



Universidad de
San Andrés

**It's a Matter of Trust: Corruption Scandals and
Political Discontent in Pandemic Times**

Master Thesis

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It's a Matter of Trust: Corruption Scandals and Political Discontent in Pandemic Times

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Abstract

We study how corruption scandals lead to different forms of political discontent. We take advantage of the fact that the largest corruption scandal during the pandemic in Peru (the *vacunagate* scandal) erupted during the fieldwork of a public opinion survey and use the quasi-exogenous variation in exposure to the corruption scandal arising from differences in interview dates across respondent. We find that the *vacunagate* scandal triggered a sizable increase in the perception of corruption, reduced trust in both national and local governments, and changed the perception of democracy as a suitable political system. These short-run effects are significantly higher among those directly affected by this disease. We also show that our results are robust to placebo test, changes in the bandwidth used, and an alternative model specification.

Keywords: Corruption Scandal, Trust, Political System, Pandemic, Peru.

JEL codes: P16, D72, D73

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1 Introduction

Corruption is one of the biggest roadblocks to development (Bank, 2017; Kraay & Murrell, 2016; Olken & Pande, 2012) because it diverts resources away from the provision of public goods and services, discourages engagement in productive activities, destroys confidence in public institutions and government, and triggers political instability and civil strife (Chuah, Loayza, & Myers, 2020; Olken & Pande, 2012). In particular, the uncovering of corruption scandals provokes both astonishment and indignation among citizens and tends to trigger reactions at different degrees, mainly citizens express their discontent through distrust in politicians and government (Solé-Ollé & Sorribas-Navarro, 2018; Ares & Hernández, 2017). The shock caused by such events seems capable of changing beliefs and convictions, which may account for their effects on political attitudes (Solé-Ollé & Sorribas-Navarro, 2018; Kumlin & Esaiasson, 2012).

In this paper, we study how corruption scandals lead to different forms of political discontent. In particular, we study the impact of a major corruption scandal on the perception of corruption, political trust and perception of democracy in Peru. In mid-February 2021, when covid mortality rate had increased significantly and the vaccination plan had just started a few days before, several TV programs and newspapers revealed that around 500 economic and political elite members were given vaccines months before they were public. The list included former president Martin Vizcarra and some ministers still in function to that date, the so-called *vacunagate* scandal (Kenyon, 2021).

We take advantage of the fact that the *vacunagate* scandal erupted during the fieldwork of the Latin America Public Opinion survey¹ and, in a regression discontinuity design, use the quasi-exogenous variation in exposure to the corruption scandal arising from differences in interview dates across respondent. We find that *vacunagate* scandal triggered a sizable increase in the perception of corruption as the main problem of the country, reduced both national and local government trust, and reduced the perception of democracy as a suitable political system. Furthermore, we find that these effects are significantly higher among covid-vulnerable groups, such as individuals directly affected by this disease. Our findings are robust to the inclusion of week-day and region fixed effects and also to controlling for many socio-demographic variables.

Our paper is related to a recent but growing literature that uses dates of surprise events

¹Some studies that use a similar approach are Powdthavee, Plagnol, Frijters, and Clark (2019); Ares and Hernández (2017); Bassi and Rasul (2017); Metcalfe, Powdthavee, and Dolan (2011)

in regression discontinuity settings to evaluate their impacts on several welfare outcomes, such as preferences for better environmental quality (Tu, Zhang, Xu, & Lu, 2020), pregnancy and maternal health (Buitrago & Moreno-Serra, 2021), life satisfaction and mental distress (Gray, Pickard, & Munford, 2021), and labor incomes and transition to other welfare cash assistances (Suziedelyte & Zhu, 2021).

Our paper contributes to the literature that associates corruption, corruption scandals, and political outcomes. Previous literature has studied the effects of corruption scandals on political trust (Aassve, Daniele, & Le Moglie, 2018; Solé-Ollé & Sorribas-Navarro, 2018; Ares & Hernández, 2017; Morris & Klesner, 2010; Bowler & Karp, 2004), electoral outcomes (Chong, De La O, Karlan, & Wantchekon, 2015; Stockemer, LaMontagne, & Scruggs, 2013; Costas-Pérez, Solé-Ollé, & Sorribas-Navarro, 2012; Ferraz & Finan, 2008) satisfaction with political system (Kumlin & Esaiasson, 2012; Maier, 2011) and politicians behavior (Daniele, Galletta, & Geys, 2020). The closest studies to our paper are Maier (2011) which using an experimental design in Germany showed that political scandals significantly reduce support for politicians and political parties, however trust in institutions and satisfaction with democracy were not affected. On the other hand, Solé-Ollé and Sorribas-Navarro (2018) showed that frequent exposure to local corruption scandals in Spain led to a sizable decrease in trust in local politicians and an increase in corruption perception. Also in Spain, Ares and Hernández (2017) analyzed the effects of the “Barcena” scandal on trust in politicians and found that the corruption scandal had a substantial negative effect on trust in politicians and this effect was stronger in close days following its disclosure. Further, Aassve et al. (2018) found that the cohort of first-time voters exposed to “Clean Hands” scandal in Italy reduced their long-term trust in government, parliament and bureaucracy and was more likely to vote for populist parties.

Our paper contributes to this literature in several aspects. First, to the best of our knowledge, our paper provides the first application of regression discontinuity design to study the repercussion of a major corruption scandal. Second, it provides causal evidence on how corruption scandals affect several political outcomes in a developing country context, where corruption cases are day-to-day problems (Olken & Pande, 2012). Finally, our paper contributes to the discussion about the determinants of distrust in Latin America, a region characterized by systematically institutional weakness (Keefer & Scartascini, 2021).

The paper continues as follows. In Section 2, we present the natural experiment and describe

the data. In Section 3, we present the empirical strategy. In Section 4 we report our main results. Finally, we conclude in Section 5.

2 Natural Experiment and Data

The *vacunagate* was the most relevant corruption scandal in Peru during the pandemic. On February 10, 2021, a TV program leaked a report that indicated former president Martin Vizcarra² had received a vaccine against covid illegally some months before. Given that news, the next day, Martin Vizcarra declared that it was a misunderstanding. He and his wife were volunteers on the Sinopharm vaccine experiment, the highest clinical trial of a vaccine in Latin America. These declarations calmed down the situation because the TV program that revealed the investigation is featured for reporting fake news, however Congress started protocol research.

On February 15, 2021, after days of political uncertainty, the Executive Power, in an official announcement, declared that around 500 individuals received vaccines illegally³. Next days, several programs and newspapers, including the two leading newspapers of the country *El Comercio* and *La República*, revealed that the privileged list included two active ministers, several high-level bureaucrats, presidents of universities, businessmen and their families.

The *vacunagate* received extensive local and international coverage. Figure 1 summarizes the relative frequencies of Google searches about the scandal. As observed, the maximum peak in searches was reached one day after the scandal exploded.

We use data from the Latin America Public Opinion Project (LAPOP). This is public opinion survey periodically conducted using face-to-face interviews and include nationally representative sample of voting-age individuals in various countries in the region, particularly we use the 2021-wave conducted in Peru. The LAPOP records several indicators related to public opinions on perception of corruption, institutional trust and political system support. The survey also contains basic socio-demographic information on respondents, such as their age, education, access to news, and proxies for household wealth.

Our outcomes variables are perception of corruption (variable take the value of 1 if individual reported that corruption is the main problem of the country), national government trust (variable take the value of 1 if individuals reported that have "a lot" and "some" confidence in the national

²Martin Vizcarra was removed from his position on November 2020. [Click here to see the news.](#)

³A chronology of the scandal was recorded by the media. [Click here to see the news.](#)

government), local government trust (scale from 1 "none" to 7 "a lot" that reported if individuals trust in their city council) and perception of democracy (scale from 1 "none" to 7 "a lot" that reported if individuals perceive democracy as a suitable political system).

To study the impact of *vacunagate* on political attitudes, we take advantage of the illegal vaccination list was revealed on February 15 and the LAPOP fieldwork was between January and March 2021. Exploiting the information on the exact interview date, we estimate how political attitudes are causally impacted by exposure to corruption scandals, comparing those interviewed before and after the *vacunagate*.

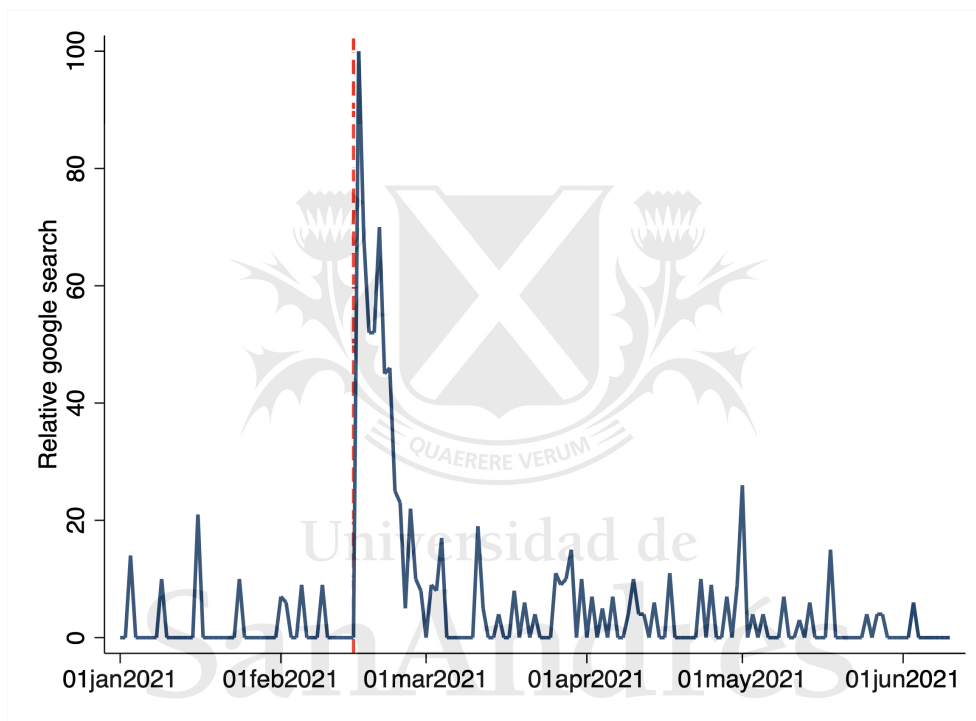


Figure 1: Google Trends For the Search *vacunagate*.

3 Empirical Strategy

We are interested in estimating the impact of corruption scandals on several political outcomes. To formally address the impact of *vacunagate*, we use a regression discontinuity design (RDD) taking advantage of the sharp discontinuity around the scandal date (Imbens & Lemieux, 2008). Formally, we estimate the following regression:

$$Y_i = \beta Treatment_i + \delta(date_i - c) + \gamma Treatment_i * (date_i - c) + \phi X_i + \varepsilon_i$$

where Y_i takes the value 1 if individual i reported that corruption is the main problem of the country, trust on national and local government, and reported democracy as a suitable political system. $date_i$ is the date in which individual i was interviewed (running variable), c is the cutoff date (February 15), $Treatment_i$ takes the value 1 if individual i was interviewed after the cutoff date and 0 otherwise, X_i are a set of control variables including individual and household characteristics, day of week (7 variables) and region (4 variables) dummies, and ε_i is and error term. Our parameter of interest is β , which can be interpreted as the short-run impact of *vacunagate* on perception of corruption and political attitudes. We report standard errors clustered at the day level, as this is the level at which the treatment is assigned, that means all respondents from the same interview day have the same treatment status (Abadie, Athey, Imbens, & Wooldridge, 2022).

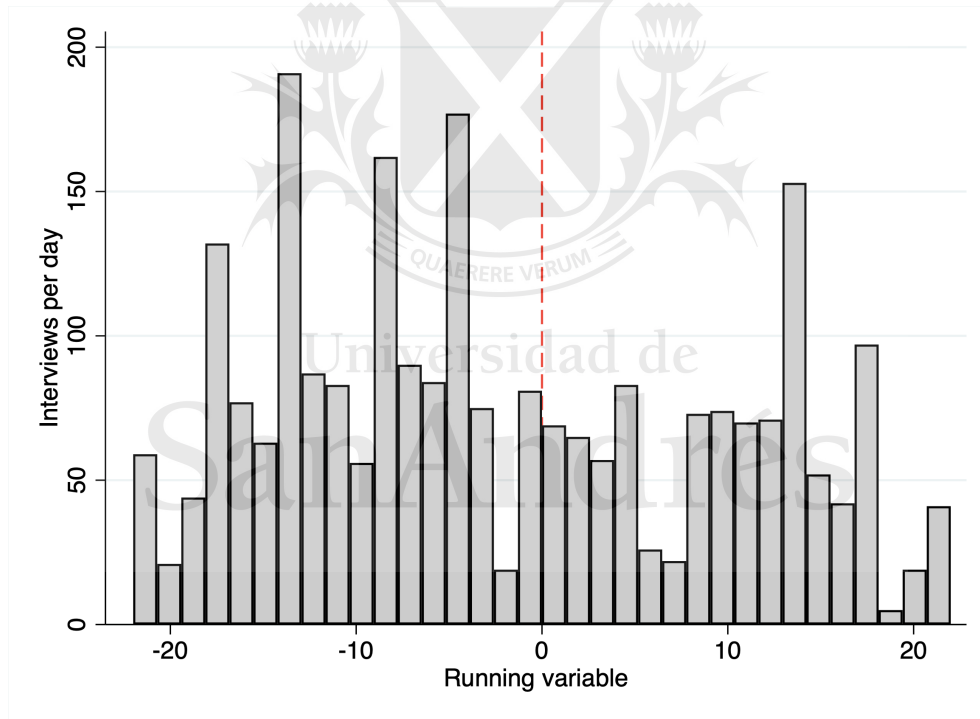


Figure 2: Histogram of Running Variable

We estimate the parameter of interest using a local linear regression weighted by a triangular kernel. Previous studies that estimated these parameters use the approach proposed in Calonico, Cattaneo, Farrell, and Titiunik (2017), which incorporates data-driven procedures to select a bandwidth, adjusted standard errors to account for the bandwidth selector and a bias correction procedure developed by the authors (Calonico, Cattaneo, & Titiunik, 2014; Calonico et al.,

2017). As a robustness check, we reproduce the main results using bandwidth and kernel choices to adjust for the running variable.

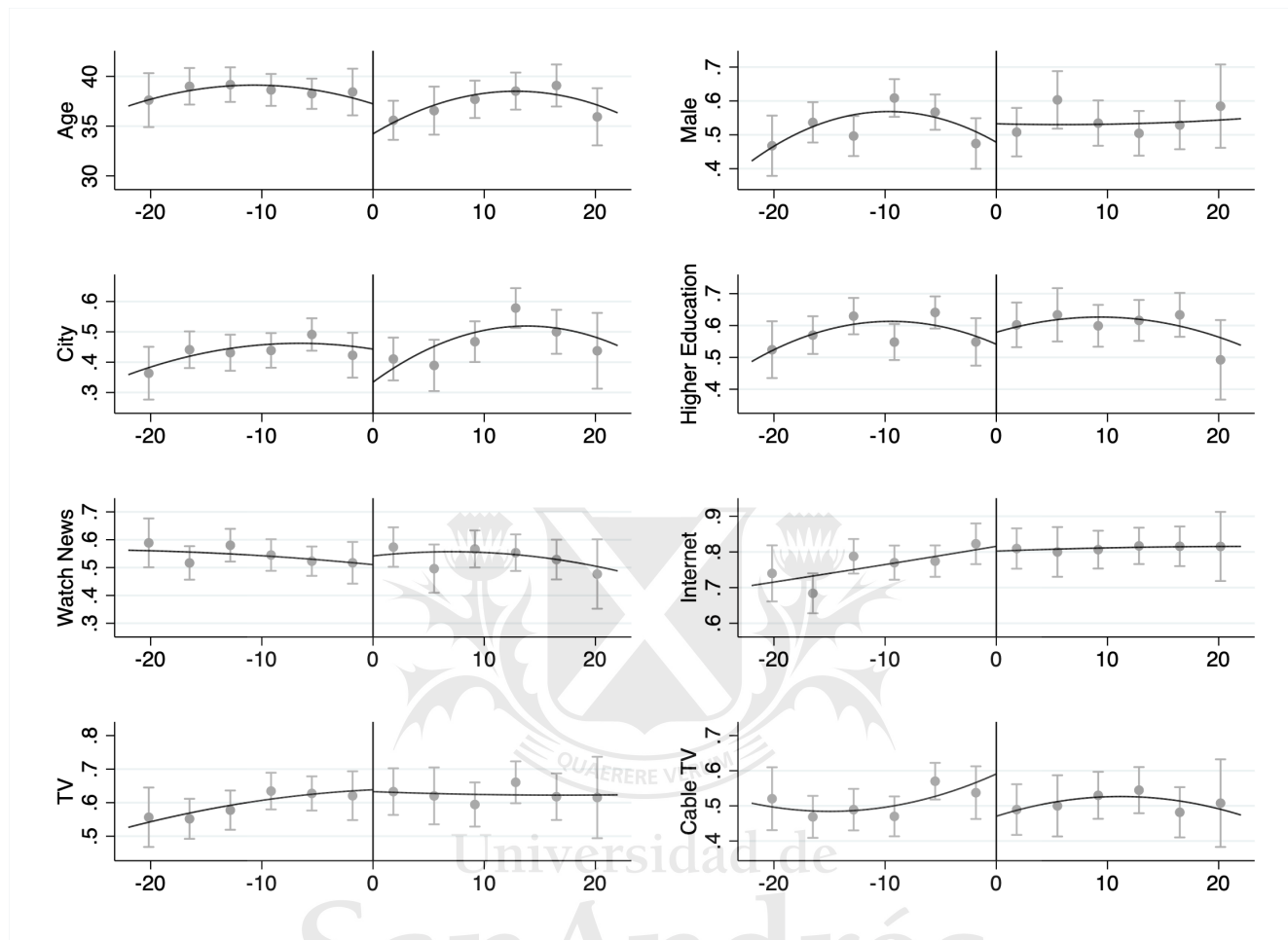


Figure 3: Covariate Balancing – Individual and Household Characteristics

Notes: The set of individual and household variables include Age, Gender, City resident, Higher education, Watch news daily, Internet at home, TV at home, and Cable TV at home.

Our identification assumption is that individuals interviewed just before and after the scandal date are comparable in all their characteristics except the exposure of *vacunagate* scandal. Therefore, by comparing them, we can identify the causal effect of a corruption scandal on several political discontent outcomes. Moreover, for the RDD to be valid in our context, we need the following two conditions to hold. First, we discuss the condition of no manipulation. This condition is entirely plausible in our case because individuals could not choose the exact date of their interviews. A minimum number of interviews per day was established previously in the fieldwork design. Even when some individuals refused the interview, there was a sample

with replacements to complete the minimum number of interviews pre-established. We provide evidence consistent with this condition by looking at the distribution of interviews around the cutoff in Figure 2. The formal statistical test described in Cattaneo, Jansson, and Ma (2020) yields a large p-value (around 22%), confirming that there is no manipulation on the running variable and the assignment of treatment was quasi-random.

The second condition that should hold to validate our RDD is the covariate balancing at the cutoff. Our empirical strategy ensures that the characteristics of individuals interviewed before and after the *vacunagate* are balanced. Figure 3 shows that individual and household characteristics vary smoothly at the threshold. Importantly, this includes variables related to media access. Table A.1 in Appendix A, displays formal tests for these differences at the cutoff using RDD similar to the ones used for our outcomes of interest.

4 Results

4.1 Main results

Figure 4 summarizes our main results. For all panels, the horizontal axis represents our running variable and the vertical axis represents the value of our outcome variables after *vacunagate* exploded. Second-degree polynomials are estimated separately on both sides of the cutoff. Gray dots correspond to averages of the dependent variable for different bins, and vertical lines correspond to 95% confidence intervals. We observe a substantial increase in the perception of corruption as the country's main problem and a decrease in national and local government trust after the corruption scandal exploded. Also, we show that, following the *vacunagate*, the perception of democracy as a suitable political system is sharply lower.

Table 1 reports estimates of equation (1). The estimated coefficient in column (1) indicates an average increase of 74 percentage points (pp) in the perception of corruption as the country's main problem. Moreover, column (2) shows an average reduction of 10.3pp in national government trust. Furthermore, column (3) shows an average reduction of 1.8 points in local government trust. Finally, column (4) indicates an average reduction of 4.5 points in the perception of democracy as the best political system. All results suggest that *vacunagate*, and generally corruption scandals, are reflected in different forms of political discontent.

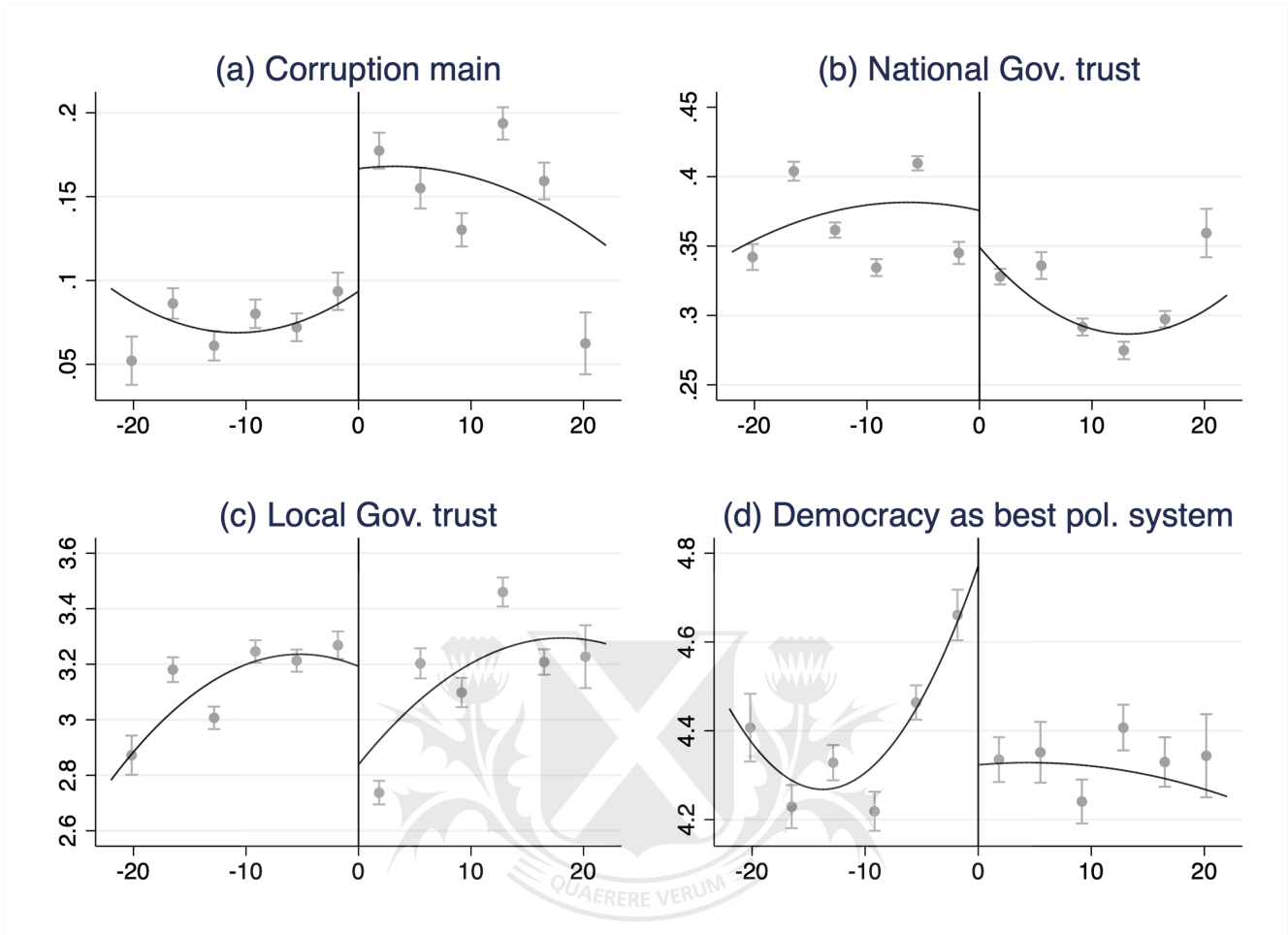


Figure 4: Impact of *vacunagate* - Political outcomes

4.2 *Heterogeneous Effects*

Pandemic affected people at different magnitudes, so it is expected that reactions to the *vacunagate* scandal are different among citizens. Particularly we may expect that covid-vulnerable individuals express high discontent. To test such heterogeneous effect, we re-estimate the RDD using subsamples by the degree of vulnerability to covid (whether they and their relatives required medical attention for covid or not). Figure 5 displays that covid-vulnerable individuals showed higher detrimental effects on national government trust and perception of democracy as a suitable political system, whereas individuals not affected by this disease reported a higher perception of corruption. These results suggest that the *vacunagate* scandal leads to higher political discontent among covid-vulnerable individuals.

Table 1: Main results

	(1)	(2)	(3)	(4)
	Corruption main	NG trust	LG trust	Democracy best system
RD_Estimate	0.740*** (0.146)	-0.103** (0.071)	-1.753*** (0.466)	-4.479*** (0.445)
Obs.	2,421	2,420	1,179	2,416
Final obs.	605	480	299	601
Outcome average	0.109	0.339	3.117	4.368
Order est. (p)	2	2	2	2
Order bias (q)	3	3	3	3
BW est. (h)	5.818	4.474	5.545	5.769
BW bias (b)	9.696	8.252	9.585	9.220

Notes: Standard errors clustered at the date of interview are shown in parentheses. All regressions include controls describe in Figure 3, week-day and natural region fixed effects. We report local linear regressions with triangular kernel and second degree polynomials fitted at the two sides of the threshold. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

4.3 Robustness checks

As a robustness check, we apply placebo outcomes test. If we do not find an effect of the *vacunagate* scandal on these unrelated variables, we can be more confident that no other relevant event took place simultaneously to the corruption scandal that could contaminate the estimated effects. However, if we find an effect on these unrelated variables, it indicates that the impacts we find is not due to the *vacunagate* scandal but is rather associated to other unobserved differences between treatment and control groups, or perhaps to another event that took place simultaneously to the scandal.

We estimate the impact of the *vacunagate* on four outcome variables that should be unrelated to the treatment but that could be explained by other individual variables that have been frequently related to political attitudes. We explore whether *vacunagate* is associated with authoritarian attitudes related to other structural problems of the country (a coup if justified given health emergency), attitudes related to external countries influence (confidence in Chinese Government and perception of economic influence of China) and attitudes against domestic violence (women can not visit relatives without their couple authorizations). If we find no impact of the

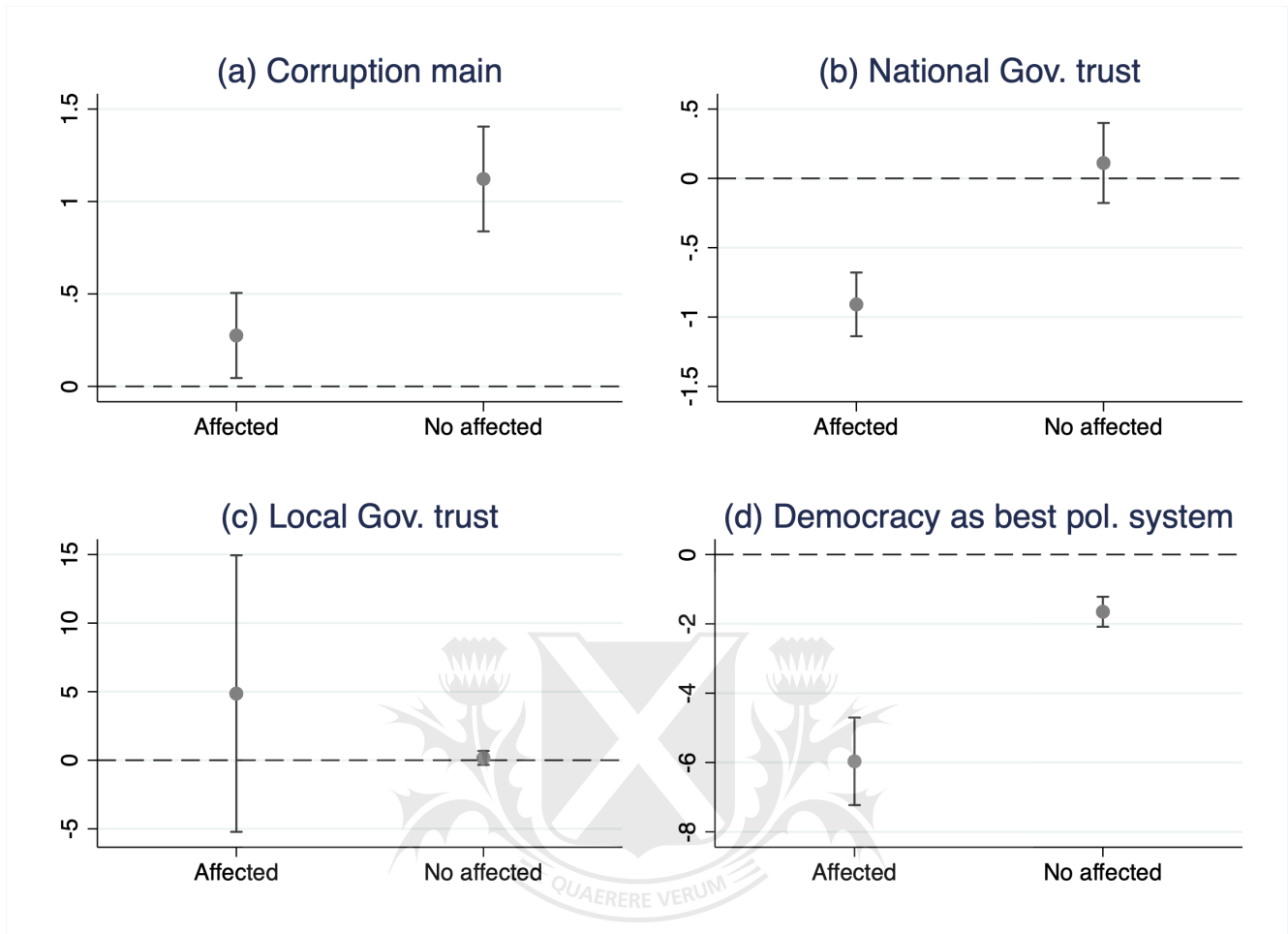


Figure 5: Heterogeneous effects

treatment on these alternative outcomes, we can be more confident that our estimates of the treatment effect are not spurious. Table 2 reports these results. In general, we find no impact of the *vacunagate* on any of these alternative outcomes, giving us more certainty that of main results are plausible causal.

In another robustness check, we re-estimate our main specification with different bandwidth sizes. We use three bandwidth levels calculated, increasing optimal bandwidths in a ratio of 2.5. The coefficients estimated are consistent with the main specification. We find a positive effect of *vacunagate* scandal in the perception of corruption, a negative effect on both national and local government trust, and a reduction in the perception of democracy as a suitable political system. Although the magnitude of all effects has reduced. Tables A.2, A.3 and A.4 in Appendix A detail these results.

In order to further test the robustness of our findings, we re-estimate our results using an

Table 2: Placebo outcomes

	(1)	(2)	(3)	(4)
	Putsch given emergency	Trust Chinese Gov.	China econ. influence	Gender norm
RD_Estimate	-0.236 (0.280)	-0.288 (0.199)	0.037 (0.251)	-0.141 (0.220)
Obs.	630	763	560	696
Final obs.	104	154	140	146
Outcome average	1.613	2.622	2.459	0.385
Order est. (p)	2	2	2	2
Order bias (q)	3	3	3	3
BW est. (h)	3.872	4.998	5.512	5.964
BW bias (b)	6.450	8.453	8.919	9.045

Notes: Standard errors clustered at the date of interview are shown in parentheses. All regressions include controls describe in Figure 3, week-day and natural region fixed effects. We report local linear regressions with triangular kernel and second degree polynomials fitted at the two sides of the threshold. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

alternative set of control variables⁴. As in the previous case, the significance and sign of coefficients are maintained, and the coefficients are closer to the baseline results. Table A.5 in Appendix A show the results for this alternative specification.

Finally, our last robustness check implies using an alternative kernel function to construct the local-polynomial estimator. We use the epanechnikov kernel function, this result is reported in Table A.6 of the Appendix A. Using this specification, we find that the effect of *vacunagate* on perception of corruption, national and local government trust is maintained. Also, we find no impact on the perception of democracy, suggesting the sensitivity of this outcome. Overall, our robustness checks suggest that our findings are plausible causal.

4.4 *One possible underlying mechanism*

We explore one potential mechanism that may link corruption scandals to subsequent political discontent. We show that after *vacunagate*, the rate of political knowledge⁵ increase significantly.

⁴All new covariate variables are balanced using the same method described above.

⁵at the end of the interview, the interviewer set a political knowledge score conditional to all responses that individuals reported.

This finding is consistent with a theoretical framework in which active media coverage modifies individuals’ beliefs, increasing citizen knowledge about politicians’ actions. The active media coverage lead a virtuous cycle where citizens demand political accountability (Costas-Pérez et al., 2012; Snyder & Strömberg, 2010).

Table 3: Mechanism

(1)	
Politic Knowledge Index	
RD_Estimate	2.742*** (0.419)
Obs.	2,427
Final obs.	605
Outcome average	3.211
Order est. (p)	2
Order bias (q)	3
BW est. (h)	5.394
BW bias (b)	9.399

Notes: Standard errors clustered at the date of interview are shown in parentheses. All regressions include controls describe in Figure 3, week-day and natural region fixed effects. We report local linear regressions with triangular kernel and second degree polynomials fitted at the two sides of the threshold. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

We estimate the same equation (1) but use the political knowledge index as dependent variable instead. Table 3 reports this result. We find that the political knowledge index is increased due to the *vacunagate*. The estimated coefficients indicate an increase of 2.7 points in the political knowledge index. This association suggests that political knowledge may drive our results.

5 Conclusions

Corruption scandals can have highly detrimental effects on perception of corruption, political trust and perception of democracy, outcomes that we associate with different forms of political discontent. Taking advantage of a major corruption scandal that occurred during the pandemic in Peru, we find that the *vacunagate* scandal triggered a sizable increase in the perception of corruption, reduced both national and local government trust, and reduced the perception of

democracy as a suitable political system. These results are disappointing given the considerable level of political distrust and institutional weakness predominated in the Peruvian context (Keefer & Scartascini, 2021).

A second important finding is that the negative impacts induced by *vacunagate* scandal may also affect disproportionately covid-vulnerable individuals. The loss of political trust and the reduction in perception of democracy as a suitable political system are higher among those directly affected by the disease.

In terms of policy, our study has one important normative implication. Our findings highlight the relevance of active media coverage, massive anti-corruption investigations may change individuals' beliefs and convictions and empower citizens to demand greater transparency in governance.

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ONLINE APPENDIX

Appendix A Tables and Figures

Table A.1: Bandwidth 1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Age	Male	City	Univ	News	Internet	TV	Cable TV
RD_Estimate	2.926 (6.629)	0.066 (0.194)	-0.016 (0.191)	-0.106 (0.223)	0.078 (0.230)	0.013 (0.205)	0.147 (0.220)	0.148 (0.176)
Obs.	2,520	2,518	2,472	2,520	2,506	2,510	2,509	2,509
Final obs.	736	736	727	626	622	622	728	840
Outcome average	38.297	0.533	0.463	0.592	0.535	0.780	0.605	0.508
Order est. (p)	2	2	2	2	2	2	2	2
Order bias (q)	3	3	3	3	3	3	3	3
BW est. (h)	6.054	6.710	6.995	5.851	5.988	5.570	6.011	7.610
BW bias (b)	9.603	10.568	10.403	9.622	9.203	8.220	9.612	11.350

Notes: Standard errors clustered at the date of interview are shown in parentheses. We report local linear regressions with triangular kernel and second degree polynomials fitted at the two sides of the threshold. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

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Table A.2: Bandwidth 1

	(1)	(2)	(3)	(4)
	Corruption main	NG trust	LG trust	Democracy best system
RD.Estimate	0.109** (0.046)	-0.072*** (0.047)	-0.468* (0.229)	-1.726*** (0.172)
Obs.	2,421	2,420	1,179	2,416
Final obs.	954	709	455	950
Outcome average	0.109	0.339	3.117	4.368
Order est. (p)	2	2	2	2
Order bias (q)	3	3	3	3
BW est. (h)	8.318	6.974	8.045	8.269
BW bias (b)	12.196	10.752	12.085	11.720

Notes: Standard errors clustered at the date of interview are shown in parentheses. All regressions include controls describe in Figure 3, week-day and natural region fixed effects. We report local linear regressions with triangular kernel and second degree polynomials fitted at the two sides of the threshold. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

Table A.3: Bandwidth 2

	(1)	(2)	(3)	(4)
	Corruption main	NG trust	LG trust	Democracy best system
RD.Estimate	0.135*** (0.036)	-0.152*** (0.044)	-0.387* (0.224)	-1.158*** (0.167)
Obs.	2,421	2,420	1,179	2,416
Final obs.	1175	1047	550	1172
Outcome average	0.109	0.339	3.117	4.368
Order est. (p)	2	2	2	2
Order bias (q)	3	3	3	3
BW est. (h)	10.818	9.474	10.545	10.769
BW bias (b)	14.696	13.252	14.585	14.220

Notes: Standard errors clustered at the date of interview are shown in parentheses. All regressions include controls describe in Figure 3, week-day and natural region fixed effects. We report local linear regressions with triangular kernel and second degree polynomials fitted at the two sides of the threshold. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

Table A.4: Bandwidth 3

	(1)	(2)	(3)	(4)
	Corruption main	NG trust	LG trust	Democracy best system
RD_Estimate	0.114*** (0.029)	-0.066* (0.040)	-0.484* (0.247)	-0.652*** (0.136)
Obs.	2,421	2,420	1,179	2,416
Final obs.	1635	1320	793	1631
Outcome average	0.109	0.339	3.117	4.368
Order est. (p)	2	2	2	2
Order bias (q)	3	3	3	3
BW est. (h)	13.318	11.974	13.045	13.269
BW bias (b)	17.196	15.752	17.085	16.720

Notes: Standard errors clustered at the date of interview are shown in parentheses. All regressions include controls describe in Figure 3, week-day and natural region fixed effects. We report local linear regressions with triangular kernel and second degree polynomials fitted at the two sides of the threshold. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

Table A.5: Alternative model specification

	(1)	(2)	(3)	(4)
	Corruption main	NG trust	LG trust	Democracy best system
RD_Estimate	0.769*** (0.161)	-0.118** (0.079)	-1.510*** (0.506)	-5.076*** (0.249)
Obs.	2,382	2,381	1,162	2,377
Final obs.	597	474	298	593
Outcome average	0.109	0.339	3.117	4.368
Order est. (p)	2	2	2	2
Order bias (q)	3	3	3	3
BW est. (h)	5.681	4.660	5.504	5.441
BW bias (b)	9.412	8.732	9.569	8.454

Notes: Standard errors clustered at the date of interview are shown in parentheses. All regressions include controls describe in Figure 3, washing machine at home, phone at home, live in the city, *meztizo* ethnicity, week-day and natural region fixed effects. We report local linear regressions with triangular kernel and second degree polynomials fitted at the two sides of the threshold. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

Table A.6: Alternative kernel function

	(1)	(2)	(3)	(4)
	Corruption main	NG trust	LG trust	Democracy best system
RD_Estimate	0.758*** (0.161)	-0.101* (0.079)	-1.797*** (0.506)	0.039 (0.249)
Obs.	2,421	2,420	1,179	2,416
Final obs.	605	480	299	478
Outcome average	0.109	0.339	3.117	4.368
Order est. (p)	2	2	2	2
Order bias (q)	3	3	3	3
BW est. (h)	5.757	4.558	5.704	4.390
BW bias (b)	9.467	8.213	9.705	7.506

Notes: Standard errors clustered at the date of interview are shown in parentheses. All regressions include controls describe in Figure 3, week-day and natural region fixed effects. We report local linear regressions with epanechnikov kernel and second degree polynomials fitted at the two sides of the threshold. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.