Close (Causally Connected) Cousins? Evidence on the Causal Relationship between Political Trust and Social Trust

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**Abstract**

Trust in one’s fellow citizens and in politicians are both conducive to well-functioning government. Beyond their separate importance, it is a long-standing notion that generalized social trust and political trust are connected in a mutually reinforcing relationship that further undergird democratic governance. While it is well-established that social trust and political trust are robustly positively associated at the individual level, there is much less compelling evidence regarding the causal nature of this relationship. Previous analyses have been unable to adequately rule out confounding and correct for reverse causality. This paper tackles these challenges through data and a research design close to ideally suited for addressing the causal status of the relationship. Using a 20-wave individual-level panel survey from Sweden analyzed in a dynamic panel model, we find evidence for a relatively strong positive causal effect of political trust on social trust, but little evidence for the reverse relationship.
Introduction

Few outlooks are more important to the well-functioning of society than citizens’ trust in each other and in their politicians. When citizens trust their fellow citizens, they are more likely to act cooperatively and forego self-interest for the greater societal good (Gächter, Herrmann and Thöni 2004; Putnam 2000). Political trust, on its end, provides politicians with the support to implement policies at the acceptance of their constituents (Hetherington 2005). In short, a trusting population is conducive to cooperation among citizens, good governance and, ultimately, successful societies.

On top of their separate importance, it is a long-standing notion that generalized social trust and political trust are connected in a mutually reinforcing relationship that undergirds democratic governance (Rosenberg 1956; Almond and Verba 1963 [1989]; Brehm and Rahn 1997; Zmerli and Newton 2008). Newton, Stolle and Zmerli (2018, 38) go as far as stating that “the link between social and political trust [is] a centerpiece of healthy democracies.” In other words, increasing one form of trust may not only have positive consequences in and of itself, but also through its downstream effects via the other form of trust.

While it is an established empirical regularity that political trust and social trust are robustly positively associated at the individual level (Newton, Stolle and Zmerli 2018, Dinesen and Sønderkov 2021), there is much less compelling evidence for the causal nature of this relationship. (We discuss the best available panel-based causal evidence in the Supplementary Material, Section B). This has led leading trust researchers to conclude, in a recent review of the relationship between social and political trust, that “Perhaps the main problem with trust research is isolating clear causes and effects.” (Newton, Stolle and Zmerli, 2018, 41). More specifically, the bulk of existing evidence on the relationship between social trust and political trust is consistent with at least three different theoretical accounts. We unfold these accounts in more detail in Supplementary Material, Section A, but they can be summarized as follows:

- **Generalized social trust influences political trust:** Politicians are people too and citizens therefore partly infer politicians’ trustworthiness from their generalized trust in other people (Rosenberg 1956, 690, Almond and Verba 1962 [1989, 228], Brehm and Rahn 1997).

- **Political trust influences generalized social trust:** Government institutions shape trust between citizens by regulating social interactions, e.g., by sanctioning untrustworthy behavior. Politicians are emblematic of government institutions and trustworthy politicians are therefore reflective of high-quality government that facilitates trust in fellow citizens (Rothstein and Stolle 2008; Dinesen and Sønderkov 2021).

- **Political trust and generalized social trust are both influenced by common confounding:** Rather than reflecting a causal influence (in either direction), the relationship between social trust and political trust is caused by a common underlying predisposition—essentially a feature of the individual’s personality—to trust or distrust in general (Glanville and Paxton 2007).

Previous analyses of the relationship between the two types of trust have suffered from two methodological challenges prohibiting causal statements: (i) bias from confounding, most
pertinently from an underlying predisposition to trust or mistrust in general as stipulated in the third account just mentioned, and (ii) bias from reverse causality/feedback effects potentially following from the two first accounts. While a couple of papers have dealt with the first challenge by analyzing individual-level panel data, they have been unable to appropriately address the second one because the panel data typically consisted of only a few waves (Sønderskov and Dinesen, 2014, 2016; Seifert, 2018) (See Supplementary Material, Section B for details). This paper addresses these challenges through data and a research design—a 20-wave closely-spaced individual-level panel survey from Sweden analyzed by a dynamic panel model—ideally suited for answering the hitherto unresolved question of the causal nature of the relationship between generalized social trust and political trust.

Research design, data, and measurement

A common approach to identifying causal effects in research on political attitude formation is to utilize quasi-random variation in the explanatory variable (induced by, e.g., policies or events) in a variety of designs (e.g., instrumental variables, regression discontinuity). However, this approach is unlikely to be applicable for our purposes because the underlying assumptions of such designs are not met (Dinesen and Sønderskov 2021). Most fundamentally, it is difficult to imagine an exogenous shock to one type of trust that could not also independently influence the other form of trust. For example, while a corruption scandal would be expected to influence political trust because it is (potentially) emblematic of a “systemic” problem, it might also influence social trust beyond the potential effect through political trust as corruption is indicative of ordinary citizens’ moral habitus.

Faced with these challenges to common approaches, multi-wave individual-level panel data—especially a 20-wave closely-spaced panel like ours (see details below)—constitute a strong alternative for estimating the causal relationship between the two forms of trust. First, such data allow us to analyze the relationship between social and political trust within individuals over time, and hence rule out confounding from stable predispositions (i.e., the “common predisposition” account described earlier) and other factors that do not change over time (Moral-Benito, Allison, and Williams 2019). Second, many waves collected with short time intervals, ceteris paribus, reduce the risk of various other time-variant individual-level factors confounding the relationship. More specifically, significant life events (e.g., becoming unemployed) that happen relatively infrequently, and which may simultaneously influence both forms of trust, cannot straightforwardly explain why social and political trust change in tandem over short periods of time. Third, panel data can help overcome common source/instrument bias (Podsakoff et al. 2003). When measuring two constructs by self-assessment in the same questionnaire, they are likely to be influenced by the same factors pertaining to this timepoint (e.g., the mood of the respondent). Further, given that we focus on two constructs relating to trust in the questionnaire, there is a risk of an anchoring effect in the sense that the response to the first trust question subliminally serves as an “anchor” for the response to the next trust question. Both psychological processes would artificially inflate the relationship. Panel data can overcome this form of bias by separating the sources of the two types of trust (i.e., using measures from different survey waves). More specifically, we use a lagged independent variable approach (for similar approaches, see Dinesen and Sønderskov...
2014, 2016; and Glanville, Andersson, and Paxton 2013) to separate the measurement of the two types of trust. Fourth and lastly, a long panel allows for addressing feedback effects, and thus removing the (likely upward) bias in the relationship between the two types of trust that this introduces, by using lagged dependent variables (Moral-Benito, Allison, and Williams 2019) (see more on estimators below).

To analyze the causal relationship between social trust and political trust, we utilize 20 rounds of panel data (2010-2020) from the Swedish Citizen Panel, a web panel collected in Sweden by the Laboratory of Opinion Research (LORE), University of Gothenburg. On average, the individual waves contain 3,758 respondents who responded to questions about the two forms of trust. 9,287 individuals responded to these questions in at least one wave with an average response to 8.1 waves. 297 respondents answered questions about trust in all 20 waves. Further details about the panel can be found in the Supplementary Material, Section C and D.

We measure generalized social trust by the question “In your opinion, to what extent can you trust other people in general” gauged on an eleven-point scale going from “You cannot trust other people in general” (0) to “You can trust other people in general” (10). Political trust is measured by the question “In general how much do you trust Swedish politicians?” with four response categories ranging from “Very little trust” to “Very high trust”. Both variables are rescaled to range between 0 and 1. Ideally, we would measure both forms of trust using several indicators to increase both validity and reliability (Zmerli and Newton 2008). However, because of scarce space in the frequently repeated survey, we have to rely on only one indicator for each type of trust. Fortunately, these are often-used indicators tapping the essence of each construct. (See Supplementary Material, Section E for descriptive statistics).

Analyzing panel data with many waves carries an inherent trade-off between causal leverage (internal validity) and representativeness of the sample (external validity) given respondent attrition over time. In our case, survey respondents responding to all 20 surveys arguably differ from those responding to fewer. The primary focus of this paper is to utilize the uniquely elaborate panel data to provide a valid causal estimate between social trust and political trust. Therefore, we must accept lower generalizability stemming from analyzing a smaller, more selected sample. Yet, in robustness checks, we probe the consequences of this choice by analyzing a subset of survey waves that maximizes the number of respondents, while retaining a reasonable number of successive survey waves. Further, Supplementary Material, Section F shows that despite some fluctuations, the levels of trust and their bivariate correlation are generally statistically indistinguishable in the smaller selected sample compared to the full sample. This indicates that non-response—at least based on the key variables—is not a major concern.

Results

Table 1 reports four sets of analyses of the relationship between social trust and political trust using different estimators in increasingly rigorous models. In Model 1, we apply naïve random effects models, analyzing the relationship using both between- and within-individual variation (i.e., analyzing simple bivariate relationships not taking any confounding into ac-
count). Model 2 estimates one-way fixed effects models, which circumvent time-invariant confounding of the relationship by relating within-individual changes (deviations from the overall mean) in both forms of trust to each other (i.e., analyzing the relationship between the two forms of trust within individuals). In Model 3, the two-way fixed effects estimator additionally removes confounding from society-wide developments (e.g., changing governments) through time dummies (that is, adding time fixed effects to take out any time trends in the within-individual relationship). Finally, Model 4 employs a dynamic panel model, which combines two-way fixed effects modelling with a lagged dependent variable, and thus additionally accounts for feedback effects from the dependent to the independent variable (Moral-Benito, Allison, and Williams 2019). Given these advantages of the dynamic panel model, this constitutes our best estimate of the causal relationship. To facilitate comparison across models, all models are estimated on a sample consisting of the 297 respondents, who participated in all 20 waves of the survey, which is the available sample in the dynamic panel model (Model 4). See Supplementary Material, Section H for replications of Model 1-3 on the full available sample.

Table 1: The relationship between political trust and social trust

| Model | Estimator | A DV: Social trust | | | B DV: Political trust | | | A and B N | | | Individuals/obs. |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | RE | 0.102 | 0.015 | 0.000 | 0.107 | 0.021 | 0.000 | 297/5643 |
| 2 | One-way FE | 0.083 | 0.014 | 0.000 | 0.059 | 0.021 | 0.007 | 297/5643 |
| 3 | Two-way FE | 0.076 | 0.014 | 0.000 | 0.049 | 0.021 | 0.024 | 297/5643 |
| 4 | DPM | 0.054 | 0.010 | 0.000 | 0.019 | 0.018 | 0.298 | 297/297 |

Focusing on the effect of political trust on social trust (column A), the naïve random effects model (Model 1A) yields a strong positive relationship ($\hat{\beta} = 0.102$), which is reduced, but still substantial and statistically significant, in the one-way fixed effects model (Model 2A) ($\hat{\beta} = 0.083$) that relates within-person deviations in the two forms of trust over time. This reduction implicitly substantiates the common confounding account of the relationship; stable differences between individuals—plausibly an underlying predisposition to trust more generally—explain part of the observed cross-sectional relationship. The relationship is further reduced ($\hat{\beta} = 0.076$, Model 3A) when adjusting for confounding by macro-level developments in the two-way fixed effects model by additionally including time dummies. However, the common confounding account is not the whole story. The estimated effect in the dynamic panel model (Model 4A) is 0.054 and statistically significant. This indicates that while the

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The dynamic panel model is estimated by a Structural Equation Model (SEM), which simultaneously estimates the reciprocal relationship between social trust and political trust. Because each respondent constitutes one entry with each variable represented by each measurement point (i.e., structured in “wide format”), rather than each individual having multiple entries, but only one variable (i.e., “long format”) in the SEM model, it is based on only 297 observations, but the same individuals as Model 1-3.
fixed effects estimates are upward biased, and thus that correcting for feedback loops are consequential for the estimated effect of political trust on social trust, political trust still exerts a statistically significant and relatively strong positive effect on social trust. Substantively, a change from the 5th to the 95th percentile on the distribution of political trust corresponds to approximately $\frac{1}{4}$ of the average standard deviation in social trust across waves, and to about $\frac{1}{3}$ of the average change in social trust from one wave to the next across waves and respondents.

Moving to the models with political trust as the dependent variable (column B), we see a pattern in the random effects and fixed effects models parallel to that for the reverse relationship; a strong positive and significant relationship in the random effects model (Model 1B), which is about halved, but still significant, in the fixed effects models (Model 2B and 3B). However, a key difference emerges for the estimate from the dynamic panel model. When feedback loops are taken into account, the estimate drops noticeably ($\hat{\beta} = .019$) compared to the two-way fixed effects model ($\hat{\beta} = .049$) and it is close to zero and no longer statistically significant. In other words, and again highlighting the value of our approach, we learn from the dynamic panel model that what appeared as a causal effect of social trust on political trust in the fixed effects model almost entirely disappears when modelled more appropriately.

Taken together, the two sets of analyses indicate that political trust has a causal effect on social trust, whereas there are limited indications of a reverse causal relationship. This is further substantiated by the fact that the coefficient for social trust is significantly smaller than the coefficient for political trust in Model 4 ($\chi^2(1) = 4.29, p = 0.038$).

As discussed earlier, the strong internal validity offered by our approach to some extent comes at the cost of lower external validity as we are working with a selected, and arguably somewhat idiosyncratic, sample of survey respondents having answered a high number of surveys. A straightforward way to probe the consequences of this approach, is to repeat the analysis on a subset of waves, which hold a high number of respondents that have participated in all waves, thereby striking a balance between number of respondents and number of panel waves. In Figure 1, we compare our estimates from the smaller sample (at the top) to those from seven subsets consisting of gradually fewer waves, which increases the number of respondents (from 297 to 1,172 respondents).

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2 In the Supplementary Material, Section H, we replicate this result using an alternative estimator (the Arellano-Bond estimator).

3 Relatedly, in Section H of the supplementary material we show relatively similar patterns for Model 1-3 (especially in between-model comparisons) when estimated on the full sample (i.e., on the unbalanced panel including respondents having responded only to a subset of survey waves).
Reassuringly, the overall conclusion holds up across the eight samples. The primary difference is that the estimated causal effect of political trust on social trust in the dynamic panel model is reduced in the larger samples (from .054 to .022), but it remains statistically significant in all models. Conversely, the weak and insignificant effect of social trust on political trust becomes smaller (and even negative) when the sample size increases. Overall, this indicates that the general conclusion regarding the causal effect of political trust on social trust (and the lack of a reverse relationship) remains the same, even if the effect size may be weaker.

**Conclusion**

Contributing to a long line of work scrutinizing the relationship between civil society and good government, this paper examines if their core individual-level manifestations—generalized social trust and political trust—are connected in a mutually reinforcing relationship. Based on a rigorous analysis of up to 20 waves of individual-level panel data from Sweden in a dynamic panel model, we show that political trust likely has a causal effect on generalized social trust, whereas we do not find support for the reverse relationship in our most rigorous model. Our findings are thus consistent with a top-down perspective on the creation of trusting publics and, ultimately, well-functioning societies; good government lays the foundation for political trust, which then in turn stimulates trust between citizens with positive downstream consequences for cooperation between citizens. In some ways this is good news as it implies that
politicians can play an active role in creating a cardinal civic virtue, which in turn facilitates good government.

We believe that we have delivered a convincing analysis of the causal relationship between social and political trust based on the best available data, but we cannot know if our conclusions generalize beyond the Swedish setting. Given that the correlational patterns between social trust and political trust in Sweden is similar to that found in many other Western countries—especially those in Northwestern Europe (see Supplementary Material, Section F)—we have no reason ex ante to expect the dynamics to be significantly different here, but this remains a question for future research to answer.

Data availability

Replication data and documentation are available at https://doi.org/10.7910/DVN/KP6QBS.

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References


Supplementary Material

Close (Causally Connected) Cousins?
Evidence on the Causal Relationship between Political Trust and Social Trust

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A Three accounts of the relationship between political and social trust

As noted in the introduction in the main paper, at least three accounts are consistent with the observed empirical regularity of a positive association between political trust and social trust; two emphasizing a causal relationship (in either direction), and one emphasizing a common underlying predisposition rendering the relationship spurious. Below we elaborate on the three accounts.

*Generalized social trust influences political trust.* In early foundational contributions on political culture, generalized social trust was proposed to influence political trust (and support for democracy more generally). In the words of Almond and Verba (1962 [1989], 228) “general social trust is translated into politically relevant trust.” The underlying mechanism is encapsulated in the following statement by Rosenberg (1956, 690):

“since a political system basically involves people in action, the individual's view of human nature is likely to be linked to his evaluation of how well the system actually works (e.g., the belief that political dishonesty is rife in a democracy may be based less upon actual knowledge of political corruption than upon the general conviction that nearly everyone is dishonest).”

In short, politicians are people too and citizens therefore infer politicians' trustworthiness based on their belief about the trustworthiness of other people in general (Brehm and Rahn 1997).

*Political trust influences generalized social trust.* In more recent work, the causality has been reversed, such that political trust is proposed to influence generalized social trust. This contention emanates from a broader literature focusing on how quality of government shapes social trust (Rothstein and Stolle 2008; Dinesen and Sønderskov 2021). From this perspective, state institutions lay the foundation for trust between individuals by (i) monitoring and sanctioning untrustworthy behavior and (ii) by displaying norms of fairness (Rothstein and Stolle 2008; Dinesen and Sønderskov 2021). In this account, political trust—as an aspect of trust in state institutions more generally—is an individual-level perception of institutional quality that links macro-level state institutions and individual-level social trust (Dinesen and Sønderskov 2021).1 In other words, this perspective argues that political trust—as a reflection of institutional quality—informs trust in other people.

*Political trust and generalized social trust are both influenced by a common predisposition.* Notwithstanding the causal arguments just presented, there are also theoretically well-founded arguments against a causal relationship. More specifically, it is plausible that the relationship between the two forms of trust reflect an underlying predisposition to trust or distrust in

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1While it has been argued that some state institutions are more important than others in social trust formation (Rothstein and Stolle 2008), trust in various institutions are strongly correlated (Zmerli and Newton 2008; Sønderskov and Dinesen 2016)—including in our data, where we find an average correlation of .63 between trust in politicians and trust in bureaucrats (the two available indicators) across waves—thus indicating that they reflect the same underlying perceived quality of government.
general rather than a causal effect of one form of trust on the other. This perspective is based on the notion that the propensity to trust is a highly stable psychological trait—essentially a feature of the individual’s personality—which manifests itself in specific targets. Glanville and Paxton (2007, 231) summarize this perspective:\footnote{Here, it bears mentioning that Glanville and Paxton (2007) generally find evidence against the “common predisposition” account.} “generalized trust, indeed all types of trust, comes from an internal psychological propensity, likely formed in early childhood.” In other words, perhaps people do not become more trusting of others from trusting politicians (or vice versa), they might simply, by their personality, be more trusting of both other people and institutions alike.

B Existing evidence on the relationship

Previous studies have used panel data to estimate the relationship between social and political trust, but have suffered from various shortcomings and not realized the full potential of the panel set-up.\footnote{Early studies used instrumental variable techniques (Brehm and Rahn 1997; Mishler and Rose 2001) to estimate the reciprocal relationship between social trust and political trust, but suffer from a lacking credibility of the instruments as explained in the section “Research design, data, and measurement” in the main paper.} Using quarterly panel data at the macro-level from the United States, Keele (2007) shows that social trust shapes trust in government and find no evidence of a recursive relationship. While certainly valuable, this analysis comes with the risk of committing an ecological fallacy by aggregating micro-level phenomena—trust in other people and in politicians—to the macro (national) level. Using individual-level panel data, three studies applying fixed effects and/or lagged dependent variable models find an effect of institutional trust (more generally) on social trust in Denmark (Sønderskov and Dinesen 2014, 2016), the Netherlands, and Switzerland (Seifert 2018), respectively. Yet, these studies do not properly address reverse causality between the two types of trust. Our data and research design go beyond these limitations of the previous analyses of the relationship between social trust and political trust based on panel data as explained in the main paper.

C Data - The Swedish Citizen Panel

The data is from The Swedish Citizen Panel, an online panel survey run by the Laboratory of Opinion Research (LORE), at the University of Gothenburg (www.lore.gu.se). LORE has recruited a pool of 75,000 panelists, whereof 80% were recruited through non-probability processes. Males and individuals with high educational attainment are over-represented in the gross sample. LORE fields 3-5 panel surveys per year. The trust items used in this study are typically included twice per year as part of a set of core questions (See Section D below). The fielding period is typically 3 to 4 weeks, with an average response rate (AAPOR RR5) of 64 percent. For detailed documentation of each panel wave, see https://www.gu.se/en/som-institute/the-swedish-citizen-panel. Replication data and documentation are available at https://doi.org/10.7910/DVN/KP6QBS.
Ethical considerations

The Swedish Citizen Panel is opt-in and respondents do not receive payment for participation. The LORE has received general ethical approval for conducting The Swedish Citizen Panel. The survey respondents participating in The Swedish Citizen Panel were briefed about the purposes of the various surveys (to measure various attitudes, beliefs etc.) before agreeing to respond. All respondents are anonymized and the data used for the analyses are provided for replication in such a form that no individuals can be identified. We do not believe that the research benefited or harmed individuals or groups.

D Coverage across panel waves

Table D1: Coverage across waves

<table>
<thead>
<tr>
<th>#</th>
<th>Wave</th>
<th>Month (modal)</th>
<th>Respondents</th>
<th>Respondents who answered both questions</th>
</tr>
</thead>
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<tr>
<td>1</td>
<td>1</td>
<td>Dec, 2010</td>
<td>2191</td>
<td>1725</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Mar, 2011</td>
<td>2206</td>
<td>2145</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Oct, 2011</td>
<td>3208</td>
<td>3183</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Mar, 2012</td>
<td>3384</td>
<td>3365</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>Nov, 2012</td>
<td>3557</td>
<td>3509</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>Feb, 2013</td>
<td>3391</td>
<td>3363</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>Jun, 2013</td>
<td>3023</td>
<td>2804</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>Nov, 2013</td>
<td>2886</td>
<td>2495</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>Mar, 2014</td>
<td>2958</td>
<td>2498</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>Jun, 2014</td>
<td>4379</td>
<td>3346</td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>Oct, 2014</td>
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<td>3116</td>
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<tr>
<td>12</td>
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<td>Nov, 2014</td>
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<td>5443</td>
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<td>13</td>
<td>15</td>
<td>May, 2015</td>
<td>5609</td>
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<tr>
<td>14</td>
<td>18</td>
<td>Dec, 2015</td>
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<td>5469</td>
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<td>15</td>
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<td>Jun, 2016</td>
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<td>17</td>
<td>26</td>
<td>Jun, 2017</td>
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<td>4743</td>
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<td>18</td>
<td>28</td>
<td>Dec, 2017</td>
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<td>19</td>
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<td>Dec, 2018</td>
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<td>3987</td>
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<tr>
<td>20</td>
<td>33</td>
<td>Feb, 2019</td>
<td>4307</td>
<td>4212</td>
</tr>
</tbody>
</table>

20 waves of the panel survey included both trust items. Table D1 displays the timing (the modal month) and the number of respondents in these 20 waves. 9,287 respondents provided valid answers to both questions in at least one wave and 297 provided valid responses to both questions in all 20 waves. Figure D1 shows the distribution of waves with valid responses across respondents. The rightmost bar are those 297 respondents who responded to all 20 waves. 918 respondents (the leftmost bar) only responded to both questions in one wave.
Figure D2 shows the number of respondents who responded to both trust questions in con-
tinuous, specific waves. 1,172 respondents provided valid responses to both trust questions
in the 6 waves in the middle of the panel (wave 8-13)—and, as already noted, 297 provided
valid responses in all 20 waves.
E Descriptive statistics

Table E1 shows descriptive statistics for the two measures of trust across two different samples: The balanced panel sample consisting of the 297 respondents who answered both questions in all 20 waves and the unbalanced panel sample consisting of the 9,287 respondents who responded to both questions in at least one wave. The average number of waves for the respondents in the latter sample is 8.09. In line with previous research from Sweden (Newton and Zmerli 2011), social trust is higher than trust in politicians. The between-person variation in both forms of trust are larger than the within-person variation, which is consistent with the idea that the propensity to trust is a stable psychological trait. On the other hand, there is substantial within-person variation in both types of trust. This is also evident from Figure E1 and E2 that display the within-person temporal variation in social and political trust, respectively, for a random sample of 30 respondents from the balanced panel sample. Assuming that the within-person variation is not simply random noise, the variation suggests that both types of trust are malleable, even in the short run. This also leaves room for a causal relationship—in either or both directions—between the two types of trust.

Table E1: Descriptives

<table>
<thead>
<tr>
<th>Measure</th>
<th>Social trust</th>
<th>Political trust</th>
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<tbody>
<tr>
<td>Panel sample</td>
<td>Balanced</td>
<td>Unbalanced</td>
</tr>
<tr>
<td>Mean</td>
<td>0.71</td>
<td>0.70</td>
</tr>
<tr>
<td>SD(between)</td>
<td>0.18</td>
<td>0.18</td>
</tr>
<tr>
<td>SD(within)</td>
<td>0.10</td>
<td>0.11</td>
</tr>
<tr>
<td>Respondents</td>
<td>297</td>
<td>9287</td>
</tr>
<tr>
<td>Observations</td>
<td>5940</td>
<td>75163</td>
</tr>
<tr>
<td>T-bar</td>
<td>20.00</td>
<td>8.09</td>
</tr>
</tbody>
</table>

Figure E3 shows the population averages of social and political trust over time and across the two samples. Like the evidence presented above, this figure also suggests that trust is malleable. The figure (and Table E1) also shows that generalized social trust changes less in the aggregate over time than does political trust. This apparent greater stability in social trust may be taken to suggest that this is the causal operator influencing political trust. However, this conclusion is not warranted. First of all, it is worth keeping in mind that the changes displayed in Figure E3 are aggregate, meaning that they conceal individual-level changes over time. In principle, individual-level social trust may change dramatically over time, which Figure E1 also suggests. More fundamentally, even if political trust changes more over time than does social trust, these changes in political trust can manifest themselves in smaller concomitant changes in social trust. This is ultimately an empirical matter and what we set out to resolve by estimating the relationship between the two types of trust using a dynamic panel model.
Figure E1: Within-person variation across waves, Social trust

![Social Trust Over Time](image1)

Note: The figure is based on a random sample of 30 respondents from the balanced panel sample.
20 waves/600 observations.

Figure E2: Within-person variation across waves, Political trust

![Political Trust Over Time](image2)

Note: The figure is based on a random sample of 30 respondents from the balanced panel sample.
20 waves/600 observations.
F Generalizability

The highly similar means and variances of the two types of trust across the balanced and the unbalanced panel samples reported in Table E1 in the previous section tentatively indicate that the smaller balanced panel sample is not selected, at least on our two key variables, and thus representative of the larger, unbalanced sample. In Figure F1 we compare the average level of social trust in the balanced panel sample (used in the primary analyses) to that of the remaining sample across waves. Figure F2 does the same thing with respect to political trust. Both figures indicate that respondents who participated in all 20 waves differ from those who participated in fewer waves in that the levels of both types of trust tend to be higher in the balanced panel sample. However, the differences are only statistically different at the .05-level in one (social trust) and five (political trust) out of 20 samples despite a reasonable sample size in each wave. Figure F3 compares Pearson’s corrections between the two forms of trust across samples and across waves. The correlations are typically (but not consistently) higher in the balanced panel sample, but the correlations only differ significantly at the .05-level in one out of 20 waves. Taken together, the comparisons of the correlations between social and political trust in the unbalanced and the balanced panel samples indicate that selection into the balanced panel only to a relatively limited extent influences the (naive) relationship between the two types of trust. Inferences drawn from the balanced panel are therefore,
ceteris paribus, likely to be reasonably representative of the wider unbalanced panel sample and, by extension, plausibly also of the Swedish population at large.

This naturally begs the question of generalizability beyond Sweden. We are not aware of data that would allow us to analyze the causal relationship in other settings with the same internal validity as the Swedish data do (see Section B). Instead we follow a similar approach as above and analyze the bivariate relationship between political and social trust in samples from other countries collected in the same period as the Swedish data. Specifically, we use Round 5 to 9 of the European Social Survey collected between 2010 and 2020 and consisting of approximately 245,000 respondents from 36 (mainly) European countries (See Figure F4). The questions used to measure social and political trust roughly corresponds to the questions in The Swedish Citizens Panel: "Generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people?" (social trust) and "How much you personally trust each of the institutions I read out...politicians" (political trust); both are answered on a scale from 0 to 10. Figure F4 shows the correlations between these variables across country-waves (sorted from lowest to highest). The correlations among Swedish respondents are clearly among the stronger correlations (especially in the most recent rounds). On the other hand, the Swedish correlations are not substantively different from the overall correlation (obtained by weighting by population size) from all the participating countries and all lie within the relatively limited span of a correlation between 0.25 and 0.35 in which the majority of observations fall. On balance, the analysis suggests that the relationship between the two types of trust in Sweden is fairly similar to that observed in other European countries - especially countries in Northwestern Europe. In other words, from these tentative analyses, we have reason to suspect that the findings from the Swedish context generalize to other Northwestern European countries and, to a lesser extent, to other European and surrounding countries.
Figure F1: Population means across samples and waves, Social trust

Note: N varies between 1,725 and 5,469 across waves; see Table D1
Figure F2: Population means across samples and waves, Political trust

Note: N varies between 1,725 and 5,469 across waves; see Table D1
Figure F3: Correlations between social and political trust across samples and waves

Note: N varies between 1,725 and 5,469 across waves; see Table A1
Figure F4: Correlations between social and political trust across countries and rounds in the European Social Survey, 2010-2020 (Round 5-9)

Notes: N_{Country-Waves} = 131 ; N_{individuals} varies across Country-Waves (738-3025; Mean=1832)
All p values < 0.001
The overall correlation is based on respondents from all Country-Waves (N = 240056) weighted by country population size
G Specifications of models in Table 1 in main text

Model 1A and 1B (the Random Effects models), are linear random intercepts models. Specifically, Model 1A has the following form:

\[ ST_{it} = \beta_1 + \beta_2 PT_{it-1} + \zeta_i + \epsilon_{it} \]  

(1)

\( ST \) is social trust measured at time \( t \), \( PT \) is political trust measured at time \( t-1 \), \( \beta_1 \) is the intercept, and \( \beta_2 \) is the parameter of interest; its estimate is reported in Table 1 in the manuscript. \( \zeta_i \) is an unobserved individual-specific and time-invariant intercept (assumed to be normally distributed around \( \beta_1 \)) and \( \epsilon_{it} \) is an individual- and time-specific error term. In Model 1B, PT and ST has changed place. Standard errors are clustered on individuals in both models.

Model 2A and 2B are linear One-way Fixed Effects models, where Model 2A takes the following form:

\[ ST_{it} = \beta_1 + \beta_2 PT_{it-1} + \alpha_i + \epsilon_{it} \]  

(2)

\( ST \), \( PT \), \( \beta_1 \), \( \beta_2 \), and \( \epsilon_{it} \) are similar to the Random Effects specification. \( \alpha_i \) is an unobserved individual-specific and time-invariant intercept. ST and PT has changed place in Model 2B. Standard errors are clustered on individuals in both models.

In Model 3A and 3B, the Two-way Fixed effects models, \( \gamma_t \) was added to capture time-specific changes in the dependent variable. Thus, Model 3A takes the following form:

\[ ST_{it} = \beta_1 + \beta_2 PT_{it-1} + \alpha_i + \gamma_i + \epsilon_{it} \]  

(3)

\( ST \) and \( PT \) has changed place in Model 3B; standard errors are clustered on individuals in both models.

Model 4A and 4B, the Dynamic Panel Models, are estimated simultaneously in a general cross-lagged model using structural equation modeling (Moral-Benito, P. Allison, and Williams, 2019; Zyphur et al., 2020). The specification is illustrated in Figure G1. The two \( \alpha \)'s correspond to the \( \alpha \) in Model 3A and 3B, while \( \beta_2 \) and \( \beta_4 \) are the parameters of interest. They represent the effect of social trust (ST) on political trust (PT) and the reverse effect of political trust on social trust, respectively. Their estimates are reported in Table 1 in the manuscript. They are also reported in Table H1 together with the estimates of \( \beta_1 \) and \( \beta_3 \). Note that \( \beta_1 - \beta_4 \) are assumed to be constant across time (as they also are in the random and fixed effects models). Also note that a cross-lagged model as this one requires non-missing values on the independent and dependent variables at all time-points given that the each time point constitutes a variable. Consequently, the number of observations in this model equals the number of individuals with full information on both the dependent and independent variable.
Figure G1: Joint specification of Model 4A and 4B
H Robustness analyses and supplementary information

Table H1 repeats the results of Model 4 (also reported in the main manuscript), but includes the coefficients for the lagged dependent variables (i.e., $\beta_1$ and $\beta_3$ in Figure G1). Unsurprisingly, the lagged dependent variables are strongly correlated with the dependent variables, thereby speaking to the general over-time stability in both forms of trust.

Table H1: Model 4, reporting coefficients for lagged DV

<table>
<thead>
<tr>
<th></th>
<th>DV: Social trust</th>
<th>DV: Political trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV: PolTrust</td>
<td>0.054 (0.010) [&lt;0.001]</td>
<td>0.283 (0.014) [&lt;0.001]</td>
</tr>
<tr>
<td>(lagged)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV: SocTrust</td>
<td>0.258 (0.014) [&lt;0.001]</td>
<td>0.019 (0.018) [0.298]</td>
</tr>
<tr>
<td>(lagged)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Coefficients with standard errors clustered on individuals in parenthesis and p values in brackets (two-sided tests)

$N = 297$ individuals/297 observations

Table H2 reports the results of a reanalysis of Model 4 using an alternative dynamic panel model estimator; the Arellano–Bond estimator (Arellano and Bond, 1991). This estimator uses the fist differences of the dependent and the independent variable, a lagged, differenced dependent variable, and previous lags of the dependent variable (in levels) as instruments. The substantive findings from Model 4 are reproduced using this estimator, although the estimated effect of political trust on social trust is smaller (and slightly less precisely estimated). Also, the estimated effect of social trust on political trust becomes negative, but remains insignificant.

Table H2: Model 4, estimated using the Arellano–Bond estimator

<table>
<thead>
<tr>
<th></th>
<th>DV: Social trust</th>
<th>DV: Political trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV: PolTrust</td>
<td>0.033 (0.012) [0.007]</td>
<td>0.090 (0.018) [&lt;0.001]</td>
</tr>
<tr>
<td>(lagged)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV: SocTrust</td>
<td>0.045 (0.018) [0.015]</td>
<td>-0.024 (0.022) [0.272]</td>
</tr>
<tr>
<td>(lagged)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Coefficients with standard errors in parenthesis and p values in brackets (two-sided tests)

$N = 297$ individuals/5346 observations

Table H3 reports the results of a reanalysis of Model 1-3 using the full, albeit unbalanced panel sample with 57,991 observations. The overall pattern is similar to the pattern obtained with
the balanced panel sample, i.e. smaller coefficients in the more restrictive models. However, the coefficients for social trust are generally larger in this sample, while the coefficients for political trust is smaller.

Table H3: Model 1-3, estimated using the unbalanced panel sample

<table>
<thead>
<tr>
<th>Model</th>
<th>Estimator</th>
<th>DV: Social trust</th>
<th>DV: Political trust</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>1*</td>
<td>RE</td>
<td>0.091 (0.004) [&lt;0.001]</td>
<td>0.145 (0.006) [&lt;0.001]</td>
<td>7851/57991</td>
</tr>
<tr>
<td>2*</td>
<td>One-way FE</td>
<td>0.046 (0.005) [&lt;0.001]</td>
<td>0.064 (0.007) [&lt;0.001]</td>
<td>7851/57991</td>
</tr>
<tr>
<td>3*</td>
<td>Two-way FE</td>
<td>0.040 (0.004) [&lt;0.001]</td>
<td>0.058 (0.007) [&lt;0.001]</td>
<td>7851/57991</td>
</tr>
</tbody>
</table>

Note: Coefficients with standard errors clustered on individuals in parenthesis and p values in brackets (two-sided tests)
References


