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The Implications of Trust on the Spread of COVID-19 in Europe

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Abstract

This paper explores the interplay between two dimensions of trust i.e., political and interpersonal trust, and the spread of COVID-19 in European regions. To undertake our analysis we combine sub-national (NUTS 1 regions) data for trust from ten consecutive rounds of the European Social Survey and data on COVID-19 measures, derived from the COVID-19 European Regional Tracker. Exploiting regional variation, we empirically establish that in places with a higher degree of political and interpersonal trust, the number of confirmed cases and deaths due to COVID-19 spread is lower. Our underlying hypothesis is that due to this higher level of trust, individuals tend to comply more with the policies promoted by national governments, thereby diminishing the COVID-19 spread and mortality rates in societies.

Keywords: COVID-19, Political Trust, Interpersonal Trust, Culture

JEL Codes: I10,O4,Z12

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1 Introduction

During the first months of 2020, the world experienced the rapid spread of the coronavirus disease (COVID-19). Already by early April 2020, COVID-19 had infected more than 1 million people and killed more than 60,000 people worldwide. As of January 2023, nearly 664 million cases and over 6.5 million deaths worldwide have been officially recorded. The initial responses varied widely across countries as this event had no precedent. Some countries were severely inflicted whereas others were far more successful than others in slowing down the rate of COVID-19 cases and deaths. While there was no official alignment in policies, the dominating initial reaction in the vast majority of inflicted countries was to impose different degrees of lockdowns. Yet, even accounting for differential policies as well as factors relating to the level of readiness of a region and its medical facilities, there are aspects of differences in the rates of spread and death that remain yet to be understood.

Our research aims to shed light on the critical role of culture in explaining regional differences in the spread of COVID-19 across Europe. Reflecting on the potential role of culture in this context, we argue that differences in culture can explain differential degrees of compliance to the measures adopted, which ultimately led to differences in the spread and impact of COVID-19. In light of the considerable economic and ultimately social costs already imposed by COVID-19, it is thus very important to have a clear picture of all the factors that can potentially jeopardize the success of policy measures aimed to achieve containment of the pandemic.

In this paper, we focus on a particular set of cultural traits, namely on political and interpersonal trust. Whereas several cultural traits can play a role in the spread of a pandemic we focus

on trust as it is an inherent element of social dynamics and a regulator of the interplay between individuals and governments. Analytically, we derive data from the ten consecutive rounds of the European Social Survey (ESS) ranging from 2002 to 2020 to construct the mean levels of individual and political trust across Nuts 1 European regions. The measures related to the spread of COVID-19, i.e., confirmed cases and deaths, are derived from the COVID-19 European Regional Tracker on a daily basis and are then aggregated at the regional level for the period 2020-2022. We further control for demographic and economic factors (e.g., population, fertility and mortality rates, GDP per capita growth and unemployment rates) that are also relevant to our analysis. We last control for country fixed effects to capture anything that remains constant in a country over time as well as differences in COVID-19 related policies implemented in each country. The country fixed effects also capture the potential differences across countries as to how COVID-19 deaths are recorded, the rate of implementation of self-tests and anything that relates to country level differences as to how the threat of COVID-19 was perceived and treated.

Our findings suggest that in regions where trust in political institutions and interpersonal trust is higher, the COVID-19 spread (as measured by the number of cases reported) is decreasing. Speculating on why this is the case, we argue that in the presence of higher political and interpersonal trust, individuals tend to comply more, thus rendering these policies more effective. Whereas we cannot directly test this mechanism in the regional analysis, we take steps towards this direction in the country level analysis where more controls are available. Our findings remain robust to various specifications. More specifically, in order to test the validity of our benchmark specification at the Nuts 1 regions, we use deaths as an alternative measure of COVID-19 exposure and we find that also in regions where political trust is higher, the COVID-19 mortality rates are decreasing.

Additionally in our regional analysis, we elaborate on a series of additional issues. First, we explore potential sources of heterogeneity. Specifically, we replicate the analysis when constructing the trust measures aggregating separately the trust of men and women. As such we capture the role of gender in the manifestation of culture. Our findings indicate that while for both groups the results remain significant, yet the magnitude is stronger for women thus suggesting that culture plays a more prominent role in women’s decision-making process. Second, whereas in our main specification, we exploit the regional dimension of our data, yet the temporal dimension is quite critical. Given that we have data for three years, we introduce an interaction term between trust and each of the years of COVID-19 pandemic (from 2020 to 2022) to study whether the role of culture dissipates over time, once more constant solutions appear. In line with our anticipation, culture was more important in the early stages of the pandemic. In the light of a new unidentified threat and in the absence of formal and clear medical solutions, culture always comes into play as a critical factor as it guides people’s instinctive reactions and self-protection mechanisms. Once policies become more educated and science comes into play, culture dramatizes a less important role.

In the subsequent section, we replicate our baseline results at the country level. On the one hand, this comes at the expense of omitted variable bias as we are not able to control for country fixed effects. However, this gives us the opportunity to add some additional controls in our analysis (such as the country’s health facilities, and the strictness of measures imposed by governments) and some additional dependent variables reporting the COVID-19 spread rates; COVID-19 hospitalizations and patients’ admissions in ICU (Intensive Care Units). Our findings are aligned with the ones in our benchmark analysis. This approach also gives us the opportunity to further explore our mechanism. First, we use the stringency index (a control in our country

level analysis) as the outcome variable and test how political and interpersonal trust affects the stringency of the policy implemented. Our findings suggest that in the presence of higher trust, the need for strict policies is less imperative. People are expected to comply to milder measures and as such there is no need to impose strict lockdowns. The case of Sweden which adopted the most relaxed policy measures throughout the pandemic and the extremely high degree of compliance and self-restraint is an indicative example. A second approach to study the mechanism is to empirically explore whether political and interpersonal trust played a role on COVID-19 vaccinations at the country level. Given the fact that vaccinations became mandatory in several countries, we consider the degree of vaccination as a proxy for compliance to government policies. We find that in countries where individuals trust the political system and the policies promoted by national governments, the vaccination rates are higher. This is also the case for interpersonal trust, indicating that people trust to other people comply with the rules, and work towards the development of public immunity.

Overall, in view of the COVID-19 spread, and anticipating a future pandemic, understanding the cultural determinants and the sources of differences in policies' effectiveness in the containment of the pandemic is critical. The results of this paper shed light on the fact that disparities in socio-cultural and economic determinants can lead to essential disparities in COVID-19 incidence and diffusion. They also hint to the fact that governments should always factor in the role of culture, no matter how slowly culture evolves. In the opposite case, the same policies can yield dramatically different outcomes, which in the midst of a pandemic can lead to thousands of deaths.

The structure of paper is organized as follows. Section 2 presents the associated literature. Section 3 describes the data for the regional analysis, which is our benchmark analysis. Section 4 reports the empirical strategy and the benchmark results and undertakes robustness and het-

erogeneity exercises for the Nuts 1 regions sample. Section 5 reports the empirical strategy and results at the country level, as well as the robustness checks, and lays out the discussion on the mechanism. Section 6 concludes.

2 Literature Review

The COVID-19 pandemic is a global crisis and the role of political trust on the spread of COVID-19 is crucial. The pandemic has led governments around the world to take unprecedented responses in an attempt to diminish the spread of the virus. In order to be able to deal with this crisis, it is necessary for citizens to be able to trust their leaders and in turn for the leaders to be able to progress for a competent and effective state ([Fukuyama, 2020](#)). The acceptance of public policy toward COVID-19 depends importantly on trust in political institutions ([Elgar et al., 2020](#); [Farzanegan and Hofmann, 2021](#)). [Martela et al. \(2020\)](#) ascribe the greater success at containing COVID-19 in Nordic countries compared to Italy to greater trust in government. [Elgar et al. \(2020\)](#) support that mortality increases in regions where confidence in state institutions is low. Societies with higher trust in government reacted slower to the spread of the pandemic and the reason is that in these cases government doesn't adopt strict measures because it can rely on people following social distancing recommendations ([Toshkov et al., 2022](#)). [Brodeur et al. \(2021\)](#) find that individuals who live in counties with a higher share of citizens trusting the press and the government are more likely to adjust their behavior to orders following their announcement. Furthermore, [Yuan et al. \(2022\)](#) support that higher institutional trust is related to lower case fatality rate of COVID-19. Institutional trust affects the possibility of individuals voluntarily complying with the COVID-19 test.

We contribute to this literature by testing this interplay at the sub-national level of European countries which allows us to capture a wide range of unobservables and to net out country level differences in the responses to the pandemic. In this context we explore the actual implications of the pandemic as driven by aspects of trust, i.e., deaths and cases. Crucially, we shed light both on the hypothesized mechanism, i.e., compliance, and aspects of heterogeneity that can affect the results.

The critical role of political trust in a series of outcomes, besides the pandemic, is highlighted in the related literature ([Zmerli and Newton, 2017](#); [Dustmann et al., 2017](#); [Van der Meer, 2017](#); [Mohamad and Othman, 2020](#)). Political trust is considered to be a necessary precondition for democratic rule, thus a decline in trust is thought to fundamentally challenge the quality of representative democracy ([Van der Meer, 2017](#)). Within the set of liberal democracies, the Nordic countries tend to have the highest trust rates, while the former communist countries in Central and Eastern Europe have the lowest. [Eichengreen et al. \(2020\)](#) find that the distrust in political institutions and leaders is associated with the (in)effectiveness of a government's healthcare-related response to epidemics. While researchers have made great headway in understanding the sources of political trust, however, the knowledge about its consequences has remained remarkably scarce ([Van der Meer, 2017](#)). The consequences of political trust are surprisingly understudied, even though the relevance of political trust to the quality of representative democracy and the stability of its institutions has been a recurrent theme in the literature since the 1970s. Theoretically, the socio-political consequences of political trust are expected and likely to play out at different levels of representative democracy ([Van der Meer, 2017](#)). [Hetherington et al. \(2005\)](#) argue that political trust affects support for foreign aid and for policies that benefit disadvantaged minorities. As political trust declines they show that citizens tend to prefer smaller government. [Martela et al.](#)

(2020) argue that low levels of trust in corrupt institutions lead to low willingness to pay taxes and low support for reforms that would allow the state to take better care of its citizens.

Another strand of the literature studies how political trust and compliance attitudes are linked. Compliance varies substantially across space and time. Weak institutions and culture that generate non-compliance to rules, distrust to institutions might affect not only individual attitudes (Greif, 1989; Mazar and Aggarwal, 2011) but also increase chances for pandemic disasters. It is expected that citizens with low levels of trust in the institutions of the political system will find it more acceptable to break the law. Low levels of trust in government might undermine the effectiveness and legitimacy of government action and its ability to implement legislation (Marien and Hooghe, 2011). Citizens with low levels of political trust are significantly more likely to accept illegal behavior such as tax fraud than citizens with high levels of political trust. Deopa and Fortunato (2021) find that mobility in the German-speaking areas of the country was generally less elastic to federal and cantonal restrictions than in French cantons. Compliance to social distancing was therefore weaker in German-speaking Switzerland throughout the pandemic. Brodeur et al. (2021) show that high-trust American counties decreased their mobility significantly more than low-trust counties post-lockdown. Particularly, they find that people who live in counties with a higher share of citizens trusting the government are more likely to adjust their behavior to orders following their announcement. Similarly, Bargain and Aminjonov (2020) find that regions with high political trust decrease their mobility related to non-necessary activities significantly more than regions with low political trust. As a result, the efficiency of policy stringency in terms of mobility reduction significantly increases with trust.

Last, the role of interpersonal trust in the spread of COVID-19 is also critical. Yuan et al. (2022) support that interpersonal trust is related to the faster completion of virus transmission.

The association between trust in others and COVID-19 control efficiency was modulated by an individualistic culture. [Brodeur et al. \(2021\)](#) find that in areas with higher trust in others, people are significantly more likely to comply with stay-at-home orders. On the other hand, contrary to the evidence in the literature, [Deopa and Fortunato \(2021\)](#) find that within the Swiss context, higher trust in others is strongly associated with lower reductions in individual mobility. On the reverse relationship, [Aksoy et al. \(2021\)](#) show that interpersonal trust is not affected on average by the common crisis of COVID-19.

Overall, our paper contributes to the above mentioned literature by formally testing the role of various dimensions of trust in a wide range of European countries. Resorting to regional analysis allow us to capture a wide range of unobservable variables. We further try to shed light to the hypothesized mechanism of compliance through various tests. We view our empirical findings as crucial not only for formalizing the interplay between trust and the spread of the pandemic but also for its policy implications, i.e., suggesting that policies in the period of COVID-19 should be extended in order to incorporate the cultural elements inherent in a society.

3 Data

To explore the effect of trust on the spread of COVID-19 in European regions, we employ data from the ten consecutive rounds of the European Social Survey (2002-2020), a repeated cross-section survey that quantifies the attitudes, beliefs and behavioral patterns of citizens in more than thirty European countries. In particular, the ESS sample comprises individuals who currently reside in Albania, Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Germany, Finland, France, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kosovo, Lithuania,

Luxembourg, the Netherlands, Norway, Poland, Portugal, Russia, Sweden, Slovenia, Slovakia, Spain, Switzerland, Turkey, United Kingdom and Ukraine. The ESS contains a rich set of questions that capture several aspects of trust in national and European institutions, other people as well as personal characteristics such as country and year of birth, gender, age, education, occupation status, risk aversion, attitudes about gender equality, religion, family, etc.

In our analysis, we employ several proxies for political and interpersonal trust. Concerning political trust, our paper employs four alternative dependent variables, i.e., trust in the i) parliament; ii) politicians; iii) European parliament; and iv) political parties. Respondents are given the question “Using this card, please tell me on a score of 0-10 how much you personally trust each of the institutions I read out, where 0 means you do not trust an institution at all, and 10 means you have complete trust. Firstly [country]’s...[parliament; politicians; European parliament; political parties]”. Additionally, we use as another proxy of trust in political institutions the degree of satisfaction in national government. Respondents are given the question “Using this card, please tell me on a score of 0-10 how satisfied you are with the national government where 0 means extremely dissatisfied and 10 means extremely satisfied”. As far as interpersonal trust is concerned, we employ two dependent variables, i.e., trust in the i) legal system; and ii) trust on people. Respondents are given the question “Using this card, please tell me on a score of 0-10 how much you personally trust each of the institutions I read out. 0 means you do not trust an institution at all, and 10 means you have complete trust. Firstly [country]’s...[legal system]” and about trust on people is given to individuals the statement “Generally speaking, would you say that most people can be trusted, or that you can’t be too careful. Please tell me on a score of 0 to 10, where 0 means you can’t be too careful and 10 means that most people can be trusted”.

Our key explanatory variable is the number of confirmed COVID-19 cases reported across Nuts

1 European regions. Our data are derived from the COVID-19 European Regional Tracker. The COVID-19 European Regional Tracker contains sub-national information for cumulative and daily reported COVID-19 cases for 26 countries in Europe starting from January 2020 till today. The data are homogenized at the Nuts 3 level for all European countries. However, for Poland and Greece, data for the complete time range is only available at the Nuts 2 level.

Beyond our main explanatory variable, our analysis controls for a wide range of Nuts 1 regional characteristics such as the GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths in Nuts 1 European regions. All these variables are coming from Eurostat and they are considered as the determinants of COVID-19 spread into societies and they can capture the stage of development, as well as other demographic determinants. Table 2 documents the descriptive statistics of all the variables explained above and used in our analysis. In our analysis, we always account for country fixed effects as well as to capture unobservables that remain constant at the country level.

Last, we merge our data, ending up with a sample of Nuts 1 European regions. Importantly, in our main specification, we exploit the spatial dimension of our data, i.e., we exploit the spatial variation in the mean values of COVID-19 cases reported and political and interpersonal trust variables across all available Nuts 1 regions. We choose to do that as the reported data vary across time and regions, i.e., for 2021 we have data for all 12 months, whereas for the other two periods, our monthly range is more limited. Moreover, measurement and even self-reporting changed over time. To mitigate all these concerns we have aggregated the data and we exploit only the spatial dimension. However, in our heterogeneity section, we also exploit the temporal dimension to lay emphasis on the fact that culture was more critical in the early stage of the pandemic.

The Online Appendix provides a detailed description of all the variables used in the baseline analysis and the robustness section.

4 Nuts 1 Regional Analysis

In this section, we describe our empirical specification and the main results in Nuts 1 regions.

4.1 Empirical Strategy

In our benchmark analysis, we implement an OLS regression model to examine the effect of several aspects of trust e.g., trust in political institutions and interpersonal trust on the spread of COVID-19 and more specifically, on the COVID-19 confirmed cases in (Nuts 1) European regions. Thus, we estimate the following model:

$$y_r = a_0 + \alpha_1 Trust_r + \alpha_2 X_r + \beta_c + \epsilon_r, \quad (1)$$

where y_r denotes the logged number of confirmed COVID-19 cases reported in region r for the whole period, i.e., 2020-2022. $Trust_r$ is the mean value of individuals' level of political and interpersonal trust in region r . X_r includes a number of Nuts 1 regional-level controls that can have an impact on COVID-19 spread. More specifically, we control for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths whereas β_c is the country fixed effects respectively, as they capture for unobserved heterogeneity at the country level. Finally, ϵ_r is the region-specific error term. The standard errors are robust and clustered at the Nuts 1 regional level and last, sample weights are used in our analysis.

4.2 Empirical Findings

This section reports the empirical findings for our baseline analysis. Table 2 presents the benchmark results and documents the effect of political trust on COVID-19 confirmed cases reported in Nuts 1 European regions. Analytically, Table 2 reports the results for trust in i) national parliament, ii) politicians, iii) political parties, iv) European parliament, and last, v) satisfaction with the national government. Throughout Columns 1 to 5, we include the full set of regional controls and country fixed effects. Our findings suggest that in (Nuts 1) regions where individuals appear to trust more political institutions and are satisfied with the country’s government, the number of confirmed cases reported by exposure to COVID-19 is decreasing. Moreover, the magnitude of the effect is sizable. In particular, an 1 unit increase in trust in political institutions measured on a 0-10 scale (where 0 means no trust and 10 means full trust) is associated with a mean decrease of approximately 30% in COVID-19 confirmed cases. Additionally, an 1 unit increase in satisfaction with the national government is associated with a 26% decrease in COVID-19 confirmed cases. The results are significant at the 5% level. Contemplating the source of the effect, we hypothesize that in regions with high political trust citizens tend to comply more with distancing measures and they potentially acknowledge the effectiveness of the political system to deal with a generalized crisis.

[INSERT TABLE 2 HERE]

In Table 3 we also present our benchmark results but here we explore the effect of trust on people and trust in non-political institutions (i.e., trust in the legal system) on the spread of COVID-19. Interpersonal trust also plays an important role in the spread of COVID-19 as people

tend to comply more if they believe that other people comply as well. It also suggests a degree of cohesiveness in the face of a crisis. In Table 3 we report that in regions where individuals trust other people and the legal system, the number of confirmed cases related to the COVID-19 pandemic is decreasing. In columns 1 and 2 we include the full set of regional controls and country-fixed effects. Particularly, an 1 unit increase in trust on other people and trust in the legal system is associated with a 20% and a 15% decrease in COVID-19 cases, respectively affecting the spread of COVID-19 in European societies. The results are significant at the 10% level.

[INSERT TABLE 3 HERE]

Overall, according to the findings of our benchmark analysis, it is reported that trust in political institutions has a significant impact on the COVID-19 spread both qualitatively and quantitatively compared to interpersonal trust.

4.3 Robustness

4.3.1 COVID-19 Deaths in Nuts 1 Regions

The robustness section establishes the robustness of the baseline analysis using an alternative proxy of the COVID-19 spread i.e., the number of deaths reported from COVID-19 in Nuts 1 regions. In particular, we replicate the benchmark analysis using as an outcome variable the (logged) COVID-19 deaths reported during the pandemic. To this end, we use deaths as an alternative measure of COVID-19 exposure in order to test the validity of our baseline results. Specifically, we explore the effect of political and interpersonal trust on the number of COVID-19 deaths.

Table 4 documents the impact of trust in political institutions on COVID-19 deaths. The

results are qualitatively similar and in most cases are quantitatively stronger, indicating that in most cases political trust has a severe effect on COVID-19 deaths with a higher magnitude.

[INSERT TABLE 4 HERE]

Table 5 documents the impact of interpersonal trust on COVID-19 deaths. The findings of our baseline analysis using as a measure of COVID-19 exposure the confirmed cases remain both qualitatively and quantitatively stronger.

[INSERT TABLE 5 HERE]

4.4 Heterogeneity in Nuts 1 Regions

In this section, we explore the heterogeneity dimension in the empirical findings following our baseline specification, reconstructing the trust measures for men and women separately and secondly, taking into account time variation in our analysis.

4.4.1 Trust, COVID-19 Spread and Gender Diversity

It is considered that gender can crucially affect virus diffusion. As it is also well-established in the existing literature, women have a lower degree of risk aversion and a higher degree of political trust. Thus, we explore the effect of political and interpersonal trust among men and women on the spread of COVID-19. Analytically, women may respect the measures adopted by the national governments against COVID-19 spread as women trust the political institutions and may help their families to do the same. According to [Haselhuhn et al. \(2015\)](#) women are both less likely to lose trust and more likely to restore trust than men after a trust violation. Women care more

about maintaining relationships than men, and this, greater relational investment mediates the relationship between gender and trust dynamics. On the other hand, [Buchan et al. \(2008\)](#) find that men trust more than women, and women are more trustworthy than men. The relationship between expected return and trusting behavior is stronger among men than women, suggesting that men view the interactions more strategically than women. Women felt more obligated both to trust and reciprocate, but the impact of obligation on behavior varies. However, it is argued that men and women who had higher educational qualifications and higher occupational status tend to be more socially liberal and more trusting of the political system ([Schoon et al., 2010](#)).

Table 6 replicates the benchmark analysis and reports the degree of political trust between men (Panel A) and women (Panel B) and its effect on COVID-19 spread, expressed by the COVID-19 confirmed cases. Particularly, we find that both men’s and women’s trust in political institutions leads to a decline in COVID-19 cases, however, the effect of women’s degree of political trust on the COVID-19 spread is higher in magnitude compared to men. Intuitively, this can imply that individuals in regions with a higher proportion of women appear to have lower rates of COVID-19 diffusion, as women may respect social distancing more, comply with measures imposed by the governments, and help the member of their families to follow the rules against the COVID-19. The results are significant at the 5% confidence level.

[INSERT TABLE 6 HERE]

Similarly, Table 7 replicates the benchmark analysis and reports the degree of interpersonal trust between men (Panel A) and women (Panel B) and its effect on COVID-19 confirmed cases in Nuts 1 regions. Our results show that men’s trust on other people and in the legal system leads to a decline in COVID-19 cases whereas women’s trust in the legal system which is higher

in magnitude decrease the COVID-19 spread into society. Thus, it can be seen that men are more prone to trust people as they believe that other people are worth trusting, and this decrease the COVID-19 spread among people. The results are significant at the 10% confidence level.

[INSERT TABLE 7 HERE]

4.4.2 Trust and COVID-19 Spread During the Years

Last, in order to further explore our baseline specification and more importantly to see how political and interpersonal trust affected the COVID-19 confirmed cases across Nuts 1 regions in Europe from the start of the pandemic in 2020 to 2022, we take into account in our baseline analysis the time variation coming from the COVID-19 variables. Using time variation in our analysis helps us to eliminate unobserved heterogeneity and we can investigate the relationship between aspects of trust across countries and its effect on COVID-19 spread rates across the years. Specifically, in Table 8 we replicate our baseline analysis using as our main explanatory variable the interaction term between trust in several political institutions and the year of COVID-19 cases reported. Our results indicate that the negative effect of political trust in COVID-19 confirmed cases, became even more negative in 2021 compared to 2022, thus suggesting that political trust was more crucial in the first year of the pandemic rather than the second one in 2022 when a high proportion of the total population of European countries has been vaccinated against COVID-19.

[INSERT TABLE 8 HERE]

In a similar spirit, Table 9 reports that the negative effect of trust on other people in COVID-19 confirmed cases, became even more negative in 2021, indicating that also interpersonal trust had a severe impact on COVID-19 spread in the first year of the pandemic.

[INSERT TABLE 9 HERE]

5 Country Level Analysis

In this section, we also replicate our results at the country level as this gives us the opportunity to add some additional controls. Last, we use as additional measures of COVID-19 exposure the hospitalizations and the number of COVID-19 patients in Intensive Care Units (ICU) at the country level and also we explore the impact of both political and interpersonal trust on COVID-19 vaccinations. Whereas we cannot account for country fixed effects, we consider this analysis as useful due to the availability of more variables at the country level, which can hint to us some interesting correlations.

5.1 Empirical Strategy

At first, we conduct our analysis at the ESS country level. This comes with benefits and costs. On the one hand, this allows for the inclusion of a large number of relevant controls (i.e., the number of beds in hospitals at the country level and the mean value of strictness of measures adopted by governments during the pandemic) and much higher variation of political and interpersonal trust. On the other hand, we cannot eliminate unobserved heterogeneity at the country level as we cannot control for country fixed effects. To this end, we report our results here (which remain strong) yet we do not choose this as our benchmark specification.

As our benchmark outcome variable, we use again the confirmed cases which we interpret as the proxy for COVID-19 spread in European countries. We extract the COVID-19 confirmed cases from the ECDC (European Centre for Disease Prevention and Control) at the country level. We

also use control variables as in our benchmark specification derived from Eurostat at the country level.

As in our baseline analysis, our empirical specification is the following:

$$y_c = a_0 + \alpha_1 Trust_c + \alpha_2 X_c + \epsilon_c, \quad (2)$$

where y_c denotes the logged number of confirmed cases reported from COVID-19 in country c and $Trust_c$ is the mean value of individuals' level of political and interpersonal trust in country c . X_c includes a number of country-level controls that can have an impact on COVID-19 confirmed cases. Additionally, we control for GDP per capita growth, fertility and unemployment rates, the logged total population, the logged total number of deaths, the logged number of beds in countries' hospitals, and the logged value of the stringency index. Finally, ϵ_c is the country-specific error term. The standard errors are robust and clustered at the country level and sample weights are used.

5.2 Empirical Findings

According to Tables 10 and 11, our findings remain qualitatively stronger, yet the magnitude is weaker. The effect of political and interpersonal trust on COVID-19 confirmed cases in European countries remains strong and in most cases statistically significant at the 5% confidence level for political trust explanatory variables and at the 5% for interpersonal trust.

[INSERT TABLES 10 AND 11 HERE]

According to the additional factors that can affect COVID-19 spread rates which we use as

control variables in our analysis, we can imply that in more populated countries where the population density is higher, the COVID-19 spread is higher too. Moreover, higher fertility and growth rates and lower unemployment among young people affect positively COVID-19 spread rates, as in countries with a higher economic sentiment, individuals feel safer as they feel that medical facilities provided by the governments such as hospital beds and doctors are adequate, thus they are not prone to comply with the measures and they spread the COVID-19 to other people. Last, in countries where the governments adopted strict measures to fight the COVID-19 pandemic, the number of COVID-19 cases is decreasing indicating that in countries with lower levels of trust, strict measures such as lockdowns, school and workplace closures, travel bans and other restrictions were more efficient in diminishing the diffusion of the COVID-19 pandemic.

5.3 Robustness

5.3.1 Alternative Measures of COVID-19 Spread

In Table 12 and Table 13 we conduct a robustness test investigating the relationship between political and interpersonal trust and COVID-19 hospitalizations at the country level. Thus, we use as an outcome variable the logged number of hospitalizations during the years of the COVID-19 pandemic. The data on hospitalizations are coming from the OWD (Mathieu et al., 2020) as it is the only dataset that contains additional COVID-19 spread proxies for the majority of the European countries. We use the same control variables as in our benchmark analysis at the country level. The results remain robust, indicating that in most cases, a higher degree of political and interpersonal trust leads to a decline in COVID-19 hospitalizations and more broadly, to the

COVID-19 spread among European countries.

[INSERT TABLES 12 AND 13 HERE]

In Table 14 and Table 15 we conduct a robustness test investigating the relationship between political and interpersonal trust and COVID-19 patients in ICU at the country level. We use as an outcome variable the logged number of ICU patients from 2020 to 2022. The data on ICU patients are also derived from the OWD (Mathieu et al., 2020) and all the control variables as in our baseline analysis at the country level are used. The results remain robust for trust in national institutions and interpersonal trust, finding that in countries where the degree of political and interpersonal trust is higher, the number of ICU patients is decreasing.

[INSERT TABLES 14 AND 15 HERE]

5.4 Mechanism: Compliance to Stringency and Vaccination Policies

Stringency Policies

As from the beginning of the pandemic in January 2020, the increasing spread and mortality rates of COVID-19 globally encouraged national governments to promote measures to control COVID-19 diffusion among countries and protect vulnerable groups of societies. Government measures were changing rapidly from day to day. However, while most of the European countries adopted similar strict policies and restrictions to deal with the pandemic such as lockdowns, other countries initially chose not to take any measure at all. For instance, in Italy, which was one of the first countries to impose restrictions, the confirmed cases and deaths were so high in all age

groups while in Sweden where the measures were quite loose, the death toll of the elderly was so much more limited.

Thus, in this section, we try to investigate the effect of political and interpersonal trust on compliance to stringency policies. As an outcome variable, we use the country's stringency index which is a composite measure of all the measures imposed by the national governments such as school and workplace closures; cancellation of public events; restrictions on public gatherings and internal movements; closures of public transport; stay-at-home requirements; public information campaigns and international travel controls during the pandemic. The stringency index is coming from the Oxford Coronavirus Government Response Tracker and it is expressed as the mean value of the restrictions, measured on a scale between 0 (no measures) and 100 (strict measures). We also replicate our baseline analysis at the country level.

Table 16 reports the effect of political trust on compliance to the policies proposed by the European national governments. Our findings suggest that in countries where individuals trust more political institutions, policies adopted were looser, as individuals were more prone to comply with the measures. However, in these countries even with not establishing strict policies, the COVID-19 spread rates are decreasing and the results are significant at the 1% level except for trust in EU, which is true as all the measures were taken at the national level.

[INSERT TABLE 16 HERE]

Similarly, Table 17 reports the effect of interpersonal trust on the stringency index. In countries where people are trustful, the measures promoted were not so strict and the number of COVID-19 confirmed cases is decreasing. The results are also significant at the 1% level.

[INSERT TABLE 17 HERE]

Vaccination Policies

The lack of knowledge about this new coronavirus, and the uncertainty associated with the timing of an effective therapeutic treatment and an effective vaccine had further accentuated the uncertainty about the likely duration and severity of the pandemic. In addition, the rapid transmission of the virus to almost all economies in the world had further created uncertainty regarding the ability of countries to effectively work together in the fight against this global pandemic. Ultimately, several vaccines have been approved, a growing fraction of the population has been vaccinated, and the world finally entered a path of return to the pre-pandemic normality. Thus, in this subsection, we explore the effect of both political and interpersonal trust on COVID-19 vaccinations across European countries. As an outcome variable, we use the COVID-19 vaccinations derived from the OWD ([Mathieu et al., 2020](#)) as this is the only dataset that contains data on vaccines, covering the majority of the European countries. Moreover, we use in our analysis the same control variables as in our benchmark analysis at the country level.

Table 18 reports the effect of political trust on COVID-19 vaccinations in Europe. We find that in countries where the degree of trust in the political system is higher, individuals are more prone to get vaccinated against COVID-19 in order to diminish the virus diffusion and the total number of vaccinations is higher at the country level. The results are significant at the 1% confidence level except for trust in EU.

[INSERT TABLE 18 HERE]

In line with our results above, Table 19 documents the effect of interpersonal trust on COVID-19 vaccinations across Europe. It is argued that in countries where people trust; i) other people; and the ii) the legal system, the number of COVID-19 vaccinations is increasing. The results are

also significant at the 1% confidence level, indicating that in countries where interpersonal trust is stronger, individuals are not so afraid of getting vaccinated. However, trust in the political institutions has a higher effect in magnitude on COVID-19 vaccinations as vaccination policies are promoted by the national governments as a solution to diminish the COVID-19 spread rates and deaths across countries.

[INSERT TABLE 19 HERE]

Overall, as vaccination was mandatory in the vast majority of countries, we view vaccination rates as a proxy for compliance. In line with our hypothesis, higher political and interpersonal trust is associated with higher rates of compliance.

6 Conclusion

This paper establishes the role of political and interpersonal trust as important determinants of the COVID-19 spread in Europe. Exploiting regional variation across Nuts 1 regions in Europe, we establish that higher levels of political and interpersonal trust lead to a decreasing rate of COVID-19 spread and mortality as expressed by the number of deaths and confirmed cases. We thus establish the critical role of culture on health outcomes, an aspect quite often neglected.

Further studying how culture manifests itself we show that the role of culture is stronger for women as opposed to men. Moreover, our findings suggest that the effect of political and interpersonal trust in the spread of COVID-19 was stronger in 2021 compared to 2022. This indicates that in the absence of formal solutions culture is always a survival strategy driving peoples' decisions. Once therapies and policies were base on more solid ground, the role of culture diminished.

Last we replicate our analysis at the country level as this allows us to study some issues more explicitly (and despite the fact that it comes at the expense of identification). It also gives us the opportunity to study our hypothesized mechanism, i.e., the role of compliance. First, our country level analysis confirms our regional findings. Testing more elaborately the hypothesized mechanism, we find that countries with higher political and interpersonal trust had a higher fraction of vaccinated citizens and adopted weaker measures against the pandemic.

Policy-wise, our findings suggest that adopting a uniform set of measures is not sufficient in achieving a goal. All proposed policies should always embed the relevant cultural elements in order to maximize their effectiveness. The opposite can ultimately result in adverse outcomes, which in the case of COVID-19 translates into several more human losses.

7 Acknowledgments

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Tables and Figures

Table 1: Descriptive Statistics

	no. obs	mean	sd	min	max
<i>Nuts 1 COVID-19 Measures</i>					
COVID-19 Cases	178	20.08	2.47	10.35	25.26
COVID-19 Deaths	105	16.18	2.13	10.68	20.11
<i>Nuts 1 Political Trust</i>					
Trust Parliament	178	4.36	1.18	2.19	6.37
Trust Politicians	178	3.44	1.01	1.75	5.34
Trust Parties	178	3.41	1.04	1.74	5.41
Trust EU	178	4.53	.87	2.12	6.12
Government Satisfaction	178	4.05	.94	2.01	5.45
<i>Nuts 1 Interpersonal Trust</i>					
Trust People	178	4.78	1.13	2.44	6.91
Trust Legal System	178	5.17	1.39	2.81	7.50
Trust Police	178	6.08	1.44	3.43	8.73
<i>Nuts 1 Characteristics</i>					
Fertility rate	178	1.48	.17	1.27	1.91
Population	178	18.64	.72	16.83	20.13
Total Deaths	178	13.85	.76	11.88	15.43
GDP per capita growth	178	96.87	6.59	82.66	118.06
Unemployment rate	178	7.37	3.78	2.94	18.85
<i>Country COVID-19 Measures</i>					
COVID-19 Cases	39	14.11	1.05	11.65	16.30
COVID-19 Hospitalizations	35	13.05	1.45	10.41	15.60
COVID-19 ICU Patients	35	11.21	1.56	7.91	13.82
COVID-19 Vaccinations	35	18.62	4.96	7.85	23.91
<i>Country Political Trust</i>					
Trust Parliament	39	4.51	.89	3.10	6.17
Trust Politicians	39	3.54	.97	2.32	5.34
Trust Parties	39	3.53	1.01	2.32	5.41
Trust EU	39	4.55	.39	4.04	5.44
Government Satisfaction	39	4.15	.68	3.35	5.33
<i>Country Interpersonal Trust</i>					
Trust People	39	4.95	.92	3.81	6.91
Trust Legal System	39	5.08	1.11	3.76	7.36
Trust Police	39	6.10	.84	4.36	7.79
<i>Country Characteristics</i>					
Fertility rate	39	1.53	.18	1.28	1.87
Population	39	20.13	1.06	17.96	21.65
Total Deaths	39	15.50	1.07	13.30	17.11
GDP per capita growth	39	95.83	5.62	82.53	102.67
Unemployment rate	39	6.57	2.54	3.29	13.93
Hospital Beds	39	6.73	.94	4.87	7.97
Stringency Index	39	9.24	.95	7.39	10.17

Notes: The table reports the descriptive statistics.

Table 2: Benchmark Specification: COVID-19 Cases and Political Trust in Nuts 1 Regions

	Logged COVID-19 Cases				
	(1)	(2)	(3)	(4)	(5)
Trust in Parliament	-.2636** [.1032]				
Trust in Politicians		-.3472** [.1463]			
Trust in Parties			-.3493** [.1403]		
Trust in EU				-.2880** [.1155]	
Government Satisfaction					-.2606** [.1258]
R-squared	.58	.58	.58	.58	.57
Sample	178	178	178	178	178
Nuts 1 Controls	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes
Cluster SE	Nuts 1	Nuts 1	Nuts 1	Nuts 1	Nuts1

Notes: This table establishes the effect of trust in political institutions on the COVID-19 confirmed cases in Nuts 1 European regions. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths, as well as country fixed effects. Robust standard errors, clustered at the Nuts 1 regions are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 3: Benchmark Specification: COVID-19 Cases and Interpersonal Trust in Nuts 1 Regions

Logged COVID-19 Cases		
	(1)	(2)
Trust on People	-.2033* [.1172]	
Trust in Legal System		-.1565* [.0864]
R-squared	.57	.57
Sample	178	178
Nuts 1 Controls	Yes	Yes
Country Fixed Effects	Yes	Yes
Cluster SE	Nuts 1	Nuts 1

Notes: This table establishes the effect of interpersonal trust on the COVID-19 confirmed cases in Nuts 1 European regions. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths, as well as country fixed effects. Robust standard errors, clustered at the Nuts 1 regions are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 4: Robustness: COVID-19 Deaths and Political Trust in Nuts 1 Regions

Logged COVID-19 Deaths					
	(1)	(2)	(3)	(4)	(5)
Trust in Parliament	-.3801** [.1865]				
Trust in Politicians		-.4409* [.2322]			
Trust in Parties			-.4584* [.2303]		
Trust in EU				-.4446** [.2120]	
Government Satisfaction					-.3584 [.2256]
R-squared	.51	.50	.50	.51	.50
Sample	105	105	105	105	105
Nuts 1 Controls	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes
Cluster SE	Nuts 1	Nuts 1	Nuts 1	Nuts 1	Nuts1

Notes: This table establishes the effect of trust in political institutions on the COVID-19 confirmed deaths in Nuts 1 European regions. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths, as well as country fixed effects. Robust standard errors, clustered at the Nuts 1 regions are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 5: Robustness: COVID-19 Deaths and Interpersonal Trust in Nuts 1 Regions

Logged COVID-19 Deaths		
	(1)	(2)
Trust on People	-.2988 [.1894]	
Trust in Legal System		-.2185 [.1512]
R-squared	.50	.50
Sample	105	105
Nuts 1 Controls	Yes	Yes
Country Fixed Effects	Yes	Yes
Cluster SE	Nuts 1	Nuts 1

Notes: This table establishes the effect of interpersonal trust on the COVID-19 confirmed deaths in Nuts 1 European regions. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths, as well as country fixed effects. Robust standard errors, clustered at the Nuts 1 regions are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 6: Heterogeneity: COVID-19 Cases and Political Trust of Men vs Women in Nuts 1 Regions

Logged COVID-19 Cases					
	(1)	(2)	(3)	(4)	(5)
Panel A. Men					
Trust in Parliament	-.2291** [.0989]				
Trust in Politicians		-.3162** [.1388]			
Trust in Parties			-.3444** [.1388]		
Trust in EU				-.2623** [.1144]	
Government Satisfaction					-.2318* [.1201]
R-squared	.58	.58	.58	.58	.57
Sample	178	178	178	178	178
Panel B. Women					
Trust in Parliament	-.2984*** [.1081]				
Trust in Politicians		-.3742** [.1537]			
Trust in Parties			-.3438** [.1405]		
Trust in EU				-.3045** [.1154]	
Government Satisfaction					-.2860** [.1305]
R-squared	.58	.58	.58	.58	.58
Sample	178	178	178	178	178
Nuts 1 Controls	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes
Cluster SE	Nuts 1	Nuts 1	Nuts 1	Nuts 1	Nuts1

Notes: This table establishes the effect of trust in political institutions on the COVID-19 confirmed cases between men and women in Nuts 1 European regions. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths, as well as country fixed effects. Robust standard errors, clustered at the Nuts 1 regions are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 7: Heterogeneity: COVID-19 Cases and Interpersonal Trust of Men vs Women in Nuts 1 Regions

Logged COVID-19 Cases		
	(1)	(2)
Panel A. Men		
Trust on People	-.2007* [.1100]	
Trust in Legal System		-.1434* [.0844]
R-squared	.57	.57
Sample	178	178
Panel B. Women		
Trust on People	-.2003 [.1262]	
Trust in Legal System		-.1674* [.0882]
R-squared	.57	.57
Sample	178	178
Nuts 1 Controls	Yes	Yes
Country Fixed Effects	Yes	Yes
Cluster SE	Nuts 1	Nuts 1

Notes: This table establishes the effect of interpersonal trust on the COVID-19 confirmed cases between men and women in Nuts 1 European regions. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths, as well as country fixed effects. Robust standard errors, clustered at the Nuts 1 regions are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 8: Heterogeneity: COVID-19 Cases and Political Trust During the Years of Pandemic in Nuts 1 Regions

Logged COVID-19 Cases					
	(1)	(2)	(3)	(4)	(5)
Year=2021	3.0361*** [.1918]	2.9158*** [.2194]	2.9293*** [.2143]	3.3411*** [.2147]	3.1888*** [.2263]
Year=2022	1.4560 [1.1424]	1.6292 [1.0050]	1.7064* [.9831]	3.9733*** [.8177]	2.1871* [1.1318]
Trust in Parliament	-.3516*** [.1233]				
x Year=2021	-.1003*** [.0362]				
x Year=2022	.3645 [.2184]				
Trust in Politicians		-.4539*** [.1603]			
x Year=2021		-.0923* [.0526]			
x Year=2022		.4124* [.2362]			
Trust in Parties			-.4480*** [.1558]		
x Year=2021			-.0969* [.0509]		
x Year=2022			.3929* [.2313]		
Trust in EU				-.1665 [.1310]	
x Year=2021				-.1637*** [.0452]	
x Year=2022				-.2008 [.1667]	
Government Satisfaction					-.2832* [.1416]
x Year=2021					-.1457*** [.0466]
x Year=2022					.2135 [.2355]
R-squared	.88	.88	.88	.87	.88
Sample	178	178	178	178	178
Nuts 1 Controls	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes
Cluster SE	Nuts 1	Nuts 1	Nuts 1	Nuts 1	Nuts1

Notes: This table establishes the effect of trust in political institutions on the COVID-19 confirmed cases in Nuts 1 European regions from 2020 to 2022. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths, as well as country fixed effects. Robust standard errors, clustered at the Nuts 1 regions are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 9: Heterogeneity: COVID-19 Cases and Interpersonal Trust During the Years of Pandemic in Nuts 1 Regions

		Logged COVID-19 Cases	
		(1)	(2)
	Year=2021	3.1558*** [.2612]	2.8716*** [.2269]
	Year=2022	2.1847* [1.1082]	1.0540 [1.0626]
	Trust on People	-.2253* [.1277]	
x	Year=2021	-.1166** [.0460]	
x	Year=2022	.1826 [.1942]	
	Trust in Legal System		-.2675*** [.0946]
x	Year=2021		-.0527 [.0365]
x	Year=2022		.3857** [.1695]
	R-squared	.87	.88
	Sample	178	178
	Nuts 1 Controls	Yes	Yes
	Country Fixed Effects	Yes	Yes
	Cluster SE	Nuts 1	Nuts 1

Notes: This table establishes the effect of interpersonal trust on the COVID-19 confirmed cases in Nuts 1 European regions from 2020 to 2022. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths, as well as country fixed effects. Robust standard errors, clustered at the Nuts 1 regions are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 10: Country Analysis: COVID-19 Cases and Political Trust

Logged COVID-19 Cases					
	(1)	(2)	(3)	(4)	(5)
Trust in Parliament	-.1296** [.0590]				
Trust in Politicians		-.1354** [.0618]			
Trust in Parties			-.1337** [.0570]		
Trust in EU				-.0341 [.1324]	
Government Satisfaction					-.2394** [.0874]
R-squared	.78	.78	.78	.78	.79
Sample	39	39	39	39	39
Country-Level Controls	Yes	Yes	Yes	Yes	Yes
Cluster SE	Country	Country	Country	Country	Country

Notes: This table establishes the effect of trust in political institutions on the COVID-19 confirmed cases in European countries. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population, the logged total number of deaths, the logged number of beds in hospitals and the logged mean value of the stringency index. Robust standard errors, clustered at the country level are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 11: Country Analysis: COVID-19 Cases and Interpersonal Trust

Logged COVID-19 Cases		
	(1)	(2)
Trust on People	-.1524** [.0600]	
Trust in Legal System		-.0972** [.0353]
R-squared	.78	.78
Sample	39	39
Country-Level Controls	Yes	Yes
Cluster SE	Country	Country

Notes: This table establishes the effect of interpersonal trust on the COVID-19 confirmed cases in European countries. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population, the logged total number of deaths, the logged number of beds in hospitals and the logged mean value of the stringency index. Robust standard errors, clustered at the country level are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 12: Robustness-Country Analysis: COVID-19 Hospitalizations and Political Trust in European Countries

Logged COVID-19 Hospitalizations					
	(1)	(2)	(3)	(4)	(5)
Trust in Parliament	-.2476* [.1197]				
Trust in Politicians		-.3064** [.1277]			
Trust in Parties			-.3008** [.1118]		
Trust in EU				-.3044 [.2114]	
Government Satisfaction					-.3213 [.2040]
R-squared	.94	.94	.94	.94	.94
Sample	35	35	35	35	35
Country-Level Controls	Yes	Yes	Yes	Yes	Yes
Cluster SE	Country	Country	Country	Country	Country

Notes: This table establishes the effect of trust in political institutions on the COVID-19 hospitalizations in European countries. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths, the logged number of beds in hospitals and the logged mean value of the stringency index. Robust standard errors, clustered at the country level are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 13: Robustness-Country Analysis: COVID-19 Hospitalizations and Interpersonal Trust in European Countries

	Logged COVID-19 Hospitalizations	
	(1)	(2)
Trust on People	-.165* [.1171]	
Trust in Legal System		-.147* [.1042]
R-squared	.94	.94
Sample	35	35
Country-Level Controls	Yes	Yes
Cluster SE	Country	Country

Notes: This table establishes the effect of interpersonal trust on the COVID-19 hospitalizations in European countries. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths, the logged number of beds in hospitals and the logged mean value of the stringency index. Robust standard errors, clustered at the country level are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 14: Robustness-Country Analysis: COVID-19 Patients in ICU and Political Trust in European Countries

Logged COVID-19 ICU Patients					
	(1)	(2)	(3)	(4)	(5)
Trust in Parliament	-.3076** [.1010]				
Trust in Politicians		-.2472* [.1209]			
Trust in Parties			-.2332* [.1087]		
Trust in EU				.0087 [.2870]	
Government Satisfaction					-.2962 [.1777]
R-squared	.96	.96	.96	.95	.95
Sample	35	35	35	35	35
Country-Level Controls	Yes	Yes	Yes	Yes	Yes
Cluster SE	Country	Country	Country	Country	Country

Notes: This table establishes the effect of trust in political institutions on the COVID-19 intensive care patients in European countries. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths, the logged number of beds in hospitals and the logged mean value of the stringency index. Robust standard errors, clustered at the country level are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 15: Robustness-Country Analysis: COVID-19 Patients in ICU and Interpersonal Trust in European Countries

Logged COVID-19 ICU Patients		
	(1)	(2)
Trust on People	-.170*** [.0945]	
Trust in Legal System		-.203*** [.0620]
R-squared	.96	.97
Sample	35	35
Country-Level Controls	Yes	Yes
Cluster SE	Country	Country

Notes: This table establishes the effect of interpersonal trust on the COVID-19 intensive care patients in European countries. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths, the logged number of beds in hospitals and the logged mean value of the stringency index. Robust standard errors, clustered at the country level are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 16: Mechanism: Compliance to Stringency Policies and Political Trust in European Countries

Stringency Index					
	(1)	(2)	(3)	(4)	(5)
Trust in Parliament	-6.6518*** [1.1916]				
Trust in Politicians		-6.3811*** [1.1189]			
Trust in Parties			-6.1393*** [1.0276]		
Trust in EU				-2.4067 [3.6501]	
Government Satisfaction					-10.3503*** [1.5490]
R-squared	.87	.80	.82	.52	.89
Sample	39	39	39	39	39
Country-Level Controls	Yes	Yes	Yes	Yes	Yes
Cluster SE	Country	Country	Country	Country	Country

Notes: This table establishes the effect of trust in political institutions on the COVID-19 vaccinations in European countries. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths and the logged number of beds in hospitals. Robust standard errors, clustered a country level are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 17: Mechanism: Compliance to COVID-19 Stringency Policies and Interpersonal Trust in European Countries

	Stringency Index	
	(1)	(2)
Trust on People	-.923*** [1.3118]	
Trust in Legal System		-.869*** [1.0577]
R-squared	.88	.81
Sample	39	39
Country-Level Controls	Yes	Yes
Cluster SE	Country	Country

Notes: This table establishes the effect of interpersonal trust on the COVID-19 vaccinations in European countries. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths and the logged number of beds in hospitals. Robust standard errors, clustered at the country level are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 18: Mechanism: Compliance to COVID-19 Vaccination Policies and Political Trust in European Countries

Logged COVID-19 Vaccinations					
	(1)	(2)	(3)	(4)	(5)
Trust in Parliament	.9075*** [.1985]				
Trust in Politicians		.7453*** [.2209]			
Trust in Parties			.7480*** [.2032]		
Trust in EU				-.0733 [.7225]	
Government Satisfaction					1.0412** [.4181]
R-squared	.16	.16	.16	.15	.16
Sample	35	35	35	35	35
Country-Level Controls	Yes	Yes	Yes	Yes	Yes
Cluster SE	Country	Country	Country	Country	Country

Notes: This table establishes the effect of trust in political institutions on the COVID-19 vaccinations in European countries. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths, the logged number of beds in hospitals and the logged mean value of the stringency index. Robust standard errors, clustered a country level are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

Table 19: Mechanism: Compliance to COVID-19 Vaccination Policies and Interpersonal Trust in European Countries

Logged COVID-19 Vaccinations		
	(1)	(2)
Trust on People	.140** [.2467]	
Trust in Legal System		.151*** [.2144]
R-squared	.16	.16
Sample	35	35
Country-Level Controls	Yes	Yes
Cluster SE	Country	Country

Notes: This table establishes the effect of interpersonal trust on the COVID-19 vaccinations in European countries. The analysis controls for GDP per capita growth, fertility and unemployment rates, the logged total population and the logged total number of deaths, the logged number of beds in hospitals and the logged mean value of the stringency index. Robust standard errors, clustered at the country level are shown in parenthesis; *** denotes statistical significance at 1% level, ** at the 5% level, and * at 10% confidence level. Sample weights are used in our analysis.

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A Online Appendix

Political Trust Variables

Trust in Parties. “Trust in Political Parties” corresponds to the question “Using this card, please tell me on a score of 0-10 how much you personally trust each of the institutions I read out. 0 means you do not trust an institution at all, and 10 means you have complete trust. Firstly [country]’s political parties?”. The source of the data is the European Social Survey.

Trust in Politicians. “Trust in Politicians” corresponds to the question “Using this card, please tell me on a score of 0-10 how much you personally trust each of the institutions I read out. 0 means you do not trust an institution at all, and 10 means you have complete trust. Firstly [country]’s politicians?”. The source of the data is the European Social Survey.

Trust in Parliament. “Trust in Parliament” corresponds to the question “Using this card, please tell me on a score of 0-10 how much you personally trust each of the institutions I read out. 0 means you do not trust an institution at all, and 10 means you have complete trust. Firstly [country]’s parliament?”. The source of the data is the European Social Survey.

Trust in European Union. “Trust in European Parliament” corresponds to the question “Using this card, please tell me on a score of 0-10 how much you personally trust each of the institutions I read out. 0 means you do not trust an institution at all, and 10 means you have complete trust. Firstly the European Parliament?”. The source of the data is the European Social

Survey.

Government Satisfaction. “Satisfaction with the National Government” corresponds to the question “How satisfied with the way national government is doing its job?”. The variable takes values from 0 to 10 with 0 denoting “extremely dissatisfied” and 10 denoting “extremely satisfied”. The source of the data is the European Social Survey.

Interpersonal Trust Variables

Trust in other people. It corresponds to the question “Using this card, generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people? Please tell me on a score of 0 to 10, where 0 means you can’t be too careful and 10 means that most people can be trusted”. 0 means you do not trust other people at all, and 10 means you have complete trust. The source of the data is the European Social Survey.

Trust in the legal system. It corresponds to the question “Using this card, please tell me on a score of 0-10 how much you personally trust each of the institutions I read out. 0 means you do not trust an institution at all, and 10 means you have complete trust. Firstly...the legal system?”. 0 means you do not trust police at all, and 10 means you have complete trust. The source of the data is the European Social Survey.

COVID-19 Variables

Nuts 1 COVID-19 Cases. The (aggregated) number of confirmed cases due to COVID-19 in Nuts 1 European regions. The source of the data is the COVID-19 European Regional Tracker

dataset.

Nuts 1 COVID-19 Deaths. The (aggregated) number of deaths due to COVID-19 in Nuts 1 European regions. The source of the data is the European Regional Tracker dataset.

Country COVID-19 Cases. The (aggregated) number of confirmed cases due to COVID-19 in European countries. The source of the data is the ECDC (European Centre for Disease Prevention and Control).

Country Hospitalizations. The (aggregated) number of hospitalizations during the years of the COVID-19 pandemic. The source of the data is the OWD (Our World in Data).

Country ICU Patients. The (aggregated) number of patients in Intensive Care Units (ICU) during the years of the COVID-19 pandemic. The source of the data is the OWD (Our World in Data).

Country COVID-19 Vaccinations. The (aggregated) number of COVID-19 vaccinations. The source of the data is the OWD (Our World in Data).

Control Variables

GDP per capita growth. Annual percentage growth rate of GDP per capita based on constant local currency. GDP per capita is gross domestic product divided by midyear population. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy

plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. The source of the data is the Eurostat.

Unemployment Rate. Unemployment refers to the share of the labor force (25 years old and above) that is without work but available for and seeking employment. The source of the data is the Eurostat.

Total Population. The total number of persons inhabiting a country, city, or any district or area. The source of the data is the Eurostat.

Number of Deaths. The number of deaths per 1,000 persons. The source of the data is the Eurostat.

Fertility Rate. Total fertility rate represents the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with age-specific fertility rates of the specified year. The source of the data is the Eurostat.

Country Hospital Beds. The (aggregated) number of hospital beds. The source of the data is the OWD (Our World in Data).

Country Stringency Index. A composite measure of nine of the response metrics. The nine metrics used to calculate the Stringency Index are: school closures; workplace closures; cancella-

tion of public events; restrictions on public gatherings; closures of public transport; stay-at-home requirements; public information campaigns; restrictions on internal movements; and international travel controls. The index on any given day is calculated as the mean score of the nine metrics, each taking a value between 0 (no measures) and 100 (strict measures). The source of the data is the Oxford Coronavirus Government Response Tracker (OxCGRT).