VACCINE DIPLOMACY: HOW COVID-19 VACCINE DISTRIBUTION IN LATIN AMERICA INCREASES TRUST IN FOREIGN GOVERNMENTS*

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The distribution of COVID-19 vaccines has profound implications for global health. Given the scarcity of vaccines in the Global South, vaccine distribution has created opportunities for vaccine developers—including China, India, Russia, the UK, and the US—to improve their reputations in emerging markets. Leveraging panel surveys conducted in January and May of 2021, we evaluate whether "vaccine diplomacy" affects trust in foreign governments among vaccine-hesitant respondents in six Latin American countries. We find that personally receiving a vaccine durably increased trust in the government of the country where that vaccine was developed. Furthermore, providing information about the aggregate distribution of vaccines within a respondent's country also increased trust in the governments of the countries where more vaccines were developed. These increases in trust—which are most pronounced for China—appear to reflect perceptions of a common good motivation. Vaccine distribution may then cultivate soft power that could facilitate further economic or political integration.

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1 Introduction

The rapid development of effective vaccines has the potential to significantly mitigate the toll of the COVID-19 pandemic. However, limited vaccine supplies and significant government control over where vaccines are sent has made vaccine diplomacy a novel dimension of geopolitics. As part of heightened competition to win global hearts and minds, great powers are increasingly engaging in international relations through public health initiatives (Goldsmith, Horiuchi and Wood 2014). US President Joseph Biden declared "America will be the arsenal of vaccines in our fight against COVID-19, just as America was the arsenal of democracy during World War Two."[1] Likewise, Chinese leader Xi Jinping announced that "China would make domestically developed vaccines a global public good" as part of a "charm offensive" to improve its public image abroad.[2]

In this article, we assess whether a core aspect of vaccine diplomacy—vaccine distribution—affects trust in the government of the country where the vaccine was developed among vaccine recipients in Latin America. By seeking to foster such positive perceptions among foreign citizens, great powers aim to cultivate soft power that may, over time, convince the recipient populations to support, and thereby advance, the great powers' foreign policy agendas (Nye 2004).

Latin America has become an epicenter of vaccine diplomacy with many different vaccines flowing to the region.[3] More generally, Latin America is subject to China's rapidly expanding presence, which clashes with the United States' historical sphere of influence in the region (Morgenstern and Bohigues 2021). Indeed, following initial deliveries of vaccines from China and Russia to various Latin American countries—seen by the security community in the United States as a way for these powers to strengthen their influence—there was a ramp-up of deliveries of US-produced vaccines to the region.[4] Yet there remains little systematic evidence assessing whether such diplomacy could successfully engender soft power.

[1] Remarks by President Biden on the effort to defeat COVID-19 globally, 6/10/2021.

[2] Wee, Sui-Lee. 2020. "From Asia to Africa, China Promotes Its Vaccines to Win Friends," *New York Times*. 9/11/2020.

[3] The US had donated 38 million doses to Latin America (see AS/COA Vaccine Tracker). China has donated 2 million doses and sold 386 million doses, with 226 million doses delivered (see Bridge China Vaccine Tracker) .

[4] Gramer, Robbie. 2021. "U.S. Blunts China's Vaccine Diplomacy in Latin America," *Foreign Policy*, 7/9/2021.

Using an online panel survey of vaccine-hesitant individuals conducted before and after mass vaccination campaigns began in six Latin American countries, we address this question by evaluating two ways through which vaccine distribution could affect trust in the country where the vaccine was developed. First, we exploit within-eligibility group variation in the vaccine that an individual received to estimate the effect of receiving a particular vaccine on trust in the government of the country where the vaccine was developed. Second, we experimentally examine how information about the aggregate distribution of vaccines to the respondent's country affects trust in the governments where the vaccines were developed.

Across each analysis, the results suggest that vaccine distribution may have important geopolitical implications—and has already improved public perceptions, especially of China. Specifically, we find that trust in the government of the country where the vaccine that an individual received was developed is 0.1 standard deviations greater around a month after the first dose was administered. Furthermore, respondents that were informed that their country had received the most, as opposed to least, vaccines from a particular country similarly increased their trust in that country's government by 0.3 standard deviations. While neither effect is substantial in magnitude for a given individual, vaccine distribution has the potential to affect a substantial fraction of the global population. Moreover, both sets of analyses suggest that vaccine distribution much more dramatically increased trust in China. Together, the evidence suggests that COVID-19 vaccine diplomacy has the potential to shape views of foreign powers in Latin America—and likely in other contexts—in ways that could entail significant economic and political ramifications far beyond the pandemic.

Beyond illuminating a significant contemporary political issue, our findings advance broader literatures on foreign policy and public opinion. First, while many scholars have highlighted the potential importance of soft power "currencies" in global affairs (Mor 2006; Nye 2008; Wilson 2008), we provide concrete evidence that public health initiatives by foreign powers can improve audience perceptions of such powers, a critical step for exerting influence abroad. Our findings complement a nascent literature identifying positive effects of international aid (Goldsmith, Horiuchi and Wood 2014) and leader visits (Goldsmith, Horiuchi and Matush 2021) on foreign public

approval.[5]

Second, the variety of vaccines procured by developing countries allows us to compare diplomatic benefits for different countries. We find that Chinese vaccine delivery may be more effective in cultivating support among foreign audiences in contexts that are in the crossfire of the US, China, and other countries (e.g. Wang 2008; Sun 2013). This article thereby builds on the work of Blair, Marty and Roessler (2021), who find effects of foreign assistance on recipient country citizen attitudes in the African context.

Third, we add an understudied dimension—vaccine diplomacy—to the study of foreign policy. We provide rigorous evidence to substantiate claims made by political observers regarding the significance of vaccine diplomacy, and contribute to a sparse literature exploring the geopolitical benefits that great powers may secure through public health and vaccine diplomacy (Huang 2021; Lee 2021).[6]

2 The effect of personally receiving a vaccine

We first examine the potential impact of vaccine diplomacy by assessing whether the particular vaccine *that an individual received* shapes their trust in the country where that vaccine was developed. If citizens attribute receiving a vaccine—and its expected health benefits—to the country where the vaccine was developed, the mass distribution of vaccines through public or private channels could have significant geopolitical implications.

2.1 Design

We evaluate this hypothesis using an online panel survey of around 1,000 vaccine-hesitant individuals from each of Argentina, Brazil, Chile, Colombia, México, and Perú. The January 2021 wave

[5]Related literatures study domestic public opinion of one's own country's foreign policy (Berinsky 2007) and the effect of international aid on foreign public attitudes toward their domestic governments (Baldwin and Winters 2020; Blair and Roessler 2021).

[6]For examples of pundits writing about vaccine diplomacy, see Cohen (2020) and "The Logic of China's Vaccine Diplomacy," *The Diplomat*, 3/24/2021.

of our survey was conducted before vaccines were generally available in each country. It recruited a nationally representative sample in terms of gender, age, socioeconomic level, and region from a large panel of potential survey participants managed by NetQuest. Because our surveys separately explored how messaging could help overcome vaccine hesitancy, we screened out the 38% of respondents that were willing to vaccinate within two months of a vaccine becoming available to them. In May 2021, we followed up with 1,705 respondents that had become eligible to receive a vaccine in their country. Both surveys elicited respondent trust in the current governments of China, India, Russia, the UK, and the US. The endline survey asked respondents if and when they received their first vaccine dose and the country in which they believed the vaccine was developed (as well as the vaccine's name, which matched the respondent's belief about where it was developed in 63% of cases). Appendix section A.2 describes the survey protocols and our final sample of vaccine-eligible respondents in detail.

Among endline respondents, 62% of these vaccine-hesitant individuals reported having received at least one dose of a COVID-19 vaccine. More than a third of these vaccinated respondents reside in Chile, where vaccines became accessible earlier, while only around 10% were from Colombia and Perú. The average vaccinated respondent received their first dose 4.4 weeks before the endline survey. We focus on the respondents that reported remembering the country where their vaccine was developed.

Figure 1 documents considerable heterogeneity across countries at the time of our survey—both at the national level and among our vaccine-eligible endline survey respondents—in the number of vaccines that each country administered from manufacturers based in different countries. Vaccines developed by Chinese firms were common in most countries; British, Russian, and US vaccines were also common in some countries. Only Argentina received vaccines developed in India; since just 32 respondents reported receiving an Indian vaccine, we drop these individuals from this analysis.

We investigate the effect of receiving a particular vaccine by leveraging *within-eligibility group* variation in the developer country from which our 709 vaccinated respondents reported receiving

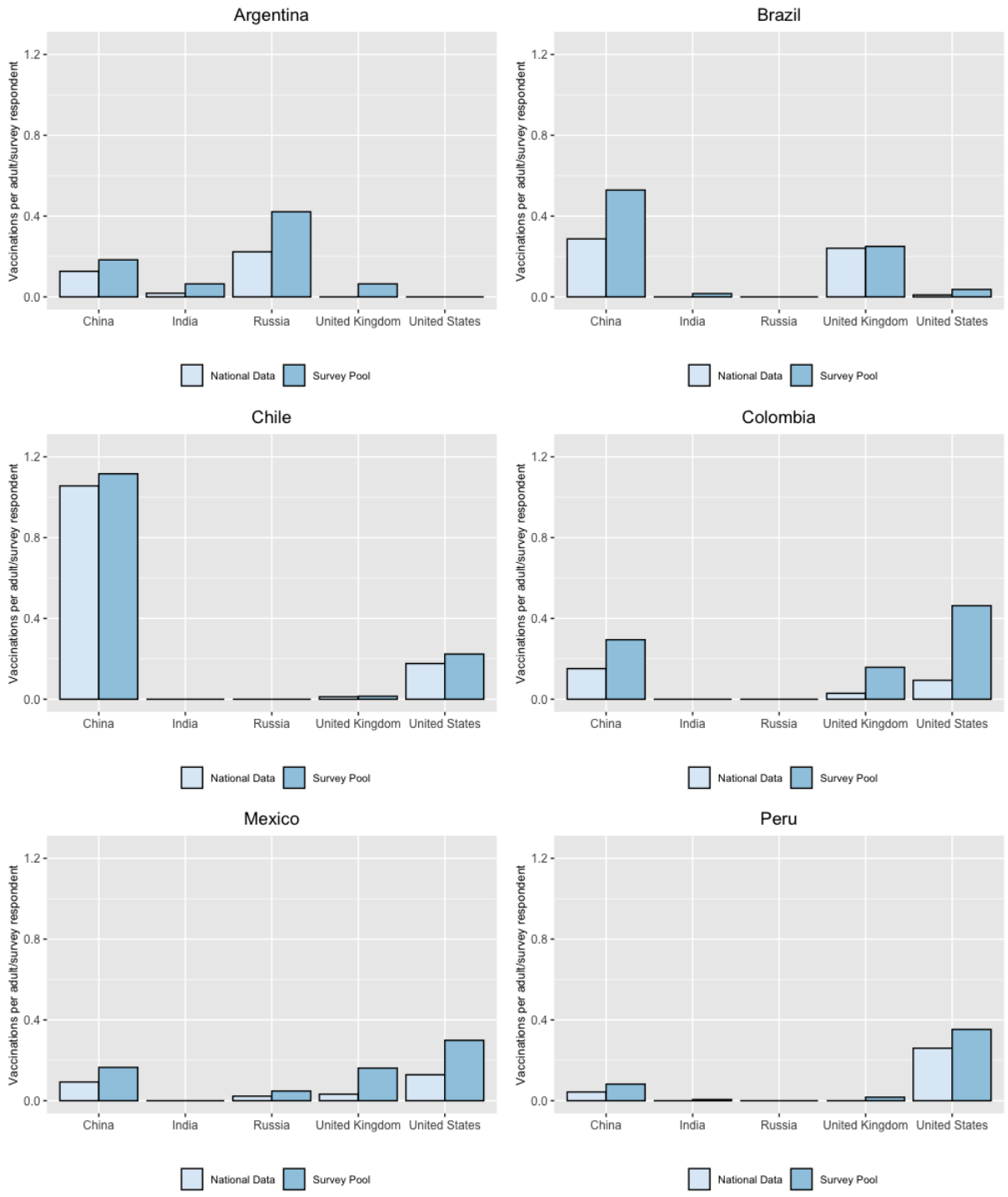


Figure 1: Number of vaccine doses per adult from each vaccine developer country (in May 2021), by country

their vaccine. As Appendix section A.1.2 explains in detail, the six countries in our study rolled out vaccines using eligibility criteria generally prioritizing older individuals and individuals with pre-existing conditions, before progressively extending access to younger and healthier cohorts.[7] Because shipments for different vaccines arrived at different times, the vaccines available to respondents varied by eligibility group. However, due to inconsistent stocks of specific vaccines and local variation in which vaccines were sent where and when, the particular vaccine available to an individual at a local clinic on a given day is plausibly exogenous *within eligibility groups*. Indeed, conditional on eligibility group within a country, Appendix Table A2 shows that the country that developed the vaccine that an individual received is only significantly correlated with 10 of 81 characteristics measured in the baseline survey. Although some respondents might have shopped around or waited for their preferred vaccine, these covariate balance tests suggest that the assignment of the country where a respondent's vaccine was developed is plausibly conditionally ignorable.

We then estimate the effect of receiving a vaccine developed in a particular country on trust in foreign governments in two ways. We first pool across developer countries to compare levels of trust in foreign governments across individuals that did and did not receive a vaccine developed in that particular country by estimating the following OLS regression:

$$Trust_{dic} = \alpha_{dgc} + \beta Prior\ trust_{dic} + \tau Country\ developed\ vaccine_{dic} + \varepsilon_{dic}, \tag{1}$$

where $Trust_{dic}$ is a four-point scale of trust in the government of country $d \in \{China, Russia, UK, US\}$ for respondent i located in country $c \in \{Argentina, Brazil, Chile, Colombia, México, Perú\}$, and $Country\ developed\ vaccine_{dic}$ indicates whether the respondent reported receiving a vaccine developed in country d. We include developer country $\times$ country-eligibility group fixed effects, α_{dgc}, to ensure that we leverage variation only in the vaccine received among individuals within a given country that became eligible to receive a vaccine around the same time. Trust in each developer country in the baseline survey, $Prior\ trust_{dic}$, is included to guard against baseline differences in trust across individuals and increase estimation precision. Our second estimation strategy examines

[7] Appendix section A.1.3 describes adherence to roll-out protocols by country.

Table 1: The effect of individuals receiving a particular vaccine on trust in the government of the country where the vaccine was developed

	Outcome: trust in foreign government				
	All governments (1)	Chinese government (2)	Russian government (3)	UK government (4)	US government (5)
Country developed vaccine	0.089***	0.243***	-0.003	0.233**	0.144
	(0.030)	(0.085)	(0.126)	(0.098)	(0.088)
R^2	0.22	0.22	0.26	0.17	0.19
Outcome range	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}
Control outcome mean	2.73	2.25	2.58	2.96	2.9
Control outcome std. dev.	0.92	0.92	0.93	0.83	0.89
Country developed vaccine mean	0.25	0.53	0.20	0.11	0.17
Observations	2,836	709	709	709	709

Notes: The specification in each column includes eligibility group × respondent country (× vaccine developer country, for the pooled specification in column (1)) fixed effects and baseline survey trust, which are omitted to save space, and is estimated using OLS. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

heterogeneity in the effect of trust across developer countries by estimating analogous regressions separately for each developer country. Robust standard errors are clustered by respondent.

2.2 Results

Pooling across vaccine developer countries, column (1) in Table 1 reports a statistically significant average effect of receiving a vaccine developed in a particular foreign country on trust in that country's government. These estimates indicate that the trust of vaccine-hesitant Latin Americans in the government of the country where their vaccine was developed increased by 0.09 points on a four-point scale ranging from no trust (1) to great trust (4);[8] this equates to a 0.1 standard deviation increase in trust. This effect size is broadly similar to the impact of a foreign leader visit on public approval of the visiting leader (Goldsmith, Horiuchi and Matush 2021), and suggests that vaccine diplomacy—which could affect entire populations—can meaningfully alter attitudes toward foreign powers.

[8]Respondents that answered "don't know" were coded at the median level of trust (2.5).

Columns (2)-(5) distinguish effects by foreign government. Column (2) shows that the significant rise in trust associated with receiving a vaccine is most pronounced for the Chinese government, and almost double the effect on trust in the US government in column (5). We find no effect on trust in the Russian government and a relatively large increase for the UK government. Although trust in China is lower than the other foreign powers, the baseline level of trust is fairly low in each case. These estimates suggest that China has more successfully translated vaccine distribution into trust than other countries per individual vaccinated.

Appendix section A.3.2 demonstrates the robustness of these results. First, despite good balance across observable covariates, it remains possible that certain types of individuals selected the vaccine they received or were offered particular types of vaccines. To further address this concern, we report similar results using a difference-in-differences specification that exclusively leverages individual-level changes in trust between the pre-vaccination baseline survey and the post-vaccination survey four months later. Moreover, by documenting similar results when exploiting variation only in the vaccine received within region and even municipality, we show that local differences in the allocation of vaccines—which could reflect or correlate with local trust in foreign governments—are not driving the results. Second, our findings are robust to adjusting for the predetermined baseline responses used to test balance. Third, we obtain similar estimates when defining the vaccine developer country according to the vaccine a respondent reported receiving, rather than their perception of where it was developed. Fourth, the results are robust to coding "don't know" responses to the trust question as missing.

3 Learning about the aggregate vaccine distribution

While individuals exhibit durably greater trust in the country where their vaccine was developed, trust in a foreign government might also respond to information about how many individuals *in total* received vaccines developed in that country. Aggregate information could be a cue about what to expect from a government in the future, as the economic voting literature highlights (e.g.

Ansolabehere, Meredith and Snowberg 2014).

3.1 Design

To examine how information about aggregate vaccine distribution across the respondent's country affects trust in foreign governments, we embedded an experiment in our endline survey. All respondents—regardless of vaccination status—were first asked to rank China, India, Russia, the UK, and the US in order of which country they believed had developed most and least vaccines available in their countries. Treated individuals were then shown a bar chart reporting the true percentage of vaccines that their country had received from each vaccine developer country; Figure 2 shows the information provided in Argentina. Treatment assignment was randomized within blocks of similar individuals,[9] with control respondents receiving no information. All respondents were then asked the same trust question used in the previous analysis again, before being asked about the intentions of developer countries in distributing vaccines.

We estimate average treatment effects of providing information about the aggregate vaccine distribution, pooling across developer countries, using the following OLS regression:

$$Trust_{dic} = \alpha_{dbc} + \beta Prior\ trust_{dic} + \tau\, Treatment_{ic} + \varepsilon_{dic}, \tag{2}$$

where $Prior\ trust_{dic}$ adjusts for our earlier endline survey measure to increase precision, and b denotes a respondent's randomization block. Robust standard errors are clustered by individual. We again examine treatment effects by foreign government $d \in \{China, India, Russia, UK, US\}$ separately.

However, it is not obvious how the information provided relates to respondents' prior beliefs. We thus examine heterogeneity in treatment effects by the reported rank of each developer country and the share of doses that each developer country contributed. The ranking variable is reversed,

[9] Blocks were created based on earlier survey responses (having received a vaccine, regarding themselves as eligible for a vaccine, and frequently discussing COVID-19), the date on which they took the survey, and the respondent's country.

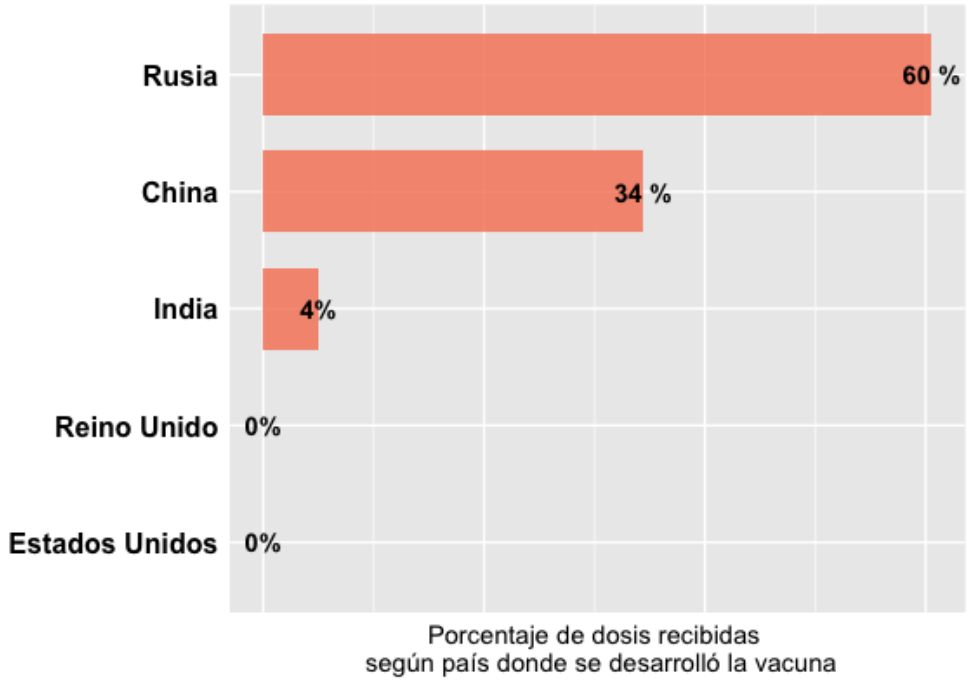


Figure 2: Example of information treatment (from Argentina)

Notes: In English, the *x* axis title is "Percentage of doses received by the country that developed the vaccine"; from most to least, the countries listed in the Argentine example are Russia, China, India, UK, and US.

so higher scores indicate greater vaccine distribution. We estimate these heterogeneous effects by interacting $Treatment_{ic}$ with these variables capturing the informational content provided.

3.2 Results

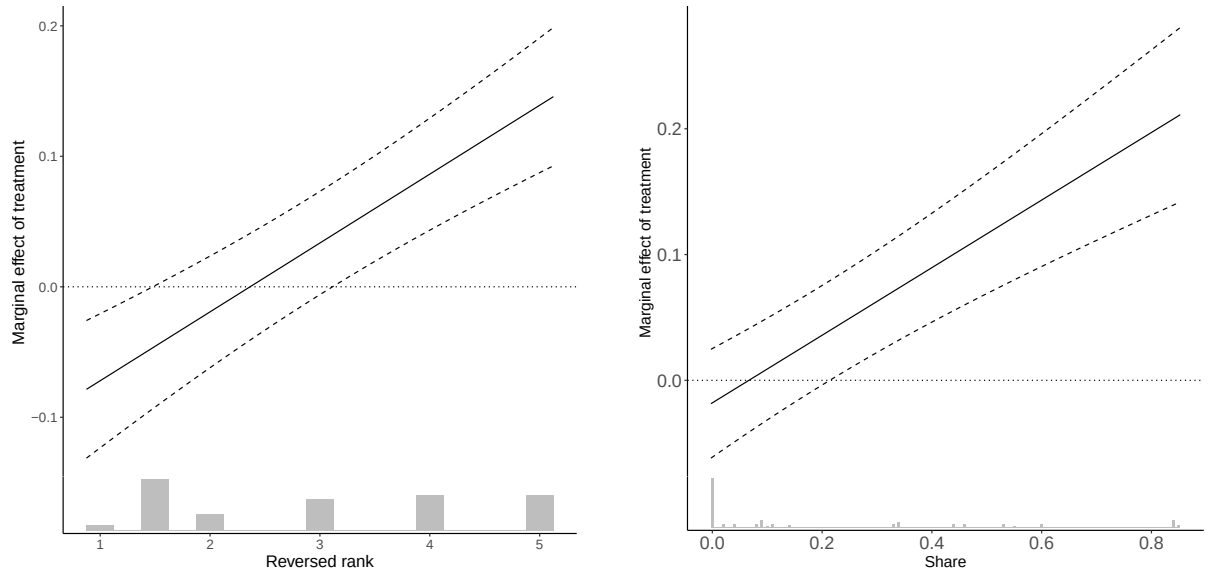
We report the average treatment effects in panel A of Table 2. Suggesting that the average citizen's prior belief largely aligned with the information provided, column (1) indicates that treatment only slightly increased trust in the average developer country by 0.03 levels (or 0.03 standard deviations) on the four-point trust scale. Columns (2)-(6) show that this increase is driven by an increase in trust in the Chinese government of 0.16 levels, or almost 0.2 standard deviations; in contrast, we cannot detect any effect of receiving information about aggregate vaccine distribution on trust in other foreign governments.

However, the limited average effects mask substantial heterogeneity by the reported share of vaccines received from different countries. Pooling across countries, column (1) in panel B shows

Table 2: The effect of aggregate vaccine distribution information treatment on trust in foreign governments

	Outcome: trust in foreign government					
	All governments (1)	Chinese government (2)	Indian government (3)	Russian government (4)	UK government (5)	US government (6)
Panel A: Average treatment effect						
Treated	0.034*	0.155***	-0.004	-0.016	-0.009	0.040
	(0.020)	(0.032)	(0.031)	(0.031)	(0.029)	(0.032)
R^2	0.57	0.55	0.43	0.58	0.53	0.56
Panel B: Heterogeneity by rank of vaccines received by the respondent's country						
Treated × Reversed rank	0.056***	0.171***	0.049	0.047**	0.020	0.066***
	(0.009)	(0.064)	(0.044)	(0.022)	(0.038)	(0.025)
R^2	0.57	0.55	0.43	0.58	0.53	0.56
Reversed rank range	[1,5]	[4,5]	[1,3]	[1.5,5]	[1.5,4]	[1.5,5]
Reversed rank mean	3.00	4.55	1.74	2.27	2.77	3.67
Reversed rank std. dev.	1.37	0.5	0.65	1.3	0.77	1.2
Panel C: Heterogeneity by the share of vaccines received by the respondent's country						
Treated × Share	0.270***	0.395***	1.839	0.259**	-0.097	0.169
	(0.045)	(0.126)	(1.823)	(0.129)	(0.206)	(0.117)
R^2	0.57	0.55	0.43	0.58	0.53	0.56
Share range	[0,0.85]	[0.14,0.84]	[0,0.04]	[0,0.60]	[0,0.44]	[0,0.85]
Share mean	0.19	0.53	0.01	0.12	0.09	0.23
Share std. dev.	0.27	0.25	0.02	0.23	0.15	0.26
Panel D: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs						
Treated × Reversed rank	0.054***	0.143**	0.071	0.049*	0.019	0.054**
	(0.010)	(0.066)	(0.045)	(0.025)	(0.038)	(0.026)
Treated × Prior belief	0.006	0.061**	-0.061***	-0.006	0.005	0.038*
	(0.011)	(0.026)	(0.023)	(0.024)	(0.023)	(0.022)
R^2	0.57	0.55	0.43	0.58	0.53	0.56
Reversed rank range	[1,5]	[4,5]	[1,3]	[1.5,5]	[1.5,4]	[1.5,5]
Reversed rank mean	3.00	4.55	1.74	2.27	2.77	3.67
Reversed rank std. dev.	1.37	0.5	0.65	1.3	0.77	1.2
Prior belief range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Prior belief mean	3.09	3.87	2.24	3.23	2.96	3.14
Prior belief std. dev.	1.5	1.34	1.45	1.45	1.31	1.46
Outcome range	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}
Control outcome mean	2.50	2.20	2.14	2.56	2.81	2.79
Control outcome std. dev.	0.94	0.94	0.84	0.95	0.84	0.93
Observations	8,245	1,649	1,649	1,649	1,649	1,649

Notes: The specification in each column of each panel includes experimental block × respondent country (× vaccine developer country, for the pooled specification in column (1)) fixed effects and pre-treatment endline trust, and is estimated using OLS. Covariates and the lower-order interaction terms in panels B-D are omitted to save space. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.



(a) Heterogeneity by distribution rank of vaccine developer country in respondent's country

(b) Heterogeneity by vaccine developer country share of vaccines distributed in respondent's country

Figure 3: Moderation of the effect of aggregate vaccine distribution information treatment on trust in foreign governments, by information content

Notes: Each line is the conditional average treatment effect, linearized with respect to the moderator; the dotted lines capture 95% confidence intervals. The estimates are derived from column (1) of panels B and C of Table 2. The bars at the foot of each plot indicate the distribution of each moderator.

that each unit increase in the five-country ranking—e.g. going from second to first largest sender—increased the effect of treatment on trust by 0.06 levels, while panel C shows that a 20 percentage point increase in the share of vaccines developed in a given country increased trust by a similar amount. These marginal effects are plotted in Figure 3, which shows that treatment significantly increases trust in the governments of the top three vaccine developer countries and countries from which more than 20% of a country's vaccine supply originated. Appendix Table A6 shows that these estimates are similar across respondent country, except in Perú where responses to treatment were weaker.

Columns (2)-(6) again find that respondents are most sensitive to the share of vaccines developed in China, suggesting that citizens' lower initial trust in the Chinese government is more malleable than trust in the other countries. Nevertheless, respondents are also sensitive to the relative number of vaccines coming from Russia and the US; at the time of the survey, few vaccines

developed in India or the UK had been administered in any country.

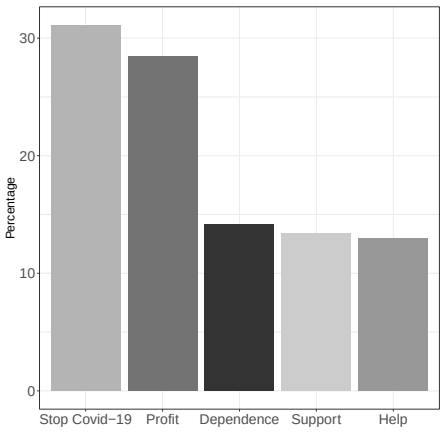
These results are consistent with respondents learning from the treatment. However, it is also possible that the information primed reactions to pre-existing beliefs (see Iyengar and Simon 2000). If this were the case, individuals that already believed a country had sent more vaccines might respond most to treatment. To help distinguish between learning and priming interpretations, panel D compares effect heterogeneity with respect to the reported rank and respondent prior belief simultaneously. That the moderating effect loads predominantly on the reported ranking suggests that treatment effects are driven by the informational content provided, rather than priming.

4 Potential mechanisms

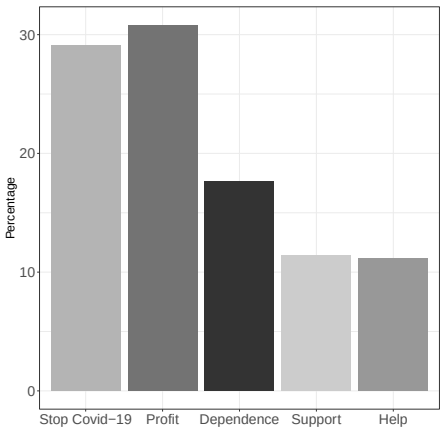
The preceding results present clear evidence, for both individual and aggregate receipt of vaccines developed abroad, that COVID-19 vaccine distribution can significantly increase trust in foreign governments. In line with popular speculation, our findings suggest that COVID-19 vaccine diplomacy could be an effective means of creating soft power currency.

To tentatively explore why citizen trust in foreign governments changes, we asked respondents why they thought the vaccines received by their country from the top three developer countries were being distributed. Stopping the spread of COVID-19, cited by 31% of respondents, was the most common reason. This fairly widespread perception of a global common good motivation could account for increased trust in foreign governments. Indeed, for vaccine diplomacy to cultivate soft power, the developer country exercising this diplomacy would need to be seen as altruistic, generous, compassionate and extending assistance with "no strings attached."

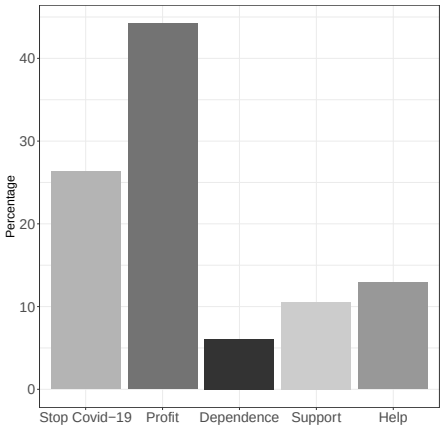
We further examine how our treatment variables affected respondents' perceptions of vaccine developer country motivations. After personally receiving a vaccine developed by a given foreign power, Appendix Table A7 shows that respondents became significantly more likely to believe that this vaccine developer country was trying to stop the spread of COVID-19 and help the respondent's country. Appendix Table A8 reports broadly similar—if less pronounced—results for aggregate



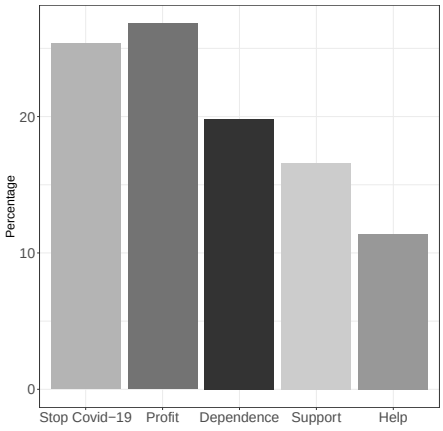
(a) All governments



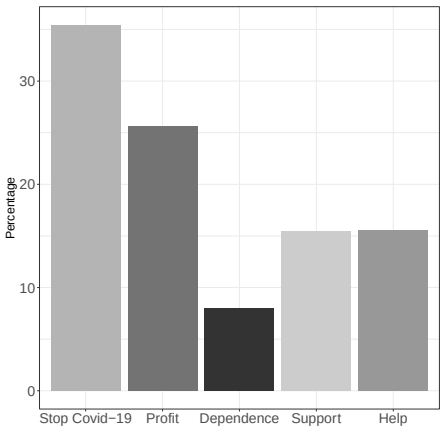
(b) China



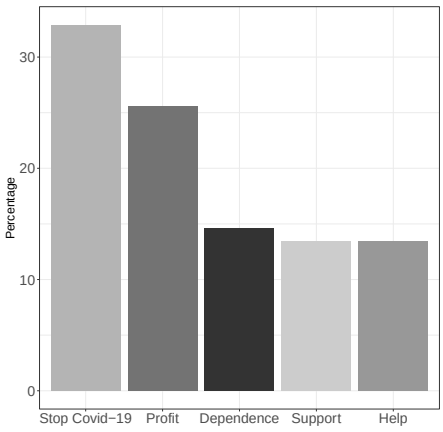
(c) India



(d) Russia



(e) United Kingdom



(f) United States of America

Figure 4: Respondent perceptions of motivation for developing the vaccines distributed in Latin America

information treatment. These findings suggest that vaccine distribution may increase trust in foreign governments both by altering citizen beliefs about the motives for distributing vaccines as well as learning about how much effort has been exerted to pursue a common good.

Although the global good perception appears to drive the positive effect of vaccine diplomacy, the histograms in Figure 4a also show that some respondents regarded vaccine distribution somewhat cynically. Almost 30% viewed vaccine distribution as an opportunity to profit; slightly more respondents viewed vaccine distribution as a way to increase international dependence than as a way to help. Respondents were more likely to view the UK and US as seeking to prevent the spread of COVID-19 than China, Russia, and India. However, neither perception was altered by either vaccine diplomacy treatment. To the extent that vaccine diplomacy is deemed to be self-serving and offered only in exchange for recipient countries adopting specific policy positions, it transforms into hard power in ways that may dissipate its advantages.

5 Conclusion

This article shows how vaccine diplomacy can shape trust in foreign governments, and in doing so paves several avenues for future research on the topic. Leveraging variation in the country that developed the vaccines individuals received and an experimental treatment that informed individuals about aggregate distribution of vaccines, we find that vaccine diplomacy can improve trust in vaccine developer countries, particularly for China.

These findings raise the question of whether changes in public opinion will persist once the pandemic recedes and, if they do, whether they can then facilitate foreign policy decisions in vaccine recipient countries. For instance, some countries like Honduras and Paraguay are already reconsidering their ties with Taiwan following receipt of Chinese vaccines.[10] The findings also motivate research investigating why China benefits more than other countries from vaccine diplomacy in the region: is it better branding efforts, were citizens initially more cynical about China's foreign policies, are recipients of Chinese vaccines resentful of countries that did not provide better vac-

[10] "Paraguay's 'Life and Death' Covid Crisis Gives China Diplomatic Opening," *New York Times*, 4/16/2021.

cines, or did China benefit from a first mover advantage in supplying vaccines at a time when many Western countries were hoarding them?

It is worth considering the degree to which our finding that public diplomacy can win over hearts and minds is specific to the COVID-19 pandemic. Diplomacy has long comprised vaccines as part of its repertoire (Huang 2021).[11] In our era of global interdependence, epidemics are likely to be increasingly common so there is reason to anticipate that our findings may be relevant beyond the current health crisis.

Finally, our article centers on citizen response to vaccine diplomacy. However, we take as given the distribution patterns of vaccines. The international relations field would benefit from a more comprehensive understanding of the politics of vaccine distribution: where vaccines are being sent and why. Pundits debate how developer nations are deploying their vaccine diplomatic efforts, whether, for example, they seek to consolidate alliances, remedy strained relations, or gain new geopolitical influence, and whether their diplomacy comes, in fact, with "no strings attached."

[11] China specifically has engaged in a decades-old 'Health Silk Road' as an integral component of its Belt and Road Initiative, see "Don't believe the hype about China's 'vaccine diplomacy' in Africa," *Washington Post*, 3/5/2021.

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Online Appendix

Contents

A.1 Contextual information

Latin America experienced some of the highest rates of COVID-19 infection and death globally. Dense urban spaces, high rates of informal economic activity, and lack of access to adequate sanitation contributed structurally to high levels of vulnerability to the pandemic. Government responses varied substantially at both the national and sub-national levels. Nationally, Argentina, Chile, Colombia, and Perú initially pursued stronger national lockdown policies lasting through at least summer of 2020, while México's national lockdown was much shorter and Brazil had no national lockdown. Following the initial wave of the virus in summer 2020, several countries re-initiated lockdowns to manage the second wave of the pandemic: Perú re-instated a lockdown in January 2021, while Argentina maintained quarantine policies from March 2020 through February 2021.

The impact of the pandemic in the region has been substantial, ranging from 36,995 cumulative deaths in Chile to 581,000 cumulative deaths in Brazil due to COVID-19 as of September 2, 2021. Relative to national population, Peru had the highest mortality from COVID-19, with an estimated 606 COVID-19 deaths per 100,000 residents of Perú. The economic and social tolls of the pandemic in the region were widespread: Latin America experienced an economic recession, increases in poverty, school closures which are expected to reduce education outcomes, and disruptions of other essential social programs such as routine vaccination.

A.1.1 International relations in Latin America

Foreign intervention and foreign policy of great powers towards Latin America has varied considerably over the course of the twentieth and twenty-first centuries. During the Cold War, Latin America comprised a theater of both overt and covert conflict between the United States and the USSR. During this period, the US intervened through both covert and overt strategies to undermine left-leaning political actors from attaining and retaining power in the region. US-backed coups of left-wing or reformist leaders in Argentina, Bolivia, Brazil, Chile, Guatemala, as well as support for right-wing rebel groups in Nicaragua and right-wing dictators in Panama, Paraguay, and the

Dominican Republic provide some examples of US intervention during this time. On the other side of the Cold War, the USSR during this period extended contact and support for communist regimes and opposition movements, occasionally reaching to the level of international security crises, such as the Cuban Missile Crisis of 1962. Intervention during this period was not limited to military support, however, with both the US and USSR investing in cultivating the support required to exert soft power and ideological influence in the region.

The end of the Cold War and the beginning of the Washington Consensus in the US opened a policy era in the 1990s and early 2000s of increasing orientation towards opening and institutionalizing free trade between the US and Latin America. The passage of NAFTA, DR-CAFTA, and bilateral free trade agreements between the US and Chile, Colombia, Peru, and Panama generated greater trade integration and institutionalized US economic influence in the region. Aside from expanding free trade, US involvement in the War on Drugs remained a throughline from Cold War to post-Cold War American policy in the region, with the US both retaining direct DEA presence, exerting diplomatic pressure to reduce production and shipment of narcotics, and providing substantial funding for building, training, and equipping police forces in the region.

The twenty-first century—and specifically, the commodity boom in Latin America—brought renewed foreign interest in investment, firm entry, and trade in Latin America. China, Russia, and the US have all substantially increased investment, business presence, and involvement in commodity production and trade during this period. Alongside trade integration, China has expanded its reach in Latin America through substantial investment in businesses and infrastructure in the region, becoming the top trading partner for many countries in the region and one of the largest source of foreign direct investment. In countries in the region that recognize Taiwan, China's economic investments and foreign aid are often seen as tied to efforts to convince those countries to recognize China instead.

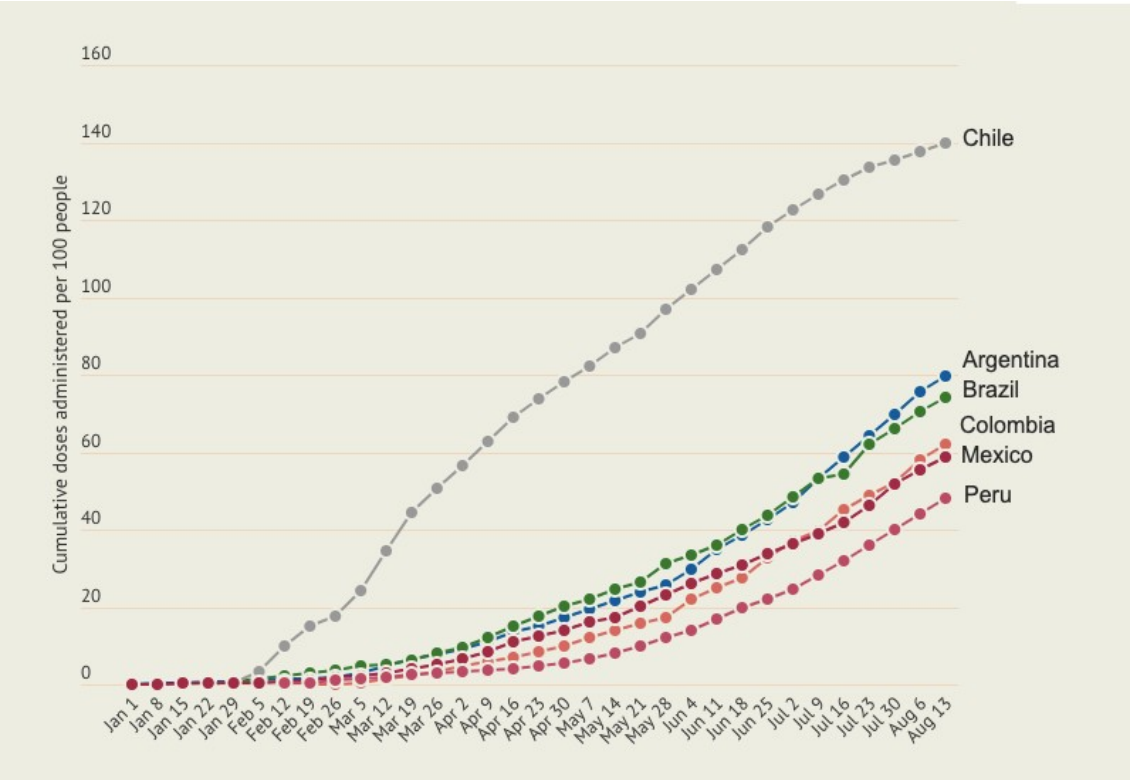

Figure A1: Cumulative doses per 100 people (Figure adapted from AS/COA Vaccine Tracker)

A.1.2 Overview of vaccine rollouts in Latin America

Roll out of vaccines across our cases generally prioritized vaccine delivery to healthcare workers and workers on the front-lines, elderly populations, and populations at-risk due to prior medical conditions. Figure A1 shows the cumulative administration of vaccine doses per 100 residents in our six countries of interest. As of August 2021, Chile has vaccinated the greatest percentage of its residents out of countries in our sample, with over 74% having at least one dose, and over 68% having received both doses. Perú has the lowest vaccination rate as of August 2021, with just over 27% of residents having received at least one dose, and only 20% of residents having received both doses.

Argentina. Argentina began COVID-19 vaccinations on December 29, 2020. The federal government defined the first eligible groups in a national vaccination group that prioritized first individuals based on risk exposure and by age. Argentina started vaccinating healthcare personnel, followed

by adults 70 years of age and older, then adults 60 to 69 years of age, then security personnel and prison workers, then adults 18 to 59 years of age with risk factors, and finally teachers and other staff in educational institutions. In practice, eligibility on any given week was defined by states, which would announce who from each prioritized group was eligible on a specific date.

Brazil. Brazil began COVID-19 vaccinations on January 18, 2021, starting with the Sinovac vaccine and followed by the AstraZeneca vaccine. The federal government delineated a vaccination calendar for the country based on type of employment, age, and comorbidities. The national-level plan consisted of four rollout stages, beginning with healthcare workers, senior citizens over the age of 75, senior citizens over 60 in long-term care facilities, and indigenous communities; the second stage included citizens between 60 to 74 years of age; the third stage opened up vaccination to people with risk factors; and the fourth stage before the general population included teachers, police and other security workers, inmates and people working in prisons. In practice, municipalities announced schedules for who was eligible for vaccination on any given week and this varied somewhat from municipality to municipality. For instance, municipalities could announce that on the next Monday, only 74 year olds were being vaccinated and on Tuesday, only 73 year olds and so on. For the same week, another municipality could announce that on Monday 74 and 73 year olds were to be vaccinated. Overall, however, municipalities did vaccinate within the same eligibility groups on the same months.

Chile. Chile began COVID-19 vaccinations for health-care workers on December 24, 2020. Eligibility was coordinated at the national level, and prioritized groups for vaccination on the basis of age, medical vulnerability, and occupation. The Chilean vaccination campaign began by vaccinating healthcare workers on December 24, 2020. Age-based eligibility began on February 3, 2021, moving from 90+ years of age and adding additional age cohorts each day. Profession-based vaccination began on February 15, 2021, with educators over 60 becoming eligible. Beginning March 14, 2021, adults with co-morbid medical conditions started to become eligible, starting with 59 year old adults and adding additional age cohorts each day. All adults 17 years and older became

eligible for their first dose in Chile by July 2, 2021.

Colombia. Colombia began COVID-19 vaccinations for health-care workers began on February 17, 2021. Eligibility was determined at the national level, and prioritization was based on age, medical vulnerability, and occupation. Colombia's national plan for vaccination outlined 6 groups in order of prioritization: (1) health workers, COVID-affected domestic aid workers, and adults over 80; (2) Domestic care workers, adults between 60 and 70; (3) Adults between 50 and 59, educators, police and military, and individuals 16+ with co-morbid medical conditions; (4) Adults 40-49, incarcerated peoples, caregivers, at-risk populations due to sanitary conditions, non-medical first responders; and (5) People 16+ years of age not prioritized in groups 1-4. As of July 17, 2021, all Colombians over 16 years of age were eligible for at least a first dose of a COVID-19 vaccine.

México. México began COVID-19 vaccinations for health-care workers on December 24, 2020. México's five-cohort plan for mass vaccinations began on February 15, 2021, when adults over 60 became eligible. México's guidelines for vaccine eligibility were based on age, occupation, and health conditions, dividing the population into five cohorts: (1) health professionals, (2) adults over 60, (3) adults between 50-59 and pregnant women over 18, (4) adults between 40-49, and (5) adults over 18. During our survey period, all over over 40 were scheduled to be or become eligible.

Perú. Perú began COVID-19 vaccinations for COVID-19 on February 9, 2021. Perú's eligibility guidelines outlined eight age-based groups, with eligibility based on age decade (i.e. 80+, 70-79, 60-69, 50-59, 40-49, 30-39, 20-29, 12+). After 80+ year olds became eligible in February 2021, each cohort sequentially became eligible for two months, in which the next cohort additionally became eligible in the second month. Adults 60-69 were an exception to this, receiving three months of eligibility with both adults 50-59 and adults 40-49 becoming eligible in the third month (July 2021).

A.1.3 Adherence to Roll-Out Protocols

There is no reliable data on adherence to the roll-out protocols throughout the region. At the elite level there have been documented cases of people jumping the queue to get their vaccines early. In both Argentina and Perú, scandals relating to politicians getting their vaccines before they were eligible resulted in the resignations of public officials. Moreover, many individuals who can afford a trip to the United States have made trips to get their vaccines in states with lax residency requirements, like Florida and Texas, but there is no data that could quantify the prevalence of vaccine tourism. For the majority of citizens without economic or political resources, it would be difficult to game the system and get a vaccine before they are eligible.

At a logistical level, all countries experienced some interruptions to their roll-outs. In México, challenges to vaccine distribution included militarized resistance from fourteen villages, as well as slow efforts to vaccinate migrant populations, and delays due to shortages of the Sputnik V vaccine. Perú, Colombia, and Chile all experienced local vaccine shortages in certain parts of the country, leading to temporary suspension of vaccination campaigns. Salient supply shortages included those in Arequipa (Perú); Risaralda (Colombia); and Valparaíso (Chile). México experienced widespread delays in dose acquisition at the beginning of their vaccination campaign. Argentina experienced a shortage of Sputnik V second dose vaccines, leading to delays and ultimately the decision of the Argentinian government to give mix second doses of Moderna and AstraZeneca for recipients of only one Sputnik V dose. Brazil's vaccination program was plagued by numerous issues: in addition to shortages of vaccines, broader delays in the schedule as well as allegations of corruption challenged Brazil's vaccine roll-out.

A.2 Additional information about the panel survey

Our study leverages data from an original online panel survey conducted during the COVID-19 pandemic, where first wave data was collected in January 2021 and second wave data was collected around four months later in May 2021. The baseline survey sought to address two main research

questions: to examine how information about vaccines affects vaccine hesitancy; and to understand what features of a vaccine rollout would encourage vaccine uptake. Both research questions are covered in separate articles. The endline survey followed up with individuals that were vaccine-eligible by May 2021, and addressed the research question that is the focus of this article: how do the vaccines that Latin American citizens receive affect affect trust in the governments of the countries where the vaccines were developed? Each element of the study was approved by the institutional review board of the research team and complies with relevant ethical regulations for work with human participants. Written informed consent was obtained.

A.2.1 Description of recruitment and sample

Respondents in each country of our six country contexts—Argentina, Brazil, Chile, Colombia, México, and Perú—were recruited for the baseline survey in January 2021 via Netquest's online panels between January 11 and January 29, 2021. Netquest maintains large panels of survey respondents in most Latin American countries, including at least 125,000 panelists in each of the countries in our study. Netquest's panelists are regularly invited to take surveys, although this is not their primary vocation. Dynamic enrollment protocols updated invitations to ensure that the sample frame was nationally representative in terms of sex, age category, socioeconomic status, and region. Upon clicking a link to participate, respondents reached a Qualtrics landing page, where information about the academic study was provided—including the prospect of being paid around $2 (USD)—and consent to participate in the study was obtained. Shortly after starting the survey, the 38% of participants that were willing to take a vaccine within two months of it becoming available them were screened out (to facilitate the testing of vaccine encouragements for another part of the broader research project). We also screened out 9 respondents aged below 18 and 11 respondents who failed our attention check (by failing to correctly identify the capital city of their country). Enrollment continued until a little more than 1,000 vaccine-hesitant respondents had completed the survey from each of the six countries, producing a total of 7,080 complete surveys.

The endline survey recontacted only the baseline survey participants that had become eligible

for a first dose of a COVID-19 vaccine in their country by the date of the followup survey in May 2021. We recontacted respondents based on their baseline responses to questions about their age and comorbities. Our endline respondents are thus older and more likely to possess pre-existing comorbities. The fast speed of Chile's vaccination program meant that a higher fraction of Chilean respondents were approached for the endline survey; in contrast, the slow pace of Perú's vaccination program means that Peruvians are underrepresented in our endline sample relative to the baseline sample. Participants received around $1 (USD) for completing the shorter endline survey. Ultimately, 1,649 of 3,039 vaccine-eligible baseline participants completed the endline survey.

As the summary statistics in Table A1 verify, the marginal distribution of respondents that completed the baseline survey (i.e. reached our screening juncture) largely approximated the Census distribution for these variables. Unsurprisingly for an online survey, respondents are less representative in terms of education, which Netquest did not seek to balance with population averages. Due to the requirement that respondent be vaccine-eligible, the third column for each country shows that the endline sample is notably older and more likely to be of high socioeconomic status than the national average.

A.2.2 Measurement of key variables

We identify the country where the vaccine that a respondent received using the following question:

> **Spanish:** ¿Sabe qué país desarrolló la vacuna que usted recibió? [China, Estados Unidos, India, Reino Unido, Rusia, No sé, No recuerdo]
>
> **English:** Do you know what country developed the vaccine that you received? [China, USA, India, UK, Russia, Don't know, Don't remember]

We then coded our treatment variable as an indicator for the country that the respondent believed their vaccine was developed in. For our main analyses we drop respondents that did not know or remember.

Our main outcome variable—trust in a foreign government—is based on asking the following question of the Chinese, Indian, Russian, UK, and US governments (in a random order):

Table A1: Survey sample summary statistics

	Argentina			Brazil			Chile		
	Census	**Baseline**	**Endline**	**Census**	**Baseline**	**Endline**	**Census**	**Baseline**	**Endline**
Age	47.33	42.59 (17.09)	57.64 (15.43)	41.34	40.48 (15.53)	55.33 (15.37)	44.18	42.67 (16.29)	49.04 (15.12)
Male	0.53	0.46 (0.50)	0.52 (0.50)	0.49	0.50 (0.50)	0.51 (0.50)	0.48	0.47 (0.49)	0.46 (0.50)
Risk Factors		0.29 (0.45)	0.65 (0.47)		0.29 (0.45)	0.73 (0.45)		0.37 (0.48)	0.44 (0.50)
Catholic		0.59 (0.49)	0.66 (0.47)		0.40 (0.49)	0.45 (0.50)		0.45 (0.50)	0.47 (0.50)
Education:									
None	0.13	0.01 (0.08)	0.01 (0.08)	0.11	0.08 (0.27)	0.06 (0.24)	0	0.01 (0.11)	0.01 (0.11)
Primary	0.43	0.14 (0.34)	0.16 (0.37)	0.49	0.12 (0.33)	0.11 (0.31)	0.23	0.07 (0.26)	0.07 (0.25)
Secondary	0.32	0.51 (0.50)	0.42 (0.49)	0.27	0.54 (0.50)	0.54 (0.50)	0.46	0.48 (0.50)	0.43 (0.50)
Higher	0.07	0.20 (0.40)	0.26 (0.44)	0.13	0.16 (0.38)	0.18 (0.39)	0.22	0.25 (0.43)	0.26 (0.44)
Other Higher	0.06	0.15 (0.36)	0.15 (0.35)		0.10 (0.30)	0.11 (0.31)	0.1	0.19 (0.39)	0.22 (0.41)
SES:									
Low	0.13	0.15 (0.36)	0.17 (0.37)	0.26	0.32 (0.47)	0.19 (0.40)	0.42	0.36 (0.48)	0.32 (0.47)
Middle	0.80	0.80 (0.40)	0.73 (0.45)	0.66	0.62 (0.47)	0.69 (0.46)	0.48	0.57 (0.49)	0.59 (0.49)
High	0.07	0.05 (0.23)	0.11 (0.31)	0.08	0.06 (0.24)	0.12 (0.32)	0.1	0.07 (0.26)	0.09 (0.28)

	Colombia			Mexico			Peru		
	Census	**Baseline**	**Endline**	**Census**	**Baseline**	**Endline**	**Census**	**Baseline**	**Endline**
Age	42.54	38.22 (15.11)	66.57 (4.44)	42.44	38.09 (14.17)	54.06 (9.28)	41.99	48.22 (14.71)	52.64 (15.50)
Male	0.48	0.44 (0.50)	0.62 (0.49)	0.48	0.46 (0.50)	0.50 (0.50)	0.48	0.42 (0.49)	0.49 (0.50)
Risk Factors		0.24 (0.43)	0.45 (0.50)		0.31 (0.46)	0.42 (0.49)		0.28 (0.45)	0.70 (0.46)
Catholic		0.60 (0.49)	0.67 (0.47)		0.63 (0.48)	0.71 (0.45)		0.66 (0.47)	0.72 (0.45)
Education:						9			
None	0.05	0.01 (0.11)	0.06 (0.24)	0.14	0.00 (0.06)	0.00 (0.06)	0.05	0.00 (0.07)	0.01 (0.08)
Primary	0.38	0.03 (0.15)	0.06 (0.24)	0.16	0.04 (0.19)	0.05 (0.21)	0.20	0.02 (0.12)	0.00 (0.00)
Secondary	0.29	0.33 (0.47)	0.27 (0.45)	0.54	0.44 (0.50)	0.38 (0.49)	0.51	0.39 (0.48)	0.25 (0.44)
Higher	0.16	0.49 (0.50)	0.48 (0.50)	0.14	0.28 (0.45)	0.40 (0.49)	0.14	0.30 (0.46)	0.37 (0.48)
Other Higher	0.11	0.14 (0.34)	0.14 (0.35)	0.01	0.24 (0.42)	0.16 (0.37)	0.10	0.29 (0.45)	0.37 (0.49)
SES:									
Low	0.43	0.51 (0.50)	0.47 (0.50)	0.33	0.36 (0.48)	0.19 (0.39)	0.42	0.54 (0.50)	0.26 (0.44)
Middle	0.45	0.38 (0.49)	0.43 (0.49)	0.46	0.45 (0.50)	0.57 (0.50)	0.50	0.41 (0.49)	0.65 (0.48)
High	0.12	0.11 (0.31)	0.10 (0.30)	0.21	0.19 (0.39)	0.24 (0.43)	0.08	0.05 (0.21)	0.09 (0.29)

Notes: The Census data is drawn from the most recent available Census data, with the exception of the data for socioeconomic level, which was provided by Netquest. Each value is a mean; standard deviations are in parentheses.

Spanish: ¿Cuánta confianza tiene en los actuales gobiernos de los siguientes países? [Nada de confianza, Poca confianza, Algo de confianza, Mucha confianza, No sé]

English: How much trust do you have in the current governments of the following countries? [No trust at all, Little trust, Some trust, A lot of trust, Don't know]

The Portuguese translation is available on request. This question was asked once within the baseline survey and twice within the endline survey. In the endline survey, the question was near the beginning of the survey the first time and again late in the survey after the information treatment had been disseminated. We coded our main outcome variable as a four-point scale ranging from "no trust at all" (0) to "a lot of trust" (4); "don't know" responses were coded at the median of the scale (2.5), although we show that our results are also robust to dropping respondents that answered "don't know."

To illuminate respondents' perceptions of country motivations for distributing vaccines in the respondent's country, we asked the following question separately of the three developer countries from which most vaccines had been distributed after the dissemination of the information treatment:

Spanish: Marque las declaraciones con las que está de acuerdo en relación a la siguiente frase:

[Developer country] está proveyendo vacunas a [respondent country] para:

- Detener rápidamente la propagación del COVID-19 en el mundo
- Ayudar a los ciudadanos de [respondent country]
- Aumentar el apoyo a [Developer country] entre las personas de [respondent country]
- Incrementar la dependencia de [respondent country] en [Developer country]
- Obtener ganancias económicas

English: Indicate the statements you agree with regarding the following sentence:

[Developer country] is providing vaccines to [respondent country] in order to:

- Quickly stop the spread of COVID-19 around the world
- Help the citizens of [respondent country]
- Increase support for [Developer country] among in the population of [respondent country]
- Increase the dependence of [respondent country] on [Developer country]
- Obtain economic profits

The Portuguese translation is available on request. We used this question to code five outcome variable, each indicating whether or not a respondent selected a given statement.

A.3 Estimating the effect of receiving a vaccine

A.3.1 Identification strategy and validation

As noted in the main text, our identification strategy rests on the assumption that the country where the vaccine that an individual received was developed is independent of potential outcomes, conditional on the individual's eligibility category within their country. Based on the eligibility rules and guidelines described in Appendix section A.1.2, we constructed bins of individuals that became vaccine-eligible around the same time. To create eligibility bins, we followed national administrative guidelines and plans articulated in each country for when adults would become eligible. This yielded the following schema of blocks based on age and risk factors:

Given that the type of vaccine received was not actually randomized, it remains possible that individuals with higher or lower trust in certain foreign governments might have been more likely to receive particular types of vaccine. This could arise if individuals choose the location or timing of their vaccine to obtain a particular type of vaccine or if localities containing certain types of respondent were allocated particular types of vaccine. To assess the validity of the design, we use our baseline survey responses—which were collected before any respondent had been vaccinated—to examine whether the respondents that received a vaccine developed in different countries are

	Eligibility Blocks					
	Block 1	*Block 2*	*Block 3*	*Block 4*	*Block 5*	*Block 6*
Argentina	80+	70-79	60-69 with co-morbidities	55-59	NA	NA
Brazil	80+	70-79	60-69 with co-morbidities	40 plus	56 plus	
Chile	71+	65-70	60-65 46+ with co-morbidities	50-59 16+ with co-morbidities	40-49	17+
Colombia	80+	60-79	50-59 16+ with co-morbidities	40-49	NA	NA
México	60+	50-59	40-49	With co-morbidities	NA	NA
Perú	80+	70-79	60-69	50-59	NA	NA

Figure A2: Eligibility blocks (for groups that became eligible for vaccines by the time of the survey)

systematically different across a wide range of economic, health, political, etc. characteristics. Our covariate balance tests entail estimating the following regression for each baseline covariate:

$$X_{ic} = \alpha_{gc} + \tau_1 \textit{China developed vaccine}_{ic} + \tau_2 \textit{Russia developed vaccine}_{ic} + \tau_3 \textit{UK developed vaccine}_{ic} + \varepsilon_{ic}, \quad \text{(A1)}$$

where respondents that received a vaccine developed in the US are the omitted category, and α_{gc} are country-eligibility group fixed effects. To test for differences across respondents in terms of characteristic X_{ic}, we calculate the p value associated with the F test of the joint restriction $\tau_1 = \tau_2 = \tau_3 = 0$. Broadly consistent with chance, the results in Appendix Table A2 show that we only reject this null hypothesis of no differences in mean characteristics across vaccine developer groups at the 10% level for 10 of 81 covariates. This suggests that the country where an individual's vaccine was developed was assigned in a plausibly exogenous manner.

A.3.2 Robustness checks

To demonstrate that our estimate of the effect of receiving a vaccine developed in a particular country is robust, we report the results of several further tests in Table A3. First, we implement a

Table A2: Balance across individuals that received vaccines developed in different countries

Covariate	Equality test (p value)	Covariate	Equality test (p value)
Education - None	0.239	Comorbidities - Chronic Obstructive Pulmonary Disease	0.061*
Education - Primary	0.041**	Comorbidities - Prefer Not To Share	0.008***
Education - Secondary	0.912	Had COVID	0.151
Education - Other Higher	0.878	Know Someone Seriously Ill or Passed Away COVID	0.341
Education - University	0.962	COVID Economic Situation	0.710
Gender	0.140	Government Vaccine Priority	0.263
Running Water in Home	0.893	Left/Right Political Scale	0.133
Sewage in Home	0.839	Satisfied with President COVID Management	0.761
Electricity in Home	0.733	Satisfied with Mayor COVID Management	0.539
No Running Water, Sewage, or Electricity in Home	0.870	Satisfied with Health Ministry COVID Management	0.271
Baseline COVID News Consumption - TV	0.450	Would Vote for Current President	0.461
Baseline COVID News Consumption - Radio	0.832	Would Vote for Current Mayor	0.622
Baseline COVID News Consumption - Print	0.061*	Trust in Current President	0.547
Baseline COVID News Consumption - Word of Mouth	0.164	Trust in Current Mayor	0.846
Baseline COVID News Consumption - WhatsApp	0.205	Trust in National Health Ministry	0.170
Baseline COVID News Consumption - Social Media	0.162	Trust in National Medical Association	0.240
Baseline COVID News Consumption - News Websites	0.018**	Trust in Left-Wing Newspaper	0.520
COVID Severity in Country	0.255	Trust in Right-Wing Newspaper	0.864
Herd Immunity Prior	0.113	Trust in Religious Leader	0.387
General Vaccine Hesitancy - Protect from Disease	0.120	Trust in Local Healthcare	0.133
General Vaccine Hesitancy - Good for Community	0.520	Trust in Armed Forces	0.603
General Vaccine Hesitancy - Trust in Government	0.345	Trust in Civil Society Organizations	0.784
General Vaccine Hesitancy - Follow Doctor Instructions	0.521	Trust in Government of China	0.160
General Vaccine Hesitancy - Trust in International Medical Experts	0.170	Trust in Government of US Under Trump	0.062*
General Vaccine Hesitancy - Refused Vaccine	0.997	Trust in Government of US Under Biden	0.621
COVID Hesitancy Reasons - Side Effects	0.988	Trust in Government of U.K.	0.894
COVID Hesitancy Reasons - Vaccine Gives COVID	0.364	Trust in Government of Russia	0.859
COVID Hesitancy Reasons - Produced Too Quickly	0.616	Meeting Indoor With Non-Family Contributes to COVID	0.479
COVID Hesitancy Reasons - Not Effective	0.168	Risk Aversion 1	0.577
COVID Hesitancy Reasons - Not At Risk of Getting COVID	0.842	Risk Aversion 2	0.864
COVID Hesitancy Reasons - Against Vaccines Generally	0.496	Risk Aversion 3	0.317
COVID Hesitancy Reasons - Prefer 'Natural' Immunity	0.133	Risk Aversion 4	0.342
COVID Hesitancy Reasons - Already Had COVID	0.573	Risk Aversion 5	0.407
COVID Hesitancy Reasons - Don't Trust Government	0.280	Discount Rate 1	0.153
COVID Hesitancy Reasons - Financial Concerns	0.363	Discount Rate 2	0.048**
COVID Hesitancy Reasons - Other	0.101	Discount Rate 3	0.038**
Comorbidities - None	0.520	Discount Rate 4	0.741
Comorbidities - Diabetes	0.355	Donation Amount	0.864
Comorbidities - Cardiovascular Diseases	0.439	Important to Receive Respect and Recognition	0.079*
Comorbidities - Obesity	0.035**	Social Influence	0.478
Comorbidities - Autoimmune Diseases	0.850		

Notes: Each statistic is the p value associated with an F test of the null hypothesis that the mean value across respondents that received vaccines developed in different countries is the same, based on an OLS regression including eligibility group $\times$ respondent country fixed effects.

difference-in-differences design by estimating OLS regressions of the following form:

$$\Delta Trust_{dic} = \alpha_{dgc} + \tau Country\ developed\ vaccine_{dic} + \varepsilon_{dic}, \tag{A2}$$

where $\Delta Trust_{dic}$ is the change in trust in the government of country d between the endline and baseline surveys. The results, in panel A, show that trust in the government where a respondent's vaccine was developed increases again increases when exploiting only within-respondent variation in trust, and by a larger magnitude than our main estimates for the pooled specification.

Second, we address the potential concern that differences in the vaccines that individuals received are correlated with regional differences in where different types of vaccines were delivered. For example, to increase uptake, governments might have allocated vaccines developed in a particular country to regions with favorable attitudes toward that country. To ensure that such differences are not driving our estimates, we further exploit variation within locality by including developer country $\times$ country-eligibility group $\times$ locality fixed effects. We operationalize locality in terms of both region (typically the state level) and municipality. Given our relatively small country samples, the interactive fixed effects using municipality perfectly explain a substantial numbers of observations (because there is no variation in treatment within sparely populated fixed effect cells), and thus reduce the statistical power of the analysis. Nevertheless, panels B and C show that our findings are robust to the inclusion of either fixed effect: although the precision of the estimates declines, particularly for the by-country estimates using municipality fixed effects, in both cases we observe statistically significant and numerically similar points estimates to our main specification.

Third, we show that the results are robust to adjusting for the 92 baseline survey covariates over which we assessed balance. We set "don't know" responses to their median values to maintain the sample size, although the sample size still declines due to non-responses for some baseline covariates. The results in panel D suggest that our finding is not driven by potential confounds.

Fourth, we show that the results are not driven by our definition of treatment in terms of the country that the respondent believed developed the vaccine that they received. Instead using the country of the vaccine manufacturer that the respondent reported having received (e.g. defining

Table A3: The effect of individuals receiving a particular vaccine on trust in the government of the country where the vaccine was developed, robustness checks

	Outcome: trust in foreign government				
	All governments	Chinese government	Russian government	UK government	US government
	(1)	(2)	(3)	(4)	(5)
Panel A: Difference-in-differences (outcome in changes)					
Country developed vaccine	0.230***	0.163*	-0.022	0.182	0.145
	(0.034)	(0.096)	(0.150)	(0.130)	(0.111)
R^2	0.03	0.03	0.08	0.05	0.05
Outcome range	{-3,3}	{-3,3}	{-3,3}	{-3,3}	{-3,3}
Control outcome mean	0.34	0.37	0.31	0.39	0.31
Control outcome std. dev.	0.97	0.93	0.93	0.96	1.05
Country developed vaccine	0.25	0.53	0.20	0.11	0.17
Observations	2,836	709	709	709	709
Panel B: Developer country × country-eligibility group × region fixed effects					
Country developed vaccine	0.092***	0.301**	-0.045	0.282**	0.050
	(0.031)	(0.118)	(0.177)	(0.133)	(0.112)
R^2	0.33	0.44	0.49	0.42	0.47
Outcome range	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}
Control outcome mean	2.73	2.25	2.58	2.96	2.90
Control outcome std. dev.	0.92	0.92	0.93	0.83	0.89
Country developed vaccine mean	0.25	0.53	0.20	0.11	0.17
Observations	2,836	709	709	709	709
Panel C: Developer country × country-eligibility group × municipality fixed effects					
Country developed vaccine	0.094***	0.309	0.191	0.121	0.153
	(0.033)	(0.222)	(0.348)	(0.245)	(0.226)
R^2	0.48	0.77	0.77	0.76	0.78
Outcome range	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}
Control outcome mean	2.73	2.25	2.58	2.96	2.90
Control outcome std. dev.	0.92	0.92	0.93	0.83	0.89
Country developed vaccine mean	0.25	0.53	0.20	0.11	0.17
Observations	2,836	709	709	709	709
Panel D: Adjusting for 81 baseline covariates					
Country developed vaccine	0.088***	0.239***	0.064	0.243**	0.086
	(0.032)	(0.092)	(0.139)	(0.112)	(0.096)
R^2	0.29	0.36	0.4	0.33	0.41
Outcome range	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}
Control outcome mean	2.74	2.25	2.58	2.97	2.92
Control outcome std. dev.	0.92	0.91	0.92	0.83	0.89
Country developed vaccine mean	0.25	0.54	0.19	0.11	0.17
Observations	2,552	638	638	638	638
Panel E: Defining treatment by country of reported vaccine manufacturer					
Country developed vaccine	0.095***	0.299***	0.033	0.217**	0.128
	(0.030)	(0.084)	(0.130)	(0.105)	(0.090)
R^2	0.22	0.23	0.26	0.17	0.19
Outcome range	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}
Control outcome mean	2.73	2.22	2.58	2.96	2.91
Control outcome std. dev.	0.92	0.91	0.93	0.82	0.88
Country developed vaccine mean	0.25	0.54	0.18	0.10	0.18
Observations	2,836	709	709	709	709
Panel F: Dropping respondents who answered "don't know"					
Country developed vaccine	0.093***	0.291***	-0.008	0.161	0.203**
	(0.036)	(0.095)	(0.146)	(0.105)	(0.103)
R^2	0.25	0.26	0.31	0.2	0.21
Outcome range	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}
Control outcome mean	2.75	2.12	2.57	3.03	2.94
Control outcome std. dev.	0.97	0.96	0.97	0.87	0.92
Country developed vaccine mean	0.25	0.533	0.187	0.117	0.163
Observations	2,315	579	581	566	589

Notes: The specifications in panel A include eligibility group × respondent country (× vaccine developer country, for the pooled specification in column (1)) fixed effects. The specifications in panels B and C include the fixed effects noted in the panel title. The specifications in panel D include eligibility group × respondent country (× vaccine developer country, for the pooled specification in column (1)) fixed effects, baseline survey trust, and baseline covariates. The specifications in panel E and F include eligibility group × respondent country (× vaccine developer country, for the pooled specification in column (1)) fixed effects and baseline survey trust. All covariates other than the treatment variable are omitted to save space, and all specifications are estimated using OLS. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A4: The effect of individuals receiving a particular vaccine on trust in the government of the country where the vaccine was developed, by country

	Outcome: trust in foreign government (all governments)					
	Argentinan respondents (1)	Brazilian respondents (2)	Chilean respondents (3)	Colombian respondents (4)	Mexican respondents (5)	Peruvian respondents (6)
Country developed vaccine	0.082	0.142	0.022	0.090	0.147*	0.458***
	(0.066)	(0.090)	(0.048)	(0.105)	(0.077)	(0.121)
R^2	0.26	0.24	0.18	0.27	0.19	0.19
Outcome range	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}
Control outcome mean	2.80	2.59	2.7	2.92	2.80	2.66
Control outcome std. dev.	0.92	1.02	0.90	0.79	0.86	1.06
Country developed vaccine mean	0.25	0.25	0.25	0.25	0.25	0.25
Observations	592	368	1,228	144	356	148

Notes: Each specification includes eligibility group × vaccine developer country fixed effects and baseline survey trust, and is estimated using OLS. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

the US as the country where the vaccine was developed when the respondent reported receiving a Pfizer vaccine), panel E reports similar results.

Fifth, we show that the coding of the outcome variable is not driving our findings. While the main analyses code "don't know" responses at the median of the outcome range, this position in the scale is not obvious. At the cost of reducing statistical power, an alternative strategy is to drop such observations. Panel F shows that dropping don't know responses does not substantially alter our estimates.

A.3.3 Effects by respondent country

Table A4 reports the estimates pooling across vaccine developer countries by the country of the respondent country separately. While the estimates are of course noisier in these subsamples, the estimated effect in each country is positive. The effect is smallest in Chile, but relatively large in magnitude in each other country.

A.4 Estimating the effect of information about aggregate vaccine distribution

A.4.1 Identification strategy and validation

The (conditional) average treatment effects of the aggregate vaccine information treatment are identified under two assumptions: (i) the stable unit treatment value assumption (SUTVA); and (ii) unconfounded treatment assignment. SUTVA almost certainly holds because interference between respondents between the start and end of the endline survey is implausible in the large countries under study and because versions of treatment were controlled by the research team. Although treatments were randomly assigned, identification of causal effects could still be confounded by chance imbalances or differential attrition across treatment groups within the survey. However, as Table A5 shows, the predetermined characteristics (baseline survey responses and pre-treatment endline responses) of respondents that answered our main post-treatment trust question are well-balanced across treatment groups: broadly in line with chance, we only reject the null hypothesis of equality of mean for 6 of 91 characteristics at the 10% level; each test is estimated using equation (2).

A.4.2 Effects by respondent country

Table A6 reports the estimates pooling across vaccine developer countries by the country of the respondent country separately. As the estimates in panels B and C illustrate, changes in trust due to treatment content are induced in each country other than Perú. In the other countries, the point estimates for the interaction terms are remarkably homogeneous. Panel A shows that positive updating on average is driven by Chilean respondents.

A.5 Additional mechanisms results

To better understand the mechanisms driving respondent changes in trust, we asked respondents what they believed to be the motivations for the distribution of vaccines of vaccine developer coun-

Table A5: Balance across treated and control individuals

Covariate	Equality test (p value)	Covariate	Equality test (p value)
Endline COVID News Consumption - TV	0.706	Comorbidities - None	0.667
Endline COVID News Consumption - Radio	0.101	Comorbidities - Diabetes	0.325
Endline COVID News Consumption - Print	0.220	Comorbidities - Cardiovascular Diseases	0.059*
Endline COVID News Consumption - Word of Mouth	0.978	Comorbidities - Obesity	0.732
Endline COVID News Consumption - WhatsApp	0.603	Comorbidities - Autoimmune Diseases	0.769
Endline COVID News Consumption - Social Media	0.374	Comorbidities - Chronic Obstructive Pulmonary Disease	0.445
Endline COVID News Consumption - News Websites	0.467	Comorbidities - Prefer Not To Share	0.974
COVID Vaccine Conversation Frequency	0.121	Had COVID	0.235
COVID Vaccine Talked About Side Effects	0.079*	Know Someone Seriously Ill or Passed Away COVID	0.828
COVID Vaccine Encouraged Others	0.114	COVID Economic Situation	0.264
Education - None	0.288	Government Vaccine Priority	0.001***
Education - Primary	0.185	Left/Right Political Scale	0.399
Education - Secondary	0.496	Satisfied with President COVID Management	0.552
Education - Other Higher	0.273	Satisfied with Mayor COVID Management	0.543
Education - University	0.799	Satisfied with Health Ministry COVID Management	0.411
Gender	0.416	Would Vote for Current President	0.807
Running Water in Home	0.318	Would Vote for Current Mayor	0.252
Sewage in Home	0.340	Trust in Current President	0.486
Electricity in Home	0.859	Trust in Current Mayor	0.773
No Running Water, Sewage, or Electricity in Home	0.740	Trust in National Health Ministry	0.196
Baseline COVID News Consumption - TV	0.192	Trust in National Medical Association	0.289
Baseline COVID News Consumption - Radio	0.811	Trust in Left-Wing Newspaper	0.457
Baseline COVID News Consumption - Print	0.753	Trust in Right-Wing Newspaper	0.678
Baseline COVID News Consumption - Word of Mouth	0.526	Trust in Religious Leader	0.536
Baseline COVID News Consumption - WhatsApp	0.348	Trust in Local Healthcare	0.727
Baseline COVID News Consumption - Social Media	0.102	Trust in Armed Forces	0.428
Baseline COVID News Consumption - News Websites	0.258	Trust in Civil Society Organizations	0.567
COVID Severity in Country	0.033**	Trust in Government of China	0.346
Herd Immunity Prior	0.135	Trust in Government of US Under Trump	0.491
General Vaccine Hesitancy - Protect from Disease	0.965	Trust in Government of US Under Biden	0.792
General Vaccine Hesitancy - Good for Community	0.924	Trust in Government of U.K.	0.692
General Vaccine Hesitancy - Trust in Government	0.413	Trust in Government of Russia	0.818
General Vaccine Hesitancy - Follow Doctor Instructions	0.674	Meeting Indoor With Non-Family Contributes to COVID	0.647
General Vaccine Hesitancy - Trust in International Medical Experts	0.423	Risk Aversion 1	0.869
General Vaccine Hesitancy - Refused Vaccine	0.295	Risk Aversion 2	0.396
COVID Hesitancy Reasons - Side Effects	0.292	Risk Aversion 3	0.783
COVID Hesitancy Reasons - Vaccine Gives COVID	0.800	Risk Aversion 4	0.999
COVID Hesitancy Reasons - Produced Too Quickly	0.346	Risk Aversion 5	0.104
COVID Hesitancy Reasons - Not Effective	0.131	Discount Rate 1	0.071*
COVID Hesitancy Reasons - Not At Risk of Getting COVID	0.256	Discount Rate 2	0.106
COVID Hesitancy Reasons - Against Vaccines Generally	0.141	Discount Rate 3	0.489
COVID Hesitancy Reasons - Prefer 'Natural' Immunity	0.779	Discount Rate 4	0.599
COVID Hesitancy Reasons - Already Had COVID	0.163	Donation Amount	0.202
COVID Hesitancy Reasons - Don't Trust Government	0.036**	Important to Receive Respect and Recognition	0.107
COVID Hesitancy Reasons - Financial Concerns	0.700	Social Influence	0.621
COVID Hesitancy Reasons - Other	0.759		

Notes: Each statistic is the p value associated with an F test of the null hypothesis that the mean value across treated and control respondents that answered the post-treatment trust question is the same, based on an OLS regression including experimental block $\times$ respondent country fixed effects and pre-treatment endline trust.

Table A6: The effect of aggregate vaccine distribution information treatment on trust in foreign governments, by country

	Outcome: trust in foreign government (all governments)					
	Argentinan respondents (1)	Brazilian respondents (2)	Chilean respondents (3)	Colombian respondents (4)	Mexican respondents (5)	Peruvian respondents (6)
Panel A: Average treatment effect						
Treated	0.012	-0.049	0.078**	0.100	0.035	-0.005
	(0.044)	(0.056)	(0.036)	(0.078)	(0.047)	(0.061)
R^2	0.61	0.56	0.52	0.63	0.59	0.59
Panel B: Heterogeneity by rank of vaccines received by the respondent's country						
Treated × Reversed rank	0.051**	0.053**	0.067***	0.067**	0.059***	0.007
	(0.023)	(0.021)	(0.015)	(0.031)	(0.021)	(0.029)
R^2	0.61	0.56	0.53	0.64	0.60	0.59
Reversed rank range	[1.5,5]	[1.5,5]	[1.5,5]	[1.5,5]	[1,5]	[2,5]
Reversed rank mean	3.00	3.00	3.00	3.00	3.00	3.00
Reversed rank std. dev.	1.38	1.38	1.38	1.38	1.41	1.27
Panel C: Heterogeneity by the share of vaccines received by the respondent's country						
Treated × Share	0.242*	0.281**	0.300***	0.472**	0.532***	0.016
	(0.126)	(0.118)	(0.064)	(0.211)	(0.170)	(0.112)
R^2	0.61	0.56	0.53	0.64	0.60	0.59
Share range	[0,0.6]	[0,0.53]	[0,0.84]	[0,0.55]	[0,0.46]	[0,0.85]
Share mean	0.20	0.20	0.19	0.20	0.20	0.20
Share std. dev.	0.24	0.24	0.33	0.22	0.17	0.33
Panel D: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs						
Treated × Reversed rank	0.031	0.053**	0.072***	0.083**	0.046**	0.019
	(0.025)	(0.021)	(0.018)	(0.040)	(0.022)	(0.032)
Treated × Prior belief	0.039*	0.000	-0.009	-0.037	0.046*	-0.031
	(0.023)	(0.025)	(0.021)	(0.042)	(0.024)	(0.035)
R^2	0.61	0.56	0.53	0.64	0.6	0.59
Reversed rank range	[1.5,5]	[1.5,5]	[1.5,5]	[1.5,5]	[1,5]	[2,5]
Reversed rank mean	3.00	3.00	3.00	3.00	3.00	3.00
Reversed rank std. dev.	1.38	1.38	1.38	1.38	1.41	1.27
Prior belief range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Prior belief mean	3.10	3.17	3.06	3.09	3.08	3.05
Prior belief SD	1.52	1.52	1.5	1.53	1.45	1.49
Outcome range	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}	{1,2,3,4}
Control outcome mean	2.47	2.49	2.39	2.54	2.68	2.63
Control outcome std. dev.	0.92	0.99	0.92	0.97	0.95	0.89
Observations	1,500	1,170	2,935	425	1,405	810

Notes: The specification in each column of each panel includes experimental block × respondent country × vaccine developer country fixed effects and pre-treatment endline trust, and is estimated using OLS. Covariates and lower-order interaction terms in panels B-D are omitted to save space. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A7: The effect of individuals receiving a particular vaccine on the perceived motivation of government of the country where the vaccine was developed for distributing vaccines

	Stop COVID-19 spread (1)	**Help respondent country** (2)	**Increase support for sender** (3)	**Increase dependence on sender** (4)	**Obtain economic profits** (5)
Country developed vaccine	0.093***	0.028*	0.006	-0.016	-0.015
	(0.018)	(0.016)	(0.016)	(0.015)	(0.016)
R^2	0.09	0.04	0.03	0.09	0.07
Outcome range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Control outcome mean	0.48	0.19	0.19	0.19	0.36
Control outcome std. dev.	0.50	0.39	0.39	0.40	0.48
Country developed vaccine mean	0.25	0.25	0.25	0.25	0.25
Observations	1,979	1,979	1,979	1,979	1,979

Notes: Each specification includes eligibility group × vaccine developer country fixed effects and baseline survey trust, and is estimated using OLS. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

tries. We asked the question shown in Appendix section A.2 separately about the three countries that had developed the most vaccines to the respondent's country. The histograms in Figure 4 reports the distribution of responses, providing a general sense of baseline perceptions of motivations. Appendix Tables A7 and A8 further examine the effects of the two types of treatment on motivation perceptions. Focusing on the specifications pooling across vaccine developer countries, the results suggest that personally receiving a vaccine significantly increases the perception that the country where the vaccine was developed is seeking to stop the spread of COVID-19 and help the respondent's country. Similarly, informing respondents that a country ranked higher in terms of vaccine delivery also increased perceptions that that country was trying to prevent the spread of COVID-19. More cynical perspectives were generally unaffected by the individual-level treatment and did not respond to differences treatment content, although there was a positive effect of treatment on the perception that foreign countries were trying to increase bilateral dependence relationships.

Table A8: The effect of aggregate vaccine distribution information treatment on the perceived motivation of government of the country where the vaccine was developed for distributing vaccines

	Stop COVID-19 spread (1)	**Help respondent country** (2)	**Increase support for sender** (3)	**Increase dependence on sender** (4)	**Obtain economic profits** (5)
Panel A: Average treatment effect					
Treated	0.029	0.025*	0.013	0.046***	-0.007
	(0.019)	(0.014)	(0.013)	(0.014)	(0.019)
R^2	0.13	0.06	0.05	0.11	0.12
Panel B: Heterogeneity by rank of vaccines received by the respondent's country					
Treated × Reversed rank	0.022*	0.001	-0.020*	0.011	-0.004
	(0.011)	(0.010)	(0.011)	(0.010)	(0.011)
R^2	0.13	0.06	0.05	0.11	0.12
Reversed rank range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Reversed rank mean	3.00	3.00	3.00	3.00	3.00
Reversed rank std. dev.	1.37	1.37	1.37	1.37	1.37
Panel C: Heterogeneity by the share of vaccines received by the respondent's country					
Treated × Share	0.044	0.009	-0.056*	0.011	-0.017
	(0.033)	(0.029)	(0.031)	(0.031)	(0.034)
R^2	0.13	0.06	0.05	0.11	0.12
Share range	[0,0.85]	[0,0.85]	[0,0.85]	[0,0.85]	[0,0.85]
Share mean	0.19	0.19	0.19	0.19	0.19
Share std. dev.	0.27	0.27	0.27	0.27	0.27
Panel D: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs					
Treated × Reversed rank	0.015	-0.001	-0.020*	0.018	-0.002
	(0.013)	(0.011)	(0.012)	(0.011)	(0.012)
Treated × Prior belief	0.014	0.008	0.004	-0.020**	-0.008
	(0.010)	(0.008)	(0.008)	(0.008)	(0.009)
R^2	0.14	0.07	0.05	0.11	0.12
Reversed rank range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Reversed rank mean	3.00	3.00	3.00	3.00	3.00
Reversed rank std. dev.	1.37	1.37	1.37	1.37	1.37
Prior belief range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Prior belief mean	3.09	3.09	3.09	3.09	3.09
Prior belief std. dev.	1.50	1.50	1.50	1.50	1.50
Outcome range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Control outcome mean	0.40	0.16	0.17	0.17	0.38
Control outcome std. dev.	0.49	0.37	0.38	0.37	0.49
Observations	5,094	5,094	5,094	5,094	5,094

Notes: The specification in each column of each panel includes experimental block × respondent country × vaccine developer country fixed effects and pre-treatment endline trust, and is estimated using OLS. Covariates and lower-order interaction terms in panels B-D are omitted to save space. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.