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DISCUSSION  
PAPER N°  
IDB-DP-970

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Inter-American Development Bank

September 2022



<http://www.iadb.org>

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# Employee Trust and Performance Constraints in Public Sector Organizations\*

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## Abstract

Theory suggests that employee trust is key to productivity in organizations, but empirical evidence documenting links between trust and constraints on performance is scarce. This paper analyzes self-collected data on public sector employees from eighteen Latin American countries and finds that individual-level trust is relevant to three types of performance factors. First, high-trust employees are more willing to collaborate and share information with coworkers and are more supportive of technological innovation. Second, high-trust respondents have different perceptions of organizational constraints: they are less concerned with low staff quality or lack of discretion to innovate, and more concerned with staff shortages. Third, trust in coworkers is associated with stronger mission motivation. Instrumental variable strategies based on the transmission of trust through social and professional channels account for potential sources of endogeneity. A survey experiment on preferences for social distancing policies provides further evidence that trust enhances mission motivation: employee policy preferences align better with the implied government policy when their trust in the public sector is higher.

**JEL Codes:** D23, D73, H83.

**Keywords:** trust, performance, public sector, mission motivation, survey experiments.

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# 1 Introduction

The performance of government agencies depends on the collective efforts of their employees toward accomplishing a common mission. As in other organizations, however, work relationships among public employees are often governed by incomplete contracts. When employee effort toward collective tasks is non-contractible, trust among coworkers becomes necessary to sustain productive behaviors within organizations (Wintrobe and Breton 1986). For instance, high-trust employees should be more likely to participate in non-contractible exchanges with coworkers, subscribe to productivity-enhancing innovations, and identify with the mission of their organization.

Empirical work confirming the role of employee trust in relaxing various constraints on performance has focused on private sector firms and their internal decision-making structure (Aghion, Bloom, and Van Reenen 2014). Evidence about individual employee choices, on the one hand, and about public sector organizations, on the other, is more limited. The current paper fills this gap in the literature by contributing new data from an original multi-country survey of public sector employees in Latin America which shows that individual-level trust facilitates non-contractible behaviors that ease several constraints on organizational performance.<sup>1</sup>

Employee trust should first alleviate individual constraints on performance. Trust among employees should engender more cooperation in the workplace to achieve common goals (Spagnolo 1999) as high-trust employees expect to benefit from collaboration and information sharing with coworkers due to reciprocal behavior. Trust should also increase employee openness to innovation in the workplace as it provides assurance that technological changes will improve employee productivity rather than substitute their effort (Brown et al. 2015).<sup>2</sup>

Second, employee trust should affect employee perceptions of organizational constraints on performance. Even though all employees face the same organization-level constraints, expectations of others' behavior may influence how binding different constraints are perceived to be. High-trust employees should be more likely to believe others are exerting non-contractible effort. Thus they are less inclined to see staff quality as a significant con-

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<sup>1</sup>Trust can be conceptualized in a game-theoretic framework as the belief that a transacting party will fulfill its implicit obligations (Kreps 1990), or in a behavioral framework as an individual or societal predisposition to expect positive actions from others (Dunning, Fetchenhauer, and Schlösser 2012). The arguments made in this paper are consistent with either view.

<sup>2</sup>In developing countries a culture of corruption undermines trust relationships within the public sector and produce resistance to innovation. See Banerjee, Hanna, and Mullainathan (2012) and World Bank (2017).

straint. By the same logic, they are more likely to trust that the organization will succeed in eliciting non-contractible effort from new employees. Hence, high-trust employees are more likely to regard staff shortages as a significant organizational constraint. Trust also determines the credibility of implicit incentives and therefore the feasibility of granting employee discretion. High-trust employees then should view lack of discretion as a less binding organizational constraint (Meagher and Wait 2020).

Organizational performance is also a product of employees' mission motivation. Especially in the public sector, performance improves when government agencies can attract employees aligned with the agency mission (Dixit 2002, Besley and Ghatak 2005). An employee who believes others exert non-contractible effort toward the agency mission should also be more likely to support that mission. Trust among coworkers should thus enhance the sense of common mission inside the organization. An organization's mission has two components. One is its goal, e.g., increase private sector employment; the other is the specific policies adopted to achieve the goal, e.g., strict or loose enforcement of labor regulations. Employees may fully embrace the goal but remain uncertain about the policies that are most effective for achieving the goal. In the presence of policy uncertainty, high-trust employees should be more likely to support the policies actually chosen by the organization.<sup>3</sup>

The role of trust in organizational performance deserves particular attention in the context of developing countries which generally exhibit both lower levels of interpersonal trust and lower state capacity compared to developed countries. While the literature makes a strong theoretical case that employee trust alleviates performance constraints in either setting, the evidence for developing countries is especially limited. This is largely due to data limitations, as microdata on public employee beliefs and behaviors are rare in developing countries.<sup>4</sup>

This paper studies how public employee trust affects their performance-enhancing behaviors, such as collaboration, information sharing, or openness to innovation, their perceptions of workplace constraints on performance, and their mission motivation. We collected individual-level measures of employee trust and assessments of performance constraints, using an original survey instrument disseminated through an online professional network. The final sample of about 2,500 public sector employees from eighteen Latin American countries

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<sup>3</sup>In some cases mission match may be associated with resistance to innovation, see Besley and Ghatak (2005). Also, see Pendergast (2007) for cases where the interests of the bureaucrat's principals and clients are divergent.

<sup>4</sup>An exception is the recent effort at the World Bank to survey bureaucrats from seven developing countries in Africa and Asia. See World Bank (2019).

covers all levels of government, national, state, and local, different positions ranging from executive to administrative staff, and different types of agencies.

We conducted the survey in June 2020, at a time during the COVID-19 pandemic when Latin America was experiencing its first wave of infections. We exploit the salience of the new policy environment by including two randomized survey experiments that register reactions to pandemic-related treatments. The first experiment allows us to assess the generalizability of the trust findings across crisis and non-crisis contexts. For the second experiment, we randomized exposure of respondents to different data-based scenarios of social distancing in their countries to examine how trust relates to mission motivation under policy uncertainty.

We find robust relationships between employee trust and individual constraints using country fixed effects and trust in citizens as covariates. High-trust public employees are more willing to cooperate with coworkers. They have a more positive view of collaboration on shared tasks and are more likely to rely on information obtained from coworkers. They are also more supportive of innovation, in the form of online delivery of public services. These results could nevertheless be driven by unobserved agency characteristics: poorly run agencies, for example, might simultaneously discourage cooperation and reduce employee trust. We address the potential endogeneity of trust to organizational characteristics by developing an instrumental variable (IV) strategy based on the idea that trust attitudes may partly originate in the social groups to which the public employee belongs. We define the social group based on nationality, gender, education. Instrumenting trust in the public sector with average interpersonal trust of the corresponding social group, derived from Latinobarometro survey data, confirms the correlational results.<sup>5</sup>

When we examine organizational constraints, we find that they are generally alleviated by trust in coworkers. High-trust respondents are less concerned with low professional quality of staff or lack of cooperation among staff, and more concerned with the lack of staff. They are also less concerned about employee lack of discretion to innovate, a result that is replicated in the IV strategy. The first survey experiment shows that the relationship between trust and perceived organizational constraints does not change for the group assigned to the pandemic framing, supporting the generalizability of these results to non-crisis contexts.

Regarding mission motivation, we present two types of results showing a link with employee trust. First, we find that high-trust public employees are more likely to report that their agency was effective in accomplishing its mission pre-pandemic. This finding is also

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<sup>5</sup>In the robustness analysis, we develop an alternative IV strategy based on professional groups instead of social groups, which yields similar results.

present in the IV estimates. Second, we analyze how trust relates to public employee support for the government’s early response to the pandemic. We exploit the uncertainty around government policy toward social distancing to shift beliefs about the strictness of enforcement. A randomly assigned low social distancing framing suggested that the country is lagging behind other affected countries, implying that enforcement was weak; the comparison group received a high social distancing framing, implying strict enforcement. In line with mission matching arguments, respondents with high trust in the public sector were more likely to align their policy preferences with the implied government policy: to prefer weak enforcement when assigned to the low framing, but strict enforcement when assigned to the high framing.

These findings contribute to several lines of research. A large literature examines the broad economic effects of societal trust using aggregate-level data on social capital.<sup>6</sup> In higher trust societies, transaction costs that emerge from risks of contractual non-compliance and asymmetric information should all be lower. Hence, researchers have shown that societies with greater interpersonal trust exhibit greater entrepreneurship (Bauernschuster, Falck, and Heblich 2010, Kim and Kang 2014) and stock market participation (Guiso, Sapienza, and Zingales 2008), better labor market regulation (Aghion et al. 2010), and faster economic growth (Knack and Keefer 1997, Dearmon and Grier 2009). This work is fundamentally concerned with the effects of societal mistrust on transactions in markets with imperfect contract enforcement. The analysis here complements this approach with a focus on the effects of trust on interactions within government organizations.<sup>7</sup>

Related research that looks at within-organization effects of trust also relies on aggregate societal measures or organization-level average trust. Important contributions show that multinational firms are more likely to delegate to subsidiaries located in countries that exhibit greater generalized trust; that the sales of large firms are a larger fraction of national income in high-trust countries; and that firms in delegation-intensive sectors are larger in high-trust countries (Bloom, Sadun, and Van Reenen 2012, La Porta et al. 1997, Cingano and Pinotti 2016). We complement this work by using intra-organizational rather than societal

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<sup>6</sup>See Algan and Cahuc (2014) for an excellent survey of this literature.

<sup>7</sup>Macchiavello and Morjaria (2015, 2022) present evidence on relational contracting in economic transactions. The study of relational contracts has focused mostly on between-firm exchanges, not those inside organizations, particularly inside public sector organizations. Interpersonal trust may also affect the economy through the political process, as it facilitates collective action among citizens to keep the government accountable for delivering necessary public goods efficiently (Bjørnskov 2010). See also Keefer, Scartascini, and Vlaicu (2021) who link low interpersonal trust with electoral populism and unsustainable economic policies.



measures of trust. Also, we focus on different outcomes, namely performance-enhancing workplace behaviors and perceptions of organizational performance. Using firm-level average trust data from the Workplace Employment Relations Surveys in the UK, covering both the private and public sectors, Brown et al. (2015) find a positive relationship between employee trust in management and several measures of workplace performance.<sup>8</sup>

Relatively few papers employ individual-level measures of trust to examine how trust influences organizational choices and performance. Nyhan (2000) uses self-collected data on employees of a municipal government in Florida to estimate structural equations models of the two-way relationship between trust and workplace practices, productivity and organizational commitment. Kurtulus, Kruse, and Blasi (2011) use data from the NBER Shared Capitalism Survey to conclude that workers with greater trust in coworkers and management have stronger preferences for output-contingent pay schemes; they conjecture that workers who trust managers to make unbiased evaluations of noisy information about their output are likely to be more responsive to these incentives. Meagher and Wait (2020) go further and propose an IV strategy based on cultural inheritance to identify the causal effect of vertical worker trust in management on delegation to workers in Australian firms. Our focus is instead on public sector organizations and horizontal trust among employees in relation to both individual and organizational mechanisms through which trust affects organizational performance. We also implement a related but distinct IV strategy to address the possible endogeneity of individual-level trust.<sup>9</sup>

The analysis has implications for the organization of public sector agencies. On the one hand, public agencies plagued by mistrust confront limits on their ability to implement public policies that improve citizen welfare. They should therefore confine their mission to those tasks and services that demand less delegation and cooperation. On the other hand, public organizations can take steps to increase trust. Prior research already emphasizes the important role of selection in raising intrinsic motivation among organization members (Francois 2000, Dixit 2002, Banuri and Keefer 2016). Organizations can also select for trustworthiness. In addition, they can reinforce a culture of trust by controlling free riding and ensuring the consistency and predictability of employee evaluations.

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<sup>8</sup>See also the comprehensive review of Aghion, Bloom, and Van Reenen (2014).

<sup>9</sup>Bartling et al. (2018) present experimental work which shows that belief in the trustworthiness of others has a causal effect on the efficiency of within-group interactions. The analysis here provides evidence from real-world organizations that reinforces the external validity of these experiments. Hsu and Chang (2012) also report survey evidence that interpersonal trust is related to information sharing inside five private sector telecommunications firms.

The next section provides the details of the survey and outlines the properties of our sample data. We then describe the survey experiments and specify the empirical strategies used to analyze our data. The following section presents the results, beginning with the relationship between trust and individual constraints before turning to the effects of trust on organizational constraints and, finally, the relationship between trust and mission motivation generally and specifically regarding preferences for enforcement of pandemic policies.

## 2 Data and Variables

We designed an original survey instrument and administered it to public sector employees recruited from an online professional network of public sector professionals in Latin America. Participants held positions ranging from administrative staff to executive positions, in both national and subnational governments. They worked in agencies representing the entire breadth of public sector activities: overseeing citizen compliance with laws and regulations, managing transfer programs, and providing public goods. The survey asked about trust in coworkers, other public employees, and citizens; cooperation and information sharing; openness to innovation; perceptions of workplace constraints on performance; agency mission; and preferences for social distancing enforcement.

**Survey Features.** We conducted the survey during the period June 12-30, 2020, when the first wave of the COVID-19 pandemic was peaking in Latin America and the region ranked first in the world in the number of infections. The sampling frame for the survey consisted of all registered members of the CoPLAC-MfDR Network (Community of Practice for Latin America and the Caribbean - Management for Development Results). This is an online platform established in 2005 and maintained by the Inter-American Development Bank (IDB) to connect public sector professionals in the LAC region. The goal is to strengthen public management practices through periodic events, such as workshops and courses, that disseminate best practices in the field of public administration. At the beginning of 2020, about fourteen thousand public sector professionals were registered members of the network.

We disseminated the survey link to the entire CoPLAC-MfDR listserv, in three rounds spaced one week apart. The first round was the initial invitation to participate in the survey. The two subsequent rounds were reminders sent to the subset of the listserv that had not already responded. Participation in the survey was voluntary and non-incentivized. The email invitation stated that the purpose of the survey was to offer an opportunity to express

opinions about the public sector in the respondent’s country in order to assist the IDB in better providing support to governments in the region.

**Sample Characteristics.** Of the 2,449 total responses, 2,210 were complete and 239 were partial. The country coverage of the data by survey round appears in Table A1. The countries with the highest number of responses were Peru, with 698 (28.5%) responses, Mexico, with 365 (14.9%), and Colombia, with 248 (10.1%). The countries with the lowest number of responses were El Salvador, Venezuela, and Nicaragua. Initially our target population was the seventeen Spanish-speaking countries of Latin America. Therefore, in round one, we screened out respondents who selected a different country in the online survey. Nevertheless, since we received a sizable number of responses from Brazil, we prepared a Portuguese version of the survey for rounds two and three. Thus, the survey covers a total of eighteen countries.

Over time some professionals may move in and out of the public sector taking positions as, e.g., government contractors, independent consultants, or professionals at the World Bank or the IDB. Since being on the CoPLAC-MfDR listserv may not reflect current status as a public employee, we used a filtering question at the beginning of our survey instrument to screen out survey respondents who stopped working in the public sector prior to January 2019. Of the individuals included in the final sample, 85.5% were current employees in the public sector; the rest had worked in the public sector during 2019 or 2020, which we deemed as recent enough for their responses to be relevant for our research questions.<sup>10</sup>

The vast majority of respondents are college educated, 44% are women, and average public sector experience is over 13 years.<sup>11</sup> More than half of the respondents work at the national level (56.6%), followed by state (25.3%) and local (18.0%) levels. About 30.1% of respondents work in executive or managerial positions, 50.7% in mid-level professional positions, and 19.1% in administrative, technical, or support positions. The survey classifies workplaces in three types of agencies: oversee citizen compliance (public safety, tax collection, regulatory agency, etc.), manage transfer programs (social security, unemployment insurance, cash transfers, etc.), and provide public goods (education, health, roads, statistical information, etc.). The breakdown by agency mission is 20.9%, 14.6%, and 64.4%, respectively.

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<sup>10</sup>A total of 4,270 individuals responded to the survey, approximately 30% of the sample frame. Of these, 2,449 were allowed to take the survey after applying the filters mentioned above related to country of residence and public employment status.

<sup>11</sup>In Table A2 we compare demographic characteristics to those of respondents in national household surveys who work in the public sector. We note that gender and age tend to be similar on average, while education is higher in our sample.

**Dependent Variables.** The analysis covers three types of outcomes relevant to employee performance: individual constraints, organizational constraints, and mission motivation. The first individual constraint is an employee’s attitude toward collaboration with colleagues, namely whether it is beneficial to their productivity. The survey question is: "How does collaboration with your colleagues (team projects, shared tasks, meetings, etc.) affect your ability to do your job well?" The resulting variable *Collaboration* is measured on a discrete scale from  $-5$  (reduces ability a lot) to  $5$  (improves ability a lot). High-trust respondents should be more likely to respond that these activities enhance their performance because they should encounter less difficulty in accomplishing tasks requiring collaboration.<sup>12</sup>

The next individual constraint is an employee’s willingness to rely on information from coworkers. The measure is based on the question: "In your daily work, how much do you rely on information obtained from your coworkers?" The resulting variable *Information* is measured on a four-point scale, from 1 (relying very little) to 4 (relying very much) on information from coworkers. Again, high-trust respondents should be more reliant on information from coworkers because they expect such information to be accurate and useful. The survey also asked about preferences for expanding online public services to citizens. This is captured in the variable *Digitalization*, measured on a five-point scale, from 1 (strongly opposed) to 5 (strongly in favor). Innovation in service delivery may create resistance from employees seeing these changes as a threat to their status in the organization; trust in coworkers may alleviate these concerns.

The summary statistics in Table 1 show that a majority of respondents are positive about collaboration and rely to a considerable extent on information exchanged with coworkers. Respondents also express considerable support for online provision of public services.

The second set of outcomes refer to organizational constraints on performance. Respondents are asked to assess the extent to which five workplace characteristics were significant constraints on their agency’s performance. To anchor responses and ensure greater comparability of responses across respondents, the question asks for an evaluation of these constraints relative to the agency’s budget: "Your agency’s mission may have been constrained by several factors. One factor could be the budget. Compared to budget constraints, how much did the following factors hinder your agency’s mission?" The constraining factors were limited discretion to innovate, lack of cooperation among staff, lack of staff, low professional quality

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<sup>12</sup>Impink, Prat, and Sadun (2020) discuss pros and cons of using electronic communications data as proxies for internal collaboration among employees in firms. Our self-reported measure captures individual demand for collaboration.

of staff, inadequate IT resources.<sup>13</sup> The five answer options varied between "Much less than the budget" to "Much more than the budget." The survey took place during the first wave of the COVID-19 pandemic, when organizational constraints could have changed compared to pre-crisis times. To control for this possibility, half of respondents were randomly assigned to evaluate constraints as of 2019 and half to evaluate constraints in 2020, during the pandemic.

Finally, we would like to address the relationship between trust and mission motivation. Employee misalignment with the mission of their organization can impose an additional individual constraint on employee performance. While the previous individual constraints discussed above could also apply to employees of private sector organizations, mission motivation is particularly relevant in public sector organizations where material incentives are arguably weaker.<sup>14</sup>

We explore trust effects on mission motivation in two ways. First, we analyze responses to a survey question asking the respondent's assessment of their agency's effectiveness in accomplishing its mission during 2019. The variable *Effectiveness* is measured on a five-point scale, from (very low) to 5 (very high). Respondents who offer a better assessment of mission effectiveness should be more aligned with the mission of their agency and more disposed to exert effort in pursuit of that mission.<sup>15</sup>

Second, during the pandemic, one salient policy issue in all countries was enforcement of social distancing. We elicit preferences over enforcement levels in a survey experiment to study how respondents align their policy preferences based on data on policy outcomes. We present the details of this experiment below.

Figure 1 displays graphically the prevalence of each of the performance factors. It shows by country and in the overall sample the percentage of respondents with answers in the half of the answer scale where the factor represents a constraint on performance. In the left panel, low mission effectiveness is the most prevalent factor on average; in the right panel, it is lack of discretion to innovate.

**Explanatory Variables.** We are interested in how trust among public sector employees influences performance constraints in organizations. A natural first measure would be trust in immediate coworkers, those with whom individuals are most likely to interact frequently

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<sup>13</sup>The order of these factors was randomized to avoid potential bias induced by item ordering.

<sup>14</sup>According to an anecdote often referenced in the public management literature, a janitor at NASA when asked by president Kennedy during a 1962 visit what he did for the agency replied "I'm helping put a man on the moon, Mr. President."

<sup>15</sup>Khan (2022) reports experimental evidence from Pakistani public health workers showing that mission motivation increases job performance along several measures.

to complete their tasks. Mistrust of immediate coworkers should directly reduce cooperation and affect perceived productivity constraints. A broader measure is trust in other public employees with whom the employee rarely or never interacts. This can also affect productivity to the extent that the contribution to agency performance of an employee's team depends on the performance of the rest of the agency.

Beyond intra-organizational trust, an indirect influence on employee cooperation and productivity could be their level of trust in citizens. Mistrust in citizens reflects a belief that citizens will extract benefits to which they are not entitled or evade regulations that apply to them. Such a belief may reduce employee incentives to exert effort, independently of trust in their immediate coworkers and other public employees. As different types of trust may be correlated, it is necessary to account for trust in citizens to be able to isolate the effects of employee trust in other public sector workers.

The survey generates measures for all three levels of trust. Respondents were asked to express their agreement on a five-point scale (strongly disagree, disagree, neutral, agree, strongly agree) with the statements "Most coworkers in my government agency can be trusted," "Most public sector employees can be trusted," and "Most citizens in my country can be trusted." The three trust questions were asked prior to the survey experiments.

Figure 2 presents the full sampling distributions of trust responses. The fraction of respondents who agree or strongly agree with the trust statements are 51.65% for coworkers, 25.49% for public employees, and 40.54% for citizens. On average, therefore, respondents express greater trust in coworkers than citizens and trust public sector employees in general least of all.<sup>16</sup> Table 1 presents summary statistics of the three trust variables. Figure A1 summarizes the trust data by region. All types of trust are significantly lower in the Andean Region.<sup>17</sup>

**Survey Experiments.** In the second half of the survey, we implemented two randomized experiments. Each experiment had two treatment arms. The randomization assigned each treatment arms with equal probability and occurred at the individual level, within country-rounds. The two experimental randomizations were statistically independent of each other.<sup>18</sup>

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<sup>16</sup>This pattern of relative trust mirrors findings from the World Bank (2019) bureaucracy surveys in Africa and Asia, although trust *levels* are generally lower in our Latin American sample.

<sup>17</sup>The Latin American regions are defined as follows: Southern Cone (ARG, BRA, CHL, PRY, URY), Andean Region (BOL, COL, ECU, PER, VEN), Central America (CRI, DOM, SLV, GTM, HND, MEX, NIC, PAN).

<sup>18</sup>The randomization protocol for both experiments was simple random assignment implemented through the survey platform Qualtrics. Covariate balance tests that validate the randomization outcomes are presented in Table A3.

In the first experiment, the survey question asked about work constraints faced by the respondent's government agency. Specifically, the wording of the question was:

Your agency's mission may have been constrained by several factors in 2019. One factor could be the budget. Compared to budget constraints, how much did the following factors hinder your agency's mission [during 2019 / during the COVID-19 pandemic]?

The constraining factors presented were: "limited discretion to innovate," "lack of cooperation among staff," "lack of staff," "low professional quality of the staff," "inadequate IT resources." As argued above, these can be seen as organizational constraints on employee performance. Half of the respondents were asked to assess how each of these constraints compared to budgetary constraints during 2019; the other half received a different time frame, namely the pandemic period. Based on the randomly assigned time frame, we create a dummy variable *Pandemic Framing* that indicates whether the respondent received the question with the pandemic time frame.<sup>19</sup>

In the second experiment, respondents were assigned to view one of two graphs showing information about social distancing in their country.<sup>20</sup> One treatment showed respondents a bar chart with the level of social distancing in their country in the three months since the beginning of the pandemic, alongside the average level in the world, which at the time of the experiment was lower than in each of the countries in our sample.<sup>21</sup> Thus, in relative terms, this is a scenario of high social distancing in the respondent's country. The other treatment showed a bar chart reporting social distancing in their country alongside the level in Spain, which at the time of the experiment had more social distancing than all the countries in our sample, without exception. Thus, relative to Spain, this is a scenario of low social distancing. We code assignment of the low social distancing scenario into a dummy variable called *Low Framing*. After viewing the graph, the survey respondents were asked the question:

As social distancing needs to continue while the economy reopens, how should the authorities enforce social distancing?

The answer options were a sliding discrete scale going from "No Enforcement Necessary" (0) to "Strict Enforcement Necessary" (10).

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<sup>19</sup>The original Spanish-language statements and online design of Experiment I are shown in Section A1.

<sup>20</sup>We generated the bar charts for each country based on data from Google's COVID-19 Community Mobility Reports. The bar charts for the case of Colombia are shown in Section A1.

<sup>21</sup>Nicaragua was an exception, in which case the national statistic was shown by itself.

The question captures public employees’ preferences for social distancing enforcement by the government. We would like to test, first, if these policy preferences depend on a public employee’s level of trust in the public sector, and second, whether framing affects the trust-preference relationship. The conjecture is that high-trust respondents better align their preferences with current government policy, which given the novelty of the policy environment, is not fully known but should be inferred from the data on policy outcomes presented in the framing.

### 3 Empirical Strategy

To characterize the empirical relationships between employee trust and performance constraints we utilize fixed effects, instrumental variables, and randomized treatments. Each approach highlights a specific feature of the empirical relationships of interest.

**Fixed Effects.** To account for unobserved factors that vary across country and survey round, we first estimate the relationship between trust and constraints based on within country-round variation. The regression specifications take the following form:

$$y_i = \sum_{k=1}^3 \beta_k T_{ki} + \boldsymbol{\delta}' \mathbf{X}_i + \phi_{jt} + u_i \quad (1)$$

where  $y_i$  is an outcome variable measuring a specific performance constraint for individual  $i$ ;  $T_{ki}$  is a variable measuring trust of employee  $i$  in agent  $k$ , where  $k = 1, 2, 3$ , indicates respectively coworkers, public employees, and citizens;  $\mathbf{X}_i$  is a set of individual characteristics unaffected by trust, such as gender, education, and age indicators;  $\phi_{jt}$  is a fixed effect for country  $j$  in survey round  $t$ ; and  $u_i$  is the error term. For inference we compute standard errors clustered at the country-round level. The country-round fixed effects  $\phi_{jk}$  keep constant factors that may vary across country-rounds, for example a change in the evolution of the pandemic in a country between survey rounds.<sup>22</sup>

A  $\beta_k$  coefficient measures the average change in the outcome  $y_i$  associated with a unit increase in the trust variable  $T_{ki}$ . In the analysis below, we convert the original discrete-scale survey variables, represented by  $y_i$ , into dummy variables defined as one if the response is above the median response in the full sample. This transformation makes the model in

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<sup>22</sup>Even though the three survey rounds are spaced one week apart, the novelty of the pandemic and the speed of its spread may create sizable changes in the distributions of some outcome variables over a relatively short time span.



equation (1) a linear probability model. Also, the trust variables  $(T_{ki})_{k=1,2,3}$  are standardized to mean zero and standard deviation one. These variable specifications harmonize the scales of the dependent and explanatory variables, allowing for meaningful comparisons among the  $\beta_k$  coefficients.

**IV Strategy.** We augment our empirical strategy with an instrumental variable approach designed to mitigate potential endogeneity issues coming from omitted variables, simultaneity, or measurement error. We propose an instrument for the two trust variables *Trust Coworkers* ( $T_{1i}$ ) and *Trust Publ Empl* ( $T_{2i}$ ), which we aggregate into a weighted average *Trust Publ Sect* ( $T_i$ ) =  $T_{1i} \times 1/3 + T_{2i} \times 2/3$ , that is, trust in the public sector overall. The choice of weights is based on the empirical fact that the instrument has higher correlation with trust in public employees.<sup>23</sup>

The IV is based on the idea, documented in several studies, that trust is a cultural trait transmitted through socialization; see, e.g., the theoretical and empirical work surveyed in Bisin and Verdier (2011). That means that an employee’s trust in the public sector is partly determined by idiosyncratic experiences and partly by the trust held by their social group. Thus we calculate average interpersonal trust within different social groups defined by nationality, gender, and education. The variable is based on data from the Latinobarometro 2020, which covers the same eighteen countries covered by our own survey. With two gender categories, and two education categories (high school or lower, college or higher), that generates 72 distinct groups to which every respondent in our sample can be matched.<sup>24</sup>

An advantage of the IV approach is that it addresses the potential endogeneity of trust without relying on a structural model embedding specific assumptions about the form of endogeneity. That said, its validity depends on whether it satisfies the exclusion restriction that the instrument affects individual outcomes only through employee trust. This requires two assumptions. The first is that the group-based trust instrument does not directly change individual outcomes. This seems to be a weak requirement since it appears implausible that trust among individuals outside the organization directly influences the workplace behavior of an individual within the organization.

The second assumption is that social group trust is not correlated with unobserved characteristics that might influence individual outcomes. For example, historic or cultural factors

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<sup>23</sup>Using equal weights yields a slightly weaker instrument but qualitatively similar results.

<sup>24</sup>The interpersonal trust question in the Latinobarometro reads: "Generally speaking, would you say that you can trust most people, or that you can never be too careful in dealing with others?"

may simultaneously reduce trust within a certain group and reduce cooperation and delegation in public sector organizations. This assumption also appears weak with respect to unobserved characteristics specific to the organization. For example, it is implausible that social group trust is related to the quality of management in a particular agency. Thus it is unlikely that unobserved organization-level characteristics explain the relationships we document. To strengthen the plausibility of this assumption with respect to non-organizational characteristics we explicitly include them as covariates. The employee’s trust in citizens would be a natural candidate as it is predicted by social group trust and may directly affect the employee’s outcomes. Others that we consider are gender, education, age, and government level, among individual characteristics, and merit system, government effectiveness, rule of law, and control of corruption, among country-level characteristics.<sup>25</sup>

We implement the IV strategy using two-stage least squares (2SLS), with the first stage given by:

$$T_i = \gamma Z_{g[i]} + \varphi_I T_{3i} + \boldsymbol{\delta}'_I \mathbf{X}_i + \boldsymbol{\theta}'_I \mathbf{S}_j + v_i \quad (2)$$

where  $Z_{g[i]}$  is the instrument measuring average interpersonal trust in the social group  $g$  [ $i$ ] to which employee  $i$  belongs;  $T_{3i}$  is trust in citizens;  $\mathbf{X}_i$  is a set of individual characteristics;  $\mathbf{S}_j$  is a set of country characteristics; and  $v_i$  is the error term. The coefficient  $\gamma$  can be used to test the strength of the relationship between the instrument and the endogenous variable  $T_i$ . Denoting by  $\hat{T}_i$  the fitted values of trust in the public sector from regression (2), the second stage is given by:

$$y_i = \beta \hat{T}_i + \varphi_{II} T_{3i} + \boldsymbol{\delta}'_{II} \mathbf{X}_i + \boldsymbol{\theta}'_{II} \mathbf{S}_j + \varepsilon_i \quad (3)$$

where  $\varepsilon_i$  is the error term. The coefficient of interest is  $\beta$  which is the average change in employee outcome  $y_i$  given a unit change in trust in the public sector  $T_i$ . This is a local average treatment effect (LATE) relevant for the subset of the population whose trust level is influenced by the trust of their social group.

For the robustness analysis we developed an alternative IV strategy. Instead of using average trust of the employee’s social group, the alternative instrument is average trust of the employee’s equivalent professional group from neighboring countries. An equivalent professional group is defined by position and experience in the public sector, e.g., managerial with over twelve years of experience. Trust attitudes may be related among professional coun-

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<sup>25</sup>Merit system rating data comes from IDB assessments of the civil service in the region. The other three variables are from the World Governance Indicators issued by the World Bank.

terparts for two reasons. First, the institutions and practices of governments in neighboring countries may be similar, and second, because of participation in regional or sub-regional professional networks, of which the one that facilitated this project’s data collection is one example.<sup>26</sup>

**Randomized Treatments.** We can estimate average treatment effects showing the impact of the social distancing framing treatment on employee policy preferences. Our primary interest, however, is in whether the framing treatment changes the relationship between trust and policy preferences. Therefore, the empirical model is the following regression specification that includes interactions of treatment with trust:

$$y_i = \lambda_1 T_i + \lambda_2 (T_i \times F_i) + \lambda_3 F_i + \boldsymbol{\delta}' \mathbf{X}_i + \phi_{jt} + \epsilon_i \quad (4)$$

where  $F_i$  is an indicator variable for the randomized framing treatment;  $T_i \times F_i$  is the interaction between the framing treatment and trust in the public sector; and  $\epsilon_i$  is the error term. The coefficient  $\lambda_1$  characterizes the empirical relationship between trust and outcome in the comparison group; the coefficient  $\lambda_2$  measures how this relationship changes for the treatment group. The rest of the variables are defined as in equation (1).

## 4 Empirical Results

This section reports empirical findings from our original survey data on trust and performance-related outcomes of public sector employees. We consider three types of individual outcomes: individual constraints, perceptions of organizational constraints, and mission motivation. After presenting the main results, we report several robustness exercises and extensions.

A first look at the relationship between trust and performance constraints can be gained by plotting the kernel densities of the average for each type of constraint set (individual and organizational) by level of trust in the public sector, high represented by the darker line, and low represented by the lighter line. See Figure 3. The left panel shows that individual constraints are lower for high-trust employees; a similar pattern appears in the right panel for organizational constraints, although less pronounced.

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<sup>26</sup>This second IV strategy is similar in spirit to the one proposed by Meagher and Wait (2020) who instrument for Australian workers’ trust in management using average trust of occupationally equivalent workers in the UK. An earlier paper by Acemoglu et al. (2007) instrumented for French-industry productivity heterogeneity using their UK-industry counterparts.

**Individual Constraints.** Employees’ trust in each other should yield more productive workplace interactions, by facilitating the cooperation necessary to undertake and fulfill collective tasks. It should also promote employee openness to technological innovation that improves the quality and efficiency of public service delivery. Conversely, undervaluing cooperation, ignoring shared information, and resistance to innovation can significantly undermine employee performance (Brown et al. 2015). We quantified these individual constraints through the survey variables *Collaboration*, *Information*, and *Digitalization*. As these variables are measured on different scales, for ease of interpretation we convert these discrete measures into binary variables indicating answers above the median response in the full sample. The trust variables enter as standardized z-scores.

Table 2 presents OLS estimates of the empirical relationships between employee trust and the three measures of individual constraints. The leftmost column starts with a simple specification without covariates or fixed effects. The subsequent columns add gender, education, age, and government level as covariates, trust in citizens, and the last column introduces country-round fixed effects. Standard errors are clustered at the country-round level which yields 53 clusters.

All three dependent variables show a strong positive association with *Trust Coworkers*. A one standard deviation increase in an employee’s trust in coworkers is associated with between 11.4-11.7 percentage point higher likelihood to value collaboration, between 4.4-5.2 percentage point higher likelihood that the employee relies on information shared by colleagues, and 3.4-4.1 percentage points higher support for digitalization. The coefficients for *Trust Publ Empl* are also generally positive, but noticeably smaller in magnitude. This is to be expected, as the outcomes should be less relevant for more distant work relationships. The estimates are highly stable across the four specifications. In particular, we note that introducing fixed effects in the rightmost column results in negligible changes in the coefficients of interest, suggesting that country-level characteristics have limited influence.

We then average trust in coworkers and other public employees into a single variable measuring general trust in the public sector. We instrument trust in the public sector with average interpersonal trust of the employee’s corresponding social group. This is based on data from the nationally-representative Latinobarometro survey, specifically wave 2020. As the individuals sampled for the Latinobarometro are highly unlikely to have direct ties with the public sector employees in our survey, the trust used to construct the instrument should be unrelated to organization-specific characteristics.

Table 3 presents the 2SLS coefficients for *Trust Publ Sect*. The columns represent different

specifications of the set of covariates. We include the same individual-level covariates as in the OLS analysis, namely gender, education, age, and government level. In addition, we include country-level covariates that may be correlated with social trust as well as civil servants' behavior: a merit system score for the civil service, and indexes of government effectiveness, rule of law, and control of corruption. Note that adding country fixed effects alongside the individual characteristics used to define social groups (gender and education) is not feasible as that would absorb nearly all the variation in the instrument. The last two columns control for employee trust in citizens, however, which should proxy for several country-level cultural factors that could be correlated with the instrument as well as employee workplace behavior. Standard errors are clustered at the country-round level.<sup>27</sup>

The estimates are positive and statistically significant for all three outcome variables, confirming the findings from the OLS analysis in the previous table. Comparing magnitudes vertically across outcomes, fixing the specification, they also tend to be closer to each other. While the exact magnitudes are not a primary focus of the analysis, given the potential subjectivity in answering survey questions, the comparison across outcomes may suggest that estimates are capturing different facets of a common type of individual-level constraint on productive workplace behavior.

The validity of inferences based on these estimates requires a strong correlation between the instrument and the endogenous trust variable. To assess instrument strength we report F-statistics at the bottom of each set of estimates. For clustered standard errors, the appropriate first-stage test is based on the heteroskedasticity robust Kleibergen-Papp F-statistic. The estimated sizes of the F-stats reject the null hypothesis of weak identification at conventional levels.<sup>28</sup> Table 4 also shows the first-stage coefficient estimates. A one standard deviation increase in the social group trust instrument is associated with 0.10 to 0.18 standard deviations increase in employee trust in the public sector. Table 5 reports correlations between the instrument and each of the trust variables in our survey; the strongest correlate of the instrument is *Trust Publ Empl* followed by *Trust Coworkers*.

**Organizational Constraints.** In addition to an employee's own attitudes, factors present in the employee's work environment may also impose constraints on their performance. In the survey we elicited views on five such organizational constraints: the limited degree of

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<sup>27</sup>The second instrument we consider, based on professional group trust in neighboring countries, has sufficient within-country variation to allow for the inclusion of country fixed effects. The second-stage results are broadly consistent with the ones reported here. See the Robustness and Extensions subsection below.

<sup>28</sup>See Stock and Yogo (2005) and Kleibergen and Papp (2006).

discretion granted by the organization, lack of cooperation in the workplace, the quantity and quality of staff, and inadequate IT resources. Respondents were asked to assess the stringency of these constraints relative to budgetary resources. By anchoring perceptions on budget constraints we sought to increase comparability of assessments across constraints and respondents.

Employee answers to this set of questions should reflect their perceptions of how their agency’s productivity depends on the respective inputs. If an insufficient amount of an input is reported to be a relatively greater constraint, the marginal productivity of relaxing this constraint should be higher. Trust in other public employees therefore affects an employee’s assessment of the importance of a constraint if it changes the perceived marginal productivity of that input.

High-trust employees should consider limited discretion to innovate a lesser constraint on productivity as high-trust organizations offer greater autonomy and delegation to their employees (Bloom et al. 2012, Meagher and Wait 2020). Similarly, they should see lack of cooperation among staff as less of a concern as they believe others are willing to cooperate (Brown et al. 2015). Lack of staff would likely be perceived as a more significant constraint than the quality of staff, as the employee trusts others to exert effort and to be competent. For inadequate IT resources the hypotheses are more mixed. On the one hand, if IT is seen as primarily enhancing individual-level productivity, its availability should not be sensitive to trust. On the other hand, if IT is seen as a tool that facilitates task sharing and communication, high-trust individuals may judge inadequate IT as a more binding constraint on productivity.<sup>29</sup>

Table 6 reports OLS estimates of the relationship between employee trust and their perceptions of work constraints. The reported specification includes both covariates and fixed effects. The first two columns show that respondents with high *Trust Coworkers* or other public employees are less likely to perceive limited discretion and lack of cooperation as important constraints. This is consistent with the higher levels of discretion and cooperation in high-trust agencies and the lower marginal returns of further increasing them.

In the next two columns (3) and (4), respondents with higher *Trust Coworkers* are more likely to say that lack of staff is a constraint relative to the budget, but significantly less likely to say that the quality of staff is a constraint. This may be driven by the agency-specific

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<sup>29</sup> A 2020 survey conducted by the IDB found that only about a third of public sector employees in Latin America have a laptop provided by their organization, and about half can access work files from outside the office.

factors whereby the hiring of high-quality employees both increases trust and raises the marginal returns to additional employees. One piece of evidence supporting this interpretation is that *Trust Publ Empl* is unrelated to perceptions of staff quality or quantity as constraints on agency productivity. Another piece of evidence emerges in the 2SLS regressions below. Finally, trust is unrelated, on average, to perceptions of information technology as a constraint on the agency mission. One interpretation is that a positive effect of employee trust on inadequate IT is offset by the negative effect that inadequate IT may have on employee trust.

Half of the respondents were randomly selected to assess the various organizational constraints confronting their agency in 2019, prior to the pandemic. The other half were asked to make the assessment for the pandemic year 2020. This is indicated by the variable *Pandemic Framing* included as a covariate in the regression models. The coefficient estimates for this variable indicate that respondents assigned the pandemic framing were 6.1 percentage points more likely to state that inadequate IT was an obstacle to their agency’s productivity, consistent with the shift to remote work. They were also 5.1 percentage points less likely to say that low staff quality were an obstacle. The pandemic framing otherwise had little effect on assessments of other constraints.<sup>30</sup>

The estimated coefficients of the interaction of *Trust Coworkers* and framing, reported in Table A4, are small and insignificant across all constraints. Trust effects therefore appear not to be an artefact of the time period that respondents had in mind when evaluating obstacles to agency productivity.

The logic outlined above linking employee trust to assessments of various agency constraints suggests that reverse causality may also produce a negative correlation with trust. For instance, respondents in agencies with more limited employee discretion or lower quality of staff are less likely to report high trust in coworkers. The confounding effects of these organization-specific factors can be removed by using the social group trust instrument based on the Latinobarometro. Table 7 presents these 2SLS estimates.

The component of employee trust unrelated to agency conditions, i.e., trust predicted by the instrument in the first-stage regression, generally continues to have a negative relationship with the severity of various work constraints. The precision of the estimates is reduced, however, preventing clear inferences. An exception is column (1), which shows that limited discretion is considered less of a constraint by employees with higher trust in the public

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<sup>30</sup>Figure A2 shows a plot of the pandemic framing treatment effects as simple differences in mean outcomes, without additional covariates. The conclusions remain unchanged.

sector. The magnitude the coefficient for *Trust Publ Sect* is attenuated in column (2) for lack of cooperation, while it increases for the remaining constraints. We continue to observe in columns (4) and (5) the treatment effects of the pandemic framing which change assessments of low staff quality and inadequate IT.

**Mission Motivation.** Prior research has shown that public sector employees are more productive when they are better aligned with the mission of their organization (Francois 2000, Khan 2022). Mission mismatch, a discrepancy between policies the employee would prefer and those promoted by their agency, reduces employee incentives to exert effort. It can be thought of as an individual constraint to high performance that is particularly relevant to public sector organizations which tend to attract mission-oriented employees. In the survey this performance factor is captured by a question eliciting the employee’s view about the effectiveness with which their agency fulfilled its mission in the prior year. An employee who has a more positive view of their agency effectiveness in accomplishing its mission should be more motivated to contribute effort toward that mission.<sup>31</sup>

Table 8 presents OLS estimates of the relationship between employee trust and their assessment of mission effectiveness. Both trust in coworkers and trust in public employees have strong associations with views of mission effectiveness. A one standard deviation increase in *Trust Coworkers* is associated with about 13 percentage points higher likelihood to express a positive view. These coefficients are about four times larger than those for *Trust Publ Empl*. Note again that the fixed effects included in column (4) have little bearing on the coefficients, suggesting that country-level factors play a limited role in this relationship.

To exclude the potential influence of organization-specific factors, we instrument for average trust in the public sector using the social group trust instrument. The 2SLS results are in Table 9. They confirm the positive relationship found with OLS. The instrumental variable strategy should also account for any reverse causality that goes from *Mission Effectiveness* to *Trust Publ Sect*.

An alternative approach to measuring mission motivation is to compare the employee’s policy preferences on a salient policy issue to the actual policy stance of the administration. The downside of this approach is that it can be challenging to identify a policy issue that is salient across different national settings and government levels. The pandemic, however, provided an opportunity to study such a public policy, namely enforcement of social distancing.

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<sup>31</sup>Note that a more direct question about the employee’s agreement with their agency mission, while seemingly natural, has the potential of introducing significant social desirability bias, even considering the confidentiality of the survey responses.



In the first few months of the pandemic each country debated the best approach to social distancing as they faced a tradeoff between strict enforcement, which would benefit public health, and loose enforcement, which would protect the economy. Given the unprecedented nature of the crisis, there was significant uncertainty over the best policy stance, evidenced by the wide variation in national policies.

Given the uncertainty in the policy environment, we conjectured that policy preferences over enforcement may depend on beliefs about the existing level of enforcement. Therefore, before asking the question "As social distancing needs to continue while the economy reopens, how should the authorities enforce social distancing?" we randomly assigned respondents to either a high social distancing scenario or a low social distancing scenario by varying the reference category: the rest of the world, which had lower social distancing on average; or Spain, which had higher social distancing on average. An example of the actual display of the treatments is shown in Section A1.

The bottom half of Table 8 presents OLS estimates of trust coefficients for the dependent variable *Strict Enforcement*, in addition to the average treatment effects for the framing experiment. The coefficient for *Trust Coworkers* is close to zero and the coefficient for *Trust Publ Empl* is positive but small. Employees with higher *Trust Citizens* are less supportive of strict enforcement. There is no difference on average in preferences for enforcement between the low and high social distancing treatments. In Table 9 where *Trust Publ Sect* is instrumented for in a 2SLS framework, it shows a negative coefficient implying that high-trust employees prefer weaker enforcement.

To better understand these results, Table 10 interacts trust with the framing treatment in columns (3) and (4). The estimates indicate that framing has differential impacts on high-trust vs low-trust employees. The positive estimates on *Trust Publ Sect* imply that, in the group that received the high social distancing framing, higher-trust respondents prefer stricter enforcement. On the other hand, the negative estimates on the interaction *Trust Publ Sect*  $\times$  *Low Framing* imply that in the group that received the low social distancing framing, higher-trust respondents prefer weaker enforcement. In other words, the relationship between trust and policy preferences changes direction depending on the framing the respondent was exposed to.<sup>32</sup>

A possible interpretation of these results reflects the mission motivation argument that higher trust employees are more aligned with their organization's mission. Employees with high trust in the public sector exposed to high social distancing infer that the government

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<sup>32</sup>A similar but less pronounced switching pattern appears to take place for trust in citizens.

has been pursuing a policy of strict enforcement and they are more likely to align themselves with this policy. Whereas high-trust employees exposed to low social distancing infer that enforcement has been weak and they are more likely to support a policy of weak enforcement. The heterogeneous treatment effects are shown graphically in Figure 4, where trust is defined as a binary variable. The difference in treatment effects between high and low trust employees is 7.9 percentage points.

**Robustness and Extensions.** We performed several robustness exercises for both the OLS and the IV results. They are reported in the Online Appendix. Tables A5-A6 show how the OLS estimates hold up to an alternative fixed effects specification. In the main results the fixed effects were at the country-round level. Here we use country-round-government level, where government level is national, state, or local, resulting in 130 clusters. The coefficients on the trust variables remain similar in sign and magnitude.

To further probe the validity of the IV results, Tables A7-A8 present reduced-form estimates. As an IV estimator is unbiased only asymptotically, a concern with 2SLS estimates is that they may be affected by finite-sample bias. One way to examine this issue is to estimate OLS regressions of the outcomes on the instrument. As OLS estimates are not subject to finite-sample bias, large and statistically significant reduced-form coefficients would provide more confidence that the IV estimates are unbiased. The results confirm this is the case for all the outcome variables that showed an IV effect.<sup>33</sup>

In the analysis so far, we used linear probability models as we preferred working with binary outcome variables to avoid nonlinearity issues for the IV. This allowed us to use 2SLS for estimation. However, linear probability models may be less precise than nonlinear models like probit/logit particularly when the mean of the outcome variable is close to 0 or 1. To check if model nonlinearity makes a difference Tables A9-A10 provide estimates of the trust coefficients using Probit IV. The estimates are broadly in line with the ones obtained through 2SLS.

Next we look at sensitivity to sample coverage. As mentioned in the Data and Variables section, we chose to retain in the sample respondents who had recently left the public sector, e.g., through retirement or change of jobs. This subset makes up about 15% of the sample. Tables A11-A12 show how the OLS coefficients change when only current employees are retained in the sample. Tables A13-A14 show how the 2SLS estimates change. As is evident

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<sup>33</sup>Finite-sample bias is particularly problematic with many weak instruments, which is not an issue in our case.

from the numbers, the changes in coefficients are minimal. The precision of the estimates also remains strong despite the reduction in sample size.

To construct our instrumental variable we used individual-level interpersonal trust data from Latinobarometro wave 2020. An alternative source of nationally-representative data on interpersonal trust is the AmericasBarometer survey conducted by the Latin American Public Opinion Project (LAPOP) at Vanderbilt University. Since no fieldwork was done in 2020 we selected the immediately preceding 2018-19 wave; this should be largely inconsequential since interpersonal trust is known to change slowly. A slight disadvantage of this data source, however, is that it does not cover one of our sample countries, namely Venezuela. The question and corresponding answer options are somewhat different from the Latinobarometro.<sup>34</sup>

Table A15 reports first-stage estimates for the LAPOP-based instrument. The coefficients are similar to those in Table 4 for the Latinobarometro-based instrument. By comparison, the F-statistic is larger in the less demanding specifications, and somewhat smaller in the most demanding specification in column (4). Table A16 also shows the unadjusted correlations between the instrument and the trust variables in our survey. The 2SLS estimates for all outcome variables are presented in Tables A17-A18. We note that the coefficient pattern remains similar to the baseline 2SLS results presented above in Tables 3, 7 and 9, although some coefficient sizes tend to be smaller.

As is well known, an IV strategy estimates a local average treatment effect. In our case, this would be the treatment effect relevant for employees whose trust in the public sector is influenced by their social group's interpersonal trust. An external validity concern with this approach is that its conclusions are limited to the types of individuals who are more susceptible to social influence. To check whether our findings are sensitive to the particular type of instrument we used, we developed an alternative IV strategy. As mentioned in the Empirical Strategy section, this alternative instrument is based on cultural transmission through professional groups, rather than social groups.<sup>35</sup> Specifically, the instrument is calculated as average trust in the public sector of the employee's equivalent professional group from neighboring countries. An equivalent professional group is defined according to

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<sup>34</sup>The LAPOP question reads: "Speaking of the people from around here, would you say that people in this community are very trustworthy, somewhat trustworthy, not very trustworthy, or untrustworthy?" We defined a binary variable that indicates the "very trustworthy" category, and averaged it within subgroups defined by nationality, gender, and education, yielding 68 matching groups.

<sup>35</sup>Meagher and Wait (2020) use a related strategy based on equivalent occupational groups in a similar country to construct an instrument for vertical worker trust in management.

position and experience in the public sector. This yields 108 matching groups, compared to the 72 from the social group instrument.<sup>36</sup>

An advantage of the extra variation is that this instrument remains strong after controlling for country fixed effects. This is shown in Table A19 column (2). Thus using this instrument in conjunction with country fixed effects may better account for country-specific confounders than the social group instrument. A disadvantage is that it becomes weak if we also include *Trust Citizens* as a covariate. Tables A21-A22 present the 2SLS estimates for the professional group instrument using country fixed effects without additional covariates. The positive coefficients we found before on the individual constraint variables are replicated here. For organizational constraints, we see a positive and large coefficient for *Inadeq IT*, in line with the argument that high-trust employees may feel more constrained by inadequate IT to collaborate and communicate with coworkers. Finally, Tables A23-A24 show the 2SLS coefficients for specifications using individual-level covariates and excluding country fixed effects, similar to the main analysis. Here the estimates are broadly consistent with the main results.

## 5 Conclusion

Evidence from a multi-country survey of public officials in Latin America points to the role of trust for several constraints on performance in public sector organizations. Trust in other public employees alleviates individual constraints such as limited collaboration and information sharing and increases openness to innovation. Trust also relaxes perceptions of organizational constraints such as limited discretion to innovate. High-trust public employees have more positive views of their agency mission and hold policy preferences more aligned with existing government policies.

The paper proposes instrumental variable (IV) strategies to address the potential endogeneity of employee trust, for example to unobserved characteristics of the organizations where they work. The instruments are based on the transmission of trust attitudes through social or professional channels. The IV results suggest that the positive outcomes associated with trust cannot simply be explained by simultaneity or unobserved individual and organizational characteristics. We also leveraged randomized survey experiments to identify how the pandemic affected work constraints and how beliefs about the government's policy

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<sup>36</sup>Neighboring countries are defined as those in the sub-region to which the country belongs: Central America, Andean Region, or Southern Cone; see Figure A1.

stance shape public employees' policy preferences differentially based on their trust levels.

These findings have important implications for public sector organizations. First, they suggest that trust among public employees is an important limiting factor on the optimal size of the state. A trust deficit within the public sector may reduce the ability of societies to rely on government to solve large and complex problems, such as those associated with climate change or inequality, that could require larger public sector work forces and significant collaboration across employees and agencies.

Second, it affects the calculus of delegation to public administration officials. Though delegation is often necessary and optimal in complex areas where legislators and ministers have limited expertise, it is less likely to occur when mistrust impairs the productivity of public sector agencies.

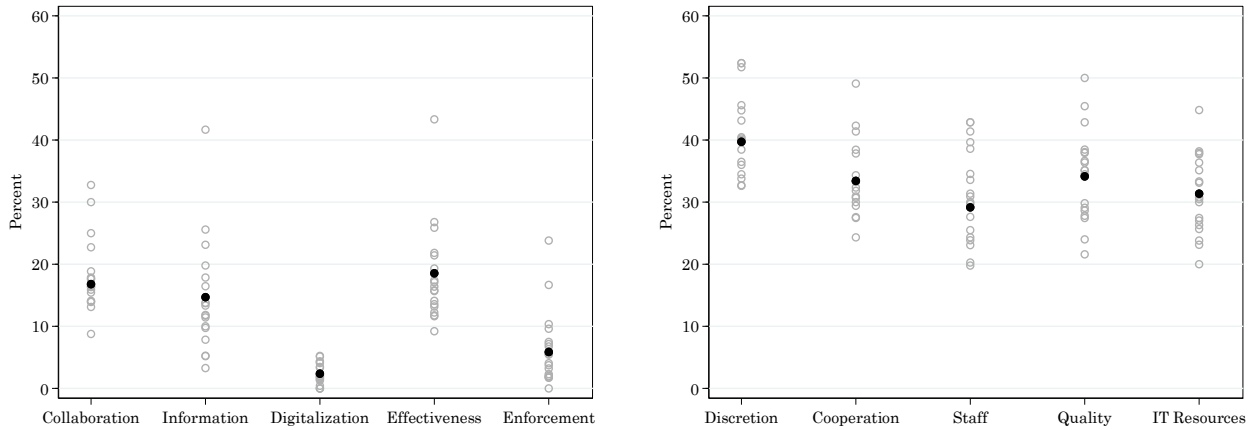
Third, among those officials who enjoy discretion, trust will significantly influence how they exercise that discretion: high- and low-trust officials appear to have significantly different preferences regarding how to utilize their discretion. To the extent that those preferences diverge from the agency mission, agency productivity will suffer. An important area of future research is precisely to document whether the relationship between trust and mission motivation that we document here is a more general phenomenon with the negative productivity consequences predicted by the mission matching literature.

That trust among public sector employees may be a significant determinant of individual and organizational performance raises the question of what governments can do to improve trust within the public sector. Better management, including more meritocratic selection of employees, is one possible answer. Recent research has found an important role for management practices in raising the productivity of public employees (Rasul and Rogger 2018) and a relationship between management decisions and employee trust (Brown et al. 2015). Some features of our survey data are consistent with these arguments. For instance, respondents' trust in other public employees is significantly lower in subnational governments, which are generally regarded as less well-managed and as having more clientelistic personnel policies. Also, average trust in coworkers and other public employees is significantly lower among respondents from countries with less meritocratic hiring practices. Obtaining more granular data on workplace and managerial practices in the public sectors of developing countries particularly would improve our understanding of the role of trust for state capacity and government performance.

# Figures and Tables

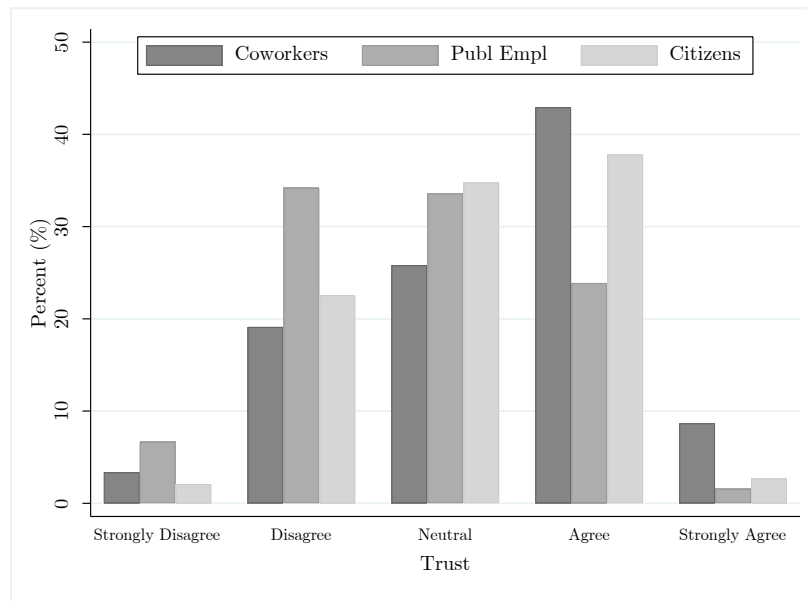
## 1. Figures

**Figure 1: Performance Constraints**



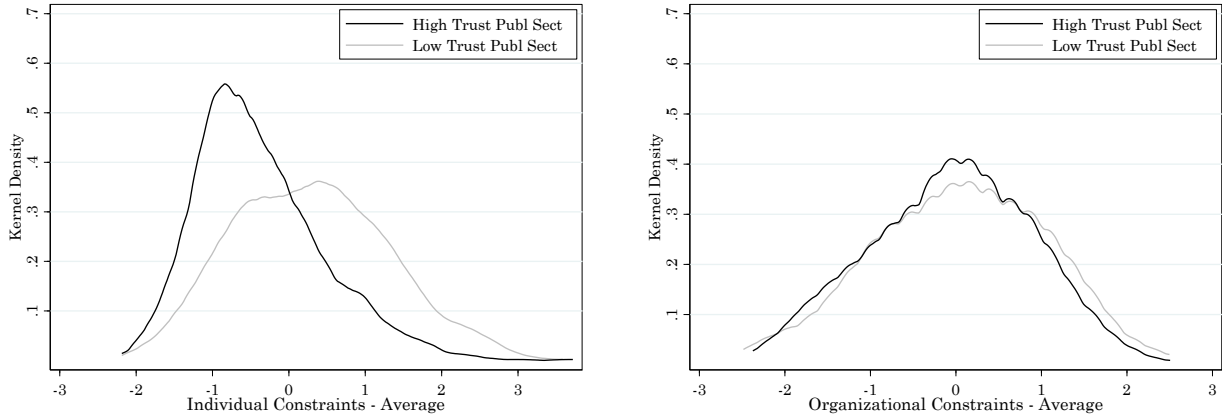
Note: Figures plot percentage of respondents that give an answer below the midpoint of the scale for the variables shown on the left, and above the midpoint of the scale for the variables shown on the right. Grey hollow dots show means by country. Solid black dots show means across the full sample.

**Figure 2: Types of Trust**



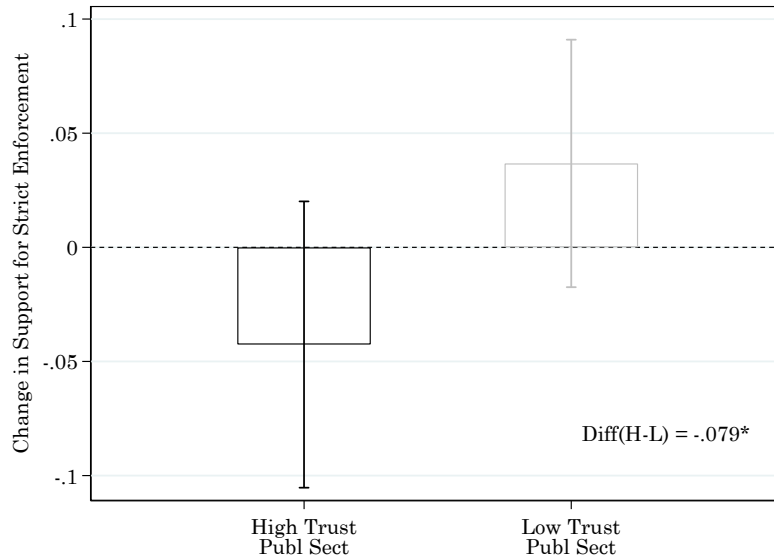
Note: Figure plots for each trust type the percentage of respondents at each trust level. Based on the full sample described in Table 1.

**Figure 3: Conditional Outcome Densities**



Note: Figures plot conditional kernel densities, given high and low trust in the public sector respectively, of the average of individual constraints, on the left, and the average of organizational constraints, on the right. The averages are standardized by subtracting the country-level mean and dividing by the country-level standard deviation. Individual constraints include, with scale reversed: *Collaboration*, *Information*, *Digitalization*, *Effectiveness*. Organizational constraints include: *Discretion*, *Cooperation*, *Staff*, *Quality*, and *IT Resources*.

**Figure 4: Treatment Effects of Low Framing, by Trust**



Note: Figure plots the treatment effect, as the difference in support for strict enforcement between the group assigned to low framing and the group assigned to high framing, separately for the subsamples of high trust and low trust in the public sector. Ranges at the top of the bars are 95 percent confidence intervals. \*  $p < 0.10$ .

## 2. Tables

**Table 1:** Summary Statistics

|                           | Obs   | Mean   | Std Dev | Min    | Max   |
|---------------------------|-------|--------|---------|--------|-------|
| <i>Trust Coworkers</i>    | 2,393 | 3.344  | 0.993   | 1      | 5     |
| <i>Trust Publ Empl</i>    | 2,393 | 2.795  | 0.933   | 1      | 5     |
| <i>Trust Citizens</i>     | 2,383 | 3.165  | 0.878   | 1      | 5     |
| <i>Collaboration</i>      | 2,370 | 2.400  | 2.705   | -5     | 5     |
| <i>Information</i>        | 2,362 | 3.350  | 0.798   | 1      | 4     |
| <i>Digitalization</i>     | 2,359 | 4.472  | 0.715   | 1      | 5     |
| <i>Discretion</i>         | 2,226 | 3.068  | 1.254   | 1      | 5     |
| <i>Cooperation</i>        | 2,226 | 2.908  | 1.205   | 1      | 5     |
| <i>Staff</i>              | 2,226 | 2.833  | 1.163   | 1      | 5     |
| <i>Quality</i>            | 2,226 | 2.924  | 1.219   | 1      | 5     |
| <i>IT Resources</i>       | 2,226 | 2.873  | 1.198   | 1      | 5     |
| <i>Effectiveness</i>      | 2,325 | 3.257  | 0.948   | 1      | 5     |
| <i>Enforcement</i>        | 2,217 | 7.803  | 2.057   | 0      | 10    |
| <i>Pandemic Framing</i>   | 2,314 | 0.499  | 0.500   | 0      | 1     |
| <i>Low Framing</i>        | 2,223 | 0.498  | 0.500   | 0      | 1     |
| <i>Female</i>             | 2,344 | 0.441  | 0.497   | 0      | 1     |
| <i>Education</i>          | 2,322 | 5.806  | 0.629   | 2      | 7     |
| <i>Age Group</i>          | 2,325 | 3.098  | 1.094   | 1      | 5     |
| <i>Gov Level</i>          | 2,433 | 1.614  | 0.773   | 1      | 3     |
| <i>Position</i>           | 2,423 | 2.890  | 1.161   | 1      | 6     |
| <i>Mission</i>            | 2,335 | 2.435  | 0.815   | 1      | 3     |
| <i>Experience</i>         | 2,213 | 13.420 | 9.039   | 1.5    | 25    |
| <i>Current</i>            | 2,449 | 0.853  | 0.355   | 0      | 1     |
| <i>Merit System</i>       | 2,449 | 48.220 | 17.879  | 7      | 93    |
| <i>Gov Effectiveness</i>  | 2,449 | -0.123 | 0.373   | -1.658 | 1.060 |
| <i>Rule of Law</i>        | 2,449 | -0.455 | 0.467   | -2.320 | 1.074 |
| <i>Control Corruption</i> | 2,449 | -0.394 | 0.509   | -1.510 | 1.247 |

Note: See Section A3 in the Online Appendix for detailed variable definitions and measurement. Statistics computed for the full sample of eighteen countries included in the 2020 IDB Public Sector Survey; see Table A1. Sample size differs across variables due to incomplete or invalid responses to survey questions.



**Table 2:** Individual Constraints: OLS Estimates

| Dep Var:               | <i>Values Collaboration</i>    |                   |                   |                   |
|------------------------|--------------------------------|-------------------|-------------------|-------------------|
|                        | (1)                            | (2)               | (3)               | (4)               |
| <i>Trust Coworkers</i> | .117***<br>(.011)              | .116***<br>(.012) | .117***<br>(.012) | .114***<br>(.012) |
| <i>Trust Publ Empl</i> | .070***<br>(.010)              | .072***<br>(.011) | .073***<br>(.011) | .071***<br>(.012) |
| <i>Trust Citizens</i>  | —                              | —                 | −.004<br>(.010)   | −.001<br>(.011)   |
| Obs                    | 2,370                          | 2,252             | 2,252             | 2,252             |
| Dep Var:               | <i>Shares Information</i>      |                   |                   |                   |
|                        | (5)                            | (6)               | (7)               | (8)               |
| <i>Trust Coworkers</i> | .052***<br>(.013)              | .053***<br>(.013) | .048***<br>(.014) | .044***<br>(.014) |
| <i>Trust Publ Empl</i> | .031**<br>(.012)               | .029**<br>(.012)  | .019<br>(.013)    | .017<br>(.013)    |
| <i>Trust Citizens</i>  | —                              | —                 | .028*<br>(.016)   | .027<br>(.016)    |
| Obs                    | 2,362                          | 2,251             | 2,251             | 2,251             |
| Dep Var:               | <i>Supports Digitalization</i> |                   |                   |                   |
|                        | (9)                            | (10)              | (11)              | (12)              |
| <i>Trust Coworkers</i> | .041***<br>(.011)              | .039***<br>(.011) | .035***<br>(.011) | .034***<br>(.012) |
| <i>Trust Publ Empl</i> | .005<br>(.015)                 | .006<br>(.015)    | −.003<br>(.014)   | −.006<br>(.014)   |
| <i>Trust Citizens</i>  | —                              | —                 | .024**<br>(.011)  | .023**<br>(.011)  |
| Obs                    | 2,359                          | 2,251             | 2,251             | 2,251             |
| Covariates             | no                             | yes               | yes               | yes               |
| Fixed Effects          | no                             | no                | no                | yes               |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates are indicators for *Female*, *Education*, *Age Group*, *Gov Level*. Fixed effects are for country-rounds. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table 3:** Individual Constraints: 2SLS Estimates

| Dep Var:               | <i>Values Collaboration</i>    |                   |                   |                   |
|------------------------|--------------------------------|-------------------|-------------------|-------------------|
|                        | (1)                            | (2)               | (3)               | (4)               |
| <i>Trust Publ Sect</i> | .174***<br>(.065)              | .212***<br>(.064) | .231***<br>(.081) | .297**<br>(.129)  |
| <i>Trust Citizens</i>  | —                              | —                 | -.039<br>(.038)   | -.068<br>(.061)   |
| F-stat                 | 23.09                          | 34.58             | 27.20             | 15.40             |
| Obs                    | 2,260                          | 2,252             | 2,252             | 2,252             |
| Dep Var:               | <i>Shares Information</i>      |                   |                   |                   |
|                        | (5)                            | (6)               | (7)               | (8)               |
| <i>Trust Publ Sect</i> | .184***<br>(.068)              | .202***<br>(.069) | .228**<br>(.096)  | .268**<br>(.118)  |
| <i>Trust Citizens</i>  | —                              | —                 | -.054<br>(.051)   | -.070<br>(.059)   |
| F-stat                 | 23.10                          | 34.48             | 27.45             | 15.35             |
| Obs                    | 2,259                          | 2,251             | 2,251             | 2,251             |
| Dep Var:               | <i>Supports Digitalization</i> |                   |                   |                   |
|                        | (9)                            | (10)              | (11)              | (12)              |
| <i>Trust Publ Sect</i> | .144**<br>(.070)               | .137**<br>(.058)  | .156**<br>(.076)  | .306***<br>(.108) |
| <i>Trust Citizens</i>  | —                              | —                 | -.039<br>(.037)   | -.107**<br>(.050) |
| F-stat                 | 23.10                          | 34.48             | 27.45             | 15.35             |
| Obs                    | 2,259                          | 2,251             | 2,251             | 2,251             |
| Covars Individ         | no                             | yes               | yes               | yes               |
| Covars Country         | no                             | no                | no                | yes               |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates Individ are indicators for *Female, Education, Age Group, Gov Level*. Covariates Country are *Merit System, Gov Effectiveness, Rule of Law, Control Corruption*. First-stage estimates reported in Table 4. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table 4:** First-Stage Estimates

| Dep Var:              | <i>Trust Publ Sect</i> |                   |                   |                   |
|-----------------------|------------------------|-------------------|-------------------|-------------------|
|                       | (1)                    | (2)               | (3)               | (4)               |
| <i>Instrument</i>     | .158***<br>(.033)      | .184***<br>(.031) | .143***<br>(.027) | .099***<br>(.025) |
| <i>Trust Citizens</i> | —                      | —                 | .463***<br>(.018) | .457***<br>(.016) |
| F-Stat                | 23.26                  | 34.70             | 27.20             | 15.45             |
| Covars Individ        | no                     | yes               | yes               | yes               |
| Covars Country        | no                     | no                | no                | yes               |
| Obs                   | 2,268                  | 2,259             | 2,256             | 2,256             |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates Individ are indicators for *Female, Education, Age Group, Gov Level*. Covariates Country are *Merit System, Gov Effectiveness, Rule of Law, Control Corruption*. *Instrument* is average interpersonal trust of the respondent's social group, based on nationality, gender, and education, using Latinobarometro 2020 data from the same 18 countries. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table 5:** Instrument Correlations

|                   | <i>Trust Coworkers</i> | <i>Trust Publ Empl</i> | <i>Trust Citizens</i> |
|-------------------|------------------------|------------------------|-----------------------|
| <i>Instrument</i> | 0.120                  | 0.148                  | 0.087                 |
| Obs               | 2,268                  | 2,268                  | 2,265                 |

Note: Sample consists of 18 countries and 53 country-rounds. Table shows unadjusted pairwise correlations between instrumental variable and trust variables. *Instrument* is average interpersonal trust of the respondent's social group, based on nationality, gender, and education, using Latinobarometro 2020 data from the same 18 countries.

**Table 6:** Organizational Constraints: OLS Estimates

| Dep Var:                | <i>Ltd Discr</i>  | <i>Lack Coop</i>   | <i>Lack Staff</i> | <i>Low Qual</i>    | <i>Inadeq IT</i>  |
|-------------------------|-------------------|--------------------|-------------------|--------------------|-------------------|
|                         | (1)               | (2)                | (3)               | (4)                | (5)               |
| <i>Trust Coworkers</i>  | -.024**<br>(.011) | -.045***<br>(.010) | .024**<br>(.011)  | -.033***<br>(.011) | -.015<br>(.010)   |
| <i>Trust Publ Empl</i>  | -.029**<br>(.012) | -.024*<br>(.013)   | .004<br>(.012)    | .001<br>(.012)     | .007<br>(.010)    |
| <i>Trust Citizens</i>   | .024**<br>(.010)  | -.004<br>(.013)    | -.015<br>(.011)   | -.004<br>(.013)    | .010<br>(.011)    |
| <i>Pandemic Framing</i> | .026<br>(.023)    | -.026<br>(.025)    | .007<br>(.019)    | -.051**<br>(.023)  | .061***<br>(.022) |
| Covariates              | yes               | yes                | yes               | yes                | yes               |
| Fixed Effects           | yes               | yes                | yes               | yes                | yes               |
| Obs                     | 2,213             | 2,213              | 2,213             | 2,213              | 2,213             |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates are indicators for *Female, Education, Age Group, Gov Level*. Fixed effects are for country-rounds. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table 7:** Organizational Constraints: 2SLS Estimates

| Dep Var:                | <i>Ltd Discr</i>   | <i>Lack Coop</i> | <i>Lack Staff</i> | <i>Low Qual</i>   | <i>Inadeq IT</i> |
|-------------------------|--------------------|------------------|-------------------|-------------------|------------------|
|                         | (1)                | (2)              | (3)               | (4)               | (5)              |
| <i>Trust Publ Sect</i>  | -.167***<br>(.059) | -.032<br>(.080)  | -.123<br>(.084)   | -.090<br>(.073)   | -.138<br>(.096)  |
| <i>Trust Citizens</i>   | .081***<br>(.030)  | -.014<br>(.041)  | .053<br>(.040)    | .023<br>(.038)    | .071<br>(.048)   |
| <i>Pandemic Framing</i> | .022<br>(.022)     | -.025<br>(.024)  | .003<br>(.019)    | -.054**<br>(.023) | .059**<br>(.023) |
| F-stat                  | 28.25              | 28.25            | 28.25             | 28.25             | 28.25            |
| Covars Individ          | yes                | yes              | yes               | yes               | yes              |
| Covars Country          | no                 | no               | no                | no                | no               |
| Obs                     | 2,213              | 2,213            | 2,213             | 2,213             | 2,213            |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates are indicators for *Female, Education, Age Group, Gov Level*. First-stage estimates reported in Table 4. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table 8:** Mission Motivation: OLS Estimates

| Dep Var:               | <i>Mission Effectiveness</i> |                   |                    |                    |
|------------------------|------------------------------|-------------------|--------------------|--------------------|
|                        | (1)                          | (2)               | (3)                | (4)                |
| <i>Trust Coworkers</i> | .136***<br>(.010)            | .138***<br>(.011) | .139***<br>(.010)  | .134***<br>(.010)  |
| <i>Trust Publ Empl</i> | .038***<br>(.009)            | .036***<br>(.010) | .038***<br>(.011)  | .029**<br>(.011)   |
| <i>Trust Citizens</i>  | –                            | –                 | –.007<br>(.012)    | –.009<br>(.011)    |
| Obs                    | 2,325                        | 2,240             | 2,240              | 2,240              |
| Dep Var:               | <i>Strict Enforcement</i>    |                   |                    |                    |
|                        | (5)                          | (6)               | (7)                | (8)                |
| <i>Trust Coworkers</i> | –.013<br>(.013)              | –.011<br>(.013)   | –.005<br>(.013)    | –.003<br>(.013)    |
| <i>Trust Publ Empl</i> | .001<br>(.010)               | .003<br>(.010)    | .017*<br>(.010)    | .020**<br>(.009)   |
| <i>Trust Citizens</i>  | –                            | –                 | –.037***<br>(.011) | –.037***<br>(.012) |
| <i>Low Framing</i>     | .002<br>(.021)               | .005<br>(.021)    | .006<br>(.021)     | .006<br>(.021)     |
| Obs                    | 2,217                        | 2,213             | 2,213              | 2,213              |
| Covariates             | no                           | yes               | yes                | yes                |
| Fixed Effects          | no                           | no                | no                 | yes                |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates are indicators for *Female*, *Education*, *Age Group*, *Gov Level*. Fixed effects are for country-rounds. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table 9:** Mission Motivation: 2SLS Estimates

| Dep Var:               | <i>Mission Effectiveness</i> |                    |                    |                    |
|------------------------|------------------------------|--------------------|--------------------|--------------------|
|                        | (1)                          | (2)                | (3)                | (4)                |
| <i>Trust Publ Sect</i> | .395***<br>(.111)            | .395***<br>(.101)  | .473***<br>(.141)  | .602***<br>(.214)  |
| <i>Trust Citizens</i>  | —                            | —                  | -.165**<br>(.069)  | -.221**<br>(.103)  |
| F-stat                 | 22.72                        | 34.40              | 27.28              | 15.09              |
| Obs                    | 2,245                        | 2,240              | 2,240              | 2,240              |
| Dep Var:               | <i>Strict Enforcement</i>    |                    |                    |                    |
|                        | (5)                          | (6)                | (7)                | (8)                |
| <i>Trust Publ Sect</i> | -.399***<br>(.117)           | -.337***<br>(.098) | -.416***<br>(.131) | -.670***<br>(.192) |
| <i>Trust Citizens</i>  | —                            | —                  | .168**<br>(.068)   | .279***<br>(.097)  |
| <i>Low Framing</i>     | -.000<br>(.023)              | .003<br>(.022)     | -.000<br>(.023)    | -.007<br>(.027)    |
| F-stat                 | 22.73                        | 34.93              | 28.33              | 15.26              |
| Obs                    | 2,213                        | 2,213              | 2,213              | 2,213              |
| Covars Individ         | no                           | yes                | yes                | yes                |
| Covars Country         | no                           | no                 | no                 | yes                |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates Individ are indicators for *Female*, *Education*, *Age Group*, *Gov Level*. Covariates Country are *Merit System*, *Gov Effectiveness*, *Rule of Law*, *Control Corruption*. First-stage estimates reported in Table 4. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table 10:** Framing Interactions: OLS Estimates

| Dep Var:                                    | <i>Strict Enforcement</i> |                    |                    |                    |
|---|---------------------------|--------------------|--------------------|--------------------|
|   | (1)                       | (2)                | (3)                | (4)                |
| <i>Trust Publ Sect</i>                      | .009<br>(.011)            | .016*<br>(.009)    | .032**<br>(.015)   | .039**<br>(.016)   |
| <i>Trust Publ Sect</i> × <i>Low Framing</i> | –                         | –                  | –.047**<br>(.021)  | –.045**<br>(.022)  |
| <i>Trust Citizens</i>                       | –.038***<br>(.012)        | –.037***<br>(.012) | –.048***<br>(.015) | –.047***<br>(.015) |
| <i>Trust Citizens</i> × <i>Low Framing</i>  | –                         | –                  | .020<br>(.028)     | .020<br>(.028)     |
| <i>Low Framing</i>                          | .003<br>(.022)            | .006<br>(.021)     | .003<br>(.022)     | .006<br>(.021)     |
| Covariates                                  | no                        | yes                | no                 | yes                |
| Fixed Effects                               | no                        | yes                | no                 | yes                |
| Obs   | 2,217                     | 2,213              | 2,217              | 2,213              |

Note: Sample consists of 18 countries and 53 country-rounds. Base category for *Low Framing* is high social distancing framing. Covariates are indicators for *Female*, *Education*, *Age Group*, *Gov Level*. Fixed effects are for country-rounds. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

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# Online Appendix

## Employee Trust and Performance Constraints in Public Sector Organizations\*

Philip Keefer      Razvan Vlaicu

August 2022

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# A1. Randomized Experiments

## Experiment I

### Pre-Pandemic Treatment

En comparación con las limitaciones presupuestales, ¿en qué medida los siguientes factores dificultaron la misión de su organización **durante el 2019**?

|   | Mucho menos que presupuesto | Menos que presupuesto | Igual que presupuesto | Más que presupuesto   | Mucho más que presupuesto |
|---|-----------------------------|-----------------------|-----------------------|-----------------------|---------------------------|
| Recursos informáticos inadecuados         | <input type="radio"/>       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>     |
| Baja calidad profesional del personal     | <input type="radio"/>       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>     |
| Falta de personal                         | <input type="radio"/>       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>     |
| Falta de cooperación entre el personal    | <input type="radio"/>       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>     |
| Baja discreción del personal para innovar | <input type="radio"/>       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>     |

### Pandemic Treatment

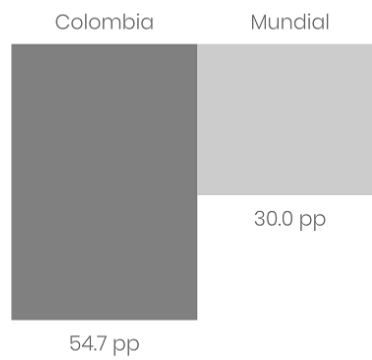
En comparación con las limitaciones presupuestales, ¿en qué medida los siguientes factores dificultaron la misión de su organización **durante la pandemia del COVID-19**?

|   | Mucho menos que presupuesto | Menos que presupuesto | Igual que presupuesto | Más que presupuesto   | Mucho más que presupuesto |
|---|-----------------------------|-----------------------|-----------------------|-----------------------|---------------------------|
| Recursos informáticos inadecuados         | <input type="radio"/>       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>     |
| Falta de personal                         | <input type="radio"/>       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>     |
| Baja calidad profesional del personal     | <input type="radio"/>       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>     |
| Falta de cooperación entre el personal    | <input type="radio"/>       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>     |
| Baja discreción del personal para innovar | <input type="radio"/>       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>     |

## Experiment II

### High Social Distancing Framing

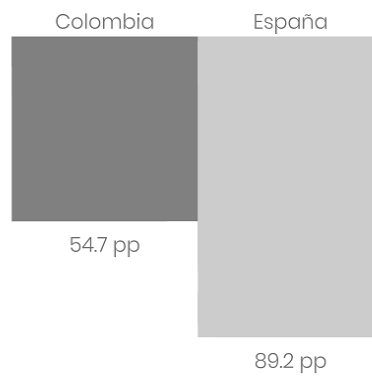
Caída porcentual en las visitas a los parques  
(en las siguientes seis semanas a la declaración de la OMS)



Fuente: Google COVID-19 Community Mobility Reports

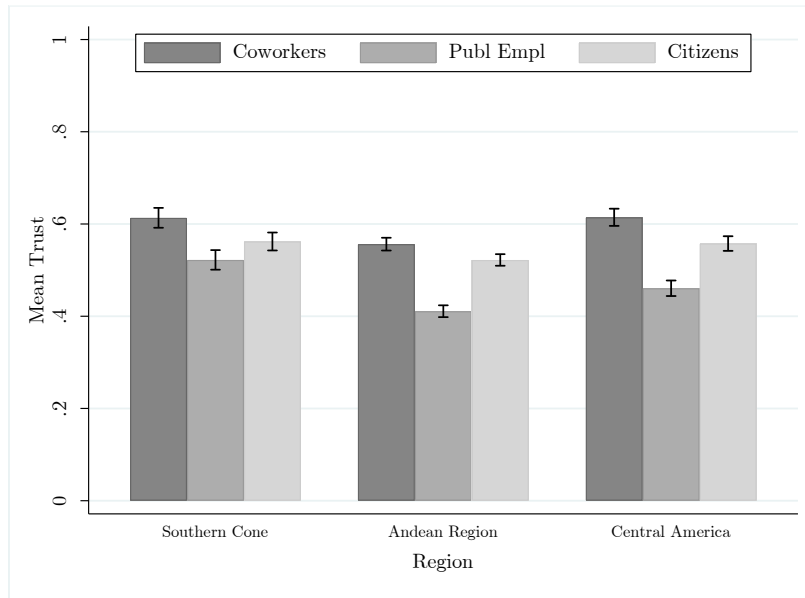
### Low Social Distancing Framing

Caída porcentual en las visitas a los parques  
(en las siguientes seis semanas a la declaración de la OMS)



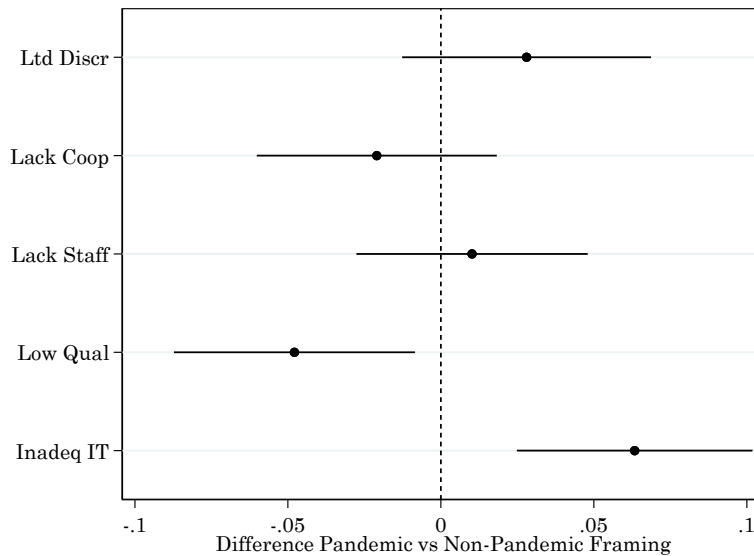
Fuente: Google COVID-19 Community Mobility Reports

**Figure A1: Average Trust by Region**



Note: Figure plots average trust by geographic region. Based on the full sample described in Table 1. Ranges at the top of bars are 95 percent confidence intervals.

**Figure A2: Treatment Effects of Pandemic Framing**



Note: Figure plots treatment effects of the pandemic framing on the five organizational constraints variables shown on the vertical axis. Solid dots are the point estimates. Ranges are 95 percent confidence intervals.

## A2. Supplementary Tables

**Table A1:** Sample Coverage

|               | Code | Round 1 | Round 2 | Round 3 | Total |
|---------------|------|---------|---------|---------|-------|
| Argentina     | ARG  | 103     | 63      | 53      | 219   |
| Bolivia       | BOL  | 32      | 18      | 8       | 58    |
| Brazil        | BRA  | –       | 46      | 16      | 62    |
| Chile         | CHL  | 35      | 13      | 16      | 64    |
| Colombia      | COL  | 110     | 67      | 71      | 248   |
| Costa Rica    | CRI  | 56      | 23      | 18      | 97    |
| Dominican Rep | DOM  | 39      | 23      | 17      | 79    |
| Ecuador       | ECU  | 89      | 32      | 28      | 149   |
| El Salvador   | SLV  | 23      | 14      | 9       | 46    |
| Guatemala     | GTM  | 31      | 17      | 12      | 60    |
| Honduras      | HND  | 24      | 16      | 13      | 53    |
| Mexico        | MEX  | 170     | 95      | 100     | 365   |
| Nicaragua     | NIC  | 16      | 4       | 5       | 25    |
| Panama        | PAN  | 23      | 21      | 9       | 53    |
| Paraguay      | PRY  | 38      | 29      | 16      | 83    |
| Peru          | PER  | 341     | 164     | 193     | 698   |
| Uruguay       | URY  | 25      | 19      | 15      | 59    |
| Venezuela     | VEN  | 14      | 12      | 5       | 31    |
| Obs           | 18   | 1,169   | 676     | 604     | 2,449 |

Note: The table reports sample size by country and survey round. Tabulation based on the full sample collected for the IDB Public Sector Survey in June 2020. The survey was launched in Portuguese after Round 1 was completed, hence the missing sample size for Brazil in Round 1.

**Table A2:** Comparison with Household Surveys

| Code | IDB Public Sector Survey |               |             |            | National Household Survey |               |             |            |
|------|--------------------------|---------------|-------------|------------|---------------------------|---------------|-------------|------------|
|      | Obs                      | <i>Female</i> | <i>Educ</i> | <i>Age</i> | Obs                       | <i>Female</i> | <i>Educ</i> | <i>Age</i> |
| ARG  | 8,504                    | 0.538         | 13.47       | 43.46      | 219                       | 0.545         | 17.25       | 45.64      |
| BOL  | —                        | —             | —           | —          | 58                        | 0.315         | 17.54       | 42.38      |
| BRA  | 20,620                   | 0.581         | 14.34       | 43.04      | 62                        | 0.492         | 18.55       | 47.48      |
| CHL  | 11,769                   | 0.597         | 14.78       | 42.59      | 64                        | 0.438         | 17.74       | 44.53      |
| COL  | 4,315                    | 0.495         | 15.61       | 45.66      | 248                       | 0.470         | 17.71       | 44.90      |
| CRI  | —                        | —             | —           | —          | 97                        | 0.543         | 17.47       | 43.48      |
| DOM  | 1,013                    | 0.534         | 11.84       | 43.93      | 79                        | 0.539         | 17.74       | 46.86      |
| ECU  | 1,147                    | 0.480         | 15.21       | 42.77      | 149                       | 0.350         | 17.44       | 43.72      |
| GTM  | 640                      | 0.453         | 12.30       | 38.26      | 60                        | 0.263         | 17.29       | 47.43      |
| HND  | 661                      | 0.587         | 12.39       | 41.09      | 53                        | 0.460         | 17.45       | 43.58      |
| MEX  | 12,405                   | 0.492         | 14.14       | 41.23      | 365                       | 0.376         | 17.70       | 44.24      |
| NIC  | —                        | —             | —           | —          | 25                        | 0.417         | 17.52       | 45.43      |
| PAN  | 2,976                    | 0.526         | 14.18       | 44.81      | 53                        | 0.566         | 17.68       | 49.71      |
| PER  | 5,494                    | 0.501         | 14.53       | 45.64      | 698                       | 0.389         | 17.75       | 47.19      |
| PRY  | 820                      | 0.521         | 15.05       | 41.32      | 83                        | 0.625         | 17.68       | 43.91      |
| SLV  | 1,198                    | 0.392         | 12.95       | 42.80      | 46                        | 0.511         | 17.43       | 41.12      |
| URY  | 11,515                   | 0.579         | 13.26       | 44.48      | 59                        | 0.630         | 16.83       | 44.24      |
| VEN  | 3,439                    | 0.547         | 12.80       | 41.48      | 31                        | 0.533         | 17.83       | 51.48      |

Note: Table displays means of *Female*, *Education* and *Age* in our survey and national household surveys, where sample was restricted to individuals working in the public sector. The national household surveys used are as follows: ARG - EPHC 2020, BRA - PNADC 2020, CHL - CASEN 2020, COL - GEIH 2020, DOM - ENCFT 2020, ECU - ENEMDU 2020, GTM - ENEI 2019, HND - EPHPM 2019, MEX - ENIGH 2020, PAN - EHPM 2019, PER - ENAHO 2020, PRY - EPHC 2020, SLV - EHPM 2020, URY - ECH 2020, VEN - ENCOVI 2020. BOL, CRI, NIC did not issue household surveys in 2019 or 2020.



**Table A3:** Covariate Balance Tests

|                        | Experiment I |         |        | Experiment II |         |        |
|------------------------|--------------|---------|--------|---------------|---------|--------|
|                        | Treatment    | Control | p-val  | Treatment     | Control | p-val  |
| <i>Trust Coworkers</i> | 3.37         | 3.32    | 0.228  | 3.36          | 3.34    | 0.683  |
| <i>Trust Publ Empl</i> | 2.78         | 2.80    | 0.686  | 2.80          | 2.80    | 0.996  |
| <i>Trust Citizens</i>  | 3.15         | 3.18    | 0.529  | 3.17          | 3.18    | 0.737  |
| <i>Collaboration</i>   | 2.36         | 2.45    | 0.430  | 2.49          | 2.33    | 0.166  |
| <i>Information</i>     | 3.37         | 3.33    | 0.277  | 3.35          | 3.36    | 0.750  |
| <i>Digitalization</i>  | 4.47         | 4.48    | 0.840  | 4.47          | 4.49    | 0.376  |
| <i>Effectiveness</i>   | 3.26         | 3.25    | 0.931  | 3.22          | 3.29    | 0.085* |
| <i>Female</i>          | 0.43         | 0.44    | 0.410  | 0.45          | 0.42    | 0.296  |
| <i>Education</i>       | 5.81         | 5.81    | 0.978  | 5.81          | 5.81    | 0.889  |
| <i>Age Group</i>       | 3.15         | 3.06    | 0.051* | 3.12          | 3.09    | 0.462  |
| <i>Gov Level</i>       | 1.59         | 1.63    | 0.143  | 1.60          | 1.62    | 0.515  |
| <i>Position</i>        | 2.91         | 2.87    | 0.426  | 2.84          | 2.92    | 0.110  |
| <i>Mission</i>         | 2.45         | 2.42    | 0.441  | 2.44          | 2.42    | 0.693  |
| <i>Experience</i>      | 13.62        | 13.22   | 0.294  | 13.73         | 13.10   | 0.101  |
| <i>Current</i>         | 0.84         | 0.87    | 0.081* | 0.85          | 0.87    | 0.287  |

Note: Table reports for each experiment the means of the variables listed in the first column, for treatment and comparison groups, followed by the p-value of the t-test for mean equality, assuming equal variances. Treatment in Experiment I is pandemic framing, control is pre-pandemic framing. Treatment in Experiment II is low framing, control is high framing. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A4:** Organizational Constraints: Pandemic Framing Interactions

| Dep Var:                             | <i>Ltd</i>      | <i>Lack</i>        | <i>Lack</i>        | <i>Low</i>        | <i>Inadeq</i>     |
|--------------------------------------|-----------------|--------------------|--------------------|-------------------|-------------------|
|                                      | <i>Discr</i>    | <i>Coop</i>        | <i>Staff</i>       | <i>Qual</i>       | <i>IT</i>         |
| <i>Tr Coworkers</i>                  | -.028<br>(.017) | -.045***<br>(.013) | .010<br>(.021)     | -.036*<br>(.019)  | -.018<br>(.017)   |
| <i>Tr Publ Empl</i>                  | -.012<br>(.016) | -.000<br>(.018)    | .033**<br>(.015)   | -.006<br>(.018)   | .010<br>(.014)    |
| <i>Tr Citizens</i>                   | .006<br>(.015)  | -.018<br>(.017)    | -.032*<br>(.016)   | -.015<br>(.014)   | .011<br>(.017)    |
| <i>Pand Fr</i>                       | .025<br>(.022)  | -.026<br>(.024)    | .006<br>(.019)     | -.051**<br>(.024) | .061***<br>(.022) |
| <i>Tr Coworkers</i> × <i>Pand Fr</i> | .009<br>(.026)  | .000<br>(.014)     | .030<br>(.028)     | .005<br>(.028)    | .007<br>(.031)    |
| <i>Tr Publ Empl</i> × <i>Pand Fr</i> | -.033<br>(.026) | -.046<br>(.031)    | -.058***<br>(.019) | .014<br>(.026)    | -.006<br>(.023)   |
| <i>Tr Citizens</i> × <i>Pand Fr</i>  | .035<br>(.025)  | .027<br>(.026)     | .035<br>(.021)     | .021<br>(.021)    | -.003<br>(.023)   |
| Covariates                           | yes             | yes                | yes                | yes               | yes               |
| Fixed Effs                           | yes             | yes                | yes                | yes               | yes               |
| Obs                                  | 2,213           | 2,213              | 2,213              | 2,213             | 2,213             |

Note: Sample consists of 18 countries and 130 country-round-levels. Covariates and fixed effects as above. Standard errors in parentheses clustered at the country-round-government level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A5:** Alternative Fixed Effects: OLS Estimates

| Dep Var:               | <i>Values</i>     | <i>Shares</i>     | <i>Supports</i>   | <i>Mission</i>    | <i>Strict</i>      |
|------------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
|                        | <i>Collabor</i>   | <i>Informat</i>   | <i>Digitaliz</i>  | <i>Effectiv</i>   | <i>Enforcem</i>    |
| <i>Trust Coworkers</i> | .116***<br>(.011) | .043***<br>(.013) | .034***<br>(.011) | .130***<br>(.010) | -.004<br>(.012)    |
| <i>Trust Publ Empl</i> | .070***<br>(.014) | .019<br>(.014)    | -.002<br>(.013)   | .033***<br>(.012) | .026**<br>(.012)   |
| <i>Trust Citizens</i>  | .000<br>(.011)    | .027*<br>(.015)   | .020*<br>(.011)   | -.010<br>(.010)   | -.035***<br>(.012) |
| <i>Low Framing</i>     | -                 | -                 | -                 | -                 | .008<br>(.022)     |
| Covariates             | yes               | yes               | yes               | yes               | yes                |
| Fixed Effects          | yes               | yes               | yes               | yes               | yes                |
| Obs                    | 2,234             | 2,233             | 2,233             | 2,222             | 2,196              |

Note: Sample consists of 18 countries and 130 country-round-levels. Covariates are indicators for *Female*, *Education*, *Age Group*, *Gov Level*. Fixed effects are country by round by government level (national, state, local). Standard errors in parentheses clustered at the country-round-government level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A6:** Alternative Fixed Effects: OLS Estimates

| Dep Var:                | <i>Ltd</i>        | <i>Lack</i>        | <i>Lack</i>     | <i>Low</i>         | <i>Inadeq</i>     |
|-------------------------|-------------------|--------------------|-----------------|--------------------|-------------------|
|                         | <i>Discr</i>      | <i>Coop</i>        | <i>Staff</i>    | <i>Qual</i>        | <i>IT</i>         |
| <i>Trust Coworkers</i>  | -.027**<br>(.012) | -.047***<br>(.012) | .024*<br>(.013) | -.032***<br>(.010) | -.014<br>(.010)   |
| <i>Trust Publ Empl</i>  | -.027*<br>(.015)  | -.019<br>(.013)    | .005<br>(.015)  | .002<br>(.014)     | .008<br>(.011)    |
| <i>Trust Citizens</i>   | .022*<br>(.013)   | -.006<br>(.012)    | -.014<br>(.011) | -.008<br>(.014)    | .005<br>(.013)    |
| <i>Pandemic Framing</i> | .029<br>(.020)    | -.023<br>(.020)    | -.001<br>(.020) | -.049**<br>(.020)  | .063***<br>(.024) |
| Covariates              | yes               | yes                | yes             | yes                | yes               |
| Fixed Effects           | yes               | yes                | yes             | yes                | yes               |
| Obs                     | 2,196             | 2,196              | 2,196           | 2,196              | 2,196             |

Note: Sample consists of 18 countries and 130 country-round-levels. Covariates and fixed effects as above. Standard errors in parentheses clustered at the country-round-government level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A7:** Reduced Form Estimates

| Dep Var:              | <i>Values</i>     | <i>Shares</i>     | <i>Supports</i>   | <i>Mission</i>    | <i>Strict</i>      |
|-----------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
|                       | <i>Collabor</i>   | <i>Informat</i>   | <i>Digitaliz</i>  | <i>Effectiv</i>   | <i>Enforcem</i>    |
| <i>Instrument</i>     | .033**<br>(.012)  | .032***<br>(.011) | .022**<br>(.009)  | .067***<br>(.015) | -.059***<br>(.014) |
| <i>Trust Citizens</i> | .068***<br>(.009) | .051***<br>(.013) | .033***<br>(.011) | .055***<br>(.012) | -.027**<br>(.011)  |
| <i>Low Framing</i>    | —                 | —                 | —                 | —                 | .005<br>(.021)     |
| Covars Individ        | yes               | yes               | yes               | yes               | yes                |
| Covars Country        | no                | no                | no                | no                | no                 |
| Obs                   | 2,252             | 2,251             | 2,251             | 2,240             | 2,213              |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates Individ are indicators for *Female*, *Education*, *Age Group*, *Gov Level*. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A8:** Reduced Form Estimates

| Dep Var:                | <i>Ltd</i>        | <i>Lack</i>       | <i>Lack</i>     | <i>Low</i>        | <i>Inadeq</i>     |
|-------------------------|-------------------|-------------------|-----------------|-------------------|-------------------|
|                         | <i>Discr</i>      | <i>Coop</i>       | <i>Staff</i>    | <i>Qual</i>       | <i>IT</i>         |
| <i>Instrument</i>       | -.023**<br>(.010) | -.005<br>(.012)   | -.017<br>(.012) | -.013<br>(.011)   | -.019<br>(.012)   |
| <i>Trust Citizens</i>   | .003<br>(.009)    | -.029**<br>(.012) | -.005<br>(.008) | -.019*<br>(.011)  | .007<br>(.011)    |
| <i>Pandemic Framing</i> | .026<br>(.023)    | -.024<br>(.024)   | .005<br>(.018)  | -.052**<br>(.023) | .062***<br>(.022) |
| Covars Individ          | yes               | yes               | yes             | yes               | yes               |
| Covars Country          | no                | no                | no              | no                | no                |
| Obs                     | 2,213             | 2,213             | 2,213           | 2,213             | 2,213             |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates Individ are indicators for *Female*, *Education*, *Age Group*, *Gov Level*. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A9: Probit IV**

| Dep Var:               | <i>Values</i>     | <i>Shares</i>     | <i>Supports</i>  | <i>Mission</i>     | <i>Strict</i>      |
|------------------------|-------------------|-------------------|------------------|--------------------|--------------------|
|                        | <i>Collabor</i>   | <i>Informat</i>   | <i>Digitaliz</i> | <i>Effectiv</i>    | <i>Enforcem</i>    |
| <i>Trust Publ Sect</i> | .614***<br>(.202) | .547***<br>(.192) | .386**<br>(.174) | 1.016***<br>(.143) | -.783***<br>(.131) |
| <i>Trust Citizens</i>  | -.102<br>(.101)   | -.130<br>(.115)   | -.097<br>(.088)  | -.353***<br>(.095) | .316***<br>(.081)  |
| <i>Low Framing</i>     | –                 | –                 | –                | –                  | -.001<br>(.044)    |
| Covars Individ         | yes               | yes               | yes              | yes                | yes                |
| Covars Country         | no                | no                | no               | no                 | no                 |
| Obs                    | 2,251             | 2,250             | 2,250            | 2,239              | 2,212              |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates Individ are indicators for *Female*, *Education*, *Age Group*, *Gov Level*. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A10: Probit IV**

| Dep Var:                | <i>Ltd</i>         | <i>Lack</i>     | <i>Lack</i>     | <i>Low</i>        | <i>Inadeq</i>    |
|-------------------------|--------------------|-----------------|-----------------|-------------------|------------------|
|                         | <i>Discr</i>       | <i>Coop</i>     | <i>Staff</i>    | <i>Qual</i>       | <i>IT</i>        |
| <i>Trust Publ Sect</i>  | -.427***<br>(.139) | -.103<br>(.227) | -.332<br>(.211) | -.256<br>(.199)   | -.370<br>(.239)  |
| <i>Trust Citizens</i>   | .207***<br>(.070)  | -.032<br>(.117) | .143<br>(.104)  | .068<br>(.105)    | .190<br>(.118)   |
| <i>Pandemic Framing</i> | .056<br>(.057)     | -.070<br>(.067) | .007<br>(.052)  | -.146**<br>(.065) | .156**<br>(.064) |
| Covars Individ          | yes                | yes             | yes             | yes               | yes              |
| Covars Country          | no                 | no              | no              | no                | no               |
| Obs                     | 2,212              | 2,212           | 2,212           | 2,212             | 2,212            |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates Individ are indicators for *Female*, *Education*, *Age Group*, *Gov Level*. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A11:** Current Employees: OLS Estimates

| Dep Var:               | <i>Values</i>     | <i>Shares</i>     | <i>Supports</i>  | <i>Mission</i>    | <i>Strict</i>      |
|------------------------|-------------------|-------------------|------------------|-------------------|--------------------|
|                        | <i>Collabor</i>   | <i>Informat</i>   | <i>Digitaliz</i> | <i>Effectiv</i>   | <i>Enforcem</i>    |
| <i>Trust Coworkers</i> | .120***<br>(.013) | .048***<br>(.015) | .032**<br>(.014) | .141***<br>(.011) | -.002<br>(.013)    |
| <i>Trust Publ Empl</i> | .068***<br>(.013) | .024<br>(.015)    | .000<br>(.016)   | .029**<br>(.011)  | .022*<br>(.012)    |
| <i>Trust Citizens</i>  | .001<br>(.011)    | .032*<br>(.019)   | .028**<br>(.013) | -.005<br>(.010)   | -.036***<br>(.011) |
| <i>Low Framing</i>     | –                 | –                 | –                | –                 | -.009<br>(.021)    |
| Covariates             | yes               | yes               | yes              | yes               | yes                |
| Fixed Effects          | yes               | yes               | yes              | yes               | yes                |
| Obs                    | 1,928             | 1,927             | 1,927            | 1,919             | 1,901              |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates are indicators for *Female*, *Education*, *Age Group*, *Gov Level*. Fixed effects are country by round. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A12:** Current Employees: OLS Estimates

| Dep Var:                | <i>Ltd</i>        | <i>Lack</i>        | <i>Lack</i>       | <i>Low</i>         | <i>Inadeq</i>    |
|-------------------------|-------------------|--------------------|-------------------|--------------------|------------------|
|                         | <i>Discr</i>      | <i>Coop</i>        | <i>Staff</i>      | <i>Qual</i>        | <i>IT</i>        |
| <i>Trust Coworkers</i>  | -.026**<br>(.011) | -.042***<br>(.012) | .026***<br>(.010) | -.035***<br>(.012) | -.012<br>(.011)  |
| <i>Trust Publ Empl</i>  | -.027**<br>(.013) | -.022<br>(.017)    | .007<br>(.013)    | .004<br>(.013)     | .009<br>(.011)   |
| <i>Trust Citizens</i>   | .018<br>(.012)    | -.010<br>(.012)    | -.022*<br>(.012)  | -.010<br>(.013)    | .007<br>(.012)   |
| <i>Pandemic Framing</i> | .032<br>(.025)    | -.015<br>(.023)    | .010<br>(.020)    | -.038<br>(.024)    | .061**<br>(.024) |
| Covariates              | yes               | yes                | yes               | yes                | yes              |
| Fixed Effects           | yes               | yes                | yes               | yes                | yes              |
| Obs                     | 1,901             | 1,901              | 1,901             | 1,901              | 1,901            |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates and fixed effects as above. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A13:** Current Employees: 2SLS Estimates

| Dep Var:               | <i>Values</i>     | <i>Shares</i>    | <i>Supports</i>  | <i>Mission</i>    | <i>Strict</i>      |
|------------------------|-------------------|------------------|------------------|-------------------|--------------------|
|                        | <i>Collabor</i>   | <i>Informat</i>  | <i>Digitaliz</i> | <i>Effectiv</i>   | <i>Enforcem</i>    |
| <i>Trust Publ Sect</i> | .222***<br>(.083) | .203**<br>(.097) | .128<br>(.085)   | .417***<br>(.141) | -.389***<br>(.139) |
| <i>Trust Citizens</i>  | -.035<br>(.038)   | -.035<br>(.053)  | -.020<br>(.039)  | -.132*<br>(.070)  | .157**<br>(.072)   |
| <i>Low Framing</i>     | —                 | —                | —                | —                 | -.016<br>(.026)    |
| F-Stat                 | 23.75             | 23.93            | 23.93            | 23.67             | 24.28              |
| Covars Individ         | yes               | yes              | yes              | yes               | yes                |
| Covars Country         | no                | no               | no               | no                | no                 |
| Obs                    | 1,928             | 1,927            | 1,927            | 1,919             | 1,901              |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates Individ are indicators for *Female, Education, Age Group, Gov Level*. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A14:** Current Employees: 2SLS Estimates

| Dep Var:                | <i>Ltd</i>         | <i>Lack</i>     | <i>Lack</i>     | <i>Low</i>       | <i>Inadeq</i>    |
|-------------------------|--------------------|-----------------|-----------------|------------------|------------------|
|                         | <i>Discr</i>       | <i>Coop</i>     | <i>Staff</i>    | <i>Qual</i>      | <i>IT</i>        |
| <i>Trust Publ Sect</i>  | -.179***<br>(.052) | -.012<br>(.083) | -.134<br>(.087) | -.057<br>(.075)  | -.126<br>(.101)  |
| <i>Trust Citizens</i>   | .081***<br>(.027)  | -.028<br>(.044) | .052<br>(.042)  | .002<br>(.039)   | .064<br>(.051)   |
| <i>Pandemic Framing</i> | .027<br>(.025)     | -.015<br>(.023) | .002<br>(.021)  | -.040*<br>(.024) | .053**<br>(.026) |
| F-Stat                  | 24.11              | 24.11           | 24.11           | 24.11            | 24.11            |
| Covars Individ          | yes                | yes             | yes             | yes              | yes              |
| Covars Country          | no                 | no              | no              | no               | no               |
| Obs                     | 1,901              | 1,901           | 1,901           | 1,901            | 1,901            |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates Individ are indicators for *Female, Education, Age Group, Gov Level*. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A15: First-Stage Estimates**

| Dep Var:              | <i>Trust Publ Sect</i> |                   |                   |                   |
|-----------------------|------------------------|-------------------|-------------------|-------------------|
|                       | (1)                    | (2)               | (3)               | (4)               |
| <i>Instrum LAPOP</i>  | .199***<br>(.024)      | .203***<br>(.024) | .147***<br>(.025) | .092***<br>(.026) |
| <i>Trust Citizens</i> | –                      | –                 | .459***<br>(.018) | .457***<br>(.016) |
| F-Stat                | 65.97                  | 69.99             | 33.13             | 13.12             |
| Covars Individ        | no                     | yes               | yes               | yes               |
| Covars Country        | no                     | no                | no                | yes               |
| Obs                   | 2,239                  | 2,230             | 2,227             | 2,227             |

Note: Sample consists of 17 countries and 50 country-rounds. Covariates Individ are indicators for *Female, Education, Age Group, Gov Level*. Covariates Country are *Merit System, Gov Effectiveness, Rule of Law, Control Corruption*. *Trust Publ Sect* instrumented with *Instrum LAPOP* defined as average interpersonal trust of the respondent’s social group, based on nationality, gender, and education, using LAPOP Americas Barometer 2018-19 data from 17 countries. Standard errors in parentheses clustered at the country-round level. \*\*\* p <0.01, \*\* p <0.05, \* p <0.10.

**Table A16: Instrument Correlations**

|                      | <i>Trust Coworkers</i> | <i>Trust Publ Empl</i> | <i>Trust Citizens</i> |
|----------------------|------------------------|------------------------|-----------------------|
| <i>Instrum LAPOP</i> | 0.141                  | 0.192                  | 0.121                 |
| Obs                  | 2,239                  | 2,239                  | 2,236                 |

Note: Sample consists of 17 countries and 50 country-rounds. Table shows unadjusted pairwise correlations between instrumental variable and trust variables. *Instrum LAPOP* is average interpersonal trust of the respondent’s social group, based on nationality, gender, and education, using LAPOP Americas Barometer 2018-19 data from 17 countries.



**Table A17:** Alternative Instrument Data: 2SLS Estimates

| Dep Var:               | <i>Values</i>    | <i>Shares</i>     | <i>Supports</i>  | <i>Mission</i>     | <i>Strict</i>   |
|------------------------|------------------|-------------------|------------------|--------------------|-----------------|
|                        | <i>Collabor</i>  | <i>Informat</i>   | <i>Digitaliz</i> | <i>Effectiv</i>    | <i>Enforcem</i> |
| <i>Trust Publ Sect</i> | .186**<br>(.078) | .190***<br>(.060) | .073<br>(.065)   | .451***<br>(.093)  | -.036<br>(.111) |
| <i>Trust Citizens</i>  | -.019<br>(.037)  | -.039<br>(.034)   | -.001<br>(.032)  | -.154***<br>(.048) | -.014<br>(.052) |
| <i>Low Framing</i>     | –                | –                 | –                | –                  | .005<br>(.020)  |
| F-Stat                 | 32.22            | 32.61             | 32.61            | 32.06              | 33.20           |
| Covars Individ         | yes              | yes               | yes              | yes                | yes             |
| Covars Country         | no               | no                | no               | no                 | no              |
| Obs                    | 2,223            | 2,222             | 2,222            | 2,211              | 2,184           |

Note: Sample consists of 17 countries and 50 country-rounds. Covariates Individ are indicators for *Female, Education, Age Group, Gov Level*. *Trust Publ Sect* instrumented with *Instrum LAPOP* defined as average interpersonal trust of the respondent's social group, based on nationality, gender, and education, using LAPOP Americas Barometer 2018-19 data from 17 countries. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A18:** Alternative Instrument Data: 2SLS Estimates

| Dep Var:                | <i>Ltd</i>      | <i>Lack</i>     | <i>Lack</i>     | <i>Low</i>        | <i>Inadeq</i>     |
|-------------------------|-----------------|-----------------|-----------------|-------------------|-------------------|
|                         | <i>Discr</i>    | <i>Coop</i>     | <i>Staff</i>    | <i>Qual</i>       | <i>IT</i>         |
| <i>Trust Publ Sect</i>  | -.042<br>(.062) | .017<br>(.074)  | -.074<br>(.071) | -.130*<br>(.071)  | -.032<br>(.086)   |
| <i>Trust Citizens</i>   | .022<br>(.031)  | -.037<br>(.041) | .029<br>(.035)  | .044<br>(.038)    | .022<br>(.045)    |
| <i>Pandemic Framing</i> | .025<br>(.023)  | -.023<br>(.025) | .002<br>(.019)  | -.056**<br>(.024) | .061***<br>(.021) |
| F-Stat                  | 33.20           | 33.20           | 33.20           | 33.20             | 33.20             |
| Covars Individ          | yes             | yes             | yes             | yes               | yes               |
| Covars Country          | no              | no              | no              | no                | no                |
| Obs                     | 2,184           | 2,184           | 2,184           | 2,184             | 2,184             |

Note: Sample consists of 17 countries and 50 country-rounds. Covariates and instrument definitions as above. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A19:** First-Stage Estimates

| Dep Var:              | <i>Trust Publ Sect</i> |                   |                   |                   |
|-----------------------|------------------------|-------------------|-------------------|-------------------|
|                       | (1)                    | (2)               | (3)               | (4)               |
| <i>Instrum Neighb</i> | .142***<br>(.032)      | .146***<br>(.032) | .103***<br>(.025) | .079**<br>(.035)  |
| <i>Trust Citizens</i> | –                      | –                 | .469***<br>(.019) | .459***<br>(.016) |
| F-Stat                | 19.92                  | 20.78             | 16.63             | 5.12              |
| Covariates            | no                     | no                | yes               | yes               |
| Fixed Effects         | no                     | yes               | no                | yes               |
| Obs                   | 2,213                  | 2,213             | 2,211             | 2,211             |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates are indicators for *Female*, *Education*, *Age Group*, *Gov Level*. Fixed effects are at the country level. *Instrum Neighb* defined as average trust in the public sector by the respondent's professional group in the neighboring sub-region based on position and experience. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A20:** Instrument Correlations

|                       | <i>Trust Coworkers</i> | <i>Trust Publ Empl</i> | <i>Trust Citizens</i> |
|-----------------------|------------------------|------------------------|-----------------------|
| <i>Instrum Neighb</i> | 0.080                  | 0.148                  | 0.078                 |
| Obs                   | 2,213                  | 2,213                  | 2,213                 |

Note: Sample consists of 18 countries and 53 country-rounds. Table shows unadjusted pairwise correlations between instrumental variable and trust variables. *Instrum Neighb* defined as average trust in the public sector by the respondent's professional group in the neighboring region based on position and experience.

**Table A21:** Alternative IV Strategy: Fixed Effects

| Dep Var:               | <i>Values</i>     | <i>Shares</i>     | <i>Supports</i>   | <i>Agency</i>   | <i>Strict</i>   |
|------------------------|-------------------|-------------------|-------------------|-----------------|-----------------|
|                        | <i>Collabor</i>   | <i>Informat</i>   | <i>Digitaliz</i>  | <i>Effectiv</i> | <i>Enforcem</i> |
| <i>Trust Publ Sect</i> | .410***<br>(.147) | .822***<br>(.225) | .461***<br>(.155) | -.001<br>(.117) | .171<br>(.127)  |
| <i>Low Framing</i>     | –                 | –                 | –                 | –               | .002<br>(.021)  |
| F-Stat                 | 20.78             | 20.78             | 20.78             | 20.78           | 20.85           |
| Covariates             | no                | no                | no                | no              | no              |
| Fixed Effects          | yes               | yes               | yes               | yes             | yes             |
| Obs                    | 2,213             | 2,213             | 2,213             | 2,213           | 2,213           |

Note: Sample consists of 18 countries and 53 country-rounds. Fixed effects at the country level. *Trust Publ Sect* instrumented with *Instrum Neighb* defined as average trust in the public sector by the respondent's professional group in the neighboring region based on position and experience. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A22:** Alternative IV Strategy: Fixed Effects

| Dep Var:                | <i>Ltd</i>     | <i>Lack</i>     | <i>Lack</i>    | <i>Low</i>        | <i>Inadeq</i>     |
|-------------------------|----------------|-----------------|----------------|-------------------|-------------------|
|                         | <i>Discr</i>   | <i>Coop</i>     | <i>Staff</i>   | <i>Qual</i>       | <i>IT</i>         |
| <i>Trust Publ Sect</i>  | .209<br>(.145) | .061<br>(.140)  | .059<br>(.107) | .201<br>(.149)    | .315**<br>(.147)  |
| <i>Pandemic Framing</i> | .030<br>(.024) | -.020<br>(.024) | .009<br>(.019) | -.048**<br>(.023) | .066***<br>(.020) |
| F-Stat                  | 20.84          | 20.84           | 20.84          | 20.84             | 20.84             |
| Covariates              | no             | no              | no             | no                | no                |
| Fixed Effects           | yes            | yes             | yes            | yes               | yes               |
| Obs                     | 2,213          | 2,213           | 2,213          | 2,213             | 2,213             |

Note: Sample consists of 18 countries and 53 country-rounds. Fixed effects at the country level. *Trust Publ Sect* instrumented with *Instrum Neighb* defined as average trust in the public sector by the respondent's professional group in the neighboring region based on position and experience. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A23:** Alternative IV Strategy: Covariates

| Dep Var:               | <i>Values</i>    | <i>Shares</i>      | <i>Supports</i>  | <i>Mission</i>   | <i>Strict</i>    |
|------------------------|------------------|--------------------|------------------|------------------|------------------|
|                        | <i>Collabor</i>  | <i>Informat</i>    | <i>Digitaliz</i> | <i>Effectiv</i>  | <i>Enforcem</i>  |
| <i>Trust Publ Sect</i> | .275**<br>(.125) | .563***<br>(.149)  | .222*<br>(.119)  | .299**<br>(.142) | -.274*<br>(.140) |
| <i>Trust Citizens</i>  | -.062<br>(.063)  | -.216***<br>(.072) | -.071<br>(.057)  | -.083<br>(.067)  | .099<br>(.067)   |
| <i>Low Framing</i>     | —                | —                  | —                | —                | .001<br>(.021)   |
| F-Stat                 | 16.63            | 16.63              | 16.63            | 16.63            | 16.64            |
| Covariates             | yes              | yes                | yes              | yes              | yes              |
| Fixed Effects          | no               | no                 | no               | no               | no               |
| Obs                    | 2,211            | 2,211              | 2,211            | 2,211            | 2,211            |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates Individ are indicators for *Female, Education, Age Group, Gov Level*. *Trust Publ Sect* instrumented with *Instrum Neighb* defined as average trust in the public sector by the respondent's professional group in the neighboring region based on position and experience. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

**Table A24:** Alternative IV Strategy: Covariates

| Dep Var:                | <i>Ltd</i>      | <i>Lack</i>     | <i>Lack</i>     | <i>Low</i>        | <i>Inadeq</i>     |
|-------------------------|-----------------|-----------------|-----------------|-------------------|-------------------|
|                         | <i>Discr</i>    | <i>Coop</i>     | <i>Staff</i>    | <i>Qual</i>       | <i>IT</i>         |
| <i>Trust Publ Sect</i>  | -.070<br>(.081) | .048<br>(.099)  | -.105<br>(.103) | .076<br>(.120)    | -.044<br>(.110)   |
| <i>Trust Citizens</i>   | .035<br>(.039)  | -.052<br>(.049) | .044<br>(.049)  | -.056<br>(.060)   | .026<br>(.054)    |
| <i>Pandemic Framing</i> | .025<br>(.022)  | -.022<br>(.024) | .003<br>(.019)  | -.049**<br>(.022) | .060***<br>(.022) |
| F-Stat                  | 16.57           | 16.57           | 16.57           | 16.57             | 16.57             |
| Covariates              | yes             | yes             | yes             | yes               | yes               |
| Fixed Effects           | no              | no              | no              | no                | no                |
| Obs                     | 2,213           | 2,213           | 2,213           | 2,213             | 2,213             |

Note: Sample consists of 18 countries and 53 country-rounds. Covariates and instrument defined as above. Standard errors in parentheses clustered at the country-round level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

### A3. Variable Definitions and Sources

(a) Individual-Level Variables. *Source:* IDB Public Sector Survey 2020.

The variables appear in the order of Table 1 of summary statistics.

**Trust Coworkers:** Categorical variable measuring public employee’s agreement with the statement “Most coworkers in my government agency can be trusted”. Low values represent mistrust, and high values represent trust in coworkers. *Scale:* 1,2,...,5.

**Trust Publ Empl:** Categorical variable measuring public employee’s agreement with the statement “Most public sector employees can be trusted”. Low values represent mistrust, and high values represent trust in public sector employees. *Scale:* 1,2,...,5.

**Trust Citizens:** Categorical variable measuring public employee’s agreement with the statement “Most citizens in my country can be trusted”. Low values represent mistrust, and high values represent trust in citizens. *Scale:* 1,2,...,5.

**Collaboration:** Categorical variable measuring how collaboration with colleagues (team projects, shared tasks, meetings, etc.) influence the respondent’s ability to do their job well. Negative values represent a negative influence, and positive values a positive influence. *Scale:* -5,-4,...,5.

**Information:** Categorical variable measuring how much the public employee’s relies on information obtained from coworkers. The lowest value represents very little, the highest value represents very much. *Scale:* 1,2,...,4.

**Digitalization:** Categorical variable measuring the public employee’s support for expanding the online provision of public services to citizens. Low values represent low support, and high values represent high support. *Scale:* 1,2,...,5.

**Discretion:** Categorical variable that captures if low discretion to innovate is perceived a work constraint more salient than budget by the respondent. Low values represent low discretion as less salient than budget, and high values represent more salient than budget. *Scale:* 1,2,...,5.

**Cooperation:** Categorical variable that captures if lack of cooperation is perceived a work constraint more salient than budget by the respondent. Low values represent lack of cooperation as less salient than budget, and high values represent more salient than budget. *Scale:* 1,2,...,5.

**Staff:** Categorical variable that captures if lack of staff is perceived a work constraint more salient than budget by the respondent. Low values represent lack of staff as less salient than budget, and high values represent more salient than budget. *Scale:* 1,2,...,5.

**Quality:** Categorical variable that captures if low professional quality is perceived a work constraint more salient than budget by the respondent. Low values represent low professional quality as less salient than budget, and high values represent more salient than budget. *Scale:* 1,2,...,5.

**IT Resources:** Categorical variable that captures if inadequate IT is perceived a work constraint more salient than budget by the respondent. Low values represent inadequate IT as less salient than budget, and high values represent more salient than budget. *Scale:* 1,2,...,5.

**Effectiveness:** Categorical variable measuring the public employee's perceived agency effectiveness in accomplishing its mission during 2019. Low values represent low agency effectiveness, and high values represent high effectiveness. *Scale:* 1,2,...,5.

**Enforcement:** Categorical variable showing public employee's preference for increase the enforcement level of social distancing policies. Low values represent no enforcement necessary, high values represent strict enforcement necessary. *Scale:* 0,1,...,10.

**Pandemic Framing:** Indicator variable that takes the value one if the public employee was randomly assigned the pandemic framing, as opposed to the pre-pandemic framing, zero otherwise. *Scale:* 0,1.

**Low Framing:** Indicator variable that takes the value one if the public employee was randomly assigned the low social distancing framing, as opposed to the high social distancing framing, zero otherwise. *Scale:* 0,1.

**Female:** Indicator variable that takes the value one if the public employee reports being a female, zero otherwise. *Scale:* 0,1.

**Education:** Categorical variable that arranges public employees reported education level into seven categories: none, primary, secondary, technical, undergraduate, master or doctorate. *Scale:* 1,2,3,...,7.

**Age Group:** Categorical variable classifying the age reported by the public employee: 1[18-29], 2[30-39], 3[40-49], 4[50-59], 5[60-80]. *Scale:* 1,2,...,5.

**Gov Level:** Categorical variable for the public employee's agency level in three categories: national, state or local. *Scale:* 1,2,3.

**Position:** Categorical variable that arranges public employee's position inside agency into six categories: executive, managerial, professional, administrative, technical, support. *Scale:* 1,2,...,6.

**Mission:** Categorical variable classifying the public employee agency's reported mission into three categories: oversee citizens compliance, manage transfer programs, provide public

goods. *Scale:* 1,2,3.

**Experience:** Variable that groups reported years of experience based six categories: less than 3 years, 3-6 years, 6-9 years, 9-12 years, 12-15 years and more than 15 years. *Scale:* 1.5,4.5,...,25.

**Current:** Indicator variable taking the value one if respondent currently works in the public sector, zero if worked in the public sector during 2019 or 2020. *Scale:* 0,1.

(b) Group-Level Variables.

**Instrument:** Average interpersonal trust in one of 72 matching groups based on country, gender, and education, standardized to mean zero and standard deviation one. *Scale:* continuous. *Source:* Authors' calculations based on Latinobarometro 2020.

**Instrum LAPOP:** Average interpersonal trust in one of 68 matching groups based on country, gender, and education, standardized to mean zero and standard deviation one. *Scale:* continuous. *Source:* Authors' calculations based on LAPOP AmericasBarometer 2018-19.

**Instrum Neighb:** Average trust in the public sector in one of 108 matching groups based on country, position, and experience, standardized to mean zero and standard deviation one. *Scale:* continuous. *Source:* Authors' calculations based on IDB Public Sector Survey 2020.

(c) Country-Level Variables.

**Merit System:** Scoring of the country's use of merit hiring criteria in public administration. *Scale:* 1-100. *Source:* IDB 2020 assessment of a country's civil service.

**Gov Effectiveness:** Scoring of a country's effectiveness of government institutions. *Scale:* continuous. *Source:* World Governance Indicators 2019.

**Rule of Law:** Scoring of a country's level of rule of law. *Scale:* continuous. *Source:* World Governance Indicators 2019.

**Control of Corruption:** Score of a country's performance in controlling corruption. *Scale:* continuous. *Source:* World Governance Indicators 2019.