

DISCUSSION

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Social capital and the spread of Covid-19: Insights from European countries

Social capital and the spread of Covid-19: Insights from European countries

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Abstract

We explore the role of social capital in the spread of the recent Covid-19 pandemic in independent analyses for Austria, Germany, Italy, the Netherlands, Sweden, Switzerland and the UK. We exploit within-country variation in social capital and Covid-19 cases to show that high-social-capital areas accumulated between 12% and 32% fewer Covid-19 cases per capita from mid-March until mid-May. Using Italy as a case study, we find that high-social-capital areas exhibit lower excess mortality and a decline in mobility. Our results have important implications for the design of local containment policies in future waves of the pandemic.

JEL codes: D04, A13, D91, H11, H12, I10, I18

Keywords: Covid-19, social capital, collective action, health costs, Europe

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1 Introduction

The current Covid-19 pandemic has triggered a tremendous amount of research contributing to a better understanding of the virus and its containment. In absence of medical answers like pharmaceuticals or vaccines, human behavior is the key margin to contain the spread of the pandemic (Van Bavel et al., 2020). Policymakers and health experts around the world summon the population to limit social contacts and follow strict hygiene and distance recommendations, appealing to the social responsibility of their citizens.¹ In other words, politicians ask their citizens to consider the social costs of their individual actions. We define this willingness to act collectively and pursue socially valuable activities as social capital (Putnam, 1993, 2000).²

While social capital plays a key role in official Covid-19 strategies around the globe, there is no systematic evidence on whether it is indeed an important factor in containing Covid-19. This paper adds empirical evidence to this timely question by studying the relationship between social capital and the early spread of the virus. We independently investigate the relationship in seven European countries – Austria, Germany, Italy, the Netherlands, Sweden, Switzerland and the UK. As countries differ in many macroeconomic and Covid-19-specific aspects, it is challenging to identify the systematic effect of any economic or cultural factor from the comparisons between countries. Our empirical strategy rather draws on several independent country analyses, exploiting within-country regional variation in the spread of Covid-19 and social capital. Following the literature, we operationalize social capital by area-specific electoral turnout in the 2019 European election, yielding a consistent and comparable measure across countries that has little measurement error and is likely to be largely unaffected by economic factors (Putnam, 1993, 2000).

From a theoretical perspective, social capital, the spread of Covid-19 and containment policies interact in various ways. First, high-social-capital areas are known to be more vibrant and better connected, economically and socially (see, e.g., Knack and Keefer, 1997; Tabellini, 2010). Hence, we expect the virus to spread more quickly in those areas in the beginning of the pandemic, when information about the virus and its severity were incomplete. Second, as soon as the importance of behavioral containment norms becomes more salient, we expect the relationship to change. Complying with containment norms yields a classical collective action problem (Ostrom, 1991): it is costly for the individual,

¹ Some prominent examples are: Angela Merkel (18.03.2020): “This is the greatest challenge for our country since WWII, in which taking action collectively as a society is key.” Emmanuel Macron (16.03.2020): “But the best rule is the rule that you, as citizens, impose on yourselves. Once again, I am appealing to your sense of responsibility and solidarity.” Giuseppe Conte (26.04.2020): “The responsible conduct of everyone of us will be fundamentally important. (...) If you love Italy, keep your distance.”

² In this definition, sometimes also referred to as civic capital (Guiso et al., 2011; Lichter et al., 2020), we narrow down the broader concept of social capital to its positive facet of helping a group to overcome free rider problems, which fits best to the current Covid-19 crisis.

while the single individuals' contribution to the collective goal is negligible. Social capital is assumed to overcome exactly such problems by increasing the willingness to contribute to the common good (Coleman, 1990; Ostrom, 1999; Putnam, 1993, 2000). Hence, we expect that informal rules of containment are more likely to be (voluntarily) adopted in areas with high social capital, leading to a relative decrease in infections. Third, there are interactions with the strictness of containment policies. During lockdowns, rules are formalized, violations are easier to detect and to be sanctioned, making non-compliance more costly for the individual. Hence, we would expect containment to depend less on social capital during stricter policy regimes.

We implement the same microeconomic within-country design in all seven countries. Our main empirical specification boils down to a two-way fixed effects model with area and day fixed effects. In each country, we regress the daily log cumulative Covid-19 cases on a measure of pre-determined social capital interacted with day fixed effects. The logarithmic model accounts for the exponential growth of the virus. We flexibly control for differences in regional outbreak patterns, e.g. due to regional policies, with region-by-day fixed effects. Furthermore, we account for the possibility that high-social-capital areas might be hit earlier and that the pattern of the spread might change over time, e.g., due to more accurate information about the virus, by including weeks-since-outbreak-by-day fixed effects.

We choose cases as our main outcome because it is available at a fine geographic level across many countries. To address well-known issues of measurement error and endogeneity related to the number of reported cases, such as (non-random) differences in testing, we use log cumulative excess mortality as an alternative outcome for Italy. Excess mortality is defined as the count of all deaths on a given day relative to the same day in 2019. In addition, we use mobility data from cell phone locations to test for the hypothesized underlying individual behavior. For both mortality and mobility, we observe outcomes prior to the outbreak, giving rise to a standard differences-in-differences design and enabling us to test for differential pre-treatment trends. Moreover, we validate that our results are not driven by obvious confounders like education level, income or population size, and that they are sustained when using well-established alternative measures of social capital such as blood donations and historical literacy rates (Guiso et al., 2004; Tabellini, 2010).

We derive the following main findings. First, the number of Covid-19 cases is initially higher in high-social-capital areas. Second, as information on the virus spreads, high-social-capital areas start to show a slower increase in Covid-19 cases in all seven countries. Third, high-social-capital areas also exhibit a slower growth in excess deaths in Italy. Fourth, individual mobility is reduced more strongly before the lockdown in Italian high-social-capital areas. Fifth, we provide suggestive evidence that the role of social capital is reduced when national lockdowns are enforced, as the differences in mobility between high- and low-social-capital areas vanish after the national lockdown is enacted.

Our findings contribute to the current literature evolving around the Covid-19 pandemic, individual behavior and containment policies. Engle et al. (2020) and Painter and Qiu (2020) show that the impact of restriction orders in the US is stronger in democratic-leaning counties. On the macro level, Frey et al. (2020) show that countries with democratically accountable governments introduced less stringent lockdowns, but were more effective in reducing geographic mobility at the same level of policy stringency. Born et al. (2020) show that Sweden – the only European country without a lockdown – did not behave much differently from other European countries in terms of crisis dynamics. They conclude that “voluntary social restraint goes some way in resolving the lockdown puzzle”. Our study complements these macro studies by providing within-country evidence and pointing to social capital as a key driving force behind this social restraint.

There are two projects looking at the role of social capital and mobility. Durante et al. (2020) investigate the relationship between social capital and mobility for Italy using similar data. We show that social capital only induces differential mobility responses *before* the lockdown when controlling for local economic conditions. This finding is in line with evidence by Borgonovi and Andrieu (2020), who show a positive correlation between social capital and early mobility reductions for US counties.

More generally, our findings contribute to the literature on the importance of social capital for society. Apart from well-established positive economic, social and political implications (see, e.g., Glaeser et al., 1996; Goldin and Katz, 1999; Guiso et al., 2004; Knack and Keefer, 1997; Nannicini et al., 2013; Tabellini, 2010), we add another dimension by showing social capital’s important impact on health during medical crises. This is in line with the study by Klinenberg (1999), arguing that a lack of social capital was related to the high mortality rate during the 1995 Chicago heat wave.

In the light of possible future Covid-19 waves, our findings have important implications for policymakers when deciding on the relaxation of containment policies. As regional turnout is easily observable, local policy makers can take this proxy into account when determining the strictness of local containment policies, trading off the economic consequences of a lockdown against infection risk.

The remainder of the paper is structured as follows. Section 2 summarizes the data. In Section 3, we present within-country evidence on the spread of Covid-19 across seven European countries. In Section 4, we zoom in on the case of Italy, providing further supportive evidence on mortality and mobility and validate that our main results are robust to various endogeneity concerns. Section 5 concludes.

2 Data

We use publicly available data on health and social capital from seven European countries that publish the daily number of total Covid-19 infections at fine-grained geographical levels. In the following, we briefly describe the variables used in the empirical analysis. More information and detailed data sources are documented in Appendix Table A.1. Appendix Table A.2 provides the corresponding descriptive statistics.

Geographical level. We compile measures of the spread of Covid-19 and social capital at the finest geographical level available for each country. We refer to this unit of observation as “area” throughout the paper. Areas have different names across countries, but mostly refer to the NUTS3 definition of the European Union (see Appendix Table A.3).³ We refer to the higher NUTS1 geographical level as regions.

Outcomes. For all countries, we obtain the daily number of Covid-19 cases since the early phase of the outbreak. The respective country samples start when more than 90% of all NUTS3 areas in a country have registered at least one official case. Our main outcome variable is the log cumulative number of confirmed Covid-19 infections per 100,000 inhabitants within an area on a given day. Appendix Figure A.1 shows the evolution of cumulative Covid-19 cases per 100,000 inhabitants at the national level across countries.

For Italy, we additionally use data on the number of excess deaths at the municipality level, which is finer than the area (province) level. Excess mortality measures the number of deaths per day relative to the same day in the previous year. The evolution of daily excess mortality at the national level until mid-April 2020 is plotted in Appendix Figure A.2.

We also acquired proprietary data on daily individual movements in Italy from the technology firm Teralytics. The data contain the number of journeys within and across provinces based on changes in cell phone locations. Appendix Figure A.3 plots the number of weekly journeys per capita at the national level.

Social capital. We operationalize social capital by voter turnout in the 2019 European Parliament election. Political participation is a frequently-used and well-established measure of social capital, or civicness (Putnam, 1993, 2000). An extensive literature documents that political participation is a strong correlate of pro-social preferences and the willingness to contribute to public goods (see, e.g., Bolsen et al., 2014; Dawes et al., 2011;

³ In the Netherlands (municipality level) and Austria (district level), we have data on even finer levels. The NUTS system is based on existing national administrative subdivisions. The average population size within a NUTS3 area in a country is typically between 150,000 and 800,000 inhabitants.

Fowler, 2006; Fowler and Kam, 2007; Jankowski, 2007). Turnout is unlikely to be driven by other economic and legal factors and should have little to no measurement error (Guiso et al., 2004). In the context of our study, we can use data from the same election in most countries. For Switzerland, we use data on turnout at the last national elections in 2019. As a sensitivity check, we use two alternative measures of social capital proposed in the literature for the case of Italy: blood donations per capita (Guiso et al., 2004; Putnam, 1993) and historical literacy rates (Tabellini, 2010) (see Section 4.3).

Controls. We test the sensitivity of our results to potential confounders for the case of Italy by controlling for the share of white-collar workers, the share of the population older than 65 years, the share of college-educated individuals, the number of hospitals per capita, log population, log GDP per capita, and the population density. See Section 4.3 for results, and Tables A.1 and A.2 for more details on the variables.

Timing of events. The timing of the Covid-19 outbreak and policy responses differ across countries. Moreover, the adopted policy measures vary in strictness. While Italy enforced a strict and long lockdown, Sweden has not adopted a lockdown so far. We highlight the most important events in each country in Appendix Table A.4.

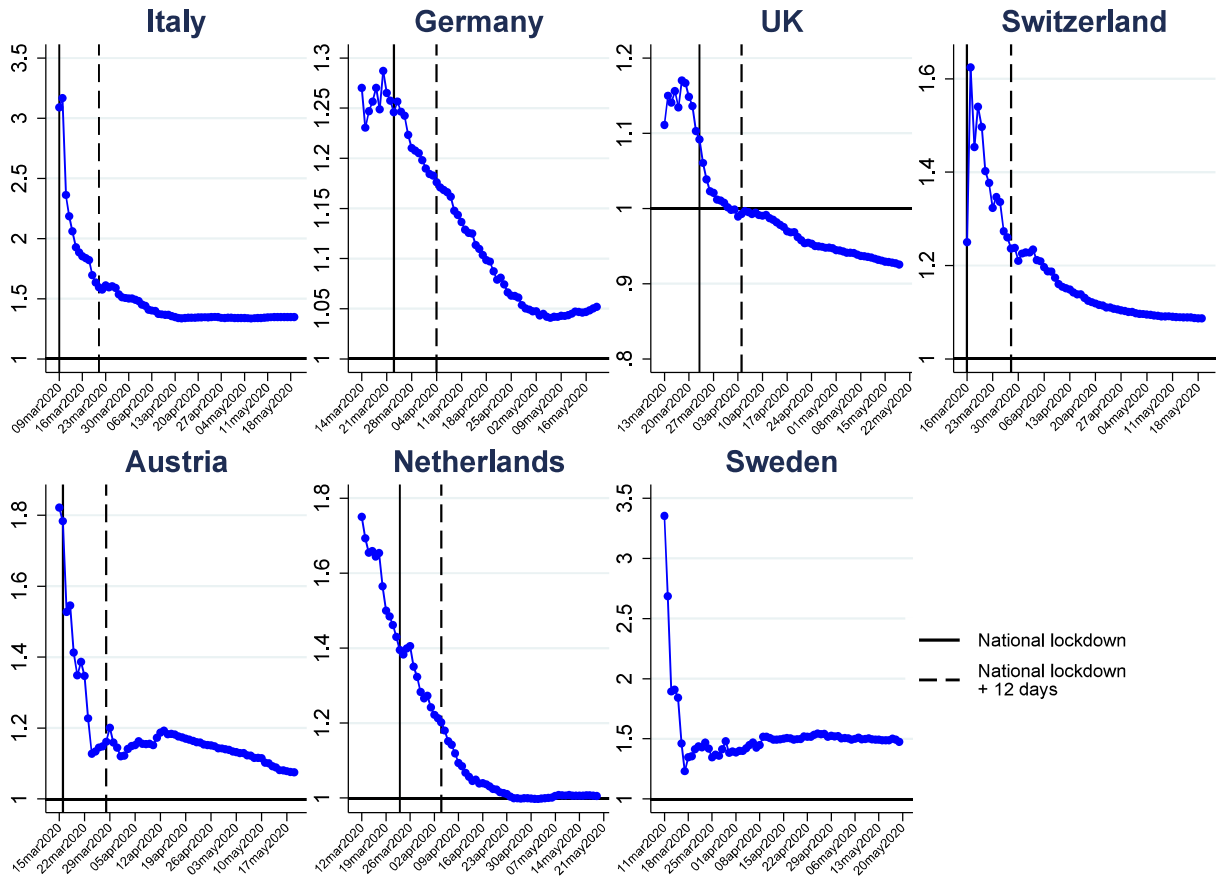
Lag of responses. Any change in behavior or policy will affect the number of Covid-19 cases with a lag. First, there is the incubation time, which is the time from the infection until the appearance of first symptoms. Second, there is the confirmation time, which is the time between the first symptoms and the confirmation of the case. Naturally, both periods differ across individuals, time and countries. For incubation time, we follow the WHO and assume a duration of 5 days (Lauer et al., 2020). There is much less evidence on confirmation time. We assume that the confirmation time is 7 days, using the reported median duration from a study by the official German health agency RKI (Heide and Hamouda, 2020). In total, we conclude that any behavioral change will affect Covid-19 cases after around 12 days.

3 Cross-country results on Covid-19 cases

3.1 Descriptive evidence

In a first step, we investigate the descriptive pattern of the spread of Covid-19 and its relation to social capital across countries. We dichotomize social capital into high- (above-regional-median turnout) and low-social-capital (below-regional-median turnout) areas for each country. We define the ratio of the number of cases per capita in high- relative to

Figure 1: Cumulative Covid-19 cases in high relative to low-social-capital areas



Notes: This figure shows the ratio of cumulative Covid-19 cases per capita in high- vs. low-social-capital areas. The sample is divided at the median of turnout at the NUTS1 region level. Areas with a value above the median are defined as high-social-capital areas and those below as low-social-capital areas. The blue lines plot the population-weighted average of the regional ratios over time. The solid black line marks the date of the national lockdown, the dashed black line the date of the national lockdown plus an incubation period of 12 days.

low-social-capital areas within each region and calculate the population-weighted average ratio across regions to obtain the national ratio.

Figure 1 plots the cumulative per-capita Covid-19 cases in high-social-capital areas relative to low-social-capital areas over time. Across all countries, we see that the virus initially is more prevalent in high-social-capital areas. The initially high level is to be expected as people in areas with a high level of social capital have been shown to have closer social and economic connections, which should exacerbate the spread of the virus initially when information on the severity of the virus and appropriate behavior are incomplete. Starting from this high initial level, we then see a sharp decline in the ratio. In Italy, for instance, high-social-capital areas initially exhibit about three times more cases per capita relative to low-social-capital areas. Over time, the differential drops until high- and low-social-capital areas have almost equally many cases per inhabitant. Strikingly, the decline starts before national lockdown policies could have been effective due to the lagged response, which is a first indication that socially responsible behavior might play

a role. The Swedish case without a lockdown is the prime example.

3.2 Empirical model

While Figure 1 presents simple correlations over time, we suggest the following more rigorous empirical model to systematically study the evolution of the relationship between social capital and the spread of the virus in each country:

$$\ln cumcases_{ard} = \sum_{d=2}^{d^{max}} \beta_d date_d \cdot SocCap_a + \gamma_a + \omega_{rd} + \varepsilon_{ard}. \quad (1)$$

Our main outcome variable $\ln cumcases_{ard}$ is the log cumulative number of cases per 100,000 inhabitants in area a within region r on day d . The logarithmic model accounts for the exponential growth of the virus. The variable $SocCap_a$ is our measure of social capital, defined as turnout in the European Parliament election of 2019, normalized by its country-specific standard deviation. Hence, a one-standard-deviation increase in turnout (social capital) affects the number of cumulative cases per 100,000 inhabitants measured on day d by approximately $100 \times \beta_d\%$.

The indicator variable $date_d$ is set to one for the respective day, which runs from the first until the last day, day^{max} , for which we observe the number of Covid-19 cases. We start the sample when more than 90% of all NUTS3 areas have registered at least one official case. Indicator variable γ_a captures area fixed effects, which account for time-invariant, area-specific factors. Given area fixed effects γ_a , we normalize coefficients β_1 to zero in all countries, such that all other β_d coefficients measure the effect of social capital relative to this reference day. Loosely speaking, the empirical model (1) investigates the slope of the country-specific patterns shown in Figure 1. The set of dummy variables ω_{rd} captures NUTS1-region-specific day fixed effects and, hence, flexibly accounts for potential policy responses at the regional level and region-specific dynamics in the spread of the virus. We cluster standard errors at the area level.

The β coefficients compare the evolution of areas with a higher turnout to areas with a lower turnout over time and associate the differences in log cases with the level of social capital. Area A might have an earlier outbreak than area B and consequently be on a different point of the outbreak curve. We assess the sensitivity of our results to this potential bias by adding weeks-since-outbreak fixed effects to the baseline model. This set of fixed effects implicitly synchronizes the outbreak dates of the areas by accounting for the average pattern of an outbreak across areas. As information about Covid-19 spreads quickly, it is however possible that outbreak patterns change over time. To allow for these additional dynamics, we interact weeks-since-outbreak fixed effects with calendar-day fixed effects ($date_d \times weekssinceoutbreak_{ad}$) and assess whether our estimates are sensitive to the inclusion of this large set of fixed effects. Reassuringly, Appendix Figure

B.2 shows that estimates barely change.

Our identifying assumption is that no other factor correlated with social capital systematically affects growth rates of Covid-19 cases. We conduct various sensitivity checks to assess whether the assumption is likely to be violated. First, we control directly for the most obvious confounders, for instance GDP per capita, education or population density (each interacted with day fixed effects). We also interact these covariates with weeks-since-outbreak fixed effects to test whether the potential confounder led to differential growth rates between the date of the outbreak and our sample start. Second, we use historical proxies for social capital that are less likely to be correlated with contemporaneous confounders. We conduct all these tests for the case of Italy in Section 4.3 of the paper. Last, we analyze excess deaths and mobility patterns for Italy. While the concept of Covid-19 cases is not defined before the outbreak, such that we cannot test for parallel pre-trends, the same is not true for excess mortality and mobility. Our results in Sections 4.1 and 4.2 show that high- and low-social-capital areas did not differ systematically with respect to these outcomes before the outbreak.

3.3 Estimation results

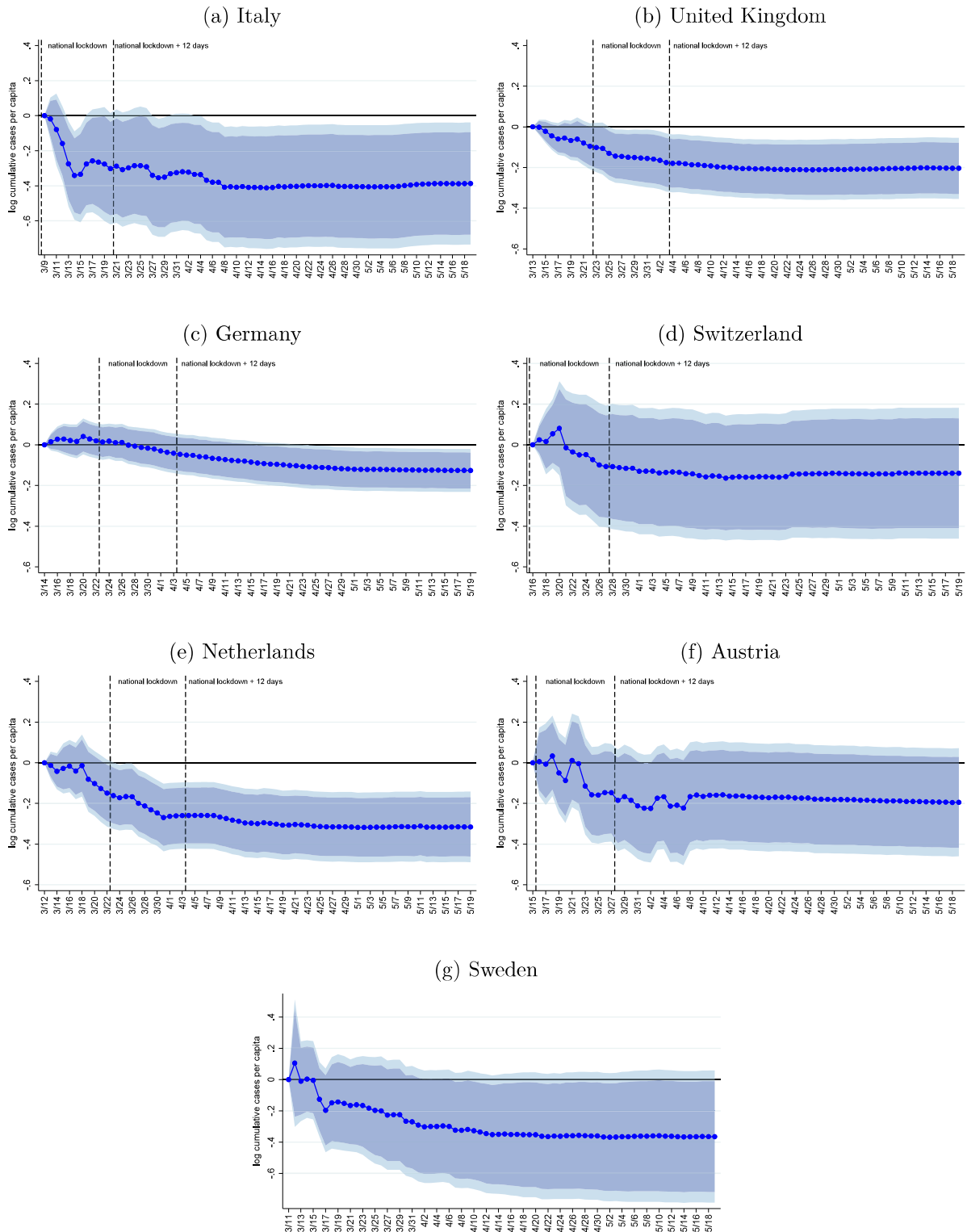
Figure 2 visualizes the β coefficients from equation (1). Across all countries, we see a similar pattern: high-social-capital areas exhibit a slower growth in cumulative cases than low-social-capital areas. This reduces the cases they accumulate over the considered periods by between 12% (Germany) and 32% (Italy). Results are significant at the 95% level for Italy, the UK, the Netherlands and Germany, and at the 90% level for Sweden. Countries with a loose (the Netherlands) or no lockdown (Sweden) show effects which are in the ballpark of Italy.

Below, we show that results are not driven by potentially confounding variables, such as GDP, educational attainment or population density. Neither are the results sensitive to the choice of our proxy for social capital (see Section 4.3 and Figure 5).

Overall, we interpret the consistent pattern obtained from independent analyses of seven countries as strong evidence in favor of the hypothesis that social capital plays an important role in slowing down the spread of the virus.

In terms of dynamics, Figure 2 shows that areas with high social capital exhibit a slower growth in Covid-19 cases in the early phase of the pandemic. Importantly, this occurs before the lockdown could have had an effect. It is exactly during this initial phase that we expect the impact of social capital to be strongest, as responsible individual behavior such as reducing mobility and practicing voluntary distancing is the only means to flatten the curve. The case of Sweden, which did not enact a lockdown, corroborates this claim. After national lockdowns take effect, the growth differential between low- and high-social

Figure 2: Effect of social capital on the spread of Covid-19 cases



Notes: The figure presents the differential evolution of the relationship between cumulative Covid-19 infections per 100,000 inhabitants and social capital across time. The estimates are based on the model outlined in equation 1 (see Appendix table C.1 for the point estimates). All values are normalized at the date of the first observation. The first dashed line marks the date of the national lockdown, the second dashed line the date of the national lockdown plus 12 days to account for incubation plus confirmation time. Since there was no official lockdown in Sweden, no dashed lines are displayed in panel (g). The dark (light) blue area corresponds to the 90% (95%) confidence interval.

capital areas stabilizes and remains constant thereafter.⁴ This suggests that there is no additional effect of social capital once lockdowns are in place. Below, we use mobility data to provide further evidence in support of the claim that socially responsible behavior in low- and high-social capital areas converges after a lockdown (see Section 4.2).

4 The Italian Case: Mortality, Mobility and Sensitivity

In this section, we zoom in on the Italian case. We use this example to show that our results are robust to various conceptual and econometric concerns. We present additional evidence on excess mortality and on the mobility patterns of individuals, supporting our hypothesis that social capital is an important factor driving the spread of the virus.

We singled out Italy for four reasons. First, it was the first country in Europe to be hit by the virus. Hence, government and citizens were more surprised by and unprepared for the severity of the epidemic than other European countries. The Italian case, in turn, influenced all other countries' populations and policymakers. Second, Italy is one of the few countries to report data on excess mortality at the municipality level, which is another important outcome, and has conceptual advantages over the number of cases. Third, we were able to collect mobility data at the province level for Italy. As a consequence, we can investigate how social capital directly affects individual behavior, which is key to validate the mechanism behind our hypotheses. Fourth, research on social capital has oftentimes focused on Italy, such that there are well-established historical measures of social capital which can be used to corroborate our findings.

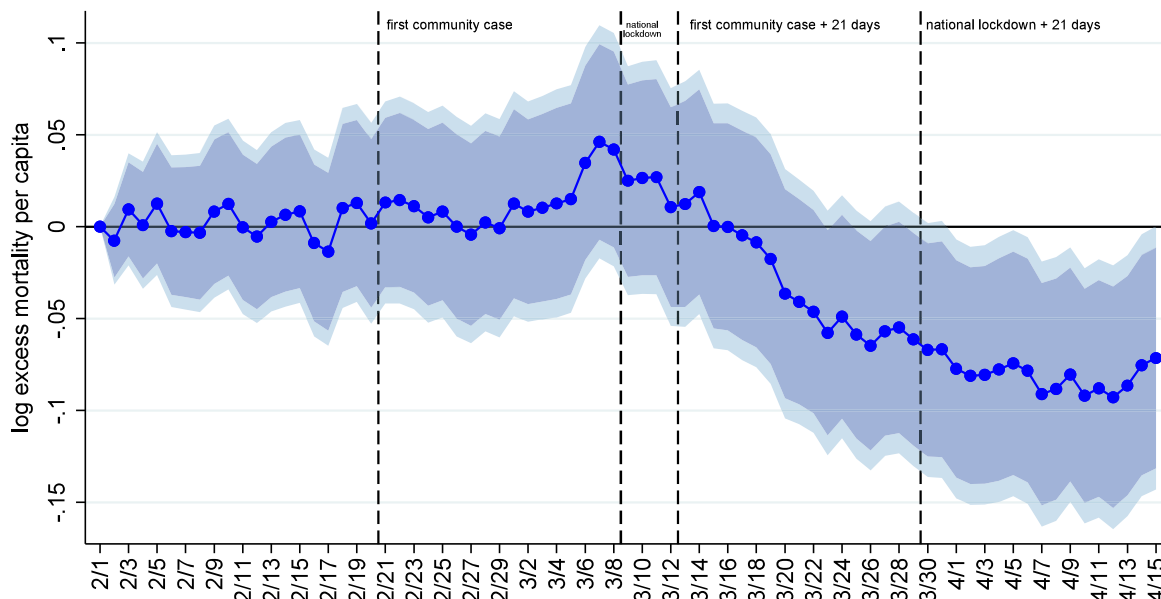
4.1 Excess mortality

If higher social capital slows down the spread of Covid-19 cases, we would also expect to see an effect on the number of Covid-19-related deaths. Looking at mortality is clearly important in its own right. In the absence of effective medication, it is also insightful as the number of deaths should depend less on testing capacities, which might in turn be endogenous to social capital.⁵ Our preferred measure of mortality is the number of local excess deaths, defined as the difference in mortality between 2020 and 2019. We prefer this measure over official Covid-19 deaths for three reasons. First, and in contrast to the number of Covid-19-cases, we observe excess mortality already before the start of the pandemic. This enables us to evaluate the common trend assumption as in a standard

⁴This convergence is also depicted in Appendix Figure B.1, which plots the daily social capital effect relative to the effect on the last sample day.

⁵Mortality is not completely immune to that concern, as more testing might imply more effective isolation of infected individuals.

Figure 3: Effect of social capital on excess deaths in Italy



Notes: The outcome variable is the log number of excess deaths per 100,000 inhabitants (additional deaths in 2020 compared to 2019) from February 1st to April 15th. The estimates are based on the estimation model outlined in equation 2 (see Appendix table C.2 for the point estimates). The dark (light) blue area corresponds to the 90% (95%) confidence interval.

difference-in-difference model and test for pre-treatment differences between high- and low-social-capital municipalities. Second, official Covid-19 mortality is only published at the regional level in Italy, while excess mortality is available at the municipality level. Third, the official numbers are likely to underestimate the true increase in mortality, since a substantial number of people died without being tested (Ciminelli and Garcia-Mandicó, 2020).

In order to study the impact of social capital on mortality, we transform our baseline model (1) to the municipal level:

$$\ln excessmortality_{mpd} = \sum_{d=2}^{d^{max}} \beta_d date_d \cdot SocCap_m + \gamma_m + \omega_{pd} + \varepsilon_{cpd}. \quad (2)$$

Now, our outcome variable is the log cumulative excess deaths per 100,000 inhabitants in municipality m located in province p on day d . As we are able to exploit variation at the municipal level, we can also include more fine-grained province-by-day fixed effects, ω_{pd} .

Figure 3 shows that by mid-April, a one standard deviation increase in turnout is significantly associated with 7% fewer accumulated excess deaths. Reassuringly, mortality before the pandemic evolved in parallel between high- and low-social-capital municipalities, which lends support to our identifying assumption. Results are also robust to controlling for different potential confounders, see Section 4.3 and Figure B.3 in the Appendix.

The observed dynamics corresponds well with the pattern observed in Figures 1 and 2. In early March, the number of excess deaths in high-social-capital areas increases slightly, which is in line with the hypothesis that areas with a higher social capital are more connected socially and economically, such that the virus can initially spread faster. We then see a sharp turning point around the day of the national lockdown. This trend break cannot be driven by the lockdown due to the incubation time and the duration of the disease before it leads to a fatality. Instead, we find that excess mortality drops in high-social-capital areas about two to three weeks after the first community case was discovered, which is in line with (preliminary) evidence that deaths tend to occur around three weeks (21 days) after the infection (Yang et al., 2020). The effect of social capital on excess deaths stabilized around 20 to 25 days after the lockdown.

4.2 Mobility effects

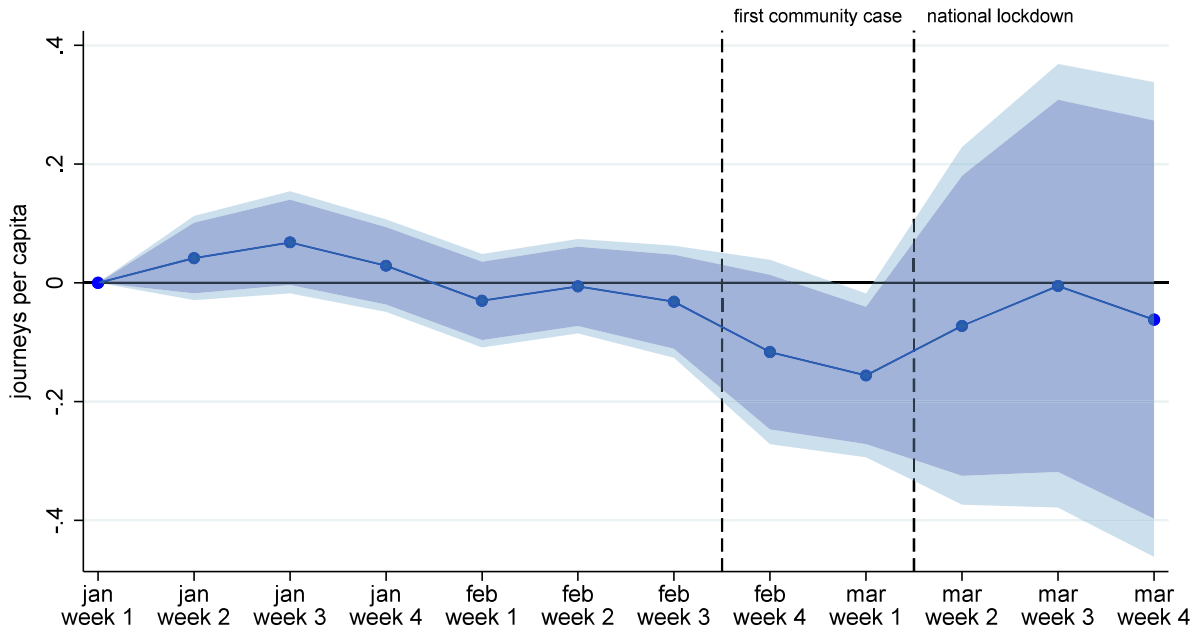
Next, we take a closer look at individual mobility, one of the main mechanisms through which social capital might affect the spread of the virus. Moreover, mobility, being a direct measure of individuals' behavior, is immune to the concern of endogenous testing. Hence, it can help us to check whether changes in individuals' behavior are likely to drive our effects. Using the number of weekly journeys per capita, as captured by data on cell phone locations, as an outcome, we re-estimate equation (1) to see whether individuals' mobility in high-social-capital areas evolves systematically differently over the course of the Covid-19 outbreak in Italy.

We aggregate the empirical model given in equation (1) from the daily to the weekly level to reduce noise and use the total number of journeys originating in area a and week w as our outcome measure. Similar to the number of excess deaths, we observe mobility before the outbreak, giving rise to a standard differences-in-differences design.

Figure 4 presents the mobility results. Up until the third week of February, we do not detect significant differences in the number of journeys between high- and low-social-capital areas. The flat pre-outbreak trends imply that our identifying assumptions holds. After Italy experiences its first Covid-19 community case, around the end of the third week of February, mobility in areas with higher social capital declines significantly over the following two weeks. This differential between high- and low-social-capital areas vanishes after the national lockdown is enforced. In terms of magnitude, we find that a one-standard-deviation increase in turnout decreases mobility by 0.16 journeys per capita in the first week of March. This translates to a 15% reduction relative to the average pre-Covid mobility.

The dynamic pattern shown in Figure 4 is different from the findings by Durante et al. (2020), who show that higher social capital leads to persistently lower levels of mobility

Figure 4: Effect of social capital on mobility in Italy



Notes: The figure shows the estimation results of the impact of social capital on individuals mobility. They are based on the estimation model outlined in equation 1 (see Appendix Table C.3 for point estimates). The outcome variable captures the weekly number of journeys per capita. The estimates control for the share of people above 65, the share of males, the share of white-collar workers, the share of college graduates, the number of hospitals per 100,000 inhabitants, population density, log population, altitude, the share of inhabitants living at the coast, an indicator for having an airport and log GDP per capita.

even after the lockdown. The reason for this difference is that our model controls for NUTS1-by-day fixed effects and GDP. Appendix Figure B.4 shows that the inclusion of both variables is important for the post-lockdown effect.⁶ NUTS1-by-day fixed effects are important, since they account for regional policy responses and different regional outbreak patterns. GDP per capita is an important control because mobility in high-income areas is likely to be quite different from low-income areas after the lockdown, for example due to different possibilities to work from home. In line with this reasoning, Engle et al. (2020) show for the US that high-income counties reduce mobility more strongly following stay-at-home-orders.

Overall, our results corroborate the implied mechanism of social capital reducing the spread of Covid-19 through individual behavior. The used data, discussed in Section 2, are only able to capture the quantity of mobility (the number of journeys undertaken) and not the quality (what people travel for). It is, however, likely that social capital also affects the quality of mobility. People in high-social-capital areas might, for example, additionally reduce their contact to risk groups voluntarily and more quickly. As a consequence, the mobility estimates are likely a lower bound of the overall behavioral effects which drive the differential development of cases.

⁶ Other small differences in the set of controls do not affect our results.

4.3 Robustness

Confounders. Measures of social capital, like voter turnout, are likely to be correlated with other, non-Covid-19-related characteristics. Hence, we have to make sure that the observed relationship between Covid-19 cases and social capital is not driven by these factors. Obvious confounders at the area level are (i) education (more skilled people understand more quickly what is at stake); (ii) age (older people are more endangered by the virus); (iii) income (higher-income groups can afford to reduce their labor supply more); (iv) occupation type (white-collar workers can work from home more easily) (v) population density (facilitates the spread of the disease); (vi) hospital density (better medical infrastructure helps to fight the virus) and (vii) population size (economies of scale might imply better infrastructure).

A straightforward test whether these confounders drive the observed differences is to control for them in the empirical model. We do so by allowing for day-specific effects of each control variable. Moreover, areas might differ in their infection curve even before our sample start. For example, areas with a high GDP per capita might exhibit a sharper increase in the beginning. We test the sensitivity of our estimates to this potential bias by additionally interacting our control variables with the number of weeks since the local outbreak.

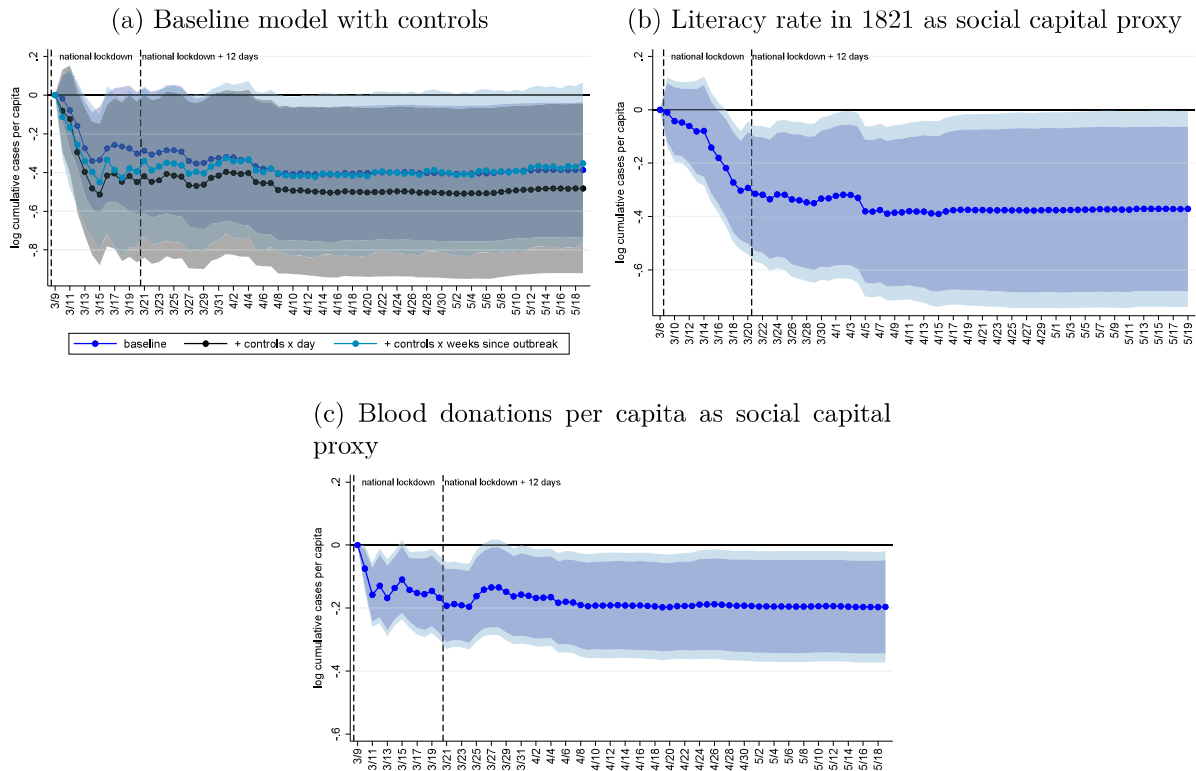
Panel (a) of Figure 5 shows the resulting estimates. Magnitudes, dynamics and statistical significance are very similar across specifications. The same is true when looking at excess deaths (see Appendix Figure B.3). These results corroborate the independent role of social capital in our main results.

Historical social capital measure. An alternative approach to address endogeneity concerns is to make use of a historically predetermined measure of social capital. The literature on social capital frequently studies the case of Italy, because there is large variation in social capital which can be attributed to historical origins (see, e.g., Nannicini et al., 2013; Putnam, 2000). It is well established that culture, and thus also cultural traits like social capital, are passed on from generation to generation and are thus quite persistent over time (Alesina et al., 2013; Bisin and Verdier, 2000; Tabellini, 2008). Consequently, historical institutions, which have shaped social capital in the past but have long disappeared, still predict the level of social capital today.

Tabellini (2010) shows that 19th-century literacy rates are good predictors of social capital across contemporaneous European regions. Following this rationale, we use the literacy rates from Italy in 1821 as a proxy for social capital. The province-level data are reported in Ciccarelli and Weisdorf (2018).⁷ The literacy rate is measured prior to the strong

⁷ As we operate at the NUTS3 level, we could not use the data in Tabellini (2010), which cover NUTS1 or NUTS2 regions across Europe.

Figure 5: Sensitivity tests for Italy



Notes: The figure shows the estimation results of the impact of social capital on the evolution of Covid-19 infections. They are based on the estimation model outlined in equation 1 and the outcome variable is the log cumulative number of Covid-19 infections per 100,000 inhabitants. Estimates in Panel (a) control for the share of people above 65, the share of white-collar workers, the share of college graduates, the number of hospitals per 100,000 inhabitants, population density, log population, and log GDP per capita (see Appendix Table C.4 for point estimates). In Panel (b) we use literacy rates in 1821 as our proxy for social capital (see Appendix Table C.5 for point estimates). In Panel (c) we proxy for social capital with the number of blood donations per capita in 2017 (see Appendix Table C.6 for point estimates).

economic divide between Northern and Southern Italy that emerged in the years before the Italian unification in 1861 (Ciccarelli and Weisdorf, 2018). Panel (b) of Figure 5 shows that the result with this alternative measures of social capital is very similar to our baseline estimates.

Alternative contemporaneous social capital measure. As a final test, we show that our results are also robust to using a different contemporaneous social capital measure. Instead of turnout, we utilize another well-established measure of social capital, namely the number of blood donations per capita in an area (see, e.g., Guiso et al., 2004; Putnam, 1993). We obtain the number of whole blood and plasma donations per capita at the province level from AVIS, the Italian association of blood donors. Panel (c) of Figure 5 shows that the result is again similar when using this alternative measure of social capital.

5 Discussion

In this paper, we provide evidence from seven European countries that culture and social capital have a considerable impact on the containment of Covid-19 and the number of deaths. Social capital, long known to be related to favorable economic developments, can thus unfold additional potential in times of (health) crises which call for collective action and socially responsible behavior. The positive effects of social capital are likely to go beyond health outcomes. Experience from the Spanish Flu demonstrates that the success of virus containment directly relates to the size of the following economic downturn and its recovery speed (Barro, 2020; Barro et al., 2020). Hence, we expect that higher social capital also has an indirect positive effect on the economy during and after the crisis.

Our results have important implication for policymakers. During the current crisis, our findings suggest that low-social-capital areas might need to consider stricter formal policies to contain the virus. Since turnout rates are readily observable, they could be directly targeted when designing the local policy response to Covid-19. The recent policy shift in Germany that delegated more responsibility to the county level might be a good way to allow for this regional flexibility, especially with the looming threat of a second outbreak in the fall or winter.

In the longer run, investing in social capital formation is an important insurance against similar future pandemics. The insights from our study mandate policymakers to invest not only into the health system, but also into social capital formation to be well-prepared. Possible points of departure are local community programs to increase social interactions, which may carry over to increased cooperation and pro-social behavior (see, e.g., Fearon et al., 2009). However, investments should not be limited to low-social-capital areas. This is in particular true since pandemics might themselves erode social capital (Aassve et al., 2020).

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A Online Appendix: Data

The countries included in our study are Austria, Germany, Italy, the Netherlands, Sweden, Switzerland, and the UK. We recover the total number of Covid-19 cases from the official institutions in each country. We augment the data sets with information on social capital and other regional characteristics. Appendix Table A.1 briefly describes the data for each country separately. As in the main text we refer to each geographical unit as “area”. Appendix Table A.2 shows summary statistics for all variables. Appendix Table A.3 summarizes the different geographical units for each country.

Table A.1: Definition of variables and data sources

| | year | | description | source |
|--|------|--|---|--|
| Panel A – Outcomes | | | | |
| Italy: cumulative Covid-19 cases per 100,000 inhabitants | 2020 | | The total number of Covid-19 infections at the province-day level. The numbers have been published daily starting February 24 th . We normalize this variable with population numbers from ISTAT. | Italian Department of Civil Protection |
| Italy: cumulative excess deaths per 100,000 inhabitants | 2020 | | The number of additional deaths recorded from January 1 st to April 15 th 2020 compared to the same period in 2019 at the municipality-day level. We normalize this variable with population numbers from ISTAT. The data are available for 4,424 out of the roughly 8,000 municipalities covering about 57% of the total population. | ISTAT |
| Italy: journeys per capita | 2020 | | The number of journeys made per capita based on mobile phone location at the day-province level from January 2020 to March 2020. A journey ends when the use remains in place for at least one hour. Short journeys with a distance of less 2 kilometres are not captured. We normalize this variable with population numbers from ISTAT. | Teralytics |

continued

Table A.1 continued

| | year | description | source |
|--|------|--|--|
| Austria: cumulative Covid-19 cases per 100,000 inhabitants | 2020 | The total number of Covid-19 infections at the district-day level. The numbers have been published daily since March 11 th , but historic values are only reported from March 22 nd onward. We drop the four districts in the state of Vorarlberg as they start reporting cases on March 16 th (results do not change when we include them). We impute occasionally missing daily observations by linear interpolation. We normalize this variable with population numbers from Statistics Austria. | Austrian Government Addendum (Austrian Newspaper) for values from March 11 th to 22 nd |
| Germany: cumulative Covid-19 cases per 100,000 inhabitants | 2020 | The total number of Covid-19 infections at the county-day level. These numbers have been published daily since January 28 th . We normalize this variable with population numbers from the statistical offices of the German states. | Robert-Koch Institute |
| Netherlands: cumulative Covid-19 cases per 100,000 inhabitants | 2020 | The total number of Covid-19 infections at the municipality-day level. These numbers have been published daily since February 27 th . We impute occasionally missing daily observations by linear interpolation. We normalize this variable with population numbers from Statistics Netherlands. | National Institute for Public Health and the Environment |
| Sweden: cumulative Covid-19 cases per 100,000 inhabitants | 2020 | The total number of Covid-19 infections at the county-day level. These numbers have been published daily since February 4 th . We normalize this variable with population numbers from Statistics Sweden. | Public Health Agency of Sweden |
| Switzerland: cumulative Covid-19 cases per 100,000 inhabitants | 2020 | The total number of Covid-19 infections at the canton-day level. These numbers have been published daily since February 25 th . We impute occasionally missing daily observations by linear interpolation. We normalize this variable with population numbers from the Swiss federal statistical office. | Health Offices of the Swiss Cantons |

continued

Table A.1 continued

| | year | description | source |
|---|------|--|---|
| UK: cumulative Covid-19 cases per 100,000 inhabitants | 2020 | The total number of Covid-19 infections at the Upper Tier Local Authority-day level. For England, the data has been reported daily since March 9 th alongside historical values at the Upper Tier Local Authority (UTLA) level. Scotland and Wales only publish daily updates at the NHS Health Board level, spanning several UTLAs, starting at March 1 st and March 5 th respectively. We normalize this variable with population numbers from the Office of National Statistics (ONS). | Public Health Board (England) Public Health Board Scotland and Wales, historic values collected by Tom White ⁸ |
| Panel B – Independent Variables | | | |
| Italy: turnout | 2019 | Turnout to the 2019 European Parliament Election held at the end of May 2019 at the province level. | Department of Internal Affairs |
| Italy: blood donations per capita | 2017 | Whole blood and plasma donations per capita as reported by AVIS, the Italian association of voluntary blood donors. This variable is only available for 103 of the 107 provinces (Belluno, Gorizia, Imperia and Lucca are missing). | AVIS |
| Italy: literacy rate | 1821 | The literacy rate for the total population (men and women combined) in 1821. The data are only available in the 1911 province boundaries. We drop the modern provinces of Bolzano, Trento, Gorizia and Trieste since they were not part of Italy in 1911. We also exclude the modern provinces of Varese, Frosinone, Rieti, Pescara, Latina, Nuoro and Enna because it is not straightforward to match the historical data to the new jurisdictions. | Ciccarelli and Weisdorf (2018) |
| Austria: turnout | 2019 | Turnout to the 2019 European Parliament Election held at the end of May 2019 at the district level. | Austrian State Governments |
| Germany: turnout | 2019 | Turnout to the 2019 European Parliament Election held at the end of May 2019 at the county level. | Statistical Offices of the German States |
| Netherlands: turnout | 2019 | Turnout to the 2019 European Parliament Election held at the end of May 2019 at the municipality level. | Dutch Electoral Council |

continued

⁸ <https://github.com/tomwhite/Covid-19-uk-data/blob/master/data/Covid-19-cases-uk.csv>

Table A.1 continued

| | year | description | source |
|----------------------|------|---|----------------------------------|
| Sweden: turnout | 2019 | Turnout to the 2019 European Parliament Election held at the end of May 2019 at the county level. | Swedish Election Authority |
| Switzerland: turnout | 2019 | Turnout to the 2019 national parliament election held in October 2019 at the canton level. | Swiss Federal Statistical Office |
| UK: turnout | 2019 | Turnout to the 2019 European Parliament Election held at the end of May 2019 at the ward level. We aggregate this number to the corresponding geographical unit at which the infections are reported. | House of Commons Library |

Panel C – Additional Controls for Italy

| | | | |
|-----------------------------------|------|---|-----------------------|
| hospitals per 100,000 inhabitants | 2019 | The number of hospitals normalized with population numbers from ISTAT. | ISTAT |
| share of college-educated | 2011 | The share of the population that has completed at least some college education. | Census (ISTAT) |
| share of white-collar workers | 2017 | The share of working population that is employed in a white-collar sector. | OECD |
| GDP per capita | 2017 | Value added per inhabitant at current prices. | ISTAT |
| taxable income per capita | 2018 | The municipal tax base of the national income tax divided by the number of inhabitants. | Italian Fiscal Agency |
| share old | 2011 | The share of the population that is older than 65 years of age. | Census (ISTAT) |
| population density | 2019 | The number of inhabitants per square kilometre. | ISTAT |
| altitude | 2019 | The population-weighted mean of altitude. | ISTAT |
| share male | 2011 | The share of the male population. | Census (ISTAT) |
| share coastal | 2019 | The share of the population that lives at the coast. | ISTAT |
| airport dummy | 2019 | A dummy variable that takes the value 1 if the province has at least one airport. | ISTAT |

Notes: This table provides details on the definition and sources for all variables used.

Table A.2: Summary statistics

| | mean | p25 | p75 | sd | min | max | N |
|---|-------|-------|-------|------|-------|--------|------|
| <i>Austria: district level</i> | | | | | | | |
| turnout | 0.59 | 0.52 | 0.66 | 0.08 | 0.43 | 0.71 | 94 |
| population (in 100,000) | 0.94 | 0.44 | 0.99 | 1.93 | 0.02 | 18.97 | 94 |
| <i>Germany: county level</i> | | | | | | | |
| turnout | 0.61 | 0.57 | 0.64 | 0.05 | 0.48 | 0.74 | 401 |
| population (in 100,000) | 2.07 | 1.04 | 2.42 | 2.48 | 0.34 | 37.54 | 401 |
| <i>Italy: province level</i> | | | | | | | |
| turnout | 0.56 | 0.50 | 0.65 | 0.11 | 0.34 | 0.70 | 107 |
| blood donations per capita | 0.04 | 0.02 | 0.05 | 0.02 | 0.00 | 0.12 | 103 |
| literacy rate in 1821 | 0.25 | 0.16 | 0.35 | 0.11 | 0.09 | 0.54 | 69 |
| population (in 100,000) | 5.64 | 2.35 | 6.22 | 6.17 | 0.84 | 43.42 | 107 |
| population density (in 1000/km ²) | 0.27 | 0.11 | 0.28 | 0.38 | 0.04 | 2.63 | 107 |
| GDP per capita (in 1,000€) | 23.51 | 16.95 | 28.25 | 6.66 | 12.89 | 48.69 | 107 |
| hospitals per 100,000 inhabitants | 1.79 | 1.30 | 2.25 | 0.69 | 0.47 | 4.00 | 107 |
| share white-collar | 0.34 | 0.31 | 0.37 | 0.04 | 0.25 | 0.47 | 107 |
| share old | 0.24 | 0.22 | 0.25 | 0.02 | 0.18 | 0.29 | 107 |
| share college-educated | 0.10 | 0.09 | 0.11 | 0.02 | 0.06 | 0.16 | 107 |
| share male | 0.48 | 0.48 | 0.49 | 0.00 | 0.47 | 0.49 | 107 |
| share coast | 0.27 | 0.00 | 0.49 | 0.30 | 0.00 | 0.96 | 107 |
| airport | 0.32 | 0.00 | 1.00 | 0.47 | 0.00 | 1.00 | 107 |
| altitude (in 100 meter) | 2.16 | 0.85 | 3.11 | 1.71 | 0.05 | 7.10 | 107 |
| <i>Netherlands: municipality level</i> | | | | | | | |
| turnout | 0.42 | 0.38 | 0.47 | 0.07 | 0.26 | 0.80 | 355 |
| population (in 100,000) | 0.49 | 0.21 | 0.50 | 0.72 | 0.01 | 8.63 | 355 |
| <i>Sweden: county level</i> | | | | | | | |
| turnout | 0.54 | 0.52 | 0.55 | 0.03 | 0.50 | 0.59 | 21 |
| population (in 100,000) | 4.92 | 2.45 | 3.64 | 5.73 | 0.60 | 23.77 | 21 |
| <i>Switzerland: canton level</i> | | | | | | | |
| turnout | 0.41 | 0.38 | 0.43 | 0.06 | 0.32 | 0.63 | 26 |
| population (in 100,000) | 3.29 | 0.73 | 4.10 | 3.52 | 0.16 | 15.21 | 26 |
| <i>UK: upper tier local authority level</i> | | | | | | | |
| turnout | 0.36 | 0.33 | 0.40 | 0.05 | 0.23 | 0.54 | 171 |
| population (in 100,000) | 3.92 | 2.10 | 4.96 | 2.87 | 0.09 | 15.69 | 171 |
| <i>Italy: municipality level</i> | | | | | | | |
| turnout | 0.60 | 0.52 | 0.71 | 0.14 | 0.12 | 1.00 | 4424 |
| population (in 100,000) | 0.08 | 0.01 | 0.07 | 0.31 | 0.00 | 13.79 | 4424 |
| population density (in 1000/km ²) | 0.32 | 0.05 | 0.32 | 0.59 | 0.00 | 7.78 | 4424 |
| taxable income per capita (in 1,000€) | 13.26 | 10.93 | 15.30 | 3.11 | 4.53 | 35.45 | 4424 |
| hospitals per 100,000 inhabitants | 0.87 | 0.00 | 0.00 | 5.94 | 0.00 | 235.81 | 4424 |
| share old | 0.29 | 0.25 | 0.32 | 0.06 | 0.11 | 0.69 | 4424 |
| share college-educated | 0.07 | 0.06 | 0.09 | 0.03 | 0.00 | 0.27 | 4424 |

Notes: Blood donations per capita are missing for 4 (Belluno, Gorizia, Imperia and Lucca) out of 107 provinces. The literacy rate in 1821 refers to the province boundaries of 1911 when only 69 provinces existed.

Table A.3: Geographical units across countries

| country | area name | # areas | NUTS1 name | # NUTS1 |
|-------------|---|---------|--|---------|
| Austria | District (<i>Bezirk</i>) | 94 | groups of States (<i>Bundesländer</i>) | 3 |
| Germany | County (<i>Kreis</i>) | 401 | States (<i>Bundesländer</i>) | 16 |
| Italy | Province (<i>Province</i>) | 107 | groups of Regions (<i>Regioni</i>) | 5 |
| Netherlands | Municipality (<i>Gemeente</i>) | 355 | Land (<i>Landsdeel</i>) | 4 |
| Sweden | County (<i>Län</i>) | 21 | Land (<i>Landsdelar</i>) | 3 |
| Switzerland | Canton (<i>Kanton</i>) | 26 | groups of Cantons (<i>Kanton</i>) | 7 |
| UK | Upper Tier Local Authority (NHS Health Boards for Wales & Scotland) | 171 | Wales, Scotland and Statistical Regions of England | 11 |

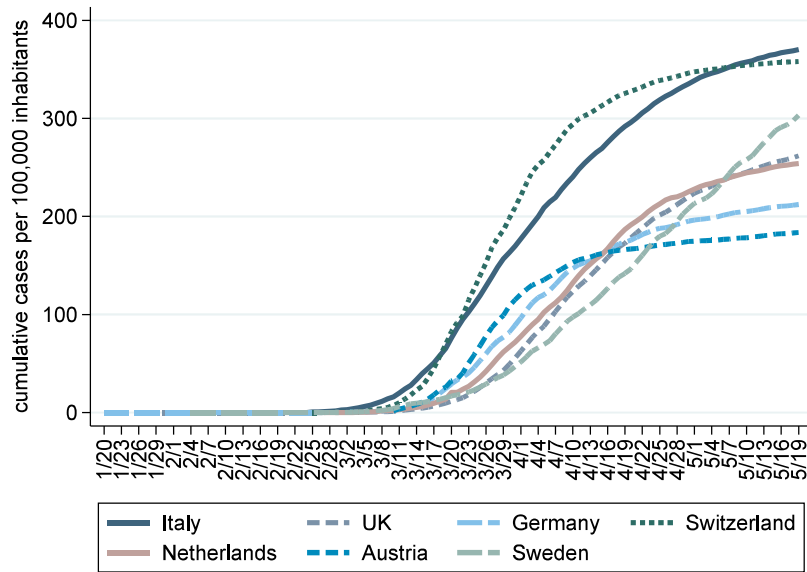
Notes: This table provides an overview about the different geographical units within each country. With the exception of Austria and the Netherlands, all "areas" correspond to the NUTS3 regions. The column NUTS1 refers to the name of the NUTS1 region, except for Switzerland where the NUTS1 region corresponds to the whole country. Hence, we are using the the NUTS2 region for Switzerland.

Table A.4: Timing of pandemic-related events and policy responses

| country | first Covid-19 case | ban of gatherings and events | closure of educational facilities | lockdown |
|-------------|---------------------------|------------------------------------|---|-----------------------|
| Italy | Jan. 30 th | Feb. 23 th | Mar. 4 th | Mar. 9 th |
| Austria | Feb. 25 th | Mar. 10 th | Mar. 10 th | Mar. 16 th |
| Germany | Jan. 28 th | Mar. 8 th | Mar. 16 th | Mar. 23 nd |
| Netherlands | Feb. 27 th | Mar. 12 th | Mar. 15 th | Mar. 23 rd |
| Sweden | Jan. 31 st | Mar. 11 th | - | - |
| Switzerland | Feb. 25 th | Feb. 28 th | Mar.13 th | Mar. 16 th |
| UK | Jan. 29 th | Mar. 23 rd | Mar. 18 th | Mar. 23 rd |

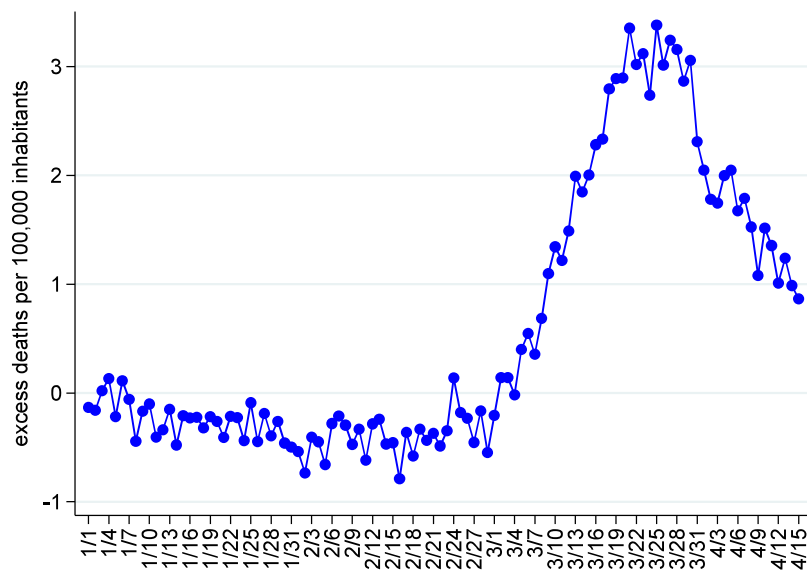
Notes: This table displays the timeline of the onset of Covid-19 in each country and the respective policy measures implemented to contain the spread.

Figure A.1: Number of cases per 100,000 inhabitants at the national level over time



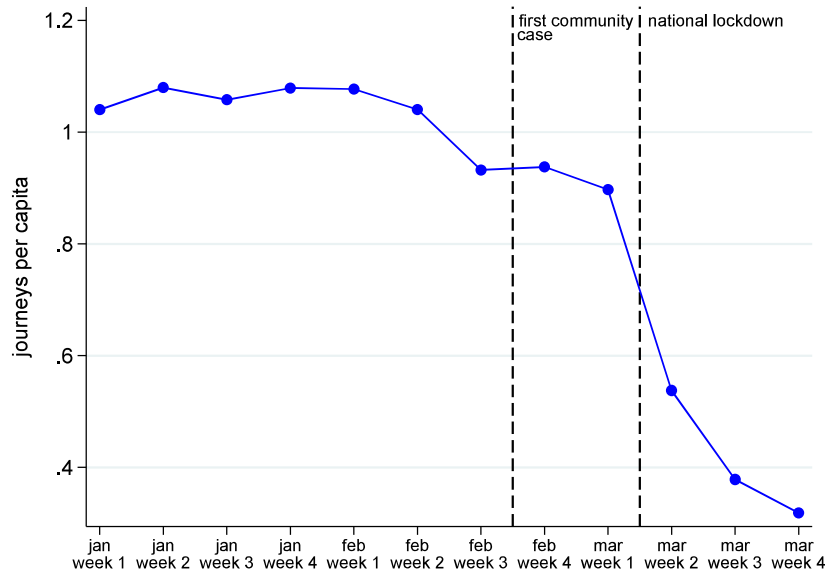
Notes: The graph shows the development of the pandemic for each country over time expressed as the infections per 100,000 inhabitants.

Figure A.2: Number of daily excess deaths at the national level in Italy over time



Notes: The graph shows the number of excess deaths in Italy between January 1st and April 15th per 100,000 inhabitants. Excess deaths are defined as the difference in reported deaths between 2020 and 2019. These numbers are published by ISTAT.

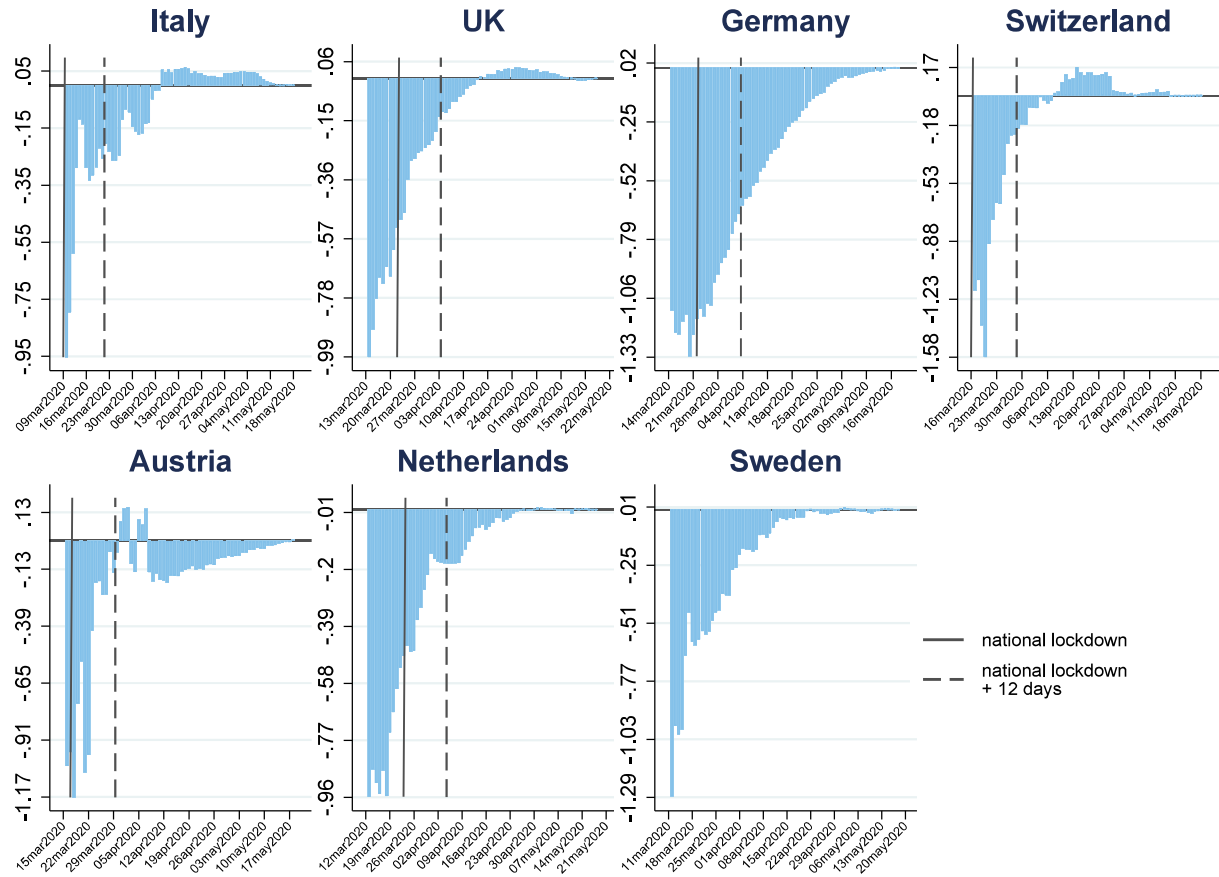
Figure A.3: Number of journeys per capita at the national level in Italy over time



Notes: The graph shows the journeys per capita in Italy between January and March 2020 based on mobile phone location data. The first dashed line corresponds to the discovery of the first Covid-19 community case in Italy. The second dashed line marks the date of the nationwide lockdown on March 9th.

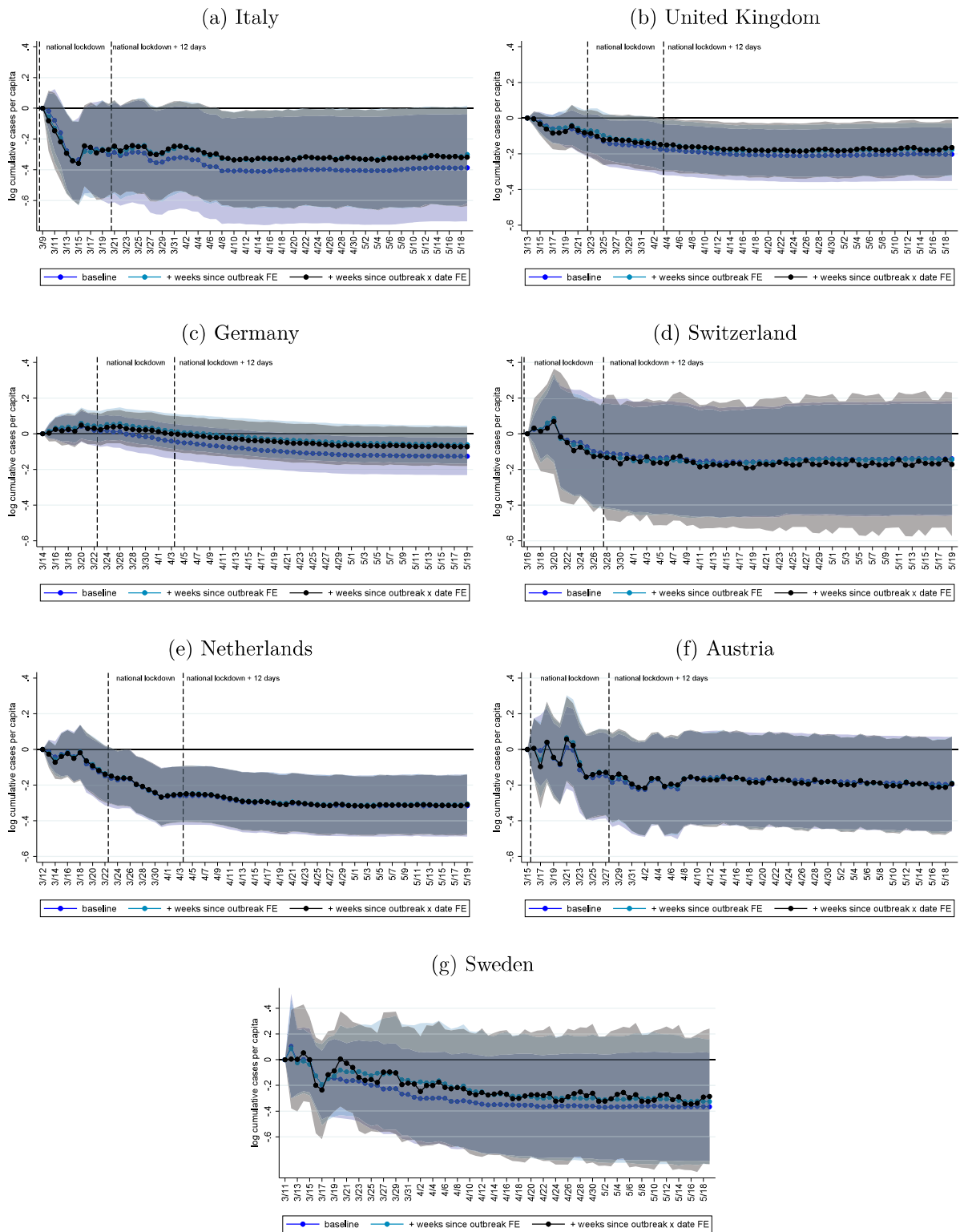
B Online Appendix: Additional Results

Figure B.1: Evolution of coefficient on social capital relative to the last day in the sample



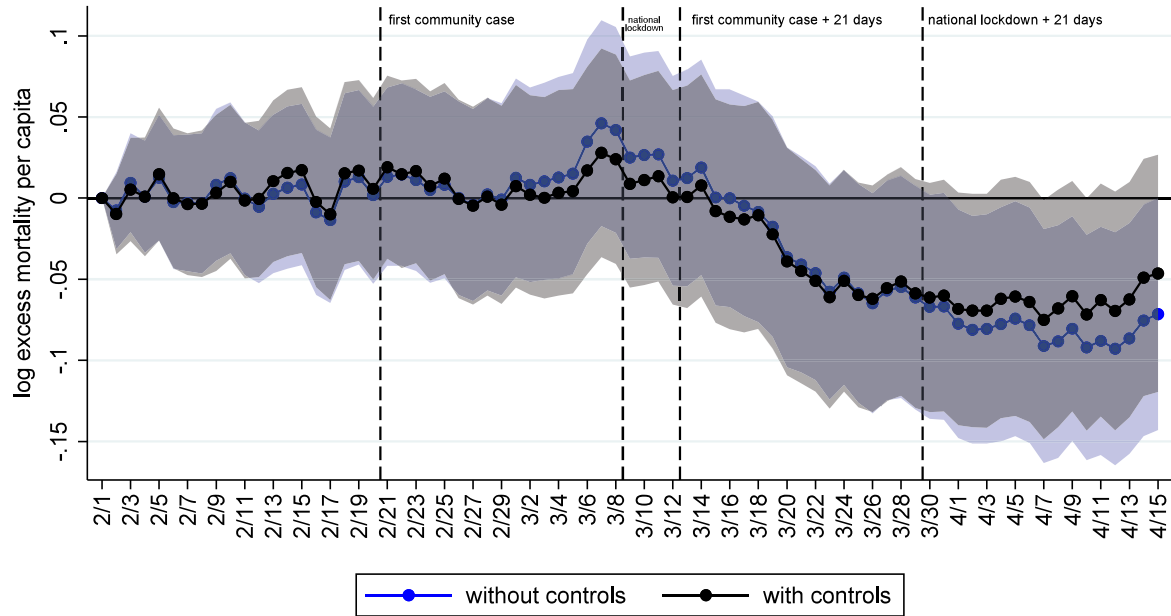
Notes: This figure shows the percentage change in the coefficient on our measure of social capital relative to the coefficient we capture at the last day of our estimation window $((\beta_d/\beta_{d^{max}}) - 1)$. Negative values therefore indicate that the coefficient is smaller compared to the one on the last day of the window and positive ones that it is larger. The solid black line marks the date of the national lockdown, the dashed black line the date of the national lockdown plus an incubation + confirmation time of 12 days. These numbers are based on the estimates presented in Figure 2.

Figure B.2: Robustness: Effect of social capital on the spread of Covid-19 cases



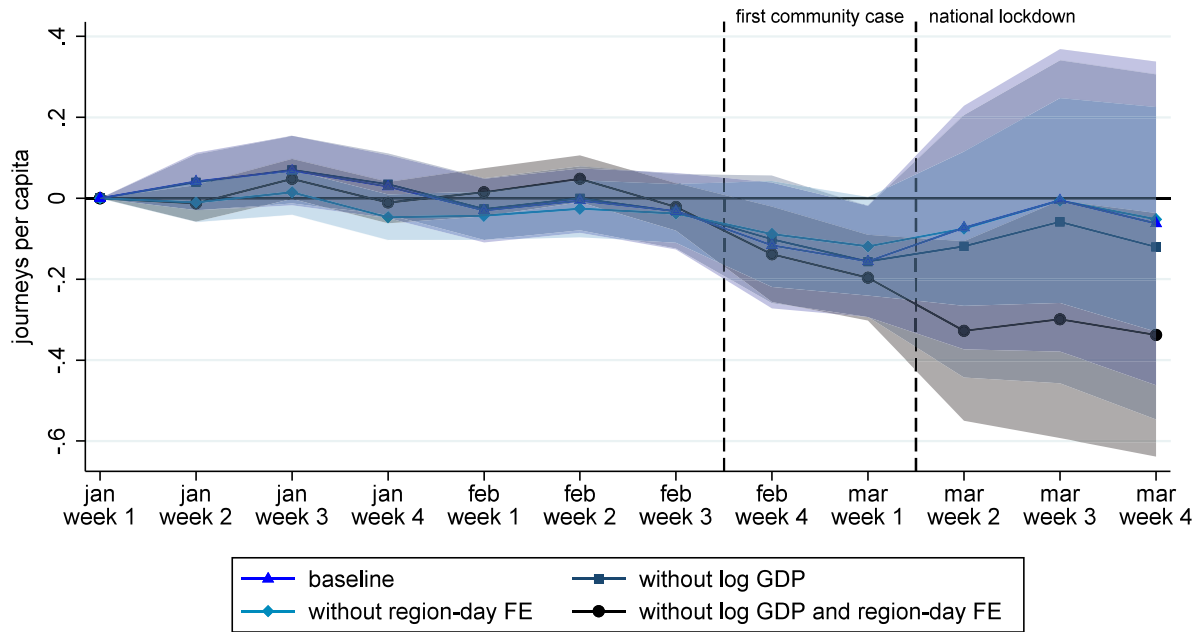
Notes: This graph shows alternative specifications for the results reported in Figure 2 (see Appendix Table C.1 for the point estimates). The light-blue line reports the baseline results in Figure 2. The blue line includes additional weeks-since-outbreak fixed effects to control for potential differences arising from differential onset dates. The black line includes a set of weeks-since-outbreak - day fixed effect that additionally controls for differential trends not only due to the onset of the pandemic but also to the day we are observing these values. The first vertical dashed line marks the date of the national lockdown in each country. The second vertical dashed line corresponds to the date of the national lockdown plus 12 days, which accounts for incubation plus confirmation time. The shaded areas report the 95% confidence intervals.

Figure B.3: Effect of social capital on excess deaths with controls



Notes: The graph shows the the log number of excess deaths per 100,000 inhabitants (additional deaths in 2020 compared to 2019) from January 1st to April 15th based on specification 2 (see Appendix Table C.2 for point estimates). The controls include the share of people above 65, the share of college graduates, the number of hospitals per 100,000 inhabitants, population density, log population, and log income per capita. The shaded areas represent the 95% confidence intervals.

Figure B.4: Robustness: Effect of social capital on mobility



Notes: The graph shows the number of journeys per capita. The controls include the share of people above 65, the share of males, the share of white-collar workers, the share of college graduates, the number of hospitals per 100,000 inhabitants, population density, log population, altitude, the share of inhabitants living at the coast, a dummy for having an airport and log GDP per capita. The shaded areas represent the 95% confidence intervals. The point estimates are presented in Appendix Table C.3.

C Online Appendix: Regression results

Table C.1: Effect of social capital on the spread of cumulative Covid-19 cases

| | (1) | (2) | (3) |
|------------------------|----------------|----------------|----------------|
| Panel A – Italy | | | |
| turnout x 10mar2020 | -0.018 (0.062) | -0.055 (0.079) | -0.081 (0.100) |
| turnout x 11mar2020 | -0.079 (0.104) | -0.130 (0.113) | -0.146 (0.125) |
| turnout x 12mar2020 | -0.159 (0.109) | -0.192 (0.121) | -0.218 (0.129) |
| turnout x 13mar2020 | -0.275 (0.124) | -0.288 (0.134) | -0.293 (0.134) |
| turnout x 14mar2020 | -0.341 (0.129) | -0.338 (0.132) | -0.342 (0.131) |
| turnout x 15mar2020 | -0.335 (0.140) | -0.359 (0.139) | -0.358 (0.138) |
| turnout x 16mar2020 | -0.275 (0.143) | -0.281 (0.144) | -0.245 (0.134) |
| turnout x 17mar2020 | -0.258 (0.150) | -0.283 (0.154) | -0.254 (0.149) |
| turnout x 18mar2020 | -0.265 (0.156) | -0.278 (0.154) | -0.290 (0.155) |
| turnout x 19mar2020 | -0.276 (0.166) | -0.266 (0.163) | -0.273 (0.163) |
| turnout x 20mar2020 | -0.302 (0.162) | -0.277 (0.154) | -0.269 (0.152) |
| turnout x 21mar2020 | -0.288 (0.165) | -0.253 (0.154) | -0.247 (0.152) |
| turnout x 22mar2020 | -0.308 (0.166) | -0.292 (0.154) | -0.278 (0.149) |
| turnout x 23mar2020 | -0.297 (0.166) | -0.270 (0.154) | -0.253 (0.148) |
| turnout x 24mar2020 | -0.285 (0.167) | -0.260 (0.156) | -0.242 (0.152) |
| turnout x 25mar2020 | -0.285 (0.172) | -0.245 (0.158) | -0.250 (0.158) |
| turnout x 26mar2020 | -0.292 (0.171) | -0.241 (0.157) | -0.249 (0.157) |
| turnout x 27mar2020 | -0.340 (0.173) | -0.284 (0.158) | -0.296 (0.158) |
| turnout x 28mar2020 | -0.354 (0.171) | -0.296 (0.155) | -0.302 (0.156) |
| turnout x 29mar2020 | -0.351 (0.174) | -0.298 (0.158) | -0.289 (0.155) |
| turnout x 30mar2020 | -0.331 (0.171) | -0.275 (0.155) | -0.265 (0.152) |
| turnout x 31mar2020 | -0.325 (0.171) | -0.263 (0.153) | -0.248 (0.150) |
| turnout x 01apr2020 | -0.320 (0.170) | -0.251 (0.151) | -0.246 (0.148) |
| turnout x 02apr2020 | -0.322 (0.170) | -0.252 (0.152) | -0.255 (0.149) |
| turnout x 03apr2020 | -0.335 (0.171) | -0.265 (0.154) | -0.272 (0.153) |
| turnout x 04apr2020 | -0.336 (0.172) | -0.268 (0.155) | -0.272 (0.156) |
| turnout x 05apr2020 | -0.368 (0.174) | -0.298 (0.159) | -0.288 (0.158) |
| turnout x 06apr2020 | -0.380 (0.174) | -0.311 (0.159) | -0.302 (0.157) |
| turnout x 07apr2020 | -0.380 (0.174) | -0.303 (0.156) | -0.296 (0.155) |
| turnout x 08apr2020 | -0.408 (0.175) | -0.329 (0.158) | -0.323 (0.157) |
| turnout x 09apr2020 | -0.405 (0.175) | -0.329 (0.158) | -0.326 (0.156) |
| turnout x 10apr2020 | -0.408 (0.175) | -0.335 (0.159) | -0.336 (0.157) |
| turnout x 11apr2020 | -0.404 (0.176) | -0.334 (0.160) | -0.334 (0.159) |
| turnout x 12apr2020 | -0.409 (0.177) | -0.334 (0.163) | -0.327 (0.161) |
| turnout x 13apr2020 | -0.409 (0.177) | -0.337 (0.162) | -0.335 (0.162) |
| turnout x 14apr2020 | -0.410 (0.177) | -0.329 (0.161) | -0.327 (0.160) |
| turnout x 15apr2020 | -0.412 (0.178) | -0.331 (0.161) | -0.325 (0.160) |
| turnout x 16apr2020 | -0.410 (0.178) | -0.333 (0.162) | -0.328 (0.160) |
| turnout x 17apr2020 | -0.403 (0.177) | -0.330 (0.162) | -0.328 (0.160) |
| turnout x 18apr2020 | -0.406 (0.177) | -0.335 (0.163) | -0.334 (0.161) |
| turnout x 19apr2020 | -0.403 (0.177) | -0.328 (0.164) | -0.326 (0.163) |

continued

Table C.1 continued

| | (1) | (2) | (3) |
|-------------------------------|----------------|----------------|----------------|
| turnout x 20apr2020 | -0.403 (0.177) | -0.332 (0.164) | -0.335 (0.163) |
| turnout x 21apr2020 | -0.401 (0.177) | -0.319 (0.161) | -0.323 (0.160) |
| turnout x 22apr2020 | -0.399 (0.178) | -0.318 (0.161) | -0.315 (0.160) |
| turnout x 23apr2020 | -0.400 (0.178) | -0.322 (0.162) | -0.320 (0.160) |
| turnout x 24apr2020 | -0.400 (0.178) | -0.325 (0.163) | -0.324 (0.162) |
| turnout x 25apr2020 | -0.398 (0.178) | -0.327 (0.163) | -0.325 (0.162) |
| turnout x 26apr2020 | -0.398 (0.178) | -0.321 (0.165) | -0.320 (0.164) |
| turnout x 27apr2020 | -0.403 (0.178) | -0.330 (0.165) | -0.334 (0.165) |
| turnout x 28apr2020 | -0.404 (0.178) | -0.321 (0.163) | -0.327 (0.162) |
| turnout x 29apr2020 | -0.403 (0.179) | -0.322 (0.163) | -0.319 (0.161) |
| turnout x 30apr2020 | -0.405 (0.179) | -0.328 (0.163) | -0.325 (0.162) |
| turnout x 01may2020 | -0.404 (0.179) | -0.330 (0.164) | -0.330 (0.163) |
| turnout x 02may2020 | -0.406 (0.179) | -0.335 (0.165) | -0.333 (0.163) |
| turnout x 03may2020 | -0.406 (0.179) | -0.330 (0.166) | -0.330 (0.166) |
| turnout x 04may2020 | -0.405 (0.179) | -0.333 (0.167) | -0.338 (0.166) |
| turnout x 05may2020 | -0.405 (0.179) | -0.324 (0.165) | -0.333 (0.164) |
| turnout x 06may2020 | -0.405 (0.180) | -0.325 (0.165) | -0.324 (0.163) |
| turnout x 07may2020 | -0.403 (0.180) | -0.328 (0.165) | -0.325 (0.164) |
| turnout x 08may2020 | -0.399 (0.179) | -0.326 (0.165) | -0.326 (0.164) |
| turnout x 09may2020 | -0.396 (0.179) | -0.326 (0.165) | -0.324 (0.163) |
| turnout x 10may2020 | -0.392 (0.178) | -0.318 (0.166) | -0.318 (0.165) |
| turnout x 11may2020 | -0.390 (0.178) | -0.320 (0.165) | -0.324 (0.165) |
| turnout x 12may2020 | -0.389 (0.178) | -0.308 (0.163) | -0.320 (0.163) |
| turnout x 13may2020 | -0.388 (0.178) | -0.307 (0.162) | -0.308 (0.161) |
| turnout x 14may2020 | -0.387 (0.178) | -0.310 (0.162) | -0.310 (0.161) |
| turnout x 15may2020 | -0.387 (0.178) | -0.312 (0.163) | -0.314 (0.162) |
| turnout x 16may2020 | -0.388 (0.178) | -0.315 (0.163) | -0.316 (0.162) |
| turnout x 17may2020 | -0.388 (0.178) | -0.312 (0.164) | -0.313 (0.164) |
| turnout x 18may2020 | -0.387 (0.177) | -0.314 (0.164) | -0.320 (0.164) |
| turnout x 19may2020 | -0.387 (0.178) | -0.301 (0.161) | -0.318 (0.162) |
| province FE | yes | yes | yes |
| NUTS1 x day FE | yes | yes | yes |
| weeks-since-outbreak FE | no | yes | no |
| weeks-since-outbreak x day FE | no | no | yes |
| mean | 4.645 | 4.645 | 4.652 |
| observations | 7,681 | 7,681 | 7,627 |
| Panel B – The UK | | | |
| turnout x 14mar2020 | -0.002 (0.019) | -0.007 (0.019) | -0.004 (0.021) |
| turnout x 15mar2020 | -0.022 (0.029) | -0.029 (0.030) | -0.033 (0.031) |
| turnout x 16mar2020 | -0.044 (0.035) | -0.050 (0.036) | -0.062 (0.038) |
| turnout x 17mar2020 | -0.060 (0.040) | -0.062 (0.041) | -0.084 (0.046) |
| turnout x 18mar2020 | -0.055 (0.045) | -0.056 (0.046) | -0.083 (0.049) |
| turnout x 19mar2020 | -0.067 (0.049) | -0.054 (0.050) | -0.075 (0.054) |
| turnout x 20mar2020 | -0.060 (0.054) | -0.040 (0.057) | -0.045 (0.060) |
| turnout x 21mar2020 | -0.079 (0.056) | -0.056 (0.059) | -0.069 (0.060) |

continued

Table C.1 continued

| | (1) | (2) | (3) |
|---------------------|----------------|----------------|----------------|
| turnout x 22mar2020 | -0.096 (0.057) | -0.072 (0.060) | -0.082 (0.062) |
| turnout x 23mar2020 | -0.101 (0.062) | -0.071 (0.063) | -0.086 (0.068) |
| turnout x 24mar2020 | -0.106 (0.065) | -0.076 (0.066) | -0.102 (0.071) |
| turnout x 25mar2020 | -0.130 (0.066) | -0.098 (0.067) | -0.123 (0.072) |
| turnout x 26mar2020 | -0.144 (0.067) | -0.109 (0.067) | -0.120 (0.071) |
| turnout x 27mar2020 | -0.145 (0.067) | -0.118 (0.067) | -0.120 (0.071) |
| turnout x 28mar2020 | -0.150 (0.068) | -0.120 (0.068) | -0.125 (0.072) |
| turnout x 29mar2020 | -0.151 (0.070) | -0.121 (0.069) | -0.125 (0.074) |
| turnout x 30mar2020 | -0.153 (0.071) | -0.124 (0.069) | -0.136 (0.075) |
| turnout x 31mar2020 | -0.155 (0.072) | -0.126 (0.071) | -0.138 (0.076) |
| turnout x 01apr2020 | -0.159 (0.073) | -0.130 (0.071) | -0.142 (0.077) |
| turnout x 02apr2020 | -0.165 (0.073) | -0.137 (0.071) | -0.142 (0.076) |
| turnout x 03apr2020 | -0.176 (0.073) | -0.149 (0.072) | -0.148 (0.077) |
| turnout x 04apr2020 | -0.179 (0.073) | -0.153 (0.071) | -0.151 (0.076) |
| turnout x 05apr2020 | -0.178 (0.073) | -0.152 (0.071) | -0.150 (0.076) |
| turnout x 06apr2020 | -0.182 (0.073) | -0.156 (0.071) | -0.161 (0.077) |
| turnout x 07apr2020 | -0.187 (0.073) | -0.161 (0.072) | -0.162 (0.076) |
| turnout x 08apr2020 | -0.187 (0.073) | -0.161 (0.072) | -0.161 (0.076) |
| turnout x 09apr2020 | -0.190 (0.073) | -0.166 (0.072) | -0.162 (0.076) |
| turnout x 10apr2020 | -0.192 (0.073) | -0.168 (0.072) | -0.165 (0.077) |
| turnout x 11apr2020 | -0.196 (0.073) | -0.174 (0.072) | -0.167 (0.077) |
| turnout x 12apr2020 | -0.198 (0.074) | -0.175 (0.073) | -0.169 (0.077) |
| turnout x 13apr2020 | -0.199 (0.073) | -0.177 (0.072) | -0.176 (0.077) |
| turnout x 14apr2020 | -0.203 (0.073) | -0.180 (0.072) | -0.174 (0.076) |
| turnout x 15apr2020 | -0.205 (0.073) | -0.182 (0.073) | -0.176 (0.076) |
| turnout x 16apr2020 | -0.204 (0.074) | -0.181 (0.073) | -0.173 (0.077) |
| turnout x 17apr2020 | -0.207 (0.074) | -0.183 (0.073) | -0.181 (0.078) |
| turnout x 18apr2020 | -0.206 (0.074) | -0.181 (0.073) | -0.181 (0.078) |
| turnout x 19apr2020 | -0.206 (0.074) | -0.181 (0.073) | -0.180 (0.078) |
| turnout x 20apr2020 | -0.209 (0.074) | -0.183 (0.074) | -0.183 (0.078) |
| turnout x 21apr2020 | -0.209 (0.074) | -0.183 (0.073) | -0.178 (0.077) |
| turnout x 22apr2020 | -0.210 (0.075) | -0.184 (0.074) | -0.179 (0.078) |
| turnout x 23apr2020 | -0.210 (0.075) | -0.184 (0.074) | -0.182 (0.078) |
| turnout x 24apr2020 | -0.210 (0.075) | -0.184 (0.074) | -0.185 (0.079) |
| turnout x 25apr2020 | -0.211 (0.075) | -0.184 (0.074) | -0.186 (0.079) |
| turnout x 26apr2020 | -0.211 (0.075) | -0.184 (0.075) | -0.185 (0.079) |
| turnout x 27apr2020 | -0.211 (0.076) | -0.183 (0.075) | -0.180 (0.079) |
| turnout x 28apr2020 | -0.210 (0.076) | -0.183 (0.075) | -0.177 (0.078) |
| turnout x 29apr2020 | -0.209 (0.076) | -0.182 (0.075) | -0.174 (0.079) |
| turnout x 30apr2020 | -0.209 (0.076) | -0.182 (0.075) | -0.179 (0.079) |
| turnout x 01may2020 | -0.210 (0.076) | -0.183 (0.075) | -0.184 (0.080) |
| turnout x 02may2020 | -0.208 (0.076) | -0.181 (0.075) | -0.182 (0.079) |
| turnout x 03may2020 | -0.208 (0.076) | -0.181 (0.075) | -0.182 (0.079) |
| turnout x 04may2020 | -0.208 (0.076) | -0.180 (0.075) | -0.175 (0.079) |
| turnout x 05may2020 | -0.207 (0.076) | -0.179 (0.075) | -0.171 (0.078) |
| turnout x 06may2020 | -0.207 (0.076) | -0.179 (0.075) | -0.171 (0.079) |

continued

Table C.1 continued

| | (1) | (2) | (3) |
|-------------------------------|----------------|----------------|----------------|
| turnout x 07may2020 | -0.206 (0.076) | -0.179 (0.075) | -0.179 (0.080) |
| turnout x 08may2020 | -0.205 (0.076) | -0.179 (0.076) | -0.182 (0.080) |
| turnout x 09may2020 | -0.205 (0.076) | -0.178 (0.076) | -0.180 (0.080) |
| turnout x 10may2020 | -0.204 (0.076) | -0.177 (0.076) | -0.179 (0.080) |
| turnout x 11may2020 | -0.204 (0.076) | -0.175 (0.076) | -0.169 (0.079) |
| turnout x 12may2020 | -0.203 (0.076) | -0.174 (0.076) | -0.166 (0.079) |
| turnout x 13may2020 | -0.202 (0.076) | -0.174 (0.076) | -0.165 (0.079) |
| turnout x 14may2020 | -0.202 (0.076) | -0.177 (0.076) | -0.177 (0.080) |
| turnout x 15may2020 | -0.202 (0.076) | -0.177 (0.076) | -0.181 (0.080) |
| turnout x 16may2020 | -0.202 (0.076) | -0.177 (0.076) | -0.179 (0.080) |
| turnout x 17may2020 | -0.203 (0.077) | -0.177 (0.076) | -0.178 (0.080) |
| turnout x 18may2020 | -0.204 (0.077) | -0.177 (0.076) | -0.168 (0.079) |
| turnout x 19may2020 | -0.203 (0.077) | -0.177 (0.076) | -0.165 (0.079) |
| upper tier local authority FE | yes | yes | yes |
| NUTS1 x day FE | yes | yes | yes |
| weeks-since-outbreak FE | no | yes | no |
| weeks-since-outbreak x day FE | no | no | yes |
| mean | 4.387 | 4.387 | 4.390 |
| observations | 11,527 | 11,527 | 11,484 |
| Panel C – Germany | | | |
| turnout x 15mar2020 | 0.015 (0.022) | 0.015 (0.022) | 0.004 (0.024) |
| turnout x 16mar2020 | 0.027 (0.032) | 0.032 (0.032) | 0.024 (0.034) |
| turnout x 17mar2020 | 0.028 (0.039) | 0.034 (0.039) | 0.016 (0.042) |
| turnout x 18mar2020 | 0.021 (0.041) | 0.038 (0.041) | 0.025 (0.044) |
| turnout x 19mar2020 | 0.017 (0.043) | 0.031 (0.042) | 0.014 (0.046) |
| turnout x 20mar2020 | 0.041 (0.045) | 0.060 (0.044) | 0.048 (0.046) |
| turnout x 21mar2020 | 0.029 (0.044) | 0.048 (0.043) | 0.030 (0.045) |
| turnout x 22mar2020 | 0.020 (0.044) | 0.044 (0.043) | 0.031 (0.045) |
| turnout x 23mar2020 | 0.014 (0.044) | 0.042 (0.044) | 0.023 (0.046) |
| turnout x 24mar2020 | 0.018 (0.044) | 0.052 (0.044) | 0.036 (0.046) |
| turnout x 25mar2020 | 0.011 (0.045) | 0.052 (0.046) | 0.039 (0.047) |
| turnout x 26mar2020 | 0.012 (0.047) | 0.057 (0.047) | 0.040 (0.048) |
| turnout x 27mar2020 | -0.002 (0.047) | 0.047 (0.047) | 0.029 (0.049) |
| turnout x 28mar2020 | -0.007 (0.048) | 0.043 (0.048) | 0.024 (0.049) |
| turnout x 29mar2020 | -0.013 (0.048) | 0.037 (0.048) | 0.021 (0.050) |
| turnout x 30mar2020 | -0.016 (0.048) | 0.035 (0.048) | 0.022 (0.050) |
| turnout x 31mar2020 | -0.021 (0.049) | 0.032 (0.049) | 0.019 (0.051) |
| turnout x 01apr2020 | -0.030 (0.049) | 0.025 (0.049) | 0.011 (0.051) |
| turnout x 02apr2020 | -0.037 (0.049) | 0.019 (0.050) | 0.004 (0.051) |
| turnout x 03apr2020 | -0.041 (0.050) | 0.015 (0.050) | -0.001 (0.051) |
| turnout x 04apr2020 | -0.046 (0.050) | 0.010 (0.050) | -0.002 (0.052) |
| turnout x 05apr2020 | -0.050 (0.050) | 0.006 (0.051) | -0.007 (0.052) |
| turnout x 06apr2020 | -0.052 (0.051) | 0.006 (0.051) | -0.007 (0.052) |
| turnout x 07apr2020 | -0.058 (0.051) | 0.001 (0.051) | -0.014 (0.052) |
| turnout x 08apr2020 | -0.060 (0.051) | 0.001 (0.052) | -0.014 (0.053) |

continued

Table C.1 continued

| | (1) | (2) | (3) |
|-------------------------------|----------------|----------------|----------------|
| turnout x 09apr2020 | -0.066 (0.051) | -0.004 (0.052) | -0.020 (0.052) |
| turnout x 10apr2020 | -0.069 (0.051) | -0.006 (0.052) | -0.022 (0.053) |
| turnout x 11apr2020 | -0.073 (0.052) | -0.010 (0.052) | -0.021 (0.053) |
| turnout x 12apr2020 | -0.077 (0.052) | -0.015 (0.053) | -0.026 (0.054) |
| turnout x 13apr2020 | -0.079 (0.052) | -0.016 (0.053) | -0.029 (0.054) |
| turnout x 14apr2020 | -0.080 (0.053) | -0.016 (0.053) | -0.031 (0.054) |
| turnout x 15apr2020 | -0.085 (0.053) | -0.020 (0.053) | -0.038 (0.054) |
| turnout x 16apr2020 | -0.089 (0.053) | -0.023 (0.053) | -0.038 (0.054) |
| turnout x 17apr2020 | -0.092 (0.053) | -0.027 (0.053) | -0.040 (0.055) |
| turnout x 18apr2020 | -0.095 (0.053) | -0.029 (0.054) | -0.040 (0.055) |
| turnout x 19apr2020 | -0.096 (0.053) | -0.031 (0.054) | -0.043 (0.055) |
| turnout x 20apr2020 | -0.098 (0.053) | -0.032 (0.054) | -0.046 (0.055) |
| turnout x 21apr2020 | -0.102 (0.054) | -0.035 (0.054) | -0.050 (0.055) |
| turnout x 22apr2020 | -0.103 (0.054) | -0.036 (0.054) | -0.054 (0.055) |
| turnout x 23apr2020 | -0.107 (0.054) | -0.038 (0.054) | -0.052 (0.055) |
| turnout x 24apr2020 | -0.109 (0.054) | -0.041 (0.054) | -0.054 (0.055) |
| turnout x 25apr2020 | -0.110 (0.054) | -0.043 (0.054) | -0.054 (0.056) |
| turnout x 26apr2020 | -0.111 (0.054) | -0.045 (0.055) | -0.057 (0.056) |
| turnout x 27apr2020 | -0.112 (0.054) | -0.045 (0.055) | -0.060 (0.056) |
| turnout x 28apr2020 | -0.116 (0.054) | -0.048 (0.054) | -0.064 (0.055) |
| turnout x 29apr2020 | -0.117 (0.054) | -0.050 (0.054) | -0.067 (0.056) |
| turnout x 30apr2020 | -0.118 (0.054) | -0.050 (0.054) | -0.062 (0.055) |
| turnout x 01may2020 | -0.120 (0.054) | -0.053 (0.054) | -0.065 (0.055) |
| turnout x 02may2020 | -0.121 (0.054) | -0.054 (0.054) | -0.064 (0.056) |
| turnout x 03may2020 | -0.122 (0.054) | -0.055 (0.054) | -0.067 (0.056) |
| turnout x 04may2020 | -0.121 (0.054) | -0.054 (0.054) | -0.067 (0.056) |
| turnout x 05may2020 | -0.121 (0.054) | -0.054 (0.054) | -0.067 (0.055) |
| turnout x 06may2020 | -0.122 (0.054) | -0.055 (0.054) | -0.070 (0.055) |
| turnout x 07may2020 | -0.122 (0.054) | -0.054 (0.054) | -0.064 (0.055) |
| turnout x 08may2020 | -0.123 (0.054) | -0.057 (0.054) | -0.067 (0.055) |
| turnout x 09may2020 | -0.123 (0.054) | -0.057 (0.054) | -0.067 (0.056) |
| turnout x 10may2020 | -0.124 (0.054) | -0.058 (0.054) | -0.070 (0.055) |
| turnout x 11may2020 | -0.124 (0.054) | -0.058 (0.054) | -0.071 (0.056) |
| turnout x 12may2020 | -0.125 (0.054) | -0.059 (0.054) | -0.071 (0.055) |
| turnout x 13may2020 | -0.124 (0.054) | -0.058 (0.054) | -0.072 (0.055) |
| turnout x 14may2020 | -0.125 (0.054) | -0.058 (0.054) | -0.066 (0.055) |
| turnout x 15may2020 | -0.126 (0.054) | -0.060 (0.054) | -0.069 (0.055) |
| turnout x 16may2020 | -0.126 (0.054) | -0.061 (0.054) | -0.069 (0.056) |
| turnout x 17may2020 | -0.126 (0.054) | -0.062 (0.054) | -0.072 (0.056) |
| turnout x 18may2020 | -0.126 (0.054) | -0.061 (0.054) | -0.073 (0.056) |
| turnout x 19may2020 | -0.126 (0.054) | -0.062 (0.054) | -0.073 (0.055) |
| county FE | yes | yes | yes |
| NUTS1 x day FE | yes | yes | yes |
| weeks-since-outbreak FE | no | yes | no |
| weeks-since-outbreak x day FE | no | no | yes |
| mean | 4.439 | 4.439 | 4.438 |

continued

Table C.1 continued

| | (1) | | (2) | | (3) | |
|------------------------------|--------|---------|--------|---------|--------|---------|
| observations | 26,635 | | 26,635 | | 26,587 | |
| Panel D – Switzerland | | | | | | |
| turnout x 17mar2020 | 0.025 | (0.041) | 0.030 | (0.059) | 0.032 | (0.084) |
| turnout x 18mar2020 | 0.016 | (0.082) | 0.022 | (0.094) | 0.014 | (0.114) |
| turnout x 19mar2020 | 0.054 | (0.087) | 0.061 | (0.099) | 0.031 | (0.127) |
| turnout x 20mar2020 | 0.081 | (0.118) | 0.086 | (0.128) | 0.070 | (0.151) |
| turnout x 21mar2020 | -0.015 | (0.144) | -0.027 | (0.144) | -0.018 | (0.184) |
| turnout x 22mar2020 | -0.035 | (0.147) | -0.048 | (0.144) | -0.049 | (0.174) |
| turnout x 23mar2020 | -0.049 | (0.151) | -0.062 | (0.147) | -0.095 | (0.155) |
| turnout x 24mar2020 | -0.048 | (0.150) | -0.067 | (0.145) | -0.076 | (0.139) |
| turnout x 25mar2020 | -0.073 | (0.153) | -0.091 | (0.147) | -0.104 | (0.147) |
| turnout x 26mar2020 | -0.099 | (0.155) | -0.120 | (0.151) | -0.128 | (0.159) |
| turnout x 27mar2020 | -0.106 | (0.152) | -0.127 | (0.149) | -0.124 | (0.144) |
| turnout x 28mar2020 | -0.107 | (0.157) | -0.126 | (0.151) | -0.135 | (0.180) |
| turnout x 29mar2020 | -0.112 | (0.157) | -0.132 | (0.151) | -0.135 | (0.180) |
| turnout x 30mar2020 | -0.116 | (0.158) | -0.136 | (0.152) | -0.168 | (0.167) |
| turnout x 31mar2020 | -0.115 | (0.159) | -0.137 | (0.154) | -0.138 | (0.165) |
| turnout x 01apr2020 | -0.130 | (0.158) | -0.152 | (0.153) | -0.138 | (0.162) |
| turnout x 02apr2020 | -0.130 | (0.158) | -0.153 | (0.155) | -0.157 | (0.171) |
| turnout x 03apr2020 | -0.129 | (0.159) | -0.152 | (0.155) | -0.129 | (0.166) |
| turnout x 04apr2020 | -0.138 | (0.160) | -0.148 | (0.157) | -0.165 | (0.178) |
| turnout x 05apr2020 | -0.136 | (0.160) | -0.145 | (0.157) | -0.162 | (0.179) |
| turnout x 06apr2020 | -0.133 | (0.160) | -0.143 | (0.158) | -0.168 | (0.177) |
| turnout x 07apr2020 | -0.135 | (0.161) | -0.147 | (0.158) | -0.132 | (0.181) |
| turnout x 08apr2020 | -0.142 | (0.162) | -0.154 | (0.159) | -0.126 | (0.185) |
| turnout x 09apr2020 | -0.143 | (0.162) | -0.156 | (0.160) | -0.152 | (0.186) |
| turnout x 10apr2020 | -0.151 | (0.160) | -0.164 | (0.158) | -0.160 | (0.179) |
| turnout x 11apr2020 | -0.158 | (0.158) | -0.169 | (0.153) | -0.186 | (0.177) |
| turnout x 12apr2020 | -0.153 | (0.159) | -0.164 | (0.154) | -0.183 | (0.177) |
| turnout x 13apr2020 | -0.154 | (0.159) | -0.166 | (0.154) | -0.173 | (0.182) |
| turnout x 14apr2020 | -0.164 | (0.157) | -0.174 | (0.152) | -0.176 | (0.178) |
| turnout x 15apr2020 | -0.159 | (0.157) | -0.170 | (0.153) | -0.177 | (0.180) |
| turnout x 16apr2020 | -0.157 | (0.157) | -0.167 | (0.153) | -0.166 | (0.181) |
| turnout x 17apr2020 | -0.159 | (0.158) | -0.169 | (0.153) | -0.169 | (0.184) |
| turnout x 18apr2020 | -0.159 | (0.158) | -0.163 | (0.153) | -0.192 | (0.174) |
| turnout x 19apr2020 | -0.157 | (0.158) | -0.161 | (0.154) | -0.190 | (0.175) |
| turnout x 20apr2020 | -0.157 | (0.158) | -0.161 | (0.154) | -0.169 | (0.184) |
| turnout x 21apr2020 | -0.158 | (0.158) | -0.160 | (0.154) | -0.172 | (0.189) |
| turnout x 22apr2020 | -0.159 | (0.158) | -0.162 | (0.154) | -0.175 | (0.190) |
| turnout x 23apr2020 | -0.156 | (0.159) | -0.158 | (0.154) | -0.160 | (0.186) |
| turnout x 24apr2020 | -0.144 | (0.159) | -0.146 | (0.154) | -0.168 | (0.193) |
| turnout x 25apr2020 | -0.144 | (0.159) | -0.148 | (0.154) | -0.176 | (0.177) |
| turnout x 26apr2020 | -0.143 | (0.160) | -0.147 | (0.155) | -0.174 | (0.178) |
| turnout x 27apr2020 | -0.143 | (0.161) | -0.147 | (0.156) | -0.151 | (0.190) |
| turnout x 28apr2020 | -0.141 | (0.162) | -0.144 | (0.157) | -0.171 | (0.196) |

continued

Table C.1 continued

| | (1) | (2) | (3) |
|----------------------------------|----------------|----------------|----------------|
| turnout x 29apr2020 | -0.142 (0.162) | -0.145 (0.157) | -0.174 (0.196) |
| turnout x 30apr2020 | -0.140 (0.162) | -0.143 (0.157) | -0.160 (0.191) |
| turnout x 01may2020 | -0.141 (0.162) | -0.143 (0.157) | -0.169 (0.200) |
| turnout x 02may2020 | -0.142 (0.163) | -0.146 (0.158) | -0.173 (0.181) |
| turnout x 03may2020 | -0.142 (0.163) | -0.146 (0.158) | -0.173 (0.181) |
| turnout x 04may2020 | -0.143 (0.164) | -0.147 (0.158) | -0.150 (0.193) |
| turnout x 05may2020 | -0.143 (0.163) | -0.146 (0.159) | -0.174 (0.202) |
| turnout x 06may2020 | -0.145 (0.163) | -0.148 (0.158) | -0.180 (0.200) |
| turnout x 07may2020 | -0.143 (0.164) | -0.146 (0.159) | -0.164 (0.195) |
| turnout x 08may2020 | -0.143 (0.164) | -0.146 (0.159) | -0.174 (0.204) |
| turnout x 09may2020 | -0.143 (0.164) | -0.148 (0.159) | -0.174 (0.182) |
| turnout x 10may2020 | -0.139 (0.164) | -0.144 (0.159) | -0.170 (0.182) |
| turnout x 11may2020 | -0.140 (0.164) | -0.144 (0.159) | -0.146 (0.194) |
| turnout x 12may2020 | -0.140 (0.164) | -0.143 (0.159) | -0.176 (0.203) |
| turnout x 13may2020 | -0.139 (0.164) | -0.143 (0.159) | -0.177 (0.203) |
| turnout x 14may2020 | -0.140 (0.164) | -0.142 (0.158) | -0.154 (0.196) |
| turnout x 15may2020 | -0.140 (0.164) | -0.143 (0.159) | -0.166 (0.208) |
| turnout x 16may2020 | -0.140 (0.164) | -0.144 (0.159) | -0.168 (0.183) |
| turnout x 17may2020 | -0.140 (0.164) | -0.144 (0.159) | -0.169 (0.182) |
| turnout x 18may2020 | -0.140 (0.164) | -0.144 (0.159) | -0.145 (0.194) |
| turnout x 19may2020 | -0.140 (0.164) | -0.144 (0.159) | -0.172 (0.205) |
| canton FE | yes | yes | yes |
| NUTS2 x day FE | yes | yes | yes |
| weeks-since-outbreak FE | no | yes | no |
| weeks-since-outbreak x day FE | no | no | yes |
| mean | 5.137 | 5.137 | 5.147 |
| observations | 1,554 | 1,554 | 1,512 |
| Panel E – The Netherlands | | | |
| turnout x 13mar2020 | -0.013 (0.035) | -0.021 (0.036) | -0.026 (0.038) |
| turnout x 14mar2020 | -0.042 (0.045) | -0.059 (0.045) | -0.072 (0.047) |
| turnout x 15mar2020 | -0.028 (0.063) | -0.034 (0.064) | -0.039 (0.066) |
| turnout x 16mar2020 | -0.016 (0.066) | -0.019 (0.066) | -0.023 (0.067) |
| turnout x 17mar2020 | -0.041 (0.071) | -0.044 (0.069) | -0.050 (0.071) |
| turnout x 18mar2020 | -0.014 (0.078) | -0.014 (0.077) | -0.018 (0.079) |
| turnout x 19mar2020 | -0.081 (0.082) | -0.063 (0.081) | -0.064 (0.082) |
| turnout x 20mar2020 | -0.102 (0.081) | -0.084 (0.080) | -0.092 (0.082) |
| turnout x 21mar2020 | -0.127 (0.084) | -0.111 (0.082) | -0.118 (0.083) |
| turnout x 22mar2020 | -0.149 (0.084) | -0.135 (0.080) | -0.139 (0.081) |
| turnout x 23mar2020 | -0.161 (0.084) | -0.147 (0.080) | -0.149 (0.080) |
| turnout x 24mar2020 | -0.172 (0.082) | -0.161 (0.079) | -0.161 (0.079) |
| turnout x 25mar2020 | -0.166 (0.083) | -0.157 (0.080) | -0.160 (0.081) |
| turnout x 26mar2020 | -0.167 (0.084) | -0.163 (0.081) | -0.162 (0.081) |
| turnout x 27mar2020 | -0.199 (0.084) | -0.197 (0.081) | -0.196 (0.081) |
| turnout x 28mar2020 | -0.212 (0.084) | -0.208 (0.081) | -0.207 (0.081) |
| turnout x 29mar2020 | -0.231 (0.084) | -0.228 (0.081) | -0.226 (0.081) |

continued

Table C.1 continued

| | (1) | (2) | (3) |
|---------------------|----------------|----------------|----------------|
| turnout x 30mar2020 | -0.247 (0.083) | -0.244 (0.080) | -0.242 (0.080) |
| turnout x 31mar2020 | -0.269 (0.085) | -0.268 (0.081) | -0.267 (0.082) |
| turnout x 01apr2020 | -0.263 (0.084) | -0.257 (0.080) | -0.260 (0.081) |
| turnout x 02apr2020 | -0.261 (0.083) | -0.254 (0.080) | -0.255 (0.080) |
| turnout x 03apr2020 | -0.260 (0.083) | -0.251 (0.080) | -0.252 (0.080) |
| turnout x 04apr2020 | -0.259 (0.083) | -0.247 (0.080) | -0.249 (0.080) |
| turnout x 05apr2020 | -0.259 (0.083) | -0.248 (0.080) | -0.250 (0.080) |
| turnout x 06apr2020 | -0.259 (0.084) | -0.248 (0.081) | -0.252 (0.081) |
| turnout x 07apr2020 | -0.259 (0.084) | -0.253 (0.081) | -0.253 (0.081) |
| turnout x 08apr2020 | -0.259 (0.084) | -0.253 (0.081) | -0.255 (0.081) |
| turnout x 09apr2020 | -0.267 (0.085) | -0.261 (0.081) | -0.262 (0.081) |
| turnout x 10apr2020 | -0.274 (0.085) | -0.267 (0.081) | -0.267 (0.082) |
| turnout x 11apr2020 | -0.282 (0.085) | -0.273 (0.082) | -0.275 (0.082) |
| turnout x 12apr2020 | -0.288 (0.085) | -0.280 (0.082) | -0.281 (0.083) |
| turnout x 13apr2020 | -0.296 (0.086) | -0.289 (0.083) | -0.291 (0.083) |
| turnout x 14apr2020 | -0.297 (0.086) | -0.289 (0.083) | -0.292 (0.084) |
| turnout x 15apr2020 | -0.300 (0.086) | -0.293 (0.083) | -0.295 (0.083) |
| turnout x 16apr2020 | -0.295 (0.087) | -0.289 (0.083) | -0.292 (0.084) |
| turnout x 17apr2020 | -0.298 (0.087) | -0.292 (0.084) | -0.295 (0.084) |
| turnout x 18apr2020 | -0.302 (0.087) | -0.295 (0.084) | -0.301 (0.084) |
| turnout x 19apr2020 | -0.307 (0.087) | -0.300 (0.084) | -0.308 (0.084) |
| turnout x 20apr2020 | -0.307 (0.087) | -0.301 (0.084) | -0.309 (0.084) |
| turnout x 21apr2020 | -0.303 (0.086) | -0.295 (0.084) | -0.297 (0.084) |
| turnout x 22apr2020 | -0.305 (0.086) | -0.298 (0.083) | -0.300 (0.084) |
| turnout x 23apr2020 | -0.307 (0.087) | -0.301 (0.083) | -0.304 (0.084) |
| turnout x 24apr2020 | -0.312 (0.087) | -0.306 (0.083) | -0.308 (0.084) |
| turnout x 25apr2020 | -0.313 (0.087) | -0.307 (0.084) | -0.312 (0.084) |
| turnout x 26apr2020 | -0.315 (0.087) | -0.309 (0.084) | -0.314 (0.085) |
| turnout x 27apr2020 | -0.315 (0.087) | -0.310 (0.084) | -0.315 (0.085) |
| turnout x 28apr2020 | -0.315 (0.087) | -0.305 (0.085) | -0.307 (0.085) |
| turnout x 29apr2020 | -0.315 (0.088) | -0.307 (0.084) | -0.309 (0.085) |
| turnout x 30apr2020 | -0.316 (0.088) | -0.311 (0.084) | -0.314 (0.085) |
| turnout x 01may2020 | -0.318 (0.087) | -0.313 (0.084) | -0.315 (0.084) |
| turnout x 02may2020 | -0.318 (0.087) | -0.312 (0.084) | -0.316 (0.085) |
| turnout x 03may2020 | -0.317 (0.087) | -0.312 (0.085) | -0.317 (0.085) |
| turnout x 04may2020 | -0.317 (0.087) | -0.312 (0.085) | -0.317 (0.085) |
| turnout x 05may2020 | -0.317 (0.088) | -0.308 (0.085) | -0.310 (0.085) |
| turnout x 06may2020 | -0.316 (0.088) | -0.309 (0.085) | -0.311 (0.085) |
| turnout x 07may2020 | -0.314 (0.088) | -0.309 (0.084) | -0.312 (0.085) |
| turnout x 08may2020 | -0.314 (0.088) | -0.309 (0.084) | -0.311 (0.085) |
| turnout x 09may2020 | -0.314 (0.088) | -0.308 (0.085) | -0.313 (0.085) |
| turnout x 10may2020 | -0.315 (0.088) | -0.309 (0.085) | -0.314 (0.085) |
| turnout x 11may2020 | -0.311 (0.088) | -0.306 (0.085) | -0.311 (0.085) |
| turnout x 12may2020 | -0.316 (0.088) | -0.307 (0.085) | -0.310 (0.086) |
| turnout x 13may2020 | -0.316 (0.088) | -0.309 (0.085) | -0.310 (0.086) |
| turnout x 14may2020 | -0.316 (0.088) | -0.311 (0.085) | -0.314 (0.085) |

continued

Table C.1 continued

| | (1) | | (2) | | (3) | |
|-------------------------------|--------|---------|--------|---------|--------|---------|
| turnout x 15may2020 | -0.317 | (0.088) | -0.311 | (0.085) | -0.313 | (0.085) |
| turnout x 16may2020 | -0.316 | (0.088) | -0.310 | (0.085) | -0.314 | (0.086) |
| turnout x 17may2020 | -0.315 | (0.088) | -0.310 | (0.085) | -0.314 | (0.086) |
| turnout x 18may2020 | -0.315 | (0.088) | -0.310 | (0.085) | -0.315 | (0.086) |
| turnout x 19may2020 | -0.316 | (0.088) | -0.306 | (0.086) | -0.310 | (0.086) |
| municipality FE | yes | | yes | | yes | |
| NUTS1 x day FE | yes | | yes | | yes | |
| weeks-since-outbreak FE | no | | yes | | no | |
| weeks-since-outbreak x day FE | no | | no | | yes | |
| mean | 4.531 | | 4.531 | | 4.531 | |
| observations | 23,171 | | 23,171 | | 23,140 | |
| Panel F – Austria | | | | | | |
| turnout x 16mar2020 | 0.005 | (0.086) | 0.006 | (0.085) | 0.006 | (0.085) |
| turnout x 17mar2020 | -0.007 | (0.102) | -0.059 | (0.109) | -0.096 | (0.120) |
| turnout x 18mar2020 | 0.033 | (0.101) | 0.039 | (0.111) | 0.040 | (0.116) |
| turnout x 19mar2020 | -0.050 | (0.102) | -0.045 | (0.112) | -0.044 | (0.117) |
| turnout x 20mar2020 | -0.087 | (0.107) | -0.082 | (0.115) | -0.081 | (0.117) |
| turnout x 21mar2020 | 0.011 | (0.117) | 0.066 | (0.122) | 0.058 | (0.121) |
| turnout x 22mar2020 | -0.004 | (0.119) | 0.038 | (0.123) | 0.022 | (0.121) |
| turnout x 23mar2020 | -0.115 | (0.122) | -0.072 | (0.125) | -0.088 | (0.122) |
| turnout x 24mar2020 | -0.157 | (0.120) | -0.157 | (0.120) | -0.154 | (0.122) |
| turnout x 25mar2020 | -0.159 | (0.122) | -0.138 | (0.122) | -0.141 | (0.124) |
| turnout x 26mar2020 | -0.147 | (0.124) | -0.126 | (0.124) | -0.131 | (0.125) |
| turnout x 27mar2020 | -0.147 | (0.123) | -0.128 | (0.123) | -0.129 | (0.123) |
| turnout x 28mar2020 | -0.185 | (0.128) | -0.163 | (0.127) | -0.158 | (0.128) |
| turnout x 29mar2020 | -0.166 | (0.130) | -0.147 | (0.129) | -0.138 | (0.130) |
| turnout x 30mar2020 | -0.184 | (0.133) | -0.165 | (0.132) | -0.158 | (0.132) |
| turnout x 31mar2020 | -0.212 | (0.133) | -0.196 | (0.134) | -0.194 | (0.135) |
| turnout x 01apr2020 | -0.223 | (0.134) | -0.216 | (0.133) | -0.213 | (0.135) |
| turnout x 02apr2020 | -0.224 | (0.136) | -0.217 | (0.135) | -0.216 | (0.137) |
| turnout x 03apr2020 | -0.174 | (0.129) | -0.168 | (0.130) | -0.162 | (0.130) |
| turnout x 04apr2020 | -0.167 | (0.132) | -0.162 | (0.132) | -0.162 | (0.133) |
| turnout x 05apr2020 | -0.213 | (0.140) | -0.207 | (0.139) | -0.207 | (0.140) |
| turnout x 06apr2020 | -0.209 | (0.142) | -0.203 | (0.141) | -0.194 | (0.141) |
| turnout x 07apr2020 | -0.223 | (0.143) | -0.206 | (0.141) | -0.199 | (0.140) |
| turnout x 08apr2020 | -0.167 | (0.136) | -0.163 | (0.135) | -0.165 | (0.137) |
| turnout x 09apr2020 | -0.158 | (0.135) | -0.155 | (0.134) | -0.154 | (0.135) |
| turnout x 10apr2020 | -0.166 | (0.134) | -0.162 | (0.133) | -0.162 | (0.134) |
| turnout x 11apr2020 | -0.160 | (0.133) | -0.167 | (0.133) | -0.172 | (0.134) |
| turnout x 12apr2020 | -0.159 | (0.134) | -0.164 | (0.134) | -0.171 | (0.135) |
| turnout x 13apr2020 | -0.157 | (0.134) | -0.162 | (0.134) | -0.171 | (0.135) |
| turnout x 14apr2020 | -0.164 | (0.134) | -0.149 | (0.132) | -0.154 | (0.133) |
| turnout x 15apr2020 | -0.163 | (0.134) | -0.167 | (0.132) | -0.166 | (0.134) |
| turnout x 16apr2020 | -0.163 | (0.135) | -0.163 | (0.133) | -0.157 | (0.135) |
| turnout x 17apr2020 | -0.168 | (0.135) | -0.167 | (0.133) | -0.167 | (0.134) |

continued

Table C.1 continued

| | (1) | (2) | (3) |
|-------------------------------|----------------|----------------|----------------|
| turnout x 18apr2020 | -0.169 (0.135) | -0.183 (0.134) | -0.186 (0.135) |
| turnout x 19apr2020 | -0.170 (0.135) | -0.181 (0.134) | -0.185 (0.135) |
| turnout x 20apr2020 | -0.172 (0.135) | -0.183 (0.135) | -0.187 (0.136) |
| turnout x 21apr2020 | -0.169 (0.135) | -0.159 (0.132) | -0.160 (0.134) |
| turnout x 22apr2020 | -0.170 (0.135) | -0.176 (0.133) | -0.175 (0.134) |
| turnout x 23apr2020 | -0.169 (0.135) | -0.171 (0.134) | -0.169 (0.135) |
| turnout x 24apr2020 | -0.173 (0.135) | -0.174 (0.134) | -0.174 (0.135) |
| turnout x 25apr2020 | -0.174 (0.135) | -0.189 (0.134) | -0.190 (0.135) |
| turnout x 26apr2020 | -0.173 (0.135) | -0.184 (0.134) | -0.187 (0.136) |
| turnout x 27apr2020 | -0.179 (0.135) | -0.190 (0.135) | -0.195 (0.136) |
| turnout x 28apr2020 | -0.179 (0.135) | -0.170 (0.133) | -0.170 (0.134) |
| turnout x 29apr2020 | -0.180 (0.135) | -0.186 (0.133) | -0.184 (0.134) |
| turnout x 30apr2020 | -0.181 (0.135) | -0.182 (0.134) | -0.180 (0.135) |
| turnout x 01may2020 | -0.181 (0.135) | -0.181 (0.134) | -0.181 (0.135) |
| turnout x 02may2020 | -0.181 (0.135) | -0.196 (0.134) | -0.198 (0.135) |
| turnout x 03may2020 | -0.181 (0.135) | -0.193 (0.135) | -0.196 (0.135) |
| turnout x 04may2020 | -0.184 (0.135) | -0.196 (0.135) | -0.199 (0.136) |
| turnout x 05may2020 | -0.184 (0.135) | -0.174 (0.133) | -0.175 (0.134) |
| turnout x 06may2020 | -0.187 (0.135) | -0.193 (0.133) | -0.190 (0.134) |
| turnout x 07may2020 | -0.187 (0.135) | -0.188 (0.133) | -0.185 (0.134) |
| turnout x 08may2020 | -0.188 (0.135) | -0.189 (0.133) | -0.188 (0.135) |
| turnout x 09may2020 | -0.188 (0.135) | -0.203 (0.134) | -0.205 (0.135) |
| turnout x 10may2020 | -0.188 (0.135) | -0.199 (0.134) | -0.203 (0.135) |
| turnout x 11may2020 | -0.190 (0.135) | -0.202 (0.135) | -0.206 (0.136) |
| turnout x 12may2020 | -0.190 (0.135) | -0.182 (0.133) | -0.184 (0.134) |
| turnout x 13may2020 | -0.191 (0.135) | -0.197 (0.133) | -0.195 (0.134) |
| turnout x 14may2020 | -0.192 (0.135) | -0.194 (0.133) | -0.191 (0.135) |
| turnout x 15may2020 | -0.193 (0.135) | -0.194 (0.134) | -0.193 (0.135) |
| turnout x 16may2020 | -0.193 (0.135) | -0.208 (0.134) | -0.213 (0.135) |
| turnout x 17may2020 | -0.194 (0.135) | -0.204 (0.134) | -0.211 (0.135) |
| turnout x 18may2020 | -0.196 (0.136) | -0.207 (0.135) | -0.212 (0.136) |
| turnout x 19may2020 | -0.195 (0.135) | -0.189 (0.133) | -0.192 (0.135) |
| district FE | yes | yes | yes |
| NUTS1 x day FE | yes | yes | yes |
| weeks-since-outbreak FE | no | yes | no |
| weeks-since-outbreak x day FE | no | no | yes |
| mean | 4.500 | 4.500 | 4.499 |
| observations | 5,794 | 5,794 | 5,762 |
| Panel G – Sweden | | | |
| turnout x 12mar2020 | 0.105 (0.208) | 0.086 (0.197) | 0.005 (0.196) |
| turnout x 13mar2020 | -0.011 (0.130) | -0.025 (0.130) | 0.003 (0.207) |
| turnout x 14mar2020 | 0.003 (0.126) | -0.011 (0.127) | 0.054 (0.192) |
| turnout x 15mar2020 | -0.005 (0.128) | -0.037 (0.123) | 0.000 (0.169) |
| turnout x 16mar2020 | -0.126 (0.121) | -0.125 (0.132) | -0.199 (0.190) |
| turnout x 17mar2020 | -0.197 (0.137) | -0.194 (0.161) | -0.236 (0.195) |

continued

Table C.1 continued

| | (1) | (2) | (3) |
|---------------------|----------------|----------------|----------------|
| turnout x 18mar2020 | -0.149 (0.149) | -0.148 (0.163) | -0.117 (0.173) |
| turnout x 19mar2020 | -0.143 (0.156) | -0.127 (0.161) | -0.087 (0.162) |
| turnout x 20mar2020 | -0.153 (0.154) | -0.081 (0.178) | 0.005 (0.189) |
| turnout x 21mar2020 | -0.166 (0.150) | -0.094 (0.174) | -0.027 (0.189) |
| turnout x 22mar2020 | -0.161 (0.155) | -0.094 (0.176) | -0.060 (0.181) |
| turnout x 23mar2020 | -0.166 (0.161) | -0.091 (0.186) | -0.138 (0.213) |
| turnout x 24mar2020 | -0.183 (0.168) | -0.108 (0.195) | -0.160 (0.213) |
| turnout x 25mar2020 | -0.197 (0.174) | -0.124 (0.200) | -0.154 (0.205) |
| turnout x 26mar2020 | -0.201 (0.178) | -0.105 (0.205) | -0.177 (0.197) |
| turnout x 27mar2020 | -0.228 (0.178) | -0.111 (0.221) | -0.097 (0.237) |
| turnout x 28mar2020 | -0.225 (0.180) | -0.108 (0.223) | -0.095 (0.237) |
| turnout x 29mar2020 | -0.225 (0.180) | -0.101 (0.226) | -0.103 (0.244) |
| turnout x 30mar2020 | -0.267 (0.178) | -0.156 (0.221) | -0.194 (0.229) |
| turnout x 31mar2020 | -0.270 (0.182) | -0.160 (0.220) | -0.183 (0.226) |
| turnout x 01apr2020 | -0.291 (0.184) | -0.181 (0.229) | -0.189 (0.221) |
| turnout x 02apr2020 | -0.302 (0.183) | -0.172 (0.233) | -0.247 (0.219) |
| turnout x 03apr2020 | -0.301 (0.185) | -0.179 (0.238) | -0.201 (0.239) |
| turnout x 04apr2020 | -0.300 (0.183) | -0.179 (0.236) | -0.200 (0.237) |
| turnout x 05apr2020 | -0.297 (0.183) | -0.165 (0.239) | -0.175 (0.243) |
| turnout x 06apr2020 | -0.300 (0.185) | -0.189 (0.234) | -0.215 (0.230) |
| turnout x 07apr2020 | -0.324 (0.187) | -0.213 (0.231) | -0.226 (0.231) |
| turnout x 08apr2020 | -0.325 (0.189) | -0.215 (0.239) | -0.217 (0.232) |
| turnout x 09apr2020 | -0.319 (0.191) | -0.204 (0.244) | -0.226 (0.237) |
| turnout x 10apr2020 | -0.327 (0.191) | -0.240 (0.236) | -0.260 (0.241) |
| turnout x 11apr2020 | -0.336 (0.191) | -0.249 (0.237) | -0.273 (0.242) |
| turnout x 12apr2020 | -0.346 (0.194) | -0.249 (0.246) | -0.256 (0.255) |
| turnout x 13apr2020 | -0.352 (0.193) | -0.274 (0.236) | -0.275 (0.237) |
| turnout x 14apr2020 | -0.351 (0.194) | -0.272 (0.233) | -0.267 (0.242) |
| turnout x 15apr2020 | -0.348 (0.197) | -0.267 (0.241) | -0.259 (0.247) |
| turnout x 16apr2020 | -0.352 (0.199) | -0.266 (0.246) | -0.269 (0.255) |
| turnout x 17apr2020 | -0.351 (0.201) | -0.284 (0.242) | -0.303 (0.247) |
| turnout x 18apr2020 | -0.353 (0.204) | -0.286 (0.245) | -0.301 (0.251) |
| turnout x 19apr2020 | -0.353 (0.204) | -0.283 (0.247) | -0.283 (0.264) |
| turnout x 20apr2020 | -0.353 (0.204) | -0.288 (0.243) | -0.273 (0.247) |
| turnout x 21apr2020 | -0.363 (0.205) | -0.299 (0.243) | -0.273 (0.255) |
| turnout x 22apr2020 | -0.365 (0.204) | -0.301 (0.244) | -0.279 (0.260) |
| turnout x 23apr2020 | -0.362 (0.205) | -0.295 (0.248) | -0.263 (0.268) |
| turnout x 24apr2020 | -0.363 (0.205) | -0.302 (0.246) | -0.323 (0.252) |
| turnout x 25apr2020 | -0.360 (0.207) | -0.298 (0.248) | -0.317 (0.255) |
| turnout x 26apr2020 | -0.360 (0.207) | -0.296 (0.250) | -0.288 (0.269) |
| turnout x 27apr2020 | -0.357 (0.207) | -0.298 (0.246) | -0.264 (0.251) |
| turnout x 28apr2020 | -0.359 (0.209) | -0.300 (0.247) | -0.251 (0.257) |
| turnout x 29apr2020 | -0.361 (0.208) | -0.301 (0.248) | -0.280 (0.269) |
| turnout x 30apr2020 | -0.361 (0.209) | -0.298 (0.252) | -0.261 (0.275) |
| turnout x 01may2020 | -0.368 (0.209) | -0.309 (0.250) | -0.323 (0.256) |
| turnout x 02may2020 | -0.369 (0.209) | -0.311 (0.251) | -0.322 (0.256) |

continued

Table C.1 continued

| | (1) | (2) | (3) |
|-------------------------------|----------------|----------------|----------------|
| turnout x 03may2020 | -0.368 (0.209) | -0.308 (0.253) | -0.304 (0.268) |
| turnout x 04may2020 | -0.366 (0.212) | -0.308 (0.252) | -0.270 (0.258) |
| turnout x 05may2020 | -0.366 (0.213) | -0.308 (0.252) | -0.256 (0.262) |
| turnout x 06may2020 | -0.363 (0.214) | -0.305 (0.254) | -0.295 (0.277) |
| turnout x 07may2020 | -0.362 (0.214) | -0.302 (0.259) | -0.272 (0.285) |
| turnout x 08may2020 | -0.363 (0.214) | -0.304 (0.259) | -0.323 (0.264) |
| turnout x 09may2020 | -0.361 (0.215) | -0.302 (0.260) | -0.324 (0.265) |
| turnout x 10may2020 | -0.359 (0.216) | -0.300 (0.263) | -0.314 (0.276) |
| turnout x 11may2020 | -0.363 (0.216) | -0.306 (0.258) | -0.277 (0.263) |
| turnout x 12may2020 | -0.363 (0.215) | -0.306 (0.258) | -0.268 (0.268) |
| turnout x 13may2020 | -0.366 (0.215) | -0.310 (0.257) | -0.311 (0.280) |
| turnout x 14may2020 | -0.367 (0.215) | -0.317 (0.259) | -0.289 (0.286) |
| turnout x 15may2020 | -0.366 (0.214) | -0.325 (0.250) | -0.344 (0.263) |
| turnout x 16may2020 | -0.366 (0.215) | -0.325 (0.250) | -0.345 (0.263) |
| turnout x 17may2020 | -0.364 (0.215) | -0.323 (0.253) | -0.338 (0.274) |
| turnout x 18may2020 | -0.365 (0.216) | -0.325 (0.249) | -0.291 (0.264) |
| turnout x 19may2020 | -0.366 (0.214) | -0.326 (0.247) | -0.286 (0.269) |
| county FE | yes | yes | yes |
| NUTS1 x day FE | yes | yes | yes |
| weeks-since-outbreak FE | no | yes | no |
| weeks-since-outbreak x day FE | no | no | yes |
| mean | 4.058 | 4.057 | 4.040 |
| observations | 1,467 | 1,466 | 1,378 |

Notes: This table presents the regression results from our baseline model in equation (1). Standard errors clustered at the area level in parenthesis. Columns (2) and (3) add weeks-since-outbreak and weeks-since-outbreak x day FE.

Table C.2: Effect of social capital on excess deaths

| | (1) | | (2) | |
|---------------------|--------|---------|--------|---------|
| turnout x 02feb2020 | -0.008 | (0.012) | -0.010 | (0.013) |
| turnout x 03feb2020 | 0.009 | (0.016) | 0.005 | (0.016) |
| turnout x 04feb2020 | 0.001 | (0.018) | 0.001 | (0.019) |
| turnout x 05feb2020 | 0.013 | (0.020) | 0.015 | (0.021) |
| turnout x 06feb2020 | -0.002 | (0.021) | -0.000 | (0.022) |
| turnout x 07feb2020 | -0.003 | (0.021) | -0.004 | (0.022) |
| turnout x 08feb2020 | -0.003 | (0.022) | -0.003 | (0.023) |
| turnout x 09feb2020 | 0.008 | (0.024) | 0.003 | (0.025) |
| turnout x 10feb2020 | 0.012 | (0.024) | 0.010 | (0.024) |
| turnout x 11feb2020 | -0.000 | (0.024) | -0.001 | (0.024) |
| turnout x 12feb2020 | -0.005 | (0.024) | -0.000 | (0.025) |
| turnout x 13feb2020 | 0.003 | (0.025) | 0.010 | (0.025) |
| turnout x 14feb2020 | 0.007 | (0.025) | 0.015 | (0.026) |
| turnout x 15feb2020 | 0.008 | (0.025) | 0.017 | (0.026) |
| turnout x 16feb2020 | -0.009 | (0.026) | -0.002 | (0.027) |
| turnout x 17feb2020 | -0.014 | (0.026) | -0.010 | (0.027) |
| turnout x 18feb2020 | 0.010 | (0.028) | 0.015 | (0.029) |
| turnout x 19feb2020 | 0.013 | (0.027) | 0.017 | (0.028) |
| turnout x 20feb2020 | 0.002 | (0.028) | 0.006 | (0.029) |
| turnout x 21feb2020 | 0.013 | (0.028) | 0.019 | (0.029) |
| turnout x 22feb2020 | 0.015 | (0.029) | 0.015 | (0.029) |
| turnout x 23feb2020 | 0.011 | (0.029) | 0.017 | (0.029) |
| turnout x 24feb2020 | 0.005 | (0.029) | 0.007 | (0.030) |
| turnout x 25feb2020 | 0.008 | (0.029) | 0.012 | (0.030) |
| turnout x 26feb2020 | 0.000 | (0.030) | -0.000 | (0.031) |
| turnout x 27feb2020 | -0.004 | (0.030) | -0.005 | (0.031) |
| turnout x 28feb2020 | 0.002 | (0.030) | 0.001 | (0.031) |
| turnout x 29feb2020 | -0.001 | (0.030) | -0.004 | (0.031) |
| turnout x 01mar2020 | 0.013 | (0.031) | 0.007 | (0.032) |
| turnout x 02mar2020 | 0.008 | (0.031) | 0.002 | (0.031) |
| turnout x 03mar2020 | 0.010 | (0.031) | 0.000 | (0.032) |
| turnout x 04mar2020 | 0.013 | (0.032) | 0.003 | (0.032) |
| turnout x 05mar2020 | 0.015 | (0.032) | 0.004 | (0.032) |
| turnout x 06mar2020 | 0.035 | (0.032) | 0.017 | (0.033) |
| turnout x 07mar2020 | 0.046 | (0.032) | 0.028 | (0.033) |
| turnout x 08mar2020 | 0.042 | (0.032) | 0.024 | (0.033) |
| turnout x 09mar2020 | 0.025 | (0.032) | 0.009 | (0.033) |
| turnout x 10mar2020 | 0.027 | (0.032) | 0.011 | (0.033) |
| turnout x 11mar2020 | 0.027 | (0.032) | 0.014 | (0.033) |
| turnout x 12mar2020 | 0.011 | (0.033) | 0.001 | (0.034) |
| turnout x 13mar2020 | 0.012 | (0.034) | 0.001 | (0.035) |
| turnout x 14mar2020 | 0.019 | (0.034) | 0.008 | (0.035) |

continued

Table C.2 continued

| | (1) | | (2) | |
|---------------------|--------|---------|--------|---------|
| turnout x 15mar2020 | 0.000 | (0.034) | -0.008 | (0.035) |
| turnout x 16mar2020 | -0.000 | (0.034) | -0.012 | (0.035) |
| turnout x 17mar2020 | -0.005 | (0.035) | -0.013 | (0.036) |
| turnout x 18mar2020 | -0.009 | (0.035) | -0.011 | (0.036) |
| turnout x 19mar2020 | -0.018 | (0.035) | -0.022 | (0.036) |
| turnout x 20mar2020 | -0.036 | (0.035) | -0.039 | (0.036) |
| turnout x 21mar2020 | -0.041 | (0.034) | -0.045 | (0.035) |
| turnout x 22mar2020 | -0.046 | (0.034) | -0.051 | (0.035) |
| turnout x 23mar2020 | -0.058 | (0.034) | -0.061 | (0.035) |
| turnout x 24mar2020 | -0.049 | (0.034) | -0.051 | (0.035) |
| turnout x 25mar2020 | -0.059 | (0.034) | -0.060 | (0.035) |
| turnout x 26mar2020 | -0.065 | (0.035) | -0.062 | (0.036) |
| turnout x 27mar2020 | -0.057 | (0.035) | -0.055 | (0.036) |
| turnout x 28mar2020 | -0.055 | (0.035) | -0.051 | (0.036) |
| turnout x 29mar2020 | -0.061 | (0.035) | -0.059 | (0.036) |
| turnout x 30mar2020 | -0.067 | (0.035) | -0.061 | (0.036) |
| turnout x 31mar2020 | -0.067 | (0.036) | -0.060 | (0.036) |
| turnout x 01apr2020 | -0.077 | (0.036) | -0.068 | (0.037) |
| turnout x 02apr2020 | -0.081 | (0.036) | -0.069 | (0.037) |
| turnout x 03apr2020 | -0.081 | (0.036) | -0.069 | (0.037) |
| turnout x 04apr2020 | -0.078 | (0.037) | -0.062 | (0.037) |
| turnout x 05apr2020 | -0.074 | (0.037) | -0.061 | (0.038) |
| turnout x 06apr2020 | -0.078 | (0.037) | -0.064 | (0.038) |
| turnout x 07apr2020 | -0.091 | (0.037) | -0.075 | (0.038) |
| turnout x 08apr2020 | -0.088 | (0.037) | -0.068 | (0.037) |
| turnout x 09apr2020 | -0.080 | (0.035) | -0.060 | (0.036) |
| turnout x 10apr2020 | -0.092 | (0.035) | -0.072 | (0.037) |
| turnout x 11apr2020 | -0.088 | (0.036) | -0.063 | (0.037) |
| turnout x 12apr2020 | -0.093 | (0.037) | -0.070 | (0.038) |
| turnout x 13apr2020 | -0.086 | (0.036) | -0.063 | (0.037) |
| turnout x 14apr2020 | -0.075 | (0.036) | -0.049 | (0.037) |
| turnout x 15apr2020 | -0.071 | (0.036) | -0.046 | (0.037) |
| controls x day FE | | no | | yes |
| municipality FE | | yes | | yes |
| province x day FE | | yes | | yes |
| mean | | 4.645 | | 4.645 |
| observations | | 140,362 | | 140,362 |

Notes: This table presents the regression results from our excess mortality regression for Italy in equation (2). Standard errors clustered at the municipality level in parenthesis. Column (2) adds control variables interacted with day FE.

Table C.3: Effect of social capital on mobility

| | (1) | (2) | (3) | (4) |
|----------------------|----------------|----------------|----------------|----------------|
| turnout x jan week 2 | 0.042 (0.036) | 0.040 (0.035) | -0.010 (0.025) | -0.012 (0.023) |
| turnout x jan week 3 | 0.068 (0.044) | 0.071 (0.043) | 0.015 (0.028) | 0.048 (0.025) |
| turnout x jan week 4 | 0.029 (0.040) | 0.035 (0.039) | -0.047 (0.029) | -0.011 (0.026) |
| turnout x feb week 1 | -0.030 (0.040) | -0.026 (0.039) | -0.043 (0.030) | 0.015 (0.030) |
| turnout x feb week 2 | -0.006 (0.041) | 0.000 (0.040) | -0.026 (0.036) | 0.048 (0.030) |
| turnout x feb week 3 | -0.032 (0.048) | -0.032 (0.047) | -0.037 (0.037) | -0.021 (0.030) |
| turnout x feb week 4 | -0.117 (0.079) | -0.101 (0.081) | -0.088 (0.067) | -0.138 (0.060) |
| turnout x mar week 1 | -0.156 (0.070) | -0.156 (0.070) | -0.119 (0.062) | -0.196 (0.054) |
| turnout x mar week 2 | -0.072 (0.154) | -0.119 (0.165) | -0.075 (0.097) | -0.328 (0.113) |
| turnout x mar week 3 | -0.005 (0.191) | -0.058 (0.204) | -0.006 (0.129) | -0.299 (0.150) |
| turnout x mar week 4 | -0.062 (0.204) | -0.120 (0.217) | -0.052 (0.142) | -0.338 (0.153) |
| controls x week FE | yes | yes | yes | yes |
| log GDP per capita | | | | |
| x week FE | yes | no | yes | no |
| province FE | yes | yes | yes | yes |
| week FE | no | no | yes | yes |
| NUTS1 x week FE | yes | yes | no | no |
| mean | 5.927 | 5.927 | 5.927 | 5.927 |
| observations | 1,248 | 1,248 | 1,248 | 1,248 |

Notes: This table presents the regression results from our baseline model in equation (1). Standard errors clustered at the province level in parenthesis

Table C.4: Effect of social capital on the spread of Covid-19 cases with controls

| | (1) | (2) | (3) |
|---------------------|----------------|----------------|----------------|
| turnout x 10mar2020 | -0.018 (0.062) | -0.081 (0.108) | -0.114 (0.108) |
| turnout x 11mar2020 | -0.079 (0.104) | -0.124 (0.142) | -0.167 (0.161) |
| turnout x 12mar2020 | -0.159 (0.109) | -0.295 (0.159) | -0.255 (0.165) |
| turnout x 13mar2020 | -0.275 (0.124) | -0.397 (0.169) | -0.341 (0.174) |
| turnout x 14mar2020 | -0.341 (0.129) | -0.482 (0.176) | -0.397 (0.176) |
| turnout x 15mar2020 | -0.335 (0.140) | -0.513 (0.186) | -0.449 (0.177) |
| turnout x 16mar2020 | -0.275 (0.143) | -0.416 (0.187) | -0.335 (0.194) |
| turnout x 17mar2020 | -0.258 (0.150) | -0.405 (0.199) | -0.388 (0.202) |
| turnout x 18mar2020 | -0.265 (0.156) | -0.448 (0.209) | -0.428 (0.206) |
| turnout x 19mar2020 | -0.276 (0.166) | -0.418 (0.213) | -0.380 (0.209) |
| turnout x 20mar2020 | -0.302 (0.162) | -0.449 (0.212) | -0.395 (0.197) |
| turnout x 21mar2020 | -0.288 (0.165) | -0.420 (0.214) | -0.341 (0.197) |
| turnout x 22mar2020 | -0.308 (0.166) | -0.448 (0.216) | -0.389 (0.197) |
| turnout x 23mar2020 | -0.297 (0.166) | -0.440 (0.215) | -0.370 (0.202) |
| turnout x 24mar2020 | -0.285 (0.167) | -0.407 (0.217) | -0.350 (0.206) |
| turnout x 25mar2020 | -0.285 (0.172) | -0.416 (0.220) | -0.354 (0.207) |
| turnout x 26mar2020 | -0.292 (0.171) | -0.421 (0.215) | -0.363 (0.204) |
| turnout x 27mar2020 | -0.340 (0.173) | -0.466 (0.220) | -0.406 (0.207) |
| turnout x 28mar2020 | -0.354 (0.171) | -0.469 (0.218) | -0.396 (0.204) |
| turnout x 29mar2020 | -0.351 (0.174) | -0.463 (0.222) | -0.405 (0.207) |

continued

Table C.4 continued

| | (1) | (2) | (3) |
|---------------------|----------------|----------------|----------------|
| turnout x 30mar2020 | -0.331 (0.171) | -0.428 (0.218) | -0.369 (0.203) |
| turnout x 31mar2020 | -0.325 (0.171) | -0.416 (0.218) | -0.353 (0.202) |
| turnout x 01apr2020 | -0.320 (0.170) | -0.397 (0.216) | -0.326 (0.200) |
| turnout x 02apr2020 | -0.322 (0.170) | -0.402 (0.216) | -0.342 (0.201) |
| turnout x 03apr2020 | -0.335 (0.171) | -0.408 (0.218) | -0.342 (0.205) |
| turnout x 04apr2020 | -0.336 (0.172) | -0.403 (0.220) | -0.332 (0.206) |
| turnout x 05apr2020 | -0.368 (0.174) | -0.449 (0.219) | -0.389 (0.209) |
| turnout x 06apr2020 | -0.380 (0.174) | -0.456 (0.219) | -0.397 (0.208) |
| turnout x 07apr2020 | -0.380 (0.174) | -0.454 (0.219) | -0.379 (0.207) |
| turnout x 08apr2020 | -0.408 (0.175) | -0.490 (0.220) | -0.404 (0.207) |
| turnout x 09apr2020 | -0.405 (0.175) | -0.488 (0.221) | -0.414 (0.208) |
| turnout x 10apr2020 | -0.408 (0.175) | -0.495 (0.220) | -0.420 (0.209) |
| turnout x 11apr2020 | -0.404 (0.176) | -0.493 (0.221) | -0.416 (0.210) |
| turnout x 12apr2020 | -0.409 (0.177) | -0.496 (0.222) | -0.418 (0.214) |
| turnout x 13apr2020 | -0.409 (0.177) | -0.499 (0.222) | -0.422 (0.213) |
| turnout x 14apr2020 | -0.410 (0.177) | -0.501 (0.224) | -0.406 (0.213) |
| turnout x 15apr2020 | -0.412 (0.178) | -0.504 (0.224) | -0.407 (0.212) |
| turnout x 16apr2020 | -0.410 (0.178) | -0.502 (0.224) | -0.414 (0.213) |
| turnout x 17apr2020 | -0.403 (0.177) | -0.497 (0.223) | -0.412 (0.213) |
| turnout x 18apr2020 | -0.406 (0.177) | -0.501 (0.223) | -0.417 (0.212) |
| turnout x 19apr2020 | -0.403 (0.177) | -0.500 (0.223) | -0.413 (0.214) |
| turnout x 20apr2020 | -0.403 (0.177) | -0.503 (0.223) | -0.420 (0.213) |
| turnout x 21apr2020 | -0.401 (0.177) | -0.501 (0.223) | -0.398 (0.211) |
| turnout x 22apr2020 | -0.399 (0.178) | -0.501 (0.223) | -0.395 (0.211) |
| turnout x 23apr2020 | -0.400 (0.178) | -0.498 (0.224) | -0.400 (0.211) |
| turnout x 24apr2020 | -0.400 (0.178) | -0.498 (0.223) | -0.400 (0.213) |
| turnout x 25apr2020 | -0.398 (0.178) | -0.498 (0.223) | -0.406 (0.211) |
| turnout x 26apr2020 | -0.398 (0.178) | -0.499 (0.224) | -0.402 (0.214) |
| turnout x 27apr2020 | -0.403 (0.178) | -0.504 (0.224) | -0.412 (0.213) |
| turnout x 28apr2020 | -0.404 (0.178) | -0.504 (0.224) | -0.392 (0.213) |
| turnout x 29apr2020 | -0.403 (0.179) | -0.503 (0.224) | -0.388 (0.213) |
| turnout x 30apr2020 | -0.405 (0.179) | -0.506 (0.224) | -0.400 (0.213) |
| turnout x 01may2020 | -0.404 (0.179) | -0.507 (0.224) | -0.403 (0.214) |
| turnout x 02may2020 | -0.406 (0.179) | -0.509 (0.224) | -0.413 (0.213) |
| turnout x 03may2020 | -0.406 (0.179) | -0.509 (0.225) | -0.407 (0.216) |
| turnout x 04may2020 | -0.405 (0.179) | -0.508 (0.225) | -0.412 (0.215) |
| turnout x 05may2020 | -0.405 (0.179) | -0.508 (0.225) | -0.393 (0.214) |
| turnout x 06may2020 | -0.405 (0.180) | -0.508 (0.225) | -0.390 (0.215) |
| turnout x 07may2020 | -0.403 (0.180) | -0.506 (0.225) | -0.397 (0.214) |
| turnout x 08may2020 | -0.399 (0.179) | -0.500 (0.224) | -0.394 (0.214) |
| turnout x 09may2020 | -0.396 (0.179) | -0.496 (0.224) | -0.399 (0.212) |
| turnout x 10may2020 | -0.392 (0.178) | -0.492 (0.223) | -0.392 (0.214) |
| turnout x 11may2020 | -0.390 (0.178) | -0.490 (0.223) | -0.396 (0.212) |
| turnout x 12may2020 | -0.389 (0.178) | -0.489 (0.223) | -0.374 (0.212) |

continued

Table C.4 continued

| | (1) | (2) | (3) |
|------------------------------------|----------------|----------------|----------------|
| turnout x 13may2020 | -0.388 (0.178) | -0.485 (0.222) | -0.367 (0.212) |
| turnout x 14may2020 | -0.387 (0.178) | -0.483 (0.223) | -0.372 (0.211) |
| turnout x 15may2020 | -0.387 (0.178) | -0.482 (0.223) | -0.369 (0.212) |
| turnout x 16may2020 | -0.388 (0.178) | -0.483 (0.223) | -0.380 (0.211) |
| turnout x 17may2020 | -0.388 (0.178) | -0.484 (0.223) | -0.368 (0.214) |
| turnout x 18may2020 | -0.387 (0.177) | -0.482 (0.223) | -0.371 (0.212) |
| turnout x 19may2020 | -0.387 (0.178) | -0.483 (0.223) | -0.353 (0.213) |
| province FE | yes | yes | yes |
| NUTS1 x day FE | yes | yes | yes |
| controls x day FE | no | yes | yes |
| controls x weeks-since-outbreak FE | no | no | yes |
| Mean | 4.645 | 4.645 | 4.645 |
| Observations | 7,681 | 7,681 | 7,681 |

Notes: This table presents the regression results from our baseline model including controls for Italy in equation (1). Standard errors clustered at the province level in parenthesis. Columns (2) and (3) add control variables interacted with day FE and weeks-since-outbreak FE.

Table C.5: Effect of social capital on the spread of Covid-19 cases: literacy rates in 1821

| | (1) | |
|--------------------------------|--------|---------|
| literacy rate 1821 x 09mar2020 | -0.010 | (0.066) |
| literacy rate 1821 x 10mar2020 | -0.043 | (0.077) |
| literacy rate 1821 x 11mar2020 | -0.048 | (0.077) |
| literacy rate 1821 x 12mar2020 | -0.061 | (0.085) |
| literacy rate 1821 x 13mar2020 | -0.081 | (0.097) |
| literacy rate 1821 x 14mar2020 | -0.079 | (0.104) |
| literacy rate 1821 x 15mar2020 | -0.142 | (0.105) |
| literacy rate 1821 x 16mar2020 | -0.180 | (0.106) |
| literacy rate 1821 x 17mar2020 | -0.219 | (0.111) |
| literacy rate 1821 x 18mar2020 | -0.272 | (0.115) |
| literacy rate 1821 x 19mar2020 | -0.303 | (0.114) |
| literacy rate 1821 x 20mar2020 | -0.293 | (0.127) |
| literacy rate 1821 x 21mar2020 | -0.315 | (0.130) |
| literacy rate 1821 x 22mar2020 | -0.319 | (0.132) |
| literacy rate 1821 x 23mar2020 | -0.335 | (0.136) |
| literacy rate 1821 x 24mar2020 | -0.317 | (0.141) |
| literacy rate 1821 x 25mar2020 | -0.319 | (0.143) |
| literacy rate 1821 x 26mar2020 | -0.336 | (0.148) |
| literacy rate 1821 x 27mar2020 | -0.339 | (0.150) |
| literacy rate 1821 x 28mar2020 | -0.347 | (0.150) |
| literacy rate 1821 x 29mar2020 | -0.350 | (0.152) |
| literacy rate 1821 x 30mar2020 | -0.333 | (0.155) |
| literacy rate 1821 x 31mar2020 | -0.332 | (0.157) |
| literacy rate 1821 x 01apr2020 | -0.322 | (0.158) |
| literacy rate 1821 x 02apr2020 | -0.318 | (0.160) |
| literacy rate 1821 x 03apr2020 | -0.319 | (0.160) |
| literacy rate 1821 x 04apr2020 | -0.330 | (0.162) |
| literacy rate 1821 x 05apr2020 | -0.380 | (0.163) |
| literacy rate 1821 x 06apr2020 | -0.382 | (0.163) |
| literacy rate 1821 x 07apr2020 | -0.375 | (0.165) |
| literacy rate 1821 x 08apr2020 | -0.389 | (0.166) |
| literacy rate 1821 x 09apr2020 | -0.386 | (0.167) |
| literacy rate 1821 x 10apr2020 | -0.384 | (0.168) |
| literacy rate 1821 x 11apr2020 | -0.380 | (0.169) |
| literacy rate 1821 x 12apr2020 | -0.381 | (0.171) |
| literacy rate 1821 x 13apr2020 | -0.381 | (0.174) |
| literacy rate 1821 x 14apr2020 | -0.388 | (0.177) |
| literacy rate 1821 x 15apr2020 | -0.390 | (0.177) |
| literacy rate 1821 x 16apr2020 | -0.381 | (0.179) |
| literacy rate 1821 x 17apr2020 | -0.376 | (0.180) |
| literacy rate 1821 x 18apr2020 | -0.375 | (0.182) |
| literacy rate 1821 x 19apr2020 | -0.375 | (0.183) |

continued

Table C.5 continued

| | (1) | |
|--------------------------------|--------|---------|
| literacy rate 1821 x 20apr2020 | -0.376 | (0.183) |
| literacy rate 1821 x 21apr2020 | -0.375 | (0.183) |
| literacy rate 1821 x 22apr2020 | -0.377 | (0.184) |
| literacy rate 1821 x 23apr2020 | -0.377 | (0.184) |
| literacy rate 1821 x 24apr2020 | -0.376 | (0.185) |
| literacy rate 1821 x 25apr2020 | -0.377 | (0.187) |
| literacy rate 1821 x 26apr2020 | -0.376 | (0.187) |
| literacy rate 1821 x 27apr2020 | -0.377 | (0.187) |
| literacy rate 1821 x 28apr2020 | -0.377 | (0.186) |
| literacy rate 1821 x 29apr2020 | -0.376 | (0.187) |
| literacy rate 1821 x 30apr2020 | -0.375 | (0.187) |
| literacy rate 1821 x 01may2020 | -0.376 | (0.187) |
| literacy rate 1821 x 02may2020 | -0.376 | (0.187) |
| literacy rate 1821 x 03may2020 | -0.375 | (0.187) |
| literacy rate 1821 x 04may2020 | -0.375 | (0.187) |
| literacy rate 1821 x 05may2020 | -0.374 | (0.188) |
| literacy rate 1821 x 06may2020 | -0.374 | (0.188) |
| literacy rate 1821 x 07may2020 | -0.372 | (0.188) |
| literacy rate 1821 x 08may2020 | -0.373 | (0.188) |
| literacy rate 1821 x 09may2020 | -0.373 | (0.188) |
| literacy rate 1821 x 10may2020 | -0.374 | (0.188) |
| literacy rate 1821 x 11may2020 | -0.374 | (0.188) |
| literacy rate 1821 x 12may2020 | -0.371 | (0.187) |
| literacy rate 1821 x 13may2020 | -0.371 | (0.187) |
| literacy rate 1821 x 14may2020 | -0.371 | (0.187) |
| literacy rate 1821 x 15may2020 | -0.371 | (0.187) |
| literacy rate 1821 x 16may2020 | -0.371 | (0.187) |
| literacy rate 1821 x 17may2020 | -0.372 | (0.187) |
| literacy rate 1821 x 18may2020 | -0.372 | (0.187) |
| literacy rate 1821 x 19may2020 | -0.371 | (0.187) |
| province FE | | yes |
| NUTS1 x day FE | | yes |
| mean | | 4.647 |
| observations | | 5,029 |

Notes: This table presents the regression results from our baseline model in equation (1). Standard errors clustered at the province level in parenthesis

Table C.6: Effect of social capital on the spread of Covid-19 cases: blood donations per capita

| | (1) | |
|--|--------|---------|
| blood donations per capita x 10mar2020 | -0.075 | (0.037) |
| blood donations per capita x 11mar2020 | -0.158 | (0.052) |
| blood donations per capita x 12mar2020 | -0.129 | (0.061) |
| blood donations per capita x 13mar2020 | -0.168 | (0.063) |
| blood donations per capita x 14mar2020 | -0.136 | (0.060) |
| blood donations per capita x 15mar2020 | -0.109 | (0.064) |
| blood donations per capita x 16mar2020 | -0.142 | (0.061) |
| blood donations per capita x 17mar2020 | -0.152 | (0.067) |
| blood donations per capita x 18mar2020 | -0.156 | (0.069) |
| blood donations per capita x 19mar2020 | -0.146 | (0.068) |
| blood donations per capita x 20mar2020 | -0.167 | (0.068) |
| blood donations per capita x 21mar2020 | -0.193 | (0.070) |
| blood donations per capita x 22mar2020 | -0.187 | (0.069) |
| blood donations per capita x 23mar2020 | -0.191 | (0.068) |
| blood donations per capita x 24mar2020 | -0.196 | (0.069) |
| blood donations per capita x 25mar2020 | -0.162 | (0.074) |
| blood donations per capita x 26mar2020 | -0.142 | (0.075) |
| blood donations per capita x 27mar2020 | -0.135 | (0.077) |
| blood donations per capita x 28mar2020 | -0.134 | (0.077) |
| blood donations per capita x 29mar2020 | -0.148 | (0.078) |
| blood donations per capita x 30mar2020 | -0.163 | (0.077) |
| blood donations per capita x 31mar2020 | -0.157 | (0.080) |
| blood donations per capita x 01apr2020 | -0.161 | (0.079) |
| blood donations per capita x 02apr2020 | -0.168 | (0.079) |
| blood donations per capita x 03apr2020 | -0.167 | (0.079) |
| blood donations per capita x 04apr2020 | -0.165 | (0.079) |
| blood donations per capita x 05apr2020 | -0.183 | (0.080) |
| blood donations per capita x 06apr2020 | -0.180 | (0.082) |
| blood donations per capita x 07apr2020 | -0.182 | (0.082) |
| blood donations per capita x 08apr2020 | -0.190 | (0.084) |
| blood donations per capita x 09apr2020 | -0.194 | (0.084) |
| blood donations per capita x 10apr2020 | -0.192 | (0.085) |
| blood donations per capita x 11apr2020 | -0.192 | (0.085) |
| blood donations per capita x 12apr2020 | -0.192 | (0.086) |
| blood donations per capita x 13apr2020 | -0.191 | (0.085) |
| blood donations per capita x 14apr2020 | -0.192 | (0.085) |
| blood donations per capita x 15apr2020 | -0.193 | (0.085) |
| blood donations per capita x 16apr2020 | -0.192 | (0.086) |
| blood donations per capita x 17apr2020 | -0.193 | (0.086) |
| blood donations per capita x 18apr2020 | -0.195 | (0.086) |
| blood donations per capita x 19apr2020 | -0.197 | (0.086) |

continued

Table C.6 continued

| | (1) | |
|--|--------|---------|
| blood donations per capita x 20apr2020 | -0.197 | (0.085) |
| blood donations per capita x 21apr2020 | -0.194 | (0.085) |
| blood donations per capita x 22apr2020 | -0.193 | (0.086) |
| blood donations per capita x 23apr2020 | -0.193 | (0.086) |
| blood donations per capita x 24apr2020 | -0.189 | (0.088) |
| blood donations per capita x 25apr2020 | -0.188 | (0.089) |
| blood donations per capita x 26apr2020 | -0.188 | (0.089) |
| blood donations per capita x 27apr2020 | -0.189 | (0.089) |
| blood donations per capita x 28apr2020 | -0.191 | (0.089) |
| blood donations per capita x 29apr2020 | -0.193 | (0.089) |
| blood donations per capita x 30apr2020 | -0.193 | (0.089) |
| blood donations per capita x 01may2020 | -0.194 | (0.089) |
| blood donations per capita x 02may2020 | -0.195 | (0.090) |
| blood donations per capita x 03may2020 | -0.195 | (0.090) |
| blood donations per capita x 04may2020 | -0.195 | (0.090) |
| blood donations per capita x 05may2020 | -0.195 | (0.090) |
| blood donations per capita x 06may2020 | -0.195 | (0.090) |
| blood donations per capita x 07may2020 | -0.196 | (0.090) |
| blood donations per capita x 08may2020 | -0.195 | (0.090) |
| blood donations per capita x 09may2020 | -0.195 | (0.090) |
| blood donations per capita x 10may2020 | -0.194 | (0.090) |
| blood donations per capita x 11may2020 | -0.194 | (0.089) |
| blood donations per capita x 12may2020 | -0.194 | (0.090) |
| blood donations per capita x 13may2020 | -0.195 | (0.089) |
| blood donations per capita x 14may2020 | -0.196 | (0.090) |
| blood donations per capita x 15may2020 | -0.197 | (0.090) |
| blood donations per capita x 16may2020 | -0.197 | (0.090) |
| blood donations per capita x 17may2020 | -0.197 | (0.090) |
| blood donations per capita x 18may2020 | -0.197 | (0.090) |
| blood donations per capita x 19may2020 | -0.196 | (0.090) |
| province FE | | yes |
| NUTS1 x day FE | | yes |
| mean | 4.628 | |
| observations | 7,393 | |

Notes: This table presents the regression results from our baseline model in equation (1). Standard errors clustered at the province level in parenthesis



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