows the "full" model as shown in equation (1) in the main text but includes dummies for home university countries (rather than citizenship countries). Only EU citizens included. 95% (thin) and 90% (thick) confidence intervals shown.

Figure D2: Result with only citizens of Belgium, France, and Germany included



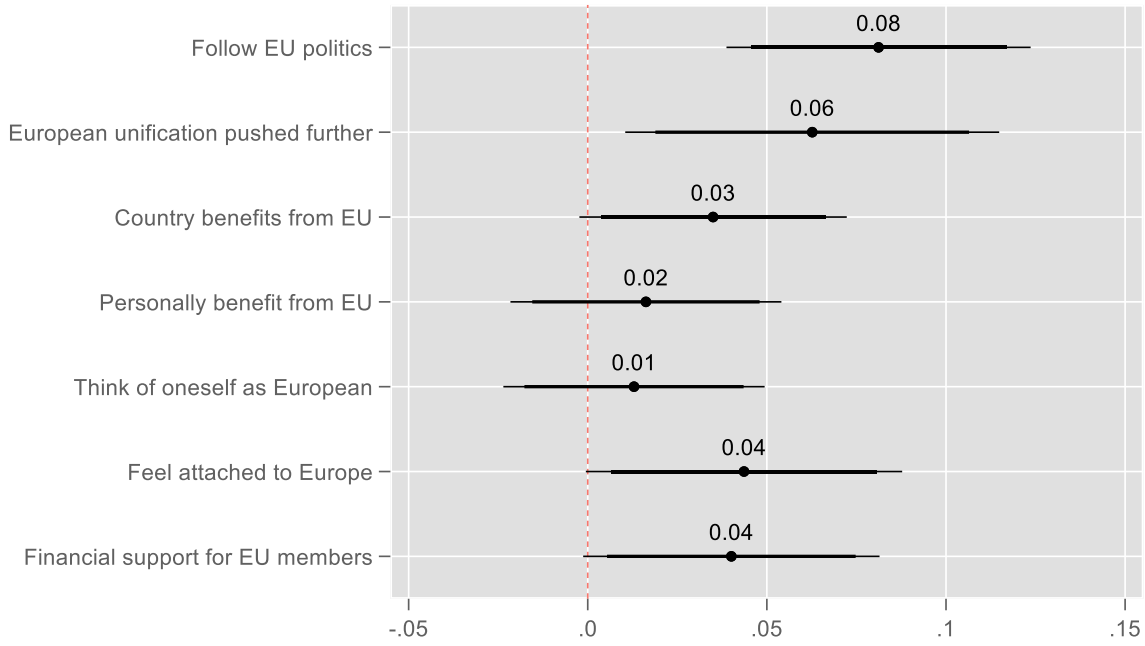
Note: Coefficients from linear regressions of orientations towards Europe/the European Union on the Russian invasion dummy. Specification follows the "full" model as shown in equation (1) in the main text, but includes only citizens of Belgium, France, and Germany. 95% (thin) and 90% (thick) confidence intervals shown.

Figure D3: Result without responses from February 24, 2022



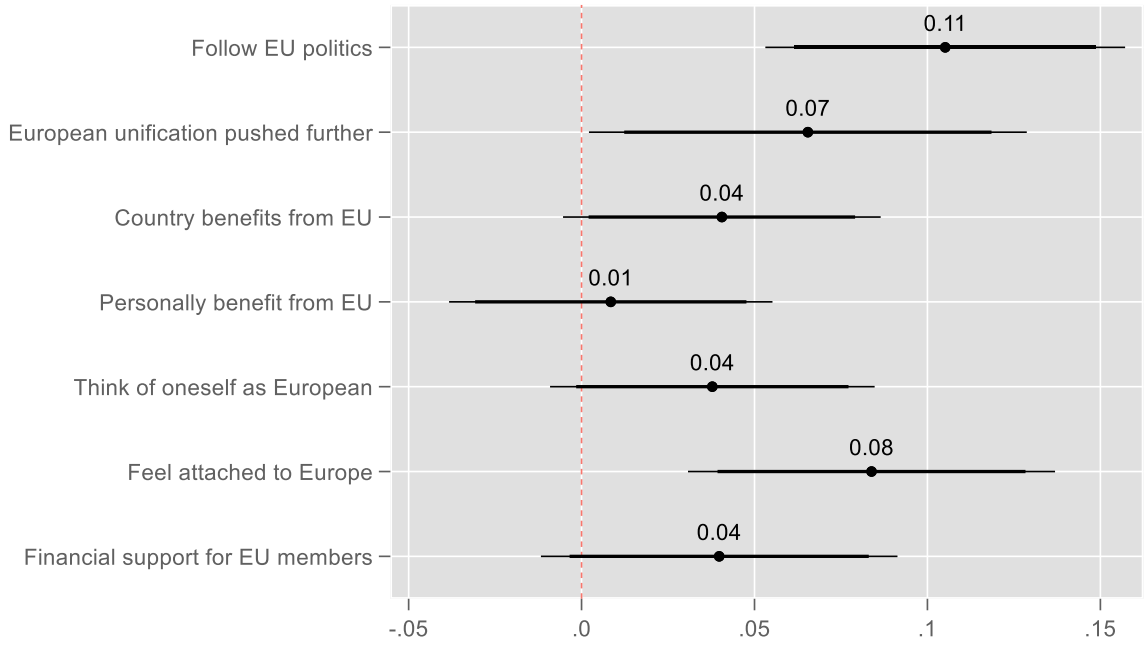
Note: Coefficients from linear regressions of orientations towards Europe/the European Union on the Russian invasion dummy. Specification follows the "full" model as shown in equation (1) in the main text but excludes respondents who took the survey on February 24, 2022—that is, at the day of Russia's invasion of Ukraine. Only EU citizens included. 95% (thin) and 90% (thick) confidence intervals shown.

Figure D4: Result with only responses from February 21 to February 26, 2022



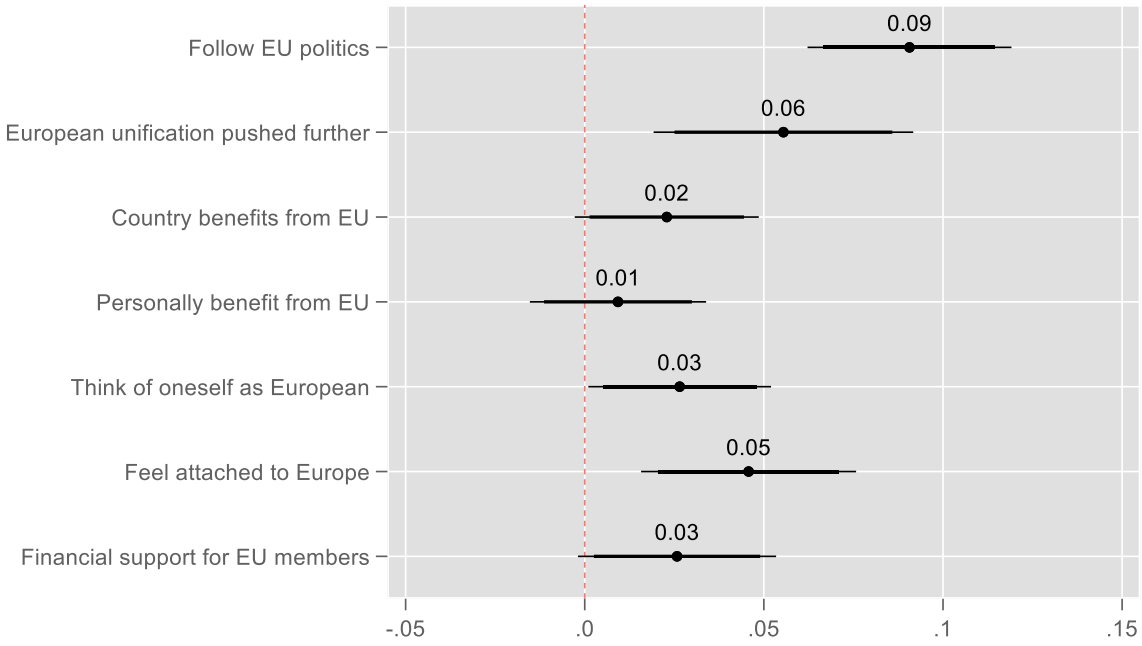
Note: Coefficients from linear regressions of orientations towards Europe/the European Union on the Russian invasion dummy. Specification follows the "full" model as shown in equation (1) in the main text but excludes respondents who took the survey later than February 26, 2022 and drops the linear trend term. Only EU citizens included. 95% (thin) and 90% (thick) confidence intervals shown.

Figure D5: Result with only responses from February 21 to February 28, 2022



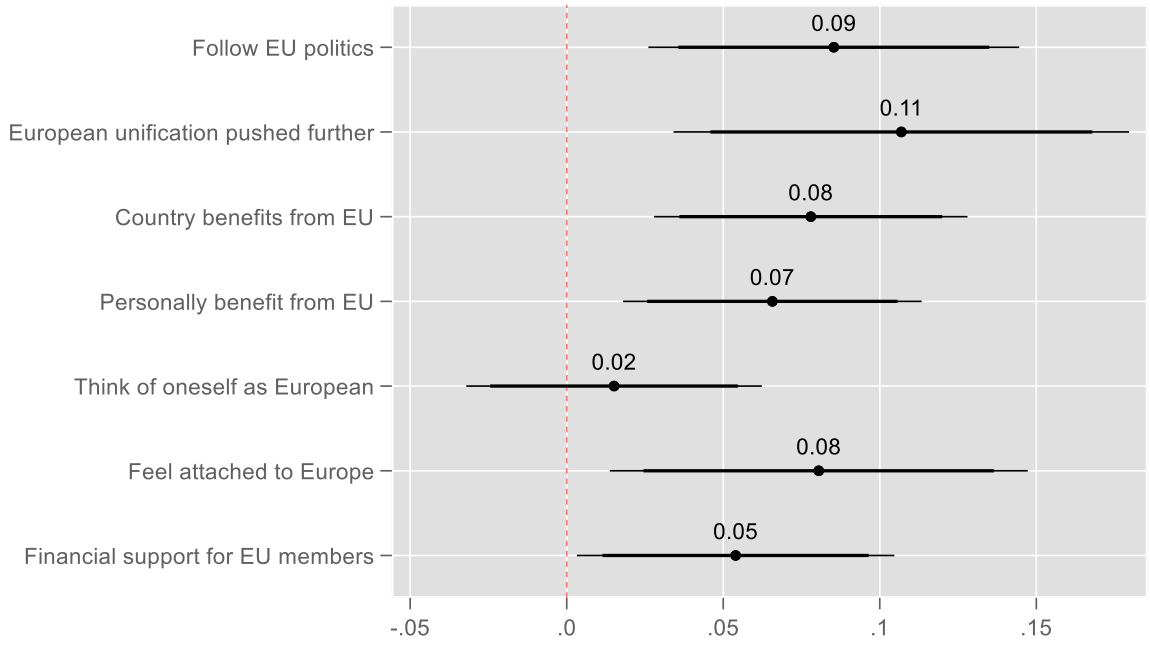
Note: Coefficients from linear regressions of orientations towards Europe/the European Union on the Russian invasion dummy. Specification follows the "full" model as shown in equation (1) in the main text but excludes respondents who took the survey later than February 28, 2022 and drops the linear trend term. Only EU citizens included. 95% (thin) and 90% (thick) confidence intervals shown.

Figure D6: Result with only responses from February 21 to March 4, 2022



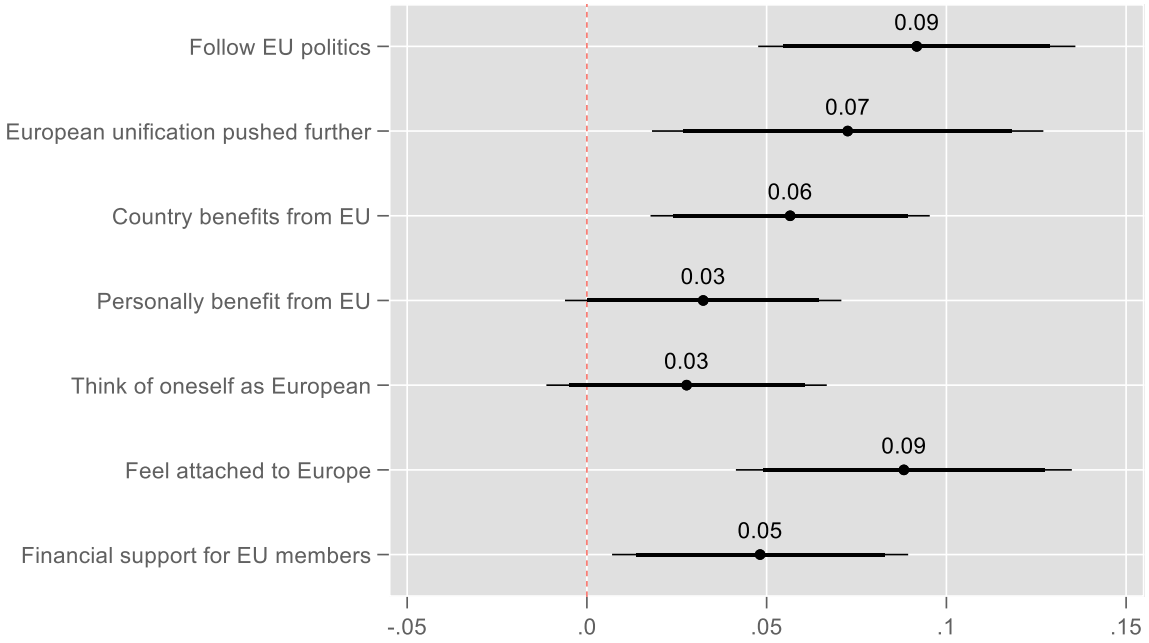
Note: Coefficients from linear regressions of orientations towards Europe/the European Union on the Russian invasion dummy. Specification follows the "full" model as shown in equation (1) in the main text but excludes respondents who took the survey later than March 4, 2022 and drops the linear trend term. Only EU citizens included. 95% (thin) and 90% (thick) confidence intervals shown.

Figure D7: Result with only responses from February 23 and February 24, 2022



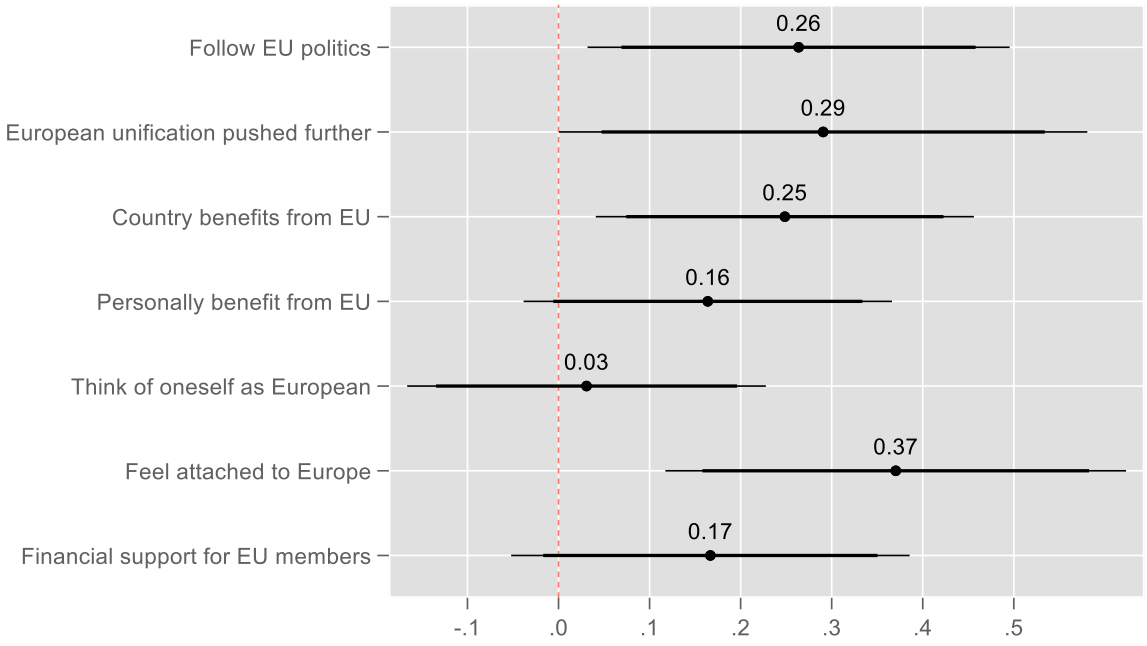
Note: Coefficients from linear regressions of orientations towards Europe/the European Union on the Russian invasion dummy. Specification follows the "full" model as shown in equation (1) in the main text but includes only respondents who took the survey the day before (February 23) and the day of/after Russia's invasion of Ukraine (February 24) and drops the linear trend term. Note that the number of observations is much lower than in the main models: It ranges from 264 ('European unification pushed further') to 352 ('Follow EU politics'). Only EU citizens included. 95% (thin) and 90% (thick) confidence intervals shown.

Figure D8: Result without responses from February 21, 2022



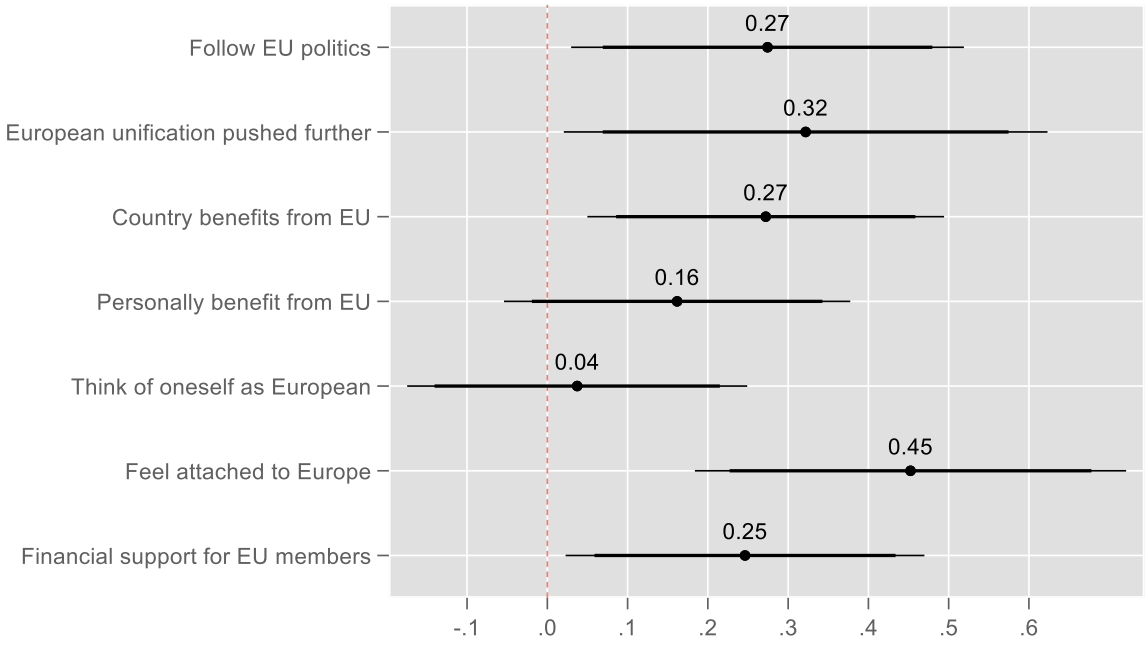
Note: Coefficients from linear regressions of orientations towards Europe/the European Union on the Russian invasion dummy. Specification follows the "full" model as shown in equation (1) in the main text but excludes respondents who took the survey on February 21, 2022—that is, the day Vladimir Putin recognized the self-proclaimed Donetsk People's Republic and Luhansk People's Republic. Only EU citizens included. 95% (thin) and 90% (thick) confidence intervals shown.

Figure D9: Result with additional quadratic trend term



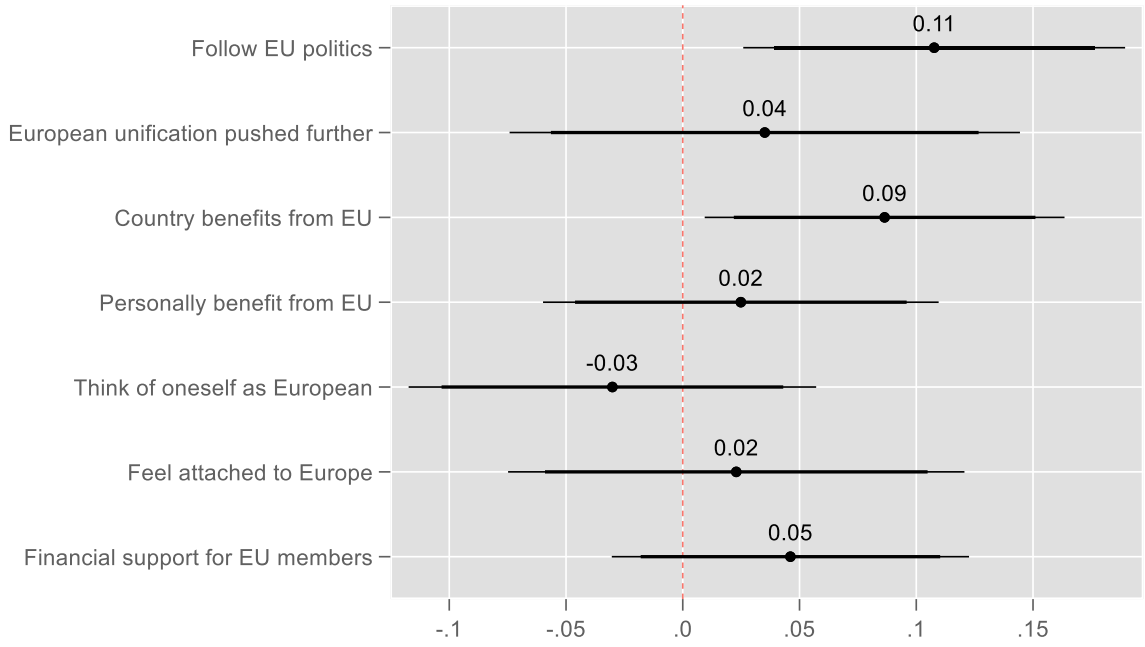
Note: Coefficients from linear regressions of orientations towards Europe/the European Union on the Russian invasion dummy. Specification follows the "full" model as shown in equation (1) in the main text but includes a squared term for the count variable for day of the interview (in addition to the linear term). Only EU citizens included. 95% (thin) and 90% (thick) confidence intervals shown.

Figure D10: Result with interaction of trend term and Russian invasion dummy



Note: Coefficients from linear regressions of orientations towards Europe/the European Union on the Russian invasion dummy. Specification follows the "full" model as shown in equation (1) in the main text but includes a modified linear trend term centered around the event (i.e., it runs from -4 to +17, taking the value of 0 on February 24). Following Muñoz et al. (2020), this trend term is interacted with the Russian invasion dummy to assess whether the change on the outcome variables occurred immediately after the event. In this model, the coefficients for the Russian invasion dummy displayed above correspond to the treatment effect on the day of/after the event (i.e., when the running trend is 0). The coefficients are imprecisely estimated, but indicate strong immediate effects of the event. In contrast, none of the interaction terms between the trend and the Russian invasion dummy are statistically significant (with $p<0.1$ or smaller). Following Muñoz et al. (2020), this indicates that the effects of the invasion did not significantly change after February 24. Only EU citizens included. 95% (thin) and 90% (thick) confidence intervals shown.

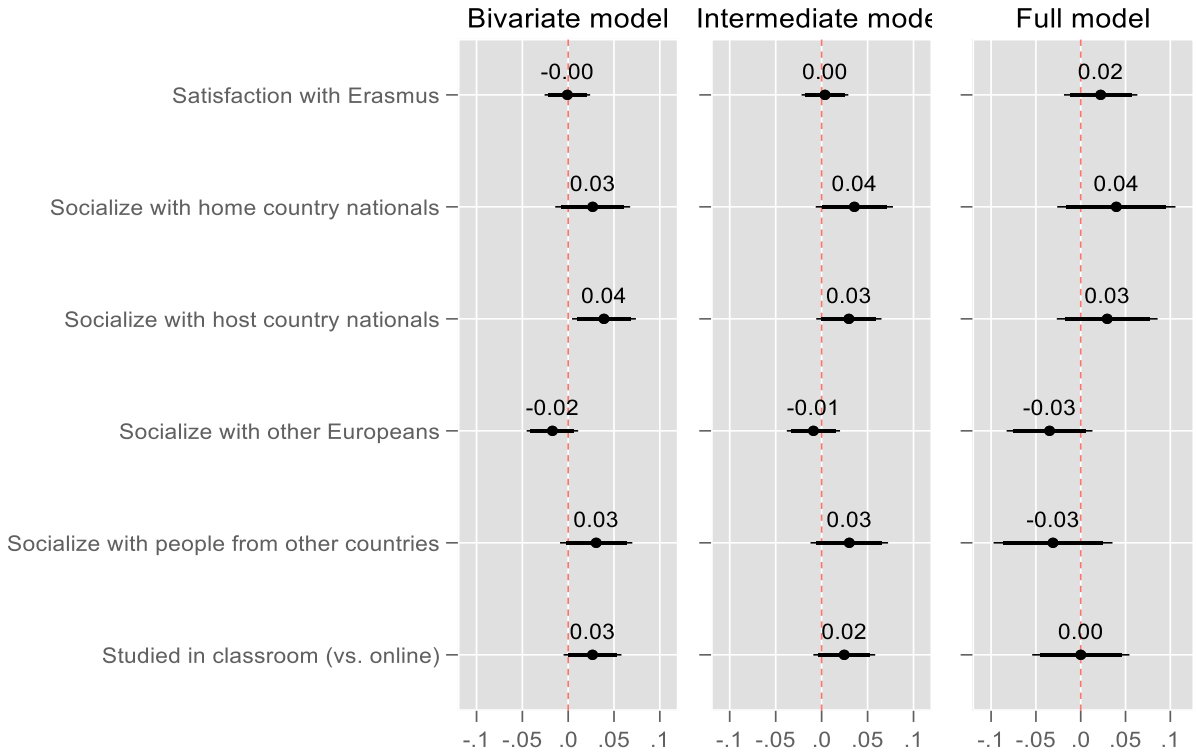
Figure D11: Result with first differences in attitudes as dependent variable



Note: Coefficients from linear regressions of orientations towards Europe/the European Union on the Russian invasion dummy. Specification follows the "full" model as shown in equation (1) in the main text. Dependent variable is the first difference in attitudes (among those who also participated in a previous round of the survey that was in the field from May 25, 2021, to June 6, 2021). Note that the number of observations is much lower than in the main models: It ranges from 214 ('European unification pushed further') to 278 ('Follow EU politics'). Only EU citizens included. 95% (thin) and 90% (thick) confidence intervals shown.

Appendix E: Results for Further Outcome Variables

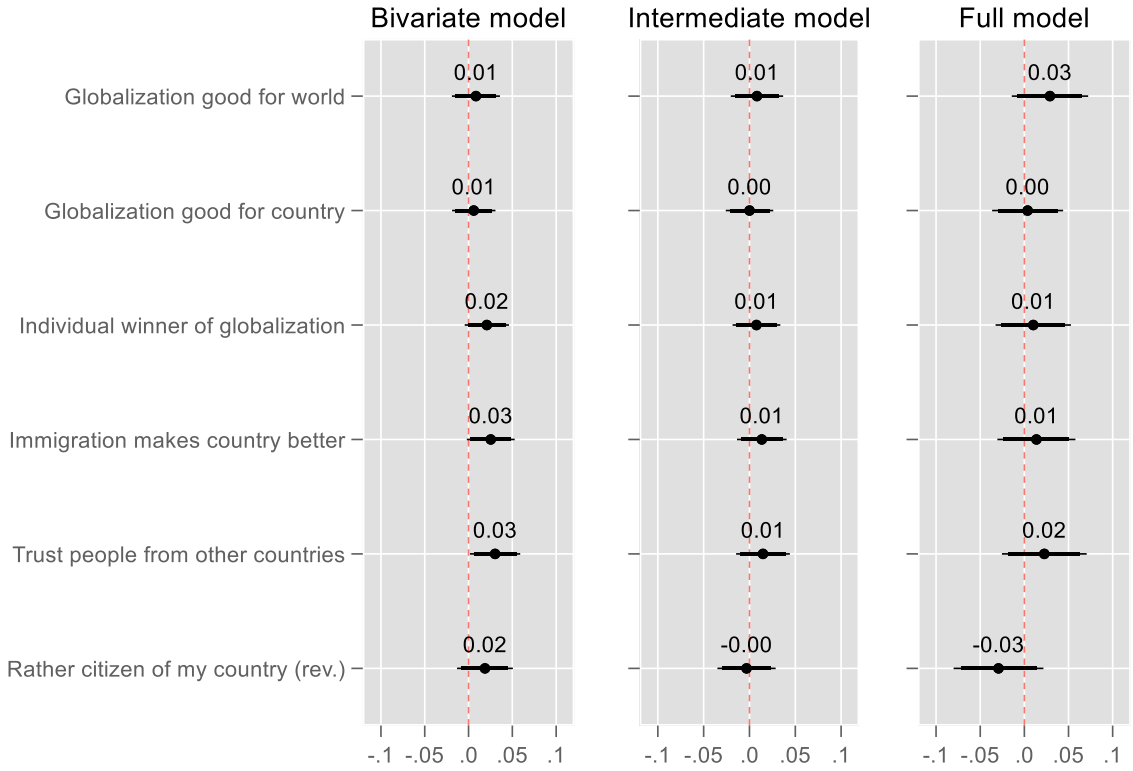
Figure E1: Results with Erasmus related variables as "placebo" outcomes



Note: Estimates of the "Ukraine invasion" effect. Coefficients from linear regressions on "placebo" outcomes, i.e., items on the past Erasmus experiences, on the Russian invasion dummy. Coefficients for the Russian invasion dummy in the left panel are from bivariate regressions containing just the dummy for having taken the survey after February 23rd, 2022. Coefficients for the Russian invasion dummy in the panel in the middle are from models additionally including gender and age and a full set of citizenship country dummies. The models in the third panel additionally include a count variable for day of the interview. Only EU citizens included. 95% (thin) and 90% (thick) confidence intervals shown. All outcome variables were measured on five-point scales and have been re-scaled to range from 0 to 1, in the direction of higher values meaning higher satisfaction/more socializing/more classroom teaching. Wording of the items:

- "How would you rate your overall satisfaction with your Erasmus stay?"
- "All things considered, globalization is a good thing for my country."
- "How much did you socialize with individuals from the following groups during your stay?"
    - "people from your home country"
    - "host country nationals"
    - "other Europeans"
    - "people from countries outside Europe"
- "During your Erasmus stay abroad, did courses predominantly take place in the classroom or in online mode?"

Figure E2: Result with other attitudinal items as outcome variables



Note: Estimates of the "Ukraine invasion" effect. Coefficients from linear regressions of "other" attitudes on the Russian invasion dummy. Coefficients for the Russian invasion dummy in the left panel are from bivariate regressions containing just the dummy for having taken the survey after February 23rd, 2022. Coefficients for the Russian invasion dummy in the panel in the middle are from models additionally including gender and age and a full set of citizenship country dummies. The models in the third panel additionally include a count variable for day of the interview. Only EU citizens included. 95% (thin) and 90% (thick) confidence intervals shown. All outcome variables were measured on five-point scales and have been re-scaled to range from 0 to 1, in the direction of higher values meaning more pro-globalization/pro immigration/more trusting/less nationalist. Wording of the items:

- "All things considered, globalization is a good thing for the world."
- "All things considered, globalization is a good thing for my country."
- "Do you see yourself as a loser or a winner of globalization?"
- "Is your country made a worse or a better place to live by people coming to live there from other countries?"
- "Would you say that most people from other countries can be trusted, or that you can't be too careful in dealing with people from other countries?"
- "I would rather be a citizen of my country than of any other country in the world." (reversed)

Appendix F: Additional Information on the Survey

Participating universities

The following universities forwarded the link to the EUSMES study to students who had just completed an Erasmus exchange in winter/spring 2022: KU Leuven (Belgium), University of Lille (France), Johannes Gutenberg University Mainz (Germany), Goethe University Frankfurt (Germany), Technical University Darmstadt (Germany), University of Bologna (Italy), Cracow University of Economics (Poland), Poznań University of Economics and Business (Poland), Adam Mickiewicz University Poznań (Poland).

Invitation Email

Dear student,

In May 2021, we —a team of researchers from various European universities—invited you to participate in our European Student Mobility Experience Survey. We are now conducting the second (and final) round of this survey. Please note that your views are important, regardless of whether you participated in the Erasmus program or not.

Your answers will be very valuable for academic research and policymaking. We would therefore be grateful if you contributed to our scientific study by completing the short survey at this link:

European Student Mobility Experience Survey

The survey is conducted in basic English. It will take less than ten minutes, and it should be completed by March 13, 2022. Of course, your answers will be treated strictly anonymously.

We will later be happy to share the results of our study with you.

Thank you for participating!

And best wishes,

The European Student Mobility Experience Survey team

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Ruxanda Berlinschi (KU Leuven, Belgium)

Etienne Farvaque (University of Lille, France)

Jan Fidrmuc (University of Lille, France)

Philipp Harms (Johannes Gutenberg University Mainz, Germany)

Alexander Mihailov (University of Reading, United Kingdom)

Michael Neugart (Technical University of Darmstadt, Germany)

Piotr Stanek (Cracow University of Economics, Poland)

Nils Steiner (Johannes Gutenberg University Mainz, Germany)