DISCUSSION PAPER SERIES

DP16186
(v. 4)

Calamities, Common Interests, Shared Identity: What Shapes Social Cohesion in Europe?

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PUBLIC ECONOMICS

CEPR

ISSN 0265-8003

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Discussion Paper DP16186
First Published 24 May 2021
This Revision 14 December 2021

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Abstract

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JEL Classification: D72, H51, H53, H55, O52, P52

Keywords: COVID-19, Europe, altruism, Reciprocity, Survey Experiment

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Acknowledgements
We thank Ralph De Haas, Simone Schüller, Wouter van der Wielen and participants of the EconPol Europe Annual Conference, the CESifo Area Conference on Public Economics, Experimental Economics Seminar at New York University, the Workshop on Perceptions and Policy Preferences and the 77th Annual Congress of the IIPF for helpful comments and suggestions. Pablo Zarate provided excellent research assistance. The views presented are those of the authors and not necessarily of the EBRD or any other institution.

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Ethics clearance: Ethics Office, King's College London, MRA-19/20-2010
Pre-registration: AEARCTR-0006164

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1 Introduction

What fosters social cohesion among European citizens? Are the material benefits of European economic integration enough to achieve this goal? Or should the promotion of common European social and cultural values play a more prominent role? These questions have long been the object of an animated and still unresolved debate among politicians and academics alike.[1] On the one hand, some believe that the strong economic ties fostered by the European Single Market bind member states together, and that, with time, economic unity will extend to other domains. On the other hand are those who believe that economic integration alone will not suffice, and that a stronger emphasis on shared values is indispensable for the emergence of a unifying European identity. According to the latter group, Brexit and the current tensions with Eastern European countries should warn that a union built around economic interests alone is bound to fail.

To shed light on these questions, we conduct a randomized survey experiment in which we examine how priming economic integration vs. common values affects trust, reciprocity and altruism towards others, measured using standard incentivized games. In addition to estimating the effect of our treatments, we also compare it with that of a major health crisis, by priming the consequences of the COVID-19 pandemic in EU countries. Our experimental design allows us to distinguish the effect on attitudes towards fellow nationals from that towards citizens of other EU countries. Furthermore, by estimating the change in attitudes towards non-EU citizens, we can also rule that our baseline effects are driven by a generic increase in solidarity.

We conducted the experiment in nine EU countries (France, Germany, Greece, Hungary, Italy, the Netherlands, Poland, Spain, and Sweden) in August 2020, i.e., after the first wave of the COVID-19 pandemic, an unprecedented health crisis that caught the European Union largely unprepared.[2] How the unequal effects of the pandemic on different member states could impact integration, is a question that triggered a vibrant debate. While some argued that the common threat of the

[1] See for example the overview articles by Eichengreen (2006) and Spolaore (2013).

[2] The survey was also fielded in two non-EU countries (Turkey and Serbia). Respondents in the two non-EU countries participated in the Trust and Dictator games so that participants in the EU countries had real fellow players in non-EU countries and there was no deception. Respondents in the two non-EU countries received different treatments and outcome questions whose analysis is not part of this paper.

pandemic would bring EU countries closer together, others warned it could put integration at risk (Buti and Papaconstantinou 2021; Bongardt and Torres 2020), and could hurt citizens' trust in EU institutions, whose response to the crisis was broadly perceived as inadequate.

The prospects and risks faced by the European project in the aftermath of the pandemic crucially depend on the cohesion between European citizens and on their attachment to the EU. By producing novel and rigorous evidence on how economic and cultural factors shape these attitudes, our project aims to contribute to this important debate.

Previous evidence on how crises affect trust, reciprocity and altruism is rather mixed. Fisman et al. (2015), for example, compare Dictator game donations before and after the Great Recession and find that donations went down. Ananyev and Guriev (2018) show that the Great Recession had a negative effect on social trust in Russia. Recent survey experiments have explored the effect of (priming) the COVID-19 crisis on various aspects of respondents' attitudes and behaviour. While Cappelen et al. (2021) find that it makes people more willing to prioritize society's interests over their own, Bartoš et al. (2021) demonstrate that it increases hostility towards foreigners. Daniele et al. (2020a) use an information provision experiment to show that pessimistic information about both the economic and health consequences of COVID-19 causally lowers solidarity with immigrants, since it reinforces the desire to restrict access to public health care to native residents.

Concerning European integration, Negri et al. (2021) find that the introduction of the Euro has fostered European identity. In terms of attitudes towards risk-sharing and redistribution in Europe, Kuhn and Kamm (2019) find that Europeans show more solidarity towards unemployed people in their own country than towards foreigners. Dolls and Wehrhöfer (2021) find low support for a common EU unemployment insurance scheme, while Beetsma et al. (2020) document substantial support among European citizens for a EU budgetary assistance instrument to combat adverse temporary or permanent economic shocks hitting member states.

In terms of identity, Yamagishi and Mifune (2008) show that dictators need to know recipients' group membership to enhance their generosity, and Chen and Li (2009) and Vázquez et al. (2017) show that sharing a sense of identity fosters altruism.[3]

[3]Other studies have documented how historical experiences of cooperation (or conflict) in the face of adversities or external threats can have a persistent impact on social preferences and social

Our paper contributes to these strands of literature by exploring several factors affecting national and European cohesion in a context where causality can be directly attributed, analyzing actions in incentivized Trust and Dictator games, and working with a representative sample of individuals from very diverse countries in Europe. It is important to note that the treatments we propose are rather mild, and simply prime and inform about certain aspects that are likely already present in respondents' minds.[4]

Hence, in the absence of other ethical ways to induce a major crisis or an identity shock, our experiment provides a clean way to estimate the causal effect of these aspects on trust, reciprocity and altruism, which arguably represents the lower bound of the true effect.

Our results can be summarized as follows. We find that invoking the COVID-19 crisis (T1) in people's minds has a positive effect on both altruism (that is, the sender's choice in the Dictator game) and reciprocity (the receiver's choice in the Trust game) towards fellow nationals, as well as on altruism towards citizens from other EU countries. Notably, there is no significant effect of T1 on reciprocity or altruism towards non-EU citizens.

The EU common values treatment (T3) significantly increases reciprocity and altruism, both towards respondents of the same country and of other EU countries. Interestingly, the effects are very similar for compatriots and other EU citizens, while there is no significant effect on altruism or reciprocity towards non-EU citizens. This pattern confirms that, indeed, the values mentioned in this treatment are perceived as common to EU citizens rather than universal.

Our EU trade relations treatment (T2) has no impact on any of the three outcomes, irrespective of whether the receiver is a fellow national, from another EU country or from a non-EU country. Finally, we find respondents' trust in others (that is, the sender's choice in the Trust game) to be unaffected by any of the treatments, with all coefficients being precisely estimated zeros.

These results suggest that EU common values positively affect cohesion among nationals and fellow EU citizens. Interestingly, and despite the initially uncoordi-

capital (Nunn and Wantchekon 2011; Guiso, Sapienza, and Zingales 2016; Gehring 2021; Buggle and Durante 2021).

[4]Other papers use similar priming techniques to investigate various aspects of the COVID-19 pandemic (see for instance Daniele et al. (2020b) and Bartoš et al. (2021)). Alesina et al. (2018) use priming to explore the effect of immigration on demand for redistribution.

nated actions taken by most EU countries to combat the pandemic – perceived as nationalistic by some observers – the COVID-19 crisis has a unifying effect, too. The null effect of our treatments on trust suggests that the effect comes from enhanced empathy towards others, and not by the expectation that they will behave better. The fact that we do not find any impact of our EU trade treatment on trust, reciprocity and altruism indicates that shared economic interests alone might not be enough to create cohesion and cooperation among EU citizens.

Finally, we examine how our treatment effects vary depending on the respondent's country of residence and its position (within the EU or our sample of countries) in terms of the respective information provided in our treatments. That is, we analyze the effects of the COVID-19 treatment separately for countries who are above EU average in terms of COVID-19 deaths and below. For the EU trade treatment, we split the sample of countries into those below and above median (among our sample of countries) in terms of export shares to other EU countries, and for the EU common values treatment we split the countries into those with above and below median EU identity (on average). Moreover, we analyze heterogeneous treatment effects depending on whether respondents are negatively affected by the pandemic in economic terms (for T1) and whether they identify as EU citizens (for T1-T3).

We find that the positive effect of our COVID-19 treatment on altruism towards other EU citizens is mainly driven by respondents who live in countries with above-EU-average COVID-19 death rates (compared to those from countries with below average death rates), by those who were economically harmed by the pandemic (compared to those who weren't), and by those who identify as EU citizens (as opposed to those who have a low level of identification with the EU). Similarly, the positive effect of the EU common values treatment on altruism towards EU citizens is more prevalent for respondents who live in countries with above median EU identity and for those who feel they are a citizen of the EU. Conversely, the positive effect of the COVID-19 (EU common values) treatment on altruism towards own nationals predominantly comes from respondents who live in countries with below-EU-average COVID-19 death rates, from those who were not affected by the pandemic in economic terms and from those who feel less like an EU citizen personally (who live in countries with below median EU identity). None of the above sample split regressions finds significant treatment effects for the EU trade

treatment.

The remainder of the paper is organized as follows. In Section 2 we present the survey and the experimental design including the Trust and the Dictator game, explain the empirical strategy and discuss our hypotheses. In Section 3 we present average treatment effects and the heterogeneity analysis. Section 4 concludes.

2 Survey Design and Empirical Strategy

2.1 Data collection and survey structure

We conducted large-scale surveys in nine EU member countries (France, Germany, Greece, Hungary, Italy, Netherlands, Poland, Spain, Sweden) and in two non-EU countries (Serbia, Turkey) in early August 2020.[5] The surveys were designed using an online platform and the survey participation links were distributed by the professional survey company Respondi.[6] The samples were aimed to be broadly representative with respect to age, gender and sub-national region and with a good spread across income classes as reported in the Gallup World Poll data. We designed the original questionnaire in English, which was then translated into the major conversational languages of each country by professional translators. To ensure the quality of translations, an independent third party with knowledge of the survey also reviewed and revised the translation as necessary.

In terms of recruitment of respondents, the professional survey company sent out survey links via email to its pool of respondents. Emails informed potential participants about the length and non-commercial nature of the survey, but they were not told about the topic. Participation was voluntary and once respondents agreed to take part in the survey they were directed to the consent page and asked some initial screening questions that ensured that the quotas for age, gender and sub-national region were met. All respondents in our sample fully completed the survey and received a baseline remuneration of about 2 Euros (in their national currency) and an extra payment, which was based on their decisions made in the

[5]The two non-EU countries were included in the experiment as this paper aims at analyzing treatment effects on behaviour towards fellow nationals and EU citizens. Thus, to distinguish them from effects on behaviour towards people in general, we decided to elicit behaviour towards non-EU citizens in addition, expecting a null effect.

[6]https://www.respondi.com/EN/

Trust and Dictator games. The average time for completion of the survey was about 20 minutes.

Our survey consisted of four blocks: (i) initial screening questions on socio-demographic characteristics; (ii) random split of respondents into four groups (three treatment groups and one control group) and information treatment; (iii) Trust and Dictator games; and (iv) other questions used for the heterogeneity analysis (such as strength of European identity, economic impact of COVID-19 on the respondent's household).[7]

We adopted common practices to enhance data quality: (i) Following other papers relying on online surveys (Prescott et al. 2016; Barrero et al. 2021), we clean our data by dropping respondents in the bottom 10% of the survey time distribution. These respondents completed the survey in half of the expected time which makes it unlikely that questions were considered carefully;[8] (ii) Throughout the survey, we randomized the answer options to prevent order bias, which might arise when all respondents view the answer options in the same order. Our final sample includes 25,720 respondents (about 2,800-3,100 participants per EU country) between 18 and 70 years of age.

2.2 Experimental design and hypotheses

After the first set of screening questions on socio-demographic characteristics, respondents in each of the nine EU member state samples were randomly assigned into three treatment groups and a control group. We designed our interventions to study to what extent information about inter-connectedness through EU trade integration and shared values in the EU affect behaviour in the Trust and Dictator games. As shown below, these treatments allude to the common economic interests in case of the EU trade treatment and to the shared identity in case of the EU common values treatment. By integrating both treatments in the same experiment, this paper investigates whether information on the level of economic integration

[7]The main questionnaire can be found here.

[8]We implemented an attention check at the end of the survey where respondents were asked whether they could recall the information presented in our treatments. We find that respondents in the bottom 10% of the survey time distribution are much less likely to recall the presented information. The correlation between the time spent on the survey and the result of the attention check (1 if respondents answered correctly, 0 otherwise) is positive and significant for the full sample, but becomes insignificant once those who completed the survey speedily are dropped. It is reassuring, however, that our results are mostly unaffected by the sample selection.

or on the agreement among EU citizens on their common values is more effective in fostering altruism, trust and reciprocity in the EU. Furthermore, we wanted to explore how our treatments compare to an information treatment on the health impact of COVID-19, i.e, a shared crisis which, however, has hit EU member states very differently.

We refer to the first sub-sample as the *COVID-19 treatment group (T1)*, to the second as the *EU Trade treatment group (T2)* and to the third as the *EU Common Values treatment group (T3)*. The fourth sub-sample is the control group. All sub-samples contain about 700-750 survey respondents per country. Respondents were asked and informed about the following facts:

1. COVID-19 treatment group (T1): Respondents were told that the COVID-19 pandemic is causing large-scale loss of life and severe human suffering. Next, they were asked whether they think that the number of confirmed COVID-19 deaths per million people in their country by July 1, 2020, was higher, lower or around the same as in the EU as a whole.

2. EU Trade treatment group (T2): Respondents were informed that exports of goods within the EU have substantially increased in recent decades as economic integration within the EU's internal market has intensified. Next, they were asked what share of exports from their country they thought went to other EU countries in 2019.

3. EU Common Values treatment group (T3): Respondents were told that according to a recent Eurobarometer survey, European citizens consider the following values as fundamental and highly representative of the European project: peace, democracy, protection of human rights and equality. They were then asked about what share of respondents across all EU countries they believed had mentioned at least one of these values as fundamental and highly representative of the European project.

After answering the respective question, respondents in all three treatment groups were told the correct answer. In particular, they were provided with information on the COVID-19 death toll per capita in their country and in the EU (T1), the export share in EU trade in their country (T2), and the share of Eurobarometer respondents across all EU countries agreeing on the most frequently mentioned

common values in the EU (T3). Respondents in the control group were asked to guess their country's population density in 2019 and were then informed of the correct number. While the question on the population density induces respondents to think about their country, we believe this effect to be negligible. It is a neutral fact unrelated to the EU that that should not influence respondents' allocations in the Trust and Dictator game.

Our experimental design is such that our interventions both make survey participants think about the topic (triggered by the introductory statements and the following question), thereby manipulating the salience of the topic, and potentially correct respondents' prior beliefs through the information provision. They are hence expected to have both a priming and an information effect (Cohn and Maréchal 2016; Haaland et al. 2021). Our design does not allow us to disentangle these two effects. We deliberately didn't prime participants in the control group about the ties in the EU through trade and common values and we didn't elicit their prior beliefs on the information provided to participants in the treatment groups. An alternative design would have been to prime also the participants in the control group, in which case it would have been possible to attribute any treatment effect to the information provision and to study heterogeneous treatment effects by prior beliefs. However, we abstained from this approach as we expect that the main effect of our interventions comes from the prime rather than the information provision. The introductory statements shown to respondents in the treatment groups before their prior beliefs are elicited already prime respondents on the respective issue. Moreover, the introductory statements are interlinked with the prior belief question. Providing respondents in the control group with the three introductory statements and eliciting their prior beliefs arguably would have been a very strong prime which we believe would have prevented us from identifying the main drivers of cohesion in the EU.

We hypothesize that the combined effect of the prime and the information provision on EU trade and EU common values increases altruism, trust and reciprocity within the EU, respectively. Both interventions emphasize the connectedness within the EU and can therefore be considered as pro-EU treatments. The effect of the COVID-19 treatment is ambiguous. It compares the national COVID-19 death toll to the EU average which suggests that its impact might differ for respondents in our sample who live in countries with a COVID-19 death toll below and above the EU

average. Moreover, the treatment effect might depend on how respondents perceived policy responses to the COVID-19 pandemic at the national and the EU-level. While in the initial phase, EU member states acted alone and there was a perceived lack of coordination within the EU, the European Council had reached a political agreement on an EU-wide recovery fund, the so-called Recovery and Resilience Facility which was part of a broader recovery instrument titled NextGenerationEU, in July 2020, one month before our survey was fielded.

We formulate the following hypotheses: To the extent that the COVID-19 treatment triggers empathy towards others, it has a positive effect on altruism towards EU citizens for respondents who live in countries with a COVID-19 death toll below the EU-average. We hypothesize further that trust towards fellow citizens depends on whether the health impact of COVID-19 is perceived as pure luck (fate) or as a result of own good (bad) behaviour. In the former case, we expect a null effect. In the latter case, we expect a positive (negative) effect in countries with a COVID-19 death toll below (above) the EU-average.

2.3 Outcome measures for trust, reciprocity, and altruism

After providing respondents with the respective information treatments described above, the survey continued with the Trust and Dictator game, which were played in random order.

Each game was played among two players (Player A and Player B), and participants were informed that for the determination of the pay-out relevant game they would be randomly matched with another survey respondent who could either be from their own country, from another EU country or from a non-EU country.[9] They had to take decisions both as Player A and Player B in the Trust game and as Player A in the Dictator game, and for each of the three possible matches (fellow player from own country / another EU country / non-EU country), respectively. This means all respondents made all choices, i.e., they played both games, both as Player A and Player B, and made selections for each of the three possible matches which were randomized as well. Respondents were not informed if they were actually

[9]Correspondingly, respondents in the two non-EU countries were informed that they would be randomly matched with another survey respondent who could either be from their own country, from an EU member state or from another non-EU country.

matched with a person from their own country, from another EU country or from a non-EU country.[10]

Respondents were also told that - depending on their own decisions and those of their counterpart in the game - they could earn points (that is, remuneration) determined by the points they earned in the selected game. That is, they were informed that only one of the selections in one of the games would be randomly chosen to be pay-out relevant, but they were told that they should make all the decisions as if they were pay-out relevant for themselves and their fellow player. After the survey was completed in all countries, we randomly matched participants in pairs[11], randomly decided which one is Player A and which one is Player B and randomly decided which of the two games would be chosen for the pay-out. This process determined the pay-out from the relevant game for each respondent.[12]

In both games, players took decisions, which determined the allocation of points between themselves and their counterpart. In the Trust game, Player A had to decide between two options:

1. Option A1: By choosing this option, Player A allocated 50 points to themselves and 50 points to Player B.

2. Option A2: This option handed over the decision to Player B, who received 200 points and could decide how many points to keep for themselves, and how many points to allocate to Player A. Player B had to keep a minimum of 50 points for themselves so that any number between 0 and 150 points could be allocated to Player A. By choosing this option, Player A could potentially increase their own payoff, but only if they trusted in Player B to return more than 50 points to them.

[10]To avoid stereotypes affecting respondents' selections in the two games, we also did not inform them which EU or non-EU countries their fellow player could potentially come from.

[11]Matched pairs are either "respondent's country - respondent's country", "respondent's country - another EU country", or "respondent's country - non-EU country".

[12]Respondents were paid in their local currency and they knew the exchange rate between the points earned in the selected game and their local currency before making decisions. For example, in the euro-area countries, participants were informed that 100 points correspond to 1 EUR. The average pay-out in our sample amounts to 0.85 EUR. This is not a large amount (though it is almost half of the baseline remuneration of 2 EUR participants got for completing the survey). Camerer and Hogarth (1999) show that financial incentives in experiments like ours reduce generosity and risk-seeking which should be taken into account when interpreting average allocations made in the Trust and Dictator game.

All respondents were also asked to make selections as Player B in the Trust game for the case that Player A would choose option A2. In the Dictator game, Player A got 200 points and decided how much to keep for themselves and how much to allocate to Player B. Player B did not make any active decisions in this game. Player A could theoretically keep all the points for themselves. Our main outcome variables are defined as follows:

Trust: We consider the choice of option A2 by Player A as a sign of *trust* towards their counterpart. Our outcome variable for trust takes a value of 1 if the Player A chose option A2 and zero otherwise.

Reciprocity: We consider Player B's decision as *reciprocal* if they returned more than 50 points to Player A. Our outcome variable for reciprocity ranges between 0 to 150 points.

Altruism: Any positive amount of points that Player A allocated to Player B in the Dictator game is interpreted as a sign of *altruism*, with the degree of altruism increasing with the number of points. Our outcome variable for altruism ranges between 0 to 200.

2.4 Initial beliefs

Before informing respondents about the COVID-19 death toll (T1), their country's export share in EU trade (T2) and the agreement among European citizens on shared values in the EU (T3), we elicited their prior beliefs about these numbers. This was done to strengthen the prime and hence to increase the treatment effect. If people are asked about an issue first and have to guess a number, it can generally be expected that they think *more* about said issue than if they are simply presented with information. We designed comparable initial belief questions in the EU trade and the EU common values treatment group asking respondents to provide a percentage, respectively. This common framing of the initial belief questions facilitates comparability and helps us pinpoint whether our treatments were (predominantly) "positive" or "negative" (depending on how beliefs were corrected on average).[13] Appendix Table A1 reveals that both in the EU trade (66%) and the EU common values treatment group (52%), the majority of respondents underestimate the correct

[13]We define a correct answer as not deviating more than +/- 5 percentage points from the correct value.

values. A fifth (T2) and roughly a quarter (T3) of respondents overestimate the correct values and only relatively few respondents provide correct answers.

In the COVID-19 treatment group, we elicited initial beliefs using a categorical question (COVID-19 death toll per capita by July 1, 2020, in respondent's country higher/lower/around the same as the EU average). This was done in order to emphasize that COVID-19 had hit some EU member states harder than others. Table A1 shows that 13% (31%) of respondents wrongly believe that the per capita COVID-19 death toll in their country was higher (lower) than in the EU. 47% of respondents answer the question correctly. When comparing initial beliefs across treatments, it should be taken into account, however, that it's easier to answer a categorical question than a continuous one.

As initial beliefs for T2 and T3 were below the truth for the majority of respondents, the average treatment effects can be regarded as displaying the results of (on average) an upwards correction concerning beliefs about the importance of the EU internal market for respondents' country and the share of European citizens who agree on the most important common values in the EU. It can thus be argued that treatments T2 and T3 were on average "positive" (pro EU) treatments. On the other hand, T1 was certainly not a generally positive or optimistic treatment - in fact it was probably rather pessimistic on average, irrespective of where countries stood in terms of COVID-19 impact compared to the rest of the EU, because it put the COVID-19 pandemic with all its ensuing problems front and centre in respondents' minds.

2.5 Empirical Strategy

We use OLS models to estimate the average treatment effects for ease of interpretation, though logit regression models return similar patterns. Our models take the following form:

$$Y_i = \beta T_i + \gamma X_i + \mu_c + \varsigma_t + \epsilon_i \tag{1}$$

where Y_i measures the allocations made by respondents in the Trust and Dictator game. The treatment dummies T_i capture the effect of the randomized interventions presented above. Given that the information treatments are random-

ized and therefore independent of all other relevant variables, their effects can be interpreted in a causal manner.

X_i is a vector of control variables that includes age, gender, marital status, education, equivalized household gross income in February and July 2020 (to account for changes in household income after the outbreak of the pandemic), total number of children and adults younger/older than 65 in the household, as well as the time to complete survey. In all models, we include country fixed effects, μ_c, (to control for time-invariant variation in the outcome variables caused by factors that vary across countries) and date fixed effects, ς_t, (to capture the impact of country-level shocks that affect all countries simultaneously). We report p-values adjusted for multiple hypothesis testing using a method recently developed by Barsbai et al. (2020).

3 Results

This section first presents average treatment effects of the COVID-19 treatment (T1), the EU trade treatment (T2), and the EU common values treatment (T3) on interpersonal trust, reciprocity and altruism while heterogeneous treatment effects are presented in Section 3.2.

3.1 Average treatment effects

We present average treatment effects on our main outcomes (trust, reciprocity and altruism) as well as mean values of the outcome variable in the control group in Table 1 separately for whether the fellow player was from the respondents' own country, another EU country or a non-EU country.[14] When it comes to trust, we find that none of our treatments has a significant effect on the selections made by respondents as Player A in the Trust game on average.[15] Looking at reciprocity, we find that both the COVID-19 treatment (T1) and the EU common values treatment (T3) lead to more reciprocal behaviour if respondents assume the fellow player to be from their own country. In this case, respondents in T1 and T3 send on average 2 points more to Player A compared to respondents in the control group. The treatment effect corresponds to roughly 2% of the average number of points respondents in the

[14]Appendix Tables A2–A4 provide summary statistics for the selections made in the Trust game and the Dictator game.

[15]Table A5 in the Appendix reveals that logit regressions yield the same result.

control group send back to Player A. Moreover, we find a positive albeit somewhat smaller and less significant treatment effect for T3 if the fellow player is from another EU country. There is no effect of any treatment on reciprocity if the fellow player is from a non-EU country.

Furthermore, we find that both the COVID-19 treatment (T1) and the EU common values treatment (T3) significantly increase respondents' altruism if they make their selection under the assumption that their fellow player is a citizen of their own country or a citizen of another EU member state. On average, these treatment effects amount to 2-3 points which corresponds to 2-3% of the average number of points respondents in the control group send to their fellow players. Again, none of our treatments significantly affects altruism towards players from non-EU countries.

The EU trade treatment (T2) does not lead to significant differences in behaviour compared to the control group, neither for reciprocity nor for altruism.

These results partly confirm our hypotheses with regard to the EU common values treatment (T3), but do not lend support to our hypotheses concerning the EU trade treatment (T2). Priming common EU values and informing about the level of agreement among EU citizens on these common values raises altruism and reciprocity towards fellow nationals and EU citizens, but not towards non-EU citizens. Both the COVID-19 and the EU common values treatment hence magnify differences in mean outcomes across the three possible matches that are already present in the control group. The null effect on trust suggests that our treatments do not affect preferences of the sender or her beliefs about the trustworthiness of the fellow player (Sapienza, Toldra-Simats, and Zingales 2013). It might also be that the binary nature of the decision situation of Player A in the Trust game which is not as fine-grained as the other two decisions contributes to the null finding. Our hypotheses concerning the COVID-19 treatment (T1) are tested in the heterogeneity analysis presented in the next section.

Table 1: Average treatment effects: Trust, Reciprocity, Altruism

	Outcome: Trust			Outcome: Reciprocity			Outcome: Altruism		
	Own country	EU	Non EU	Own country	EU	Non EU	Own country	EU	Non EU
T1: COVID-19	0.0001	-0.0015	0.0044	2.1092***	1.0493	1.2906	2.9509***	2.8748***	1.7872
Unadjusted p-value	(0.9920)	(0.8567)	(0.6163)	(0.0007)	(0.0860)	(0.0427)	(0.0003)	(0.0003)	(0.0350)
Adjusted p-value	(0.9920)	(0.9747)	(0.9270)	(0.0023)	(0.2660)	(0.1710)	(0.0003)	(0.0003)	(0.1683)
T2: EU Trade	-0.0051	0.0026	-0.0104	1.1322	0.1534	-0.0375	-0.2840	0.3450	-1.5170
Unadjusted p-value	(0.5490)	(0.7640)	(0.2347)	(0.0593)	(0.7887)	(0.9553)	(0.7420)	(0.6797)	(0.0733)
Adjusted p-value	(0.9857)	(0.9820)	(0.7793)	(0.3510)	(0.9420)	(0.9553)	(0.9953)	(0.9947)	(0.3890)
T3: EU Common values	0.0010	0.0035	-0.0004	2.2218***	1.4039*	0.7964	2.2798**	2.5925**	1.0211
Unadjusted p-value	(0.9087)	(0.6787)	(0.9680)	(0.0003)	(0.0177)	(0.1840)	(0.0050)	(0.0020)	(0.2123)
Adjusted p-value	(0.9890)	(0.9487)	(0.9680)	(0.0003)	(0.0883)	(0.5940)	(0.0283)	(0.0127)	(0.5590)
Observations	25720	25720	25720	25720	25720	25720	25720	25720	25720
Outcome mean (in control):	0.409	0.408	0.406	85.142	84.788	83.877	103.567	99.552	97.794

Notes: OLS model. Outcome mean (in control group): Share of respondents choosing option A2 in the Trust game (Outcome: Trust), Number of points returned as Player B to Player A in the Trust game (Outcome: Reciprocity), Number of points sent as Player A to Player B in the Dictator game (Outcome: Altruism). Controls: age, gender, marital status, education level, equivalized household gross income in February/July 2020, time to complete survey, total number of children and adults younger/older than 65 in the household, in addition to country and date fixed effects. Unadjusted and adjusted p-values in parentheses. The adjusted p-values account for multiple hypothesis testing according to Barsbai et al. (2020), stars represent significance levels according to adjusted p-values, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

3.2 Heterogeneity analysis

Each of our treatments addresses an issue that might affect respondents differently depending on their country's position concerning the respective issue. This is most apparent for the COVID-19 treatment (T1), where we inform respondents whether their country is above or below EU average in terms of COVID-19 deaths. A natural question that arises in connection with the COVID-19 treatment is therefore whether respondents from above-EU-average countries react differently to the treatment compared to those from below-EU average countries. We thus examine its effect on trust, reciprocity and altruism separately for those two country groups.[16]

Concerning the EU trade (T2) and the EU common values (T3) treatment, it seems likely that respondents' reactions might vary depending on their countries' export share to other EU countries (and hence the degree their country relies on

[16]We estimate split sample regressions instead of interactions since they allow us to correct for multiple hypothesis testing according to Barsbai et al. (2020).

and benefits from the EU internal market) and citizens' attitudes towards the EU in their country, respectively. We thus examine the impact of the EU trade treatment separately for countries with below and above median (among our sample of countries) export shares to other EU countries. For the EU common values treatment, we split the countries into those with above and below median EU identity. This measure is based on a variable we elicited in our survey, asking respondents to what degree they identify as EU citizens.[17] We calculate the average degree of identification with the EU for each country and then split our sample of countries along the median.

Table 2 presents the results from OLS regressions for the above defined sample splits. Also for these sample splits, there is no effect of any of the three treatments on trust, and no effect of the EU trade treatment on any outcome. The EU common values treatment raises reciprocity towards own nationals similarly for respondents in countries with high and low average EU identity, but the effect on altruism towards other EU citizens is (marginally) significant only in countries with high average EU identity. The effect of the COVID-19 treatment on reciprocity towards own nationals and altruism towards other EU citizens seems to be more prevalent among respondents from countries with above-EU-average COVID-19 death rates, while altruism towards own nationals increases predominantly in countries with below-EU-average death rates.

These results do not support our hypothesis of a stronger effect of the COVID-19 treatment on altruism towards EU citizens among respondents living in countries with COVID-19 deaths below the EU average. In contrast, they suggest a larger unifying effect among respondents living in countries severely affected by the COVID-19 pandemic, which might be explained by a perceived solidarity with their situation from fellow Europeans. One interpretation of the insignificant effect on trust in both country groups is that respondents might consider the more (less) dramatic health impact in their country relative to the EU average mostly as fate (luck) rather than the result of own reckless (virtuous) behaviour.

In addition to the country-level sample splits, we exploit a question in our survey asking respondents how much the COVID-19 pandemic economically af-

[17] As we elicit respondents' EU identity only *after* our treatments, this variable could theoretically be affected by them. Using it for heterogeneity analysis could thus pose endogeneity problems. However, as Table A6 shows, EU identity does not seem to be significantly affected by any of our treatments. We thus consider its inclusion in our heterogeneity analysis as valid.

fected their household in comparison with the situation in February 2020 (i.e. pre-pandemic). We split the sample into a group of respondents who report that they were negatively affected in economic terms (a great deal, a fair amount, just a little) and a group of respondents who were not affected by the pandemic. Table 3 shows that for respondents who were negatively affected by the pandemic in economic terms, the COVID-19 treatment increases altruism towards fellow EU citizens (and reciprocity towards everybody, irrespective of nationality). On the other hand, the increase in altruism towards fellow nationals in the overall sample seems to be driven mainly by respondents who were not economically harmed by the pandemic. These results further support our conjecture that policy responses at the EU-level such as the agreement on a stimulus package in July 2020 to cushion the adverse economic impact of the COVID-19 pandemic and to boost the recovery in Europe have been perceived as a sign of solidarity by those who suffer most from the pandemic.

Since all our treatments might have a differential effect depending on whether or not respondents identify as EU citizens, we also estimate treatment effects for sample splits according to EU identity (on an individual level).[18] For both the COVID-19 (T1) and the EU common values (T3) treatment, the increase in altruism towards fellow EU citizens is more prevalent for respondents who identify as EU citizens. Conversely, T1's positive effect on altruism towards fellow nationals is (marginally) significant only for respondents who don't identify as EU citizens. These respondents also react to both the COVID-19 and the EU common values treatment by displaying higher reciprocity towards own nationals. Thus, while both treatments increase altruism and reciprocity, they strengthen social cohesion *within the EU* predominantly for respondents who identify as EU citizens, while reinforcing *national* cohesion for respondents who don't.

Finally, we conduct a heterogeneity analysis with respect to standard socio-demographics such as age, gender, income or education, but do not find any treatment effect heterogeneity (results available upon request).

[18]Table 2 reports the EU common values (T3) treatment effect separately for countries with high and low average EU identity. We use the same variable for the sample split here, but we split respondents into high and low EU identity on an individual level, irrespective of their home country. The variable ranges from 0 (respondents do not identify as EU citizens) to 10 (respondents completely identify as EU citizens) and we classify respondents with values from 0 to 5 as "not EU citizen" and those with values higher than 5 as "EU citizen". The results from this individual level split for T3 can be regarded as complementary to the country level split sample effects reported in Table 2.

Table 2: Sample split regressions

	Outcome: Trust			Outcome: Reciprocity			Outcome: Altruism		
	Own Country	EU	Non EU	Own Country	EU	Non EU	Own Country	EU	Non EU
T1: COVID-19									
Above EU average COVID-19 deaths ($N = 7,220$)	-0.0077	-0.0055	-0.0039	2.7229***	1.4686	0.6008	2.5909	3.0951**	1.0706
Unadjusted p-value	(0.5033)	(0.6333)	(0.7253)	(0.0003)	(0.0637)	(0.4927)	(0.0247)	(0.0057)	(0.3367)
Adjusted p-value	(0.8287)	(0.8400)	(0.7253)	(0.0003)	(0.2843)	(0.9073)	(0.1397)	(0.0397)	(0.8323)
Below EU average COVID-19 deaths ($N = 5,679$)	0.0098	0.0031	0.0157	1.3085	0.4979	2.1734	3.3860**	2.6869	2.8021
Unadjusted p-value	(0.4630)	(0.8200)	(0.2297)	(0.1640)	(0.5927)	(0.0197)	(0.0060)	(0.0177)	(0.0243)
Adjusted p-value	(0.8217)	(0.8200)	(0.5840)	(0.5127)	(0.8243)	(0.1090)	(0.0443)	(0.1110)	(0.1217)
T2: EU Trade									
Above median export ($N = 5,727$)	-0.0039	0.0150	0.0094	1.7924	0.9294	0.0251	0.0261	1.2990	-0.5178
Unadjusted p-value	(0.7693)	(0.2543)	(0.4780)	(0.0430)	(0.2980)	(0.9810)	(0.9820)	(0.2757)	(0.6813)
Adjusted p-value	(0.9853)	(0.8410)	(0.9453)	(0.2673)	(0.8340)	(0.9993)	(0.9820)	(0.8343)	(0.9840)
Below median export ($N = 7,013$)	-0.0064	-0.0072	-0.0267	0.5907	-0.4388	-0.0670	-0.6362	-0.5072	-2.3013
Unadjusted p-value	(0.5860)	(0.5383)	(0.0190)	(0.4663)	(0.5830)	(0.9390)	(0.5687)	(0.6467)	(0.0450)
Adjusted p-value	(0.9317)	(0.9833)	(0.1297)	(0.9753)	(0.9677)	(0.9390)	(0.9797)	(0.8690)	(0.2490)
T3: EU Common values									
Above median EU identity (Own variable) ($N = 5,807$)	-0.0063	0.0008	0.0062	2.1655*	2.0677	1.1507	1.8090	2.7627*	0.9531
Unadjusted p-value	(0.6067)	(0.9457)	(0.6370)	(0.0113)	(0.0187)	(0.1963)	(0.1183)	(0.0137)	(0.4260)
Adjusted p-value	(0.9197)	(0.9457)	(0.8520)	(0.0810)	(0.1083)	(0.6137)	(0.4663)	(0.0873)	(0.8557)
Below median EU identity (Own variable) ($N = 7,048$)	0.0064	0.0049	-0.0065	2.3131**	0.8914	0.4999	2.7431*	2.5280	1.2118
Unadjusted p-value	(0.5863)	(0.6613)	(0.5700)	(0.0050)	(0.2667)	(0.5507)	(0.0130)	(0.0237)	(0.2843)
Adjusted p-value	(0.8027)	(0.6613)	(0.8903)	(0.0373)	(0.7893)	(0.9450)	(0.0847)	(0.1317)	(0.7677)

Notes: OLS model, controls: age, gender, marital status, education level, equivalized household gross income in February/July 2020, time to complete survey, total number of children and adults younger/older than 65 in the household, in addition to country and date fixed effects. Unadjusted and adjusted p-values in parentheses. The adjusted p-values account for multiple hypothesis testing according to Barsbai et al. (2020), stars represent significance levels according to adjusted p-values, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: Sample split regressions for Treatment 1: COVID-19

	Outcome: Trust			Outcome: Reciprocity			Outcome: Altruism		
	Own Country	EU	Non EU	Own Country	EU	Non EU	Own Country	EU	Non EU
Negatively affected in economic terms ($N = 6,147$)	0.0082	0.0087	0.0081	2.8556***	2.6331**	2.4066**	2.4218	3.5591***	2.4370
Unadjusted p-value	(0.4917)	(0.4737)	(0.5060)	(0.0003)	(0.0023)	(0.0050)	(0.0363)	(0.0013)	(0.0337)
Adjusted p-value	(0.7043)	(0.8007)	(0.5060)	(0.0003)	(0.0127)	(0.0257)	(0.1257)	(0.0073)	(0.1410)
Rest of respondents ($N = 6,752$)	-0.0086	-0.0132	-0.0005	1.2370	-0.6705	-0.0035	3.6119**	2.2141	1.1138
Unadjusted p-value	(0.4947)	(0.2950)	(0.9673)	(0.1597)	(0.4273)	(0.9970)	(0.0017)	(0.0493)	(0.3460)
Adjusted p-value	(0.8503)	(0.8133)	(0.9993)	(0.6133)	(0.8567)	(0.9970)	(0.0100)	(0.2690)	(0.8357)

Notes: OLS model, controls: age, gender, marital status, education level, equivalized household gross income in February/July 2020, time to complete survey, total number of children and adults younger/older than 65 in the household, in addition to country and date fixed effects. Unadjusted and adjusted p-values in parentheses. The adjusted p-values account for multiple hypothesis testing according to Barsbai et al. (2020), stars represent significance levels according to adjusted p-values, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: Sample split regressions, based on EU citizen feelings

	Outcome: Trust			Outcome: Reciprocity			Outcome: Altruism		
	Own Country	EU	Non EU	Own Country	EU	Non EU	Own Country	EU	Non EU
T1: COVID-19									
Not EU citizen ($N = 6,597$)	0.0003	-0.0059	0.0177	2.1878*	1.0122	0.4406	3.2071*	2.7332	1.7068
Unadjusted p-value	(0.9780)	(0.6360)	(0.1477)	(0.0083)	(0.2483)	(0.6207)	(0.0080)	(0.0183)	(0.1473)
Adjusted p-value	(0.9780)	(0.8487)	(0.4863)	(0.0527)	(0.6290)	(0.9377)	(0.0560)	(0.1013)	(0.5553)
EU citizen ($N = 6,302$)	-0.0006	0.0024	-0.0089	1.9425	1.0298	2.0983*	2.7294	3.0883**	1.7604
Unadjusted p-value	(0.9570)	(0.8443)	(0.4537)	(0.0233)	(0.2340)	(0.0147)	(0.0193)	(0.0063)	(0.1297)
Adjusted p-value	(0.9570)	(0.9697)	(0.7837)	(0.1173)	(0.5900)	(0.0937)	(0.1117)	(0.0460)	(0.4493)
T2: EU Trade									
Not EU citizen ($N = 6,525$)	0.0009	0.0022	-0.0012	1.3560	0.3278	-1.5725	-0.4642	0.5208	-1.5277
Unadjusted p-value	(0.9370)	(0.8543)	(0.9130)	(0.1170)	(0.7040)	(0.0717)	(0.6850)	(0.6317)	(0.2013)
Adjusted p-value	(0.9370)	(0.9960)	(0.9910)	(0.5410)	(0.9873)	(0.3973)	(0.9950)	(0.9957)	(0.7043)
EU citizen ($N = 6,215$)	-0.0109	0.0037	-0.0185	0.9275	0.0396	1.5878	-0.0860	0.1281	-1.5526
Unadjusted p-value	(0.3813)	(0.7647)	(0.1293)	(0.2817)	(0.9660)	(0.0680)	(0.9403)	(0.9083)	(0.1763)
Adjusted p-value	(0.8793)	(0.9967)	(0.5680)	(0.8010)	(0.9660)	(0.3907)	(0.9967)	(1.0000)	(0.6400)
T3: EU Common values									
Not EU citizen ($N = 6,495$)	-0.0009	0.0001	0.0035	2.6108**	1.6232	0.0752	2.2637	2.3133	0.4150
Unadjusted p-value	(0.9457)	(0.9920)	(0.7583)	(0.0020)	(0.0543)	(0.9287)	(0.0583)	(0.0483)	(0.7103)
Adjusted p-value	(0.9963)	(0.9920)	(0.9953)	(0.0137)	(0.2813)	(1.0000)	(0.2640)	(0.2753)	(0.9980)
EU citizen ($N = 6,360$)	-0.0000	0.0053	-0.0061	1.7530	1.0771	1.4650	2.1751	2.7885*	1.4275
Unadjusted p-value	(0.9977)	(0.6547)	(0.6297)	(0.0280)	(0.1937)	(0.0833)	(0.0547)	(0.0100)	(0.2043)
Adjusted p-value	(0.9977)	(0.8557)	(0.9233)	(0.1723)	(0.6017)	(0.3513)	(0.2763)	(0.0740)	(0.5390)

Notes: OLS model, controls: age, gender, marital status, education level, equivalized household gross income in February/July 2020, time to complete survey, total number of children and adults younger/older than 65 in the household, in addition to country and date fixed effects. Unadjusted and adjusted p-values in parentheses. The adjusted p-values account for multiple hypothesis testing according to Barsbai et al. (2020), stars represent significance levels according to adjusted p-values, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

3.3 Robustness checks

Average treatment effects without controls: Tables A7–A10 in the Appendix show that all our results hold when excluding covariates.

Balancing tests: The main identifying assumption of our analysis is that the randomization of our information treatments worked properly. Therefore, we compute differences in mean values of key socio-demographic characteristics as well as the

mean time to complete the survey between the three treatment groups and the control group, respectively,[19] and test for their statistical significance. As can be seen in Table A12 in the Appendix, most of the differences are insignificant or only weakly significant suggesting that the randomization worked well. Respondents in the EU trade treatment group (T2) completed the survey somewhat faster than respondents in the control group. However, time differences are small which suggests that our information treatments do not differ in their complexity.

4 Concluding Remarks

Social cohesion in Europe and the willingness of EU member states to cooperate to a large extent depend on social preferences of its citizens such as altruism, reciprocity and social trust. Our paper provides causal evidence on how a common crisis (COVID-19), common economic interests and common values affect these qualities among European citizens. We ran an incentivized survey experiment in nine EU countries in early August 2020. Our treatment groups were primed and informed about their country's COVID-19 death toll relative to the EU average, their country's degree of EU trade integration and commonly held European values, respectively, while the control group received neutral information unlikely to affect their actions later in the survey. Afterwards, survey respondents played incentivized Trust and Dictator games, where they could earn an extra payment depending on their decisions and the decisions of their matched player, who could be either a fellow citizen, a respondent from another EU country or a citizen from a non-EU country.

We show that the common crisis and the common values treatments have similar and positive effects on altruism and reciprocity towards fellow natives and other EU citizens. Interpersonal trust is not affected on average. In addition, priming and informing respondents about a common economic interest doesn't have an effect on any of our three outcome variables.

These findings indicate that European common values enhance cohesion among nationals and fellow EU citizens. Interestingly, and despite (at least initially) uncoordinated reactions by EU member countries to the pandemic, the effect of priming and informing respondents about COVID-19 has a similar unifying effect.

[19] Mean values are reported in Appendix Table A11.

On the other hand, our results suggest that economic interests alone do not suffice to build social cohesion and unity.

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A Appendix Tables

Table A1: Beliefs (T1-T3)

	Treatment groups				
	T1: COVID-19	**T2: EU Trade**	**T3: EU Common values**	**Total**	**N**
	Col%	Col%	Col%	Col%	
Answer correctly	47	13	21	27	5,244
Underestimate	31	66	52	50	9,615
Overestimate	13	20	27	20	3,885
Don't know	9	0	0	3	589
Total	100	100	100	100	19,333

Notes: The table reports the share of respondents in the three treatment groups whose belief elicited before the information was correct and the share of respondents who underestimated/overestimated the correct numbers (T2, T3)/the per capita COVID-19 death toll in their country relative to the EU average. For T2 and T3, answers are counted as correct if the given percentage does not deviate more than +/- 5 percentage points from the correct value. Only respondents in T1 had the option to choose the "Don't know" answer option. T1: Confirmed COVID-19 deaths per million people below (above) the EU average by July 1, 2020: DE, EL, HU, PL (ES, FR, IT, NL, SE). T2: Export share in EU trade in 2019: DE: 54.4%, EL: 51.8%, ES: 62.2%, FR: 54.5%, HU: 79.1%, IT: 53.3%, NL: 68.9%, PL: 74.8%, SE: 54.8%. T3: Share of Eurobarometer respondents across all EU countries that consider at least one of the following values (peace, democracy, protection of human rights, equality) as fundamental and highly representative of the European project: 78%.

Table A2: Trust game: Descriptive Statistics Player A

	T1: COVID-19	**T2: EU Trade**	**T3: EU Common values**	**Control**	**Total**
Own country	59.1%	59.7%	59.2%	59.1%	59.3%
EU country	59.4%	59.2%	59.0%	59.2%	59.2%
Non-EU country	59.1%	60.6%	59.6%	59.4%	59.7%

Notes: The table reports the share of respondents in the three treatment groups (T1-T3) and the control group who have selected option A1 as Player A in the Trust game, depending on whether the fellow player is from their own country, another EU country or from a non-EU country.

Table A3: Trust game: Descriptive Statistics Player B

	(1)	(2)	(3)	(4)	(5)		T-test Difference	
	T1: Covid	T2: EU Trade	T3: EU Common values	Control	Total			
Variable	Mean/SD	Mean/SD	Mean/SD	Mean/SD	Mean/SD	(4)-(1)	(4)-(2)	(4)-(3)
Own country	87.258	86.259	87.379	85.142	86.516	-2.116***	-1.118*	-2.237***
	(35.070)	(33.771)	(33.350)	(34.257)	(34.131)			
EU country	85.883	84.948	86.237	84.788	85.469	-1.095*	-0.160	-1.448**
	(35.080)	(34.048)	(33.357)	(33.774)	(34.077)			
Non EU country	85.211	83.788	84.700	83.877	84.400	-1.335**	0.088	-0.823
	(35.730)	(34.634)	(34.212)	(34.735)	(34.838)			
N	6512	6353	6468	6387	25720			

Notes: The table reports the average number of points and its standard deviation respondents in the three treatment groups (T1-T3) and the control group have returned to the sender (Player A) as Player B in the Trust game, depending on whether the fellow player is from their own country, another EU country or from a non-EU country.

Table A4: Dictator game: Descriptive Statistics Player A

	(1)	(2)	(3)	(4)	(5)		T-test Difference	
	T1: Covid	T2: EU Trade	T3: EU Common values	Control	Total			
Variable	Mean/SD	Mean/SD	Mean/SD	Mean/SD	Mean/SD	(4)-(1)	(4)-(2)	(4)-(3)
Own country	106.551	103.416	105.821	103.567	104.852	-2.984***	0.151	-2.254***
	(47.936)	(46.426)	(45.137)	(46.509)	(46.533)			
EU country	102.397	99.999	102.161	99.552	101.039	-2.845***	-0.448	-2.610***
	(47.599)	(45.332)	(43.998)	(45.886)	(45.741)			
Non EU country	99.559	96.360	98.849	97.794	98.152	-1.765**	1.434*	-1.055
	(48.570)	(46.476)	(46.110)	(47.331)	(47.149)			
N	6512	6353	6468	6387	25720			

Notes: The table reports the average number of points and its standard deviation respondents in the three treatment groups (T1-T3) and the control group have sent to the receiver (Player B) as Player A in the Dictator game, depending on whether the fellow player is from their own country, another EU country or from a non-EU country.

Table A5: Average treatment effects: Trust (Logit)

	Own country	EU	Non EU
T1: COVID-19	1.000	0.995	1.019
	(0.036)	(0.036)	(0.037)
T2: EU Trade	0.978	1.010	0.957
	(0.036)	(0.037)	(0.035)
T3: EU Common values	1.003	1.015	0.998
	(0.036)	(0.037)	(0.036)
Observations	25720	25720	25720
Fixed effects:	Country & date		

Notes: Logit models. The table displays odds ratios. Robust standard errors are in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Controls: age, gender, marital status, education level, equivalized household gross income in February/July 2020, time to complete survey, total number of children and adults younger/older than 65 in the household.

Table A6: Average treatment effects: EU identity

	EU Identity
T1: COVID-19	0.014
	(0.049)
T2: EU Trade	0.023
	(0.049)
T3: EU Common values	0.046
	(0.049)
Observations	25720
R^2	0.084
Fixed effects:	Country & date

Notes: OLS model. Robust standard errors are in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Controls: age, gender, marital status, education level, equivalized household gross income in February/July 2020, time to complete survey, total number of children and adults younger/older than 65 in the household.

Table A7: Average treatment effects: Trust, Reciprocity, Altruism

	Outcome: Trust			Outcome: Reciprocity			Outcome: Altruism		
	Own country	EU	Non EU	Own country	EU	Non EU	Own country	EU	Non EU
T1: COVID-19	-0.0006	-0.0020	0.0033	2.1161***	1.0945	1.3347	2.9837***	2.8452**	1.7647
Unadjusted p-value	(0.9377)	(0.8163)	(0.6990)	(0.0003)	(0.0730)	(0.0350)	(0.0003)	(0.0020)	(0.0413)
Adjusted p-value	(0.9377)	(0.9610)	(0.9583)	(0.0003)	(0.2327)	(0.1673)	(0.0003)	(0.0113)	(0.1680)
T2: EU Trade	-0.0066	0.0008	-0.0118	1.1179	0.1596	-0.0885	-0.1506	0.4476	-1.4337
Unadjusted p-value	(0.4533)	(0.9303)	(0.1640)	(0.0607)	(0.7777)	(0.8800)	(0.8580)	(0.5740)	(0.0843)
Adjusted p-value	(0.9583)	(0.9303)	(0.6423)	(0.3493)	(0.9973)	(0.9853)	(0.9967)	(0.9793)	(0.4230)
T3: EU Common values	-0.0010	0.0022	-0.0018	2.2374***	1.4484*	0.8231	2.2540**	2.6095***	1.0553
Unadjusted p-value	(0.9167)	(0.8020)	(0.8327)	(0.0007)	(0.0173)	(0.1760)	(0.0057)	(0.0007)	(0.1927)
Adjusted p-value	(0.9167)	(0.9867)	(0.9677)	(0.0027)	(0.0833)	(0.5680)	(0.0327)	(0.0027)	(0.5297)
Observations	25720	25720	25720	25720	25720	25720	25720	25720	25720
Outcome mean (in control):	0.409	0.408	0.406	85.142	84.788	83.877	103.567	99.552	97.794

Notes: OLS model without controls. Unadjusted and adjusted p-values in parentheses. The adjusted p-values account for multiple hypothesis testing according to List et al. (2019), stars represent significance levels according to adjusted p-values, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A8: Sample split regressions

	Outcome: Trust			Outcome: Reciprocity			Outcome: Altruism		
	Own Country	EU	Non EU	Own Country	EU	Non EU	Own Country	EU	Non EU
T1: COVID-19									
Above EU average COVID-19 deaths ($N = 7,220$)	-0.009	-0.007	-0.006	2.735***	1.502	0.635	2.595	3.058**	1.048
Unadjusted p-value	(0.446)	(0.555)	(0.607)	(0.001)	(0.066)	(0.457)	(0.023)	(0.007)	(0.366)
Adjusted p-value	(0.870)	(0.766)	(0.607)	(0.006)	(0.289)	(0.819)	(0.126)	(0.043)	(0.859)
Below EU average COVID-19 deaths ($N = 5,679$)	0.010	0.004	0.014	1.337	0.585	2.226	3.497**	2.597	2.690
Unadjusted p-value	(0.447)	(0.761)	(0.269)	(0.148)	(0.515)	(0.017)	(0.006)	(0.029)	(0.035)
Adjusted p-value	(0.813)	(0.761)	(0.664)	(0.490)	(0.761)	(0.103)	(0.044)	(0.161)	(0.171)
T2: EU Trade									
Above median export ($N = 5,727$)	-0.005	0.013	0.008	1.847	0.963	0.027	0.167	1.469	-0.529
Unadjusted p-value	(0.734)	(0.306)	(0.556)	(0.039)	(0.274)	(0.975)	(0.889)	(0.200)	(0.657)
Adjusted p-value	(0.980)	(0.842)	(0.976)	(0.247)	(0.840)	(0.975)	(0.985)	(0.741)	(0.984)
Below median export ($N = 7,013$)	-0.008	-0.009	-0.028	0.531	-0.488	-0.171	-0.400	-0.373	-2.153
Unadjusted p-value	(0.492)	(0.424)	(0.015)	(0.505)	(0.549)	(0.843)	(0.723)	(0.736)	(0.059)
Adjusted p-value	(0.965)	(0.958)	(0.103)	(0.946)	(0.940)	(0.843)	(0.974)	(0.933)	(0.305)
T3: EU Common values									
Above median EU identity (Own variable) ($N = 5,807$)	-0.008	-0.000	0.005	2.166*	2.118*	1.209	1.800	2.759*	0.953
Unadjusted p-value	(0.527)	(0.986)	(0.707)	(0.012)	(0.015)	(0.176)	(0.119)	(0.018)	(0.422)
Adjusted p-value	(0.854)	(0.986)	(0.899)	(0.079)	(0.094)	(0.568)	(0.475)	(0.095)	(0.848)
Below median EU identity (Own variable) ($N = 7,048$)	0.005	0.004	-0.007	2.289**	0.886	0.493	2.635	2.479	1.135
Unadjusted p-value	(0.673)	(0.727)	(0.526)	(0.003)	(0.278)	(0.542)	(0.018)	(0.028)	(0.323)
Adjusted p-value	(0.876)	(0.727)	(0.924)	(0.023)	(0.808)	(0.883)	(0.113)	(0.154)	(0.818)

Notes: OLS model without controls. Unadjusted and adjusted p-values in parentheses. The adjusted p-values account for multiple hypothesis testing according to List et al. (2019), stars represent significance levels according to adjusted p-values, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A9: Sample split regressions for Treatment 1: COVID-19

	Outcome: Trust			Outcome: Reciprocity			Outcome: Altruism		
	Own Country	EU	Non EU	Own Country	EU	Non EU	Own Country	EU	Non EU
Negatively affected in economic terms ($N = 6,147$)	0.0056	0.0066	0.0053	2.9616***	2.7224***	2.4605**	2.5632*	3.5925**	2.4876
Unadjusted p-value	(0.6537)	(0.5777)	(0.6707)	(0.0007)	(0.0007)	(0.0043)	(0.0240)	(0.0007)	(0.0307)
Adjusted p-value	(0.8637)	(0.8967)	(0.6707)	(0.0033)	(0.0027)	(0.0223)	(0.0997)	(0.0030)	(0.1043)
Rest of respondents ($N = 6,752$)	-0.0075	-0.0114	0.0010	1.1878	-0.6921	0.1001	3.4387**	2.0196	0.9622
Unadjusted p-value	(0.5563)	(0.3567)	(0.9373)	(0.1683)	(0.4183)	(0.9167)	(0.0047)	(0.0800)	(0.4270)
Adjusted p-value	(0.8960)	(0.8800)	(0.9373)	(0.6313)	(0.9033)	(0.9947)	(0.0323)	(0.3870)	(0.8623)

Notes: OLS model without controls. Unadjusted and adjusted p-values in parentheses. The adjusted p-values account for multiple hypothesis testing according to List et al. (2019), stars represent significance levels according to adjusted p-values, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A10: Sample split regressions, based on EU citizen feelings

	Outcome: Trust			Outcome: Reciprocity			Outcome: Altruism		
	Own Country	EU	Non EU	Own Country	EU	Non EU	Own Country	EU	Non EU
T1: COVID-19									
Not EU citizen ($N = 6,597$)	0.0001	-0.0062	0.0153	2.2127*	1.0218	0.5233	3.1546**	2.6162	1.6975
Unadjusted p-value	(0.9923)	(0.6057)	(0.2060)	(0.0120)	(0.2273)	(0.5377)	(0.0070)	(0.0227)	(0.1580)
Adjusted p-value	(0.9923)	(0.8207)	(0.6067)	(0.0750)	(0.5877)	(0.8853)	(0.0493)	(0.1247)	(0.5723)
EU citizen ($N = 6,302$)	-0.0017	0.0021	-0.0096	2.0076	1.1567	2.1766*	2.8062*	3.0740**	1.8226
Unadjusted p-value	(0.8877)	(0.8730)	(0.4403)	(0.0260)	(0.1793)	(0.0160)	(0.0157)	(0.0063)	(0.1200)
Adjusted p-value	(0.8877)	(0.9810)	(0.7703)	(0.1233)	(0.4863)	(0.0870)	(0.0957)	(0.0433)	(0.4197)
T2: EU Trade									
Not EU citizen ($N = 6,525$)	-0.0017	-0.0002	-0.0036	1.3509	0.3284	-1.6226	-0.2610	0.7445	-1.3561
Unadjusted p-value	(0.8957)	(0.9883)	(0.7703)	(0.1097)	(0.6957)	(0.0620)	(0.8210)	(0.5203)	(0.2567)
Adjusted p-value	(0.9867)	(0.9883)	(0.9947)	(0.5120)	(0.9950)	(0.3650)	(0.9930)	(0.9820)	(0.8030)
EU citizen ($N = 6,215$)	-0.0119	0.0016	-0.0206	0.8698	-0.0240	1.5160	-0.0349	0.1320	-1.5210
Unadjusted p-value	(0.3390)	(0.8943)	(0.0977)	(0.2953)	(0.9793)	(0.0773)	(0.9770)	(0.8970)	(0.1777)
Adjusted p-value	(0.8320)	(1.0000)	(0.4813)	(0.8197)	(0.9793)	(0.4260)	(0.9990)	(0.9987)	(0.6553)
T3: EU Common values									
Not EU citizen ($N = 6,495$)	-0.0018	-0.0012	0.0014	2.6016**	1.6182	0.1029	2.2217	2.2476	0.4285
Unadjusted p-value	(0.8840)	(0.9187)	(0.9140)	(0.0017)	(0.0523)	(0.8987)	(0.0577)	(0.0550)	(0.7250)
Adjusted p-value	(1.0000)	(0.9187)	(0.9917)	(0.0110)	(0.2917)	(0.9990)	(0.2653)	(0.2750)	(0.9987)
EU citizen ($N = 6,360$)	-0.0013	0.0043	-0.0067	1.8356	1.2123	1.5239	2.2876	2.9195**	1.6153
Unadjusted p-value	(0.9113)	(0.7243)	(0.6033)	(0.0257)	(0.1400)	(0.0673)	(0.0373)	(0.0070)	(0.1573)
Adjusted p-value	(0.9113)	(0.9093)	(0.9063)	(0.1517)	(0.4687)	(0.2957)	(0.1987)	(0.0493)	(0.4327)

Notes: OLS model without controls. Unadjusted and adjusted p-values in parentheses. The adjusted p-values account for multiple hypothesis testing according to List et al. (2019), stars represent significance levels according to adjusted p-values, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A11: Balance table

	(1) T1: Covid Mean/SE	(2) T2: EU Trade Mean/SE	(3) T3: EU Common values Mean/SE	(4) Control Mean/SE
Age	43.218	42.977	43.074	42.746
	(0.175)	(0.176)	(0.176)	(0.176)
Female	0.543	0.548	0.551	0.538
	(0.006)	(0.006)	(0.006)	(0.006)
Other gender	0.001	0.001	0.001	0.001
	(0.000)	(0.000)	(0.000)	(0.000)
Secondary education	0.486	0.484	0.481	0.485
	(0.006)	(0.006)	(0.006)	(0.006)
Tertiary education	0.452	0.450	0.457	0.453
	(0.006)	(0.006)	(0.006)	(0.006)
Single	0.369	0.380	0.379	0.388
	(0.006)	(0.006)	(0.006)	(0.006)
N°adults above 65 in the household	0.268	0.261	0.268	0.262
	(0.008)	(0.008)	(0.008)	(0.008)
N°adults below 65 in the household	1.969	2.012	1.995	2.000
	(0.013)	(0.013)	(0.013)	(0.013)
N°children in the household	0.466	0.469	0.452	0.471
	(0.010)	(0.011)	(0.010)	(0.010)
Hh. Equivalized Gross Income Quintile (Feb. 2020)	1.967	1.921	1.958	1.939
	(0.017)	(0.018)	(0.018)	(0.018)
Hh. Equivalized Gross Income Quintile (July 2020)	1.953	1.908	1.955	1.923
	(0.017)	(0.018)	(0.018)	(0.018)
EU identity	5.553	5.557	5.598	5.537
	(0.036)	(0.036)	(0.036)	(0.036)
Economic effect of COVID-19	2.211	2.220	2.197	2.196
	(0.012)	(0.012)	(0.012)	(0.012)
Time to complete the survey	22.059	21.405	21.894	21.955
	(0.179)	(0.171)	(0.186)	(0.193)
N	6512	6353	6468	6387

Notes: Mean (standard deviation).

Table A12: Balancing Tests

	Δ T1 − Control Diff./SE	Δ T2 − Control Diff./SE	Δ T3 − Control Diff./SE
Age	0.4725	0.2316	0.3277
	(0.2488)	(0.2494)	(0.2495)
Female	0.0050	0.0093	0.0130
	(0.0088)	(0.0088)	(0.0088)
Other gender	0.0003	0.0006	-0.0000
	(0.0005)	(0.0006)	(0.0005)
Secondary education	0.0008	-0.0013	-0.0044
	(0.0088)	(0.0089)	(0.0088)
Tertiary education	-0.0015	-0.0031	0.0042
	(0.0088)	(0.0088)	(0.0088)
Single	-0.0196**	-0.0082	-0.0087
	(0.0085)	(0.0086)	(0.0086)
N°adults above 65 in the household	0.0054	-0.0008	0.0061
	(0.0116)	(0.0116)	(0.0114)
N°adults below 65 in the household	-0.0310*	0.0124	-0.0049
	(0.0183)	(0.0187)	(0.0185)
N°children in the household	-0.0052	-0.0019	-0.0194
	(0.0145)	(0.0148)	(0.0143)
Hh. Equivalized Gross Income Quintile (Feb. 2020)	0.0285	-0.0176	0.0195
	(0.0248)	(0.0250)	(0.0250)
Hh. Equivalized Gross Income Quintile (July 2020)	0.0308	-0.0146	0.0328
	(0.0248)	(0.0250)	(0.0249)
EU identity	0.0163	0.0203	0.0618
	(0.0513)	(0.0510)	(0.0509)
Economic effect of COVID-19	0.0142	0.0232	0.0005
	(0.0169)	(0.0170)	(0.0168)
Time to complete the survey	0.1040	-0.5504**	-0.0612
	(0.2632)	(0.2574)	(0.2680)