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

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The development of COVID-19 vaccines could have important implications for international relations, in addition to public health. Vaccine distribution in the Global South has created opportunities for vaccine-developing countries—including China, India, Russia, the UK, and the US—to improve their reputations globally. Leveraging a panel survey conducted in January and May of 2021, we evaluate whether "vaccine diplomacy" affects trust in foreign governments in six Latin American countries. Among vaccinated respondents, we find that trust in the government of the country where their vaccine was developed increased relative to trust in the governments of other great powers. Furthermore, experimentally providing information about the aggregate distribution of vaccines within a respondent's country increased vaccine-eligible respondents' trust in the governments of the countries from which more vaccines were delivered. These increases in trust in vaccine-developing countries' governments reflect updated perceptions of a common good motivation. Our empirical findings suggest that vaccine distribution may play a significant role in cultivating soft power that could further great powers' foreign policy goals.

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1 Introduction

The rapid development of effective vaccines has significantly mitigated the toll of the COVID-19 pandemic. However, limited vaccine supplies and significant government control over when and where vaccines are sent has made vaccine diplomacy a novel dimension of geopolitics. 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] More generally, as part of heightened competition to win global hearts and minds (Goldsmith, Horiuchi and Wood 2014), great powers are increasingly engaging in international relations through public health initiatives (Fazal 2020). Such foreign policy tools often aim to improve states' image among publics abroad. In doing so, a state hopes to align foreign publics' preferences with their own, such that the targeted publics support the state's foreign policies and their own government' cooperation with those policies. For instance, Honduras[3] and Paraguay[4] are already reconsidering their ties with Taiwan following receipt of Chinese vaccines.

In this article, we assess whether a core aspect of vaccine diplomacy—vaccine distribution—could prove to be an effective tool of foreign policy. Specifically, we evaluate if it affects trust in the government of the country where the vaccine was developed. By fostering positive perceptions among foreign citizens through vaccine distribution, public observers posit that great powers are cultivating soft power that may, over time, convince the recipient populations to support, and thereby advance, their foreign policy agendas (Nye 2004). Given the salience of the global pandemic to hard-hit publics and their exposure to mass vaccination campaigns, vaccine distribution may be a powerful tool to increase influence over foreign public opinion (Goldsmith, Horiuchi

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

[2] "From Asia to Africa, China Promotes Its Vaccines to Win Friends," *New York Times*, 9/11/2020. See also Kurlantzick (2007).

[3] "Taiwan says China seeking political gain with Honduras vaccine move," Reuters, 05/12/2021.

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

and Wood 2014).[5] We analyze not only whether vaccine diplomacy improves trust in vaccine-developing countries, but also whether it does so by generating a perception of foreign powers as providers of global public goods—consistent with the logic of soft power.

Latin America has become an epicenter of vaccine diplomacy with many different vaccines flowing to the region.[6] Latin America is subject to China's rapidly expanding presence, which clashes with the United States' historical 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 US as a way for these powers to strengthen their influence—there was a significant ramp-up of deliveries of US-produced vaccines to the region.[7] And yet, despite these investments, there is scant systematic evidence, from Latin America or beyond, assessing whether the international distribution of COVID-19 vaccines can increase trust abroad. More broadly, while recent studies have started to substantiate soft power theory (Blair and Roessler 2021; Goldsmith, Horiuchi and Matush 2021; Kroenig, McAdam and Weber 2010), there still exist important evidence gaps evaluating the effectiveness of different soft power tactics.

Leveraging an online panel survey of vaccine-eligible individuals conducted before and after mass vaccination campaigns began in six Latin American countries, we address these gaps by evaluating two ways through which vaccine distribution could affect trust in the countries where vaccines were developed. First, we exploit within-eligibility group variation in the vaccine that vaccinated individuals received to estimate the effect of *personally receiving a particular vaccine* on trust in the government of the country where the vaccine was developed. Second, in our broader sample of vaccine-eligible individuals, 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. In particular, we informed treated respondents of the rank and share of vaccines that their country had received from China, India, Russia, the UK, and the USA.

[5]Foreign policy tools that are "targeted, sustained, effective, and visible" are posited to be more potent means of increasing influence over foreign mass attitudes (Goldsmith, Horiuchi and Wood 2014).

[6]As of February 2022, the US had donated 53 million doses to Latin America (see AS/COA Vaccine Tracker). By the same period, China had donated 10 million doses and sold 396 million doses, with 283 million doses delivered (see Bridge China Vaccine Tracker).

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

Across our egotropic and sociotropic analyses, the results suggest that vaccine distribution may have important geopolitical implications—and has already significantly improved public perceptions of foreign governments. Specifically, we find that trust in the government of the country where the vaccine that an individual received was developed increased, relative to individuals whose vaccine was developed in a different country, by around 0.2 standard deviations. This translates into a 7 percentage point increase in the probability of trusting or strongly trusting a foreign government. Furthermore, respondents informed that their country had received the most, as opposed to least, vaccines from a particular vaccine-developing country increased their probability of trusting or strongly trusting that country's government by 17 percentage points. Consistent with a learning mechanism, the experimental effect on trust was also most pronounced among respondents who thought that a country had distributed relatively fewer vaccines. While both effects are moderate in magnitude for a single individual, vaccine distribution has the potential to affect a substantial fraction of the global population.[8] Moreover, in each case, the positive effects on trust were largest for trust in China, although vaccine distribution also significantly enhanced trust in Western powers as well. 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 geopolitical ramifications far beyond the pandemic.

By way of mechanisms, although citizens were somewhat cynical about the motives underlying vaccine distribution, positive perceptions appear to dominate. Both sets of analyses indicate that vaccine distribution significantly increased respondents' impression that foreign governments were trying to reduce the global spread of COVID-19. Combined with the positive effects on trust, this suggests that vaccine diplomacy makes the foreign state appear more attractive by conveying its willingness to pursue an important public good in the respondent's country. Through this pathway, vaccine diplomacy may generate diffuse positive affect toward the foreign powers, bolstering their soft power.

Beyond illuminating a significant contemporary political issue, our findings advance the broader

[8]Reweighting respondents to resemble the national population suggests that the findings may generalize beyond our convenience sample.

literature on foreign policy and public opinion in several ways. First, the extant literature has predominantly focused on domestic public opinion regarding one's own country's foreign policy—with a strong US and Western European bias (Howell and Pevehouse 2007; Tomz, Weeks and Yarhi-Milo 2020)—-and great power foreign policies' influence on mass attitudes in developing countries toward their own governments (Baldwin and Winters 2020; Blair and Roessler 2021; Dietrich and Winters 2015). In contrast, we join a handful of important studies investigating how states' foreign policies—including international trade, investments, and aid (Blair, Marty and Roessler forthcoming; Eichenauer, Fuchs and Brückner 2021), leader visits (Goldsmith, Horiuchi and Matush 2021), and health interventions (Goldsmith, Horiuchi and Wood 2014)—shape citizen perceptions in the Global South toward *those foreign states' governments*. 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 diplomatic initiatives by foreign powers can increase trust in such powers—a critical step in the posited causal story of how states exert influence abroad. Moreover, we find vaccine distribution sways the opinion of audiences abroad by altering citizens' perceptions of a foreign power's motivation to provide global public goods.

Second, our study rigorously examines the impact of *vaccine* diplomacy on the cultivation of soft power resources. We thus contribute to a sparse literature exploring the geopolitical benefits—in addition to humanitarian global health benefits—that great powers may secure through public health initiatives (Goldsmith, Horiuchi and Wood 2014; Lee 2021; Telias and Urdinez forthcoming).[9] Our focus on COVID-19 vaccines complements contemporaneous work in Latin America by Urdinez and Winters (2021), which compares changes in feelings toward China between May 2020 and April 2021 across individuals from households that had and had not received a Chinese vaccine. The positive but statistically insignificant effect that they observe accords with our findings for Chinese vaccines, although our comparison with individuals that received other vaccines yields clearer positive effects on trust in the Chinese government. Our design further enables us to show that Western countries—the UK and the US—have experienced similar gains in trust from vaccine

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

distribution, while our novel experimental evidence and analysis of mechanisms also advance the literature by substantiating theories of soft power. We thus add an understudied dimension of soft power—vaccines—to the study of foreign policy and statecraft (Evans, Jacobson and Putnam 1993; Milner and Tingley 2015; Putnam 1988).

Third, we help extend the geographic scope of scholarship on the foreign audience benefits of diplomacy to multiple countries in Latin America. The region is at the heart of global rivalry over soft power, but has generally eluded empirical analysis of such power politics.[10] Furthermore, our paper examines not just the effect of a single country's diplomacy on foreign public opinion, but rather the effects of great powers in strategic rivalry. This context reflects the realities of global geopolitical competition over the hearts and minds of citizens in the Global South. The variety of vaccines received by countries in the region allows us to compare diplomatic benefits across vaccine-developing countries in the crossfire of China, the US, and other countries (Blair, Marty and Roessler forthcoming; Shambaugh 2015; Sun 2013; Wang 2008).

2 Diplomacy and foreign public opinion

International relations theory places "soft power" among the core instruments that states use to exert their influence in the international arena. Foundational work by Joseph Nye contextualizes soft power within this broader arsenal: "there are several ways to affect the behavior of others ... coerce them with threats, induce them with payments, or you can attract and co-opt them to want what you want" (Nye 2004:2). Winning foreign publics' hearts and minds—or "what the target *thinks*" (Nye 2011:84, emphasis added)—is the basis of soft power, as it induces the preferences of foreign publics to align with those of a state seeking to establish soft power resources. Since

[10]Existing research has largely focused on characterizing attitudes toward foreign powers like China and the US and how they change over time or across groups (Azpuru 2016; Carreras 2017; Carreras, Visconti and Acácio 2021). Some work has examined the effects of Chinese economic activities on public opinion in Latin America (Eichenauer, Fuchs and Brückner 2021), others have examined effects of Chinese distribution of vaccines and medical equipment (Telias and Urdinez forthcoming; Urdinez and Winters 2021). However, we are not aware of research exploring the effects of vaccine distribution across different vaccine-developing countries or documenting the effectiveness of soft power in the region.

the preferences of states and policy makers are influenced by the preferences of their citizens, cultivating aligned values, policy preferences, and trust in foreign powers at the popular level has the potential to shift the incentives of political leaders who enact foreign policy (Allen et al. 2020; Putnam 1988). As Nye (2004:5) states "a country may obtain the outcomes it wants in world politics because other countries—admiring its values, emulating its example, aspiring to its level of prosperity and openness—want to follow it."

To cultivate soft power "currencies"—a boosted public image abroad—states engage in a wide repertoire of policies. These can include foreign aid, trade deals, humanitarian military interventions, disaster relief, global health programming, cultural exports, and educational exchange programs. During the COVID-19 pandemic, vaccine diplomacy has emerged as a potentially significant tool in this arsenal. In addition to providing some material benefits, these varied policies cultivate soft power currencies by engendering a voluntary and positive attitudinal shift among the citizens of target states and socializing them to trust, admire, and form preferences aligned with the sending state (Allen et al. 2020; Atkinson 2014; Finnemore 1996). Later, the sending state can mobilize these soft power resources to advance their foreign policy agendas. Goldsmith and Horiuchi (2012), Goldsmith, Horiuchi and Matush (2021), Milner and Tingley (2013), and Allen et al. (2020) suggest that positive mass opinions can facilitate states' goals including constructing military coalitions and bases, negotiating trade agreements, ratifying international treaties, and gaining votes in the United Nations.

Despite the prominence of soft power theory, tests of the theory are relatively limited and evidence is mixed. On the one hand, skeptics of soft power contend that it is ineffective as a tool of influence, contesting the link between foreign public opinion and state behavior (Mearsheimer 2011).[11] Existing scholarship also more fundamentally challenges the link between states' foreign policy aimed at creating soft power resources and the realization of positive shifts in foreign public opinion toward those states. Beneficiaries of soft power interventions may struggle to attribute responsibility to the sender or second guess the motivations of sending states. Recipients of foreign

[11] See also "Not-so-smart-power," *Foreign Policy*, 4/18/2011.

aid, for example, "may be unaware of the aid they receive; the donors' motivations may be seen as primarily self-serving; the positive feelings associated with aid may be too small to shift perceptions shaped by more salient and dramatic foreign policy behavior; or aid programs may simply fail to work and, therefore, fail to sway people's opinions" (Goldsmith, Horiuchi and Wood 2014:91), thereby stymieing the creation of soft power resources.

On the other hand, soft power advocates find that foreign aid and diplomacy confer geostrategic benefits to donors and have the potential to significantly shape global affairs (Dreher and Sturm 2012; Mor 2006; Nye 2008). They point to a range of foreign interventions that have notably shifted public opinion abroad. For example, an evaluation of the US President's Emergency Plan for AIDS Relief finds that exposure to the HIV/AIDS program increased the ratio of approval to disapproval of the US government expressed by foreign respondents (Goldsmith, Horiuchi and Wood 2014). Less costly interventions have also yielded dividends: Goldsmith, Horiuchi and Matush (2021) find that high-level diplomatic visits improve public opinion abroad, with greater benefits for early-term leaders (highlighting the importance of information) and cases with a greater power differential between the visiting and hosting state (suggesting an affective pathway, through the increased perception of goodwill). Consistent with a logic of positive shifts in public opinion conditional on the intervention's efficacy and execution, Blair, Marty and Roessler (forthcoming) find—across six African countries—that Chinese aid projects actually decreased recipients' affinity for China and increased their affinity for the US whereas aid from the US appeared to achieve its desired aim of weakening support for China while strengthening support for the US.

We build on these empirical studies, contributing a systematic evaluation of whether a highly salient tool of international statecraft—COVID-19 vaccines—can shape the public opinion of foreign audiences and create the ingredients of soft power. In this context, we marshal both quasi-experimental evidence and leverage experimental treatments assigned at the individual level to disentangle egocentric and sociotropic drivers of foreign mass attitudes toward a variety of great powers.

2.1 Soft power and vaccine diplomacy

States have long used global health diplomacy as part of their foreign policy. Its use has accelerated dramatically in recent times due to increased bilateralism, heightened US-China competition, and the global COVID-19 pandemic.[12] We follow Fazal (2020:E78) and define health diplomacy as "international aid or cooperation meant to promote health or that uses health programming to promote non-health-related foreign aims."

Most existing scholarship on health diplomacy has emerged in the field of public health and focuses on how effectively such diplomacy can contain disease and serve global health needs (Davies et al. 2014; Katz et al. 2011). However, a smaller political science and international relations literature examines two theoretical distinctions cogently articulated by Fazal (2020): "the means of health diplomacy"—whether diplomacy is multilateral or bilateral—and its aims—whether to advance global public health or serve national strategic interests. Within the typology of health diplomacy, we focus on its bilateral and strategic manifestations.[13] These strategic benefits are increasingly relevant for three reasons. First, as scholars and practitioners have noted, there is a general trend of development aid toward bilateralism because, due to their intergovernmental state-based design, they "will always be limited by claims of state sovereignty and attendant issues of organizational design" (Fazal 2020:E91). Second, the rivalry in the soft power space between the US and China to win global hearts and minds has escalated. Given the greater ease of gaining credit for bilateral than multilateral aid, this has shifted resources from the latter to the former (see Goldsmith, Horiuchi and Wood 2014). Third, the global pandemic has rendered a tool of health diplomacy—the large-scale distribution of vaccines to publics abroad—a prevalent and important tool of foreign policy.

[12] See, for example, Chan, Gahr Store and Kouchner (2008). Diplomacy has long comprised vaccines as part of its repertoire (Huang 2021). China 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. On health diplomacy, see also Huang (2021), Lee (2021)), and Telias and Urdinez (forthcoming).

[13] See Drager and Fidler (2007), Feldbaum and Michaud (2010), Katz et al. (2011), and Vanderwagen (2006) for the interaction between foreign policy interests and health diplomacy interventions.

Indeed, pundits observe that COVID-19 vaccines have become "a new currency for international diplomacy ... Instead of securing a country by sending troops, you can secure the country by saving lives, by saving their economy, by helping with their vaccination.[14] Great powers have become engaged in vaccine diplomacy to great measure. The US has made transparent its goal to use vaccine diplomacy to "reassert US leadership on the world stage ... and to counter efforts by Russia and China to use their own state-funded vaccines to expand their global influence."[15] Likewise, China and Russia have also sought to use its nationally-produced vaccines to its geopolitical strategic advantage. Ultimately, hundreds of millions of doses of Russia's Sputnik V vaccine have made their way around the globe, as have 1.7 billion doses of vaccines developed in China,[16] over 719 million doses of the US' Johnson & Johnson, Moderna, and Pfizer/BioNTech vaccines,[17] and over 67 million doses of the UK's AstraZeneca vaccine.[18]

While private companies have undoubtedly played a key role in the production and distribution of vaccines, we argue that COVID-19 vaccine brands are strongly associated with their country of origin and that vaccine producer states are likely to receive credit for their significant investments in the development and global distribution of the vaccines produced in their country. Indeed, governments have played a pivotal role in developing the vaccines: the US government, for example, provided between $6 and $10 billion in funding for vaccine research;[19] the UK government made the largest contribution to the predominantly publicly-funded AstraZeneca vaccine;[20] in China and Russia, state-controlled institutes and enterprises have produced vaccines. These great power governments have also proven key to facilitating vaccine acquisition contracts between non-producer governments and private vaccine producers;[21] given the initially limited supply of vaccines avail-

[14] "The Newest Diplomatic Currency: Covid-19 Vaccines," *New York Times*, 2/11/2021.

[15] "U.S. to donate more than 17 million Johnson & Johnson vaccines to the African Union," *CNN*, 10/15/2021.

[16] China COVID-19 Vaccine Tracker, Bridge Beijing, retrieved on 1/31/2022.

[17] Our World In Data, 2022.

[18] Our World In Data, 2022.

[19] Estimates from "For Billion-Dollar COVID Vaccines, Basic Government-Funded Science Laid the Groundwork," *Scientific American*, 11/08/2020, and "Domestic Funding for COVID-19 Vaccines:An Overview," *Congressional Research Service*, 03/29/2021.

[20] "Oxford/AstraZeneca Covid vaccine research 'was 97% publicly funded'," *The Guardian*, 4/15/2021.

[21] COVID-19 Vaccine Access, Global Health Center 2021, retrieved on 1/31/2022

able to the Global South, contracts to acquire high-quality vaccines were particularly prized. Moreover, their leaders have actively engaged in credit-claiming for the development and global distribution of vaccines. The US Embassies in Colombia and El Salvador, for example, broadcast bilateral donations of US-produced doses to both countries.[22]

Viewed through this lens, vaccine diplomacy meets the key traits of foreign engagement strategies theorized to successfully yield significant soft power benefits: widespread demand, critical need, efficacy, and visibility (Goldsmith, Horiuchi and Wood 2014). First, given the salience of the global pandemic to extremely hard-hit publics, vaccines are a matter of "life and death."[23] Second, they fulfil a critical need and the number of their prospective individual beneficiaries in recipient countries is large, if not universal (though different countries and sub-populations have procured vaccines at different times). This differentiates the COVID-19 vaccine campaign from many other forms of foreign aid, public diplomacy, or trade policy in which individual benefits are difficult to infer and attribution is complex (Mansfield and Mutz 2009).[24] Third, although variation exists, the vaccines are highly effective at preventing hospitalization and death from COVID-19, and are largely perceived as such. This perception was particularly strong during the period that we study at the beginning of the vaccine rollout in summer 2021. Finally, vaccine diplomacy and distribution are highly visible and well publicized, providing the public with widespread knowledge of the sources and effects of vaccine diplomacy.

We examine vaccine diplomacy as a tool for building soft power. We do not deny that it may also be used to hard power ends. However, we concur with Watanabe and McConnell (2008:5) that "the line between hard and soft power is often blurred, especially in the realm of economic influence and inducement, and the differences between them are best conceptualized as a continuum." Moreover, we agree with Nye (2008) that soft power may best be used as a complement to hard power. Accordingly, we acknowledge the potential element of coercion and inducement of vaccine

[22] See Embajada EEUU Colombia, 2022 and Embajada EEUU El Salvador, 2022.

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

[24] Baldwin and Winters (2020) and Winters, Dietrich and Mahmud (2017), for example, find that foreign publics tend to misattribute aid in the contexts of Bangladesh and Uganda.

diplomacy, but focus on its soft power consequences. These public support consequences are especially relevant at the individual level that we analyze; citizens are not paying for the vaccines—and so do not owe anything in exchange-—and vaccination has remained voluntary.

2.2 How vaccine diplomacy increases trust in foreign governments

We theorize that vaccine distribution generates soft power resources by diffusing trust in the foreign government that developed the vaccines. Although various mechanisms could induce such an attitudinal change, we propose that citizens' perceptions of foreign countries' aims in distributing vaccines is central. The foreign policy literature posits that public approval of the projection of power abroad will rise if that power is deemed to follow a logic of appropriateness (March and Olsen 1989).[25] Analogously, if foreign publics believe that a state's foreign policy is shaped by normative appropriate notions, they may be more likely to view that state positively. In our context, this suggests that if vaccine diplomacy conveys a country's altruism, generosity, compassion, or concern for global public health or support for a particular recipient country and its public—and citizens interpret the country's motivations for vaccine distribution in this light—vaccine distribution is then likely to cultivate trust and thus soft power resources for the country exercising this diplomacy. However, if instead foreign citizens perceive the vaccine-developing country's motives more cynically—as serving the country's strategic interests, e.g., by increasing foreign dependence, profit, and influence—and the vaccines as offered only in exchange for their recipient countries adopting specific policy positions, then vaccine diplomacy transforms into hard power in ways that would dissipate its soft power advantages.

Citizens may be exposed to vaccine diplomacy through both egotropic and sociotropic channels. At the individual level of exposure, receiving a vaccine presents a private benefit in terms of disease prevention as well as secondary personal benefits, such as enabling the individual to resume normal

[25]For example, see Kertzer (2013) on how normative beliefs about what is right and wrong structure attitudes about foreign policy. Advancing a logic of appropriateness, Pinker (2011) and Ward (2001) contend that the public's internalization of the Just War Doctrine principle of non-combatant immunity has shaped domestic attitudes toward international use of force.

life and return to work with greater confidence. Receiving a jab developed in a given country may therefore increase an individual's trust in or favorability toward that country by instilling confidence that the sending country is pursuing public goods that benefit the individual—and may continue to do so in future.

From a sociotropic perspective, mass vaccine distribution can also generate significant societal benefits. The COVID-19 vaccines have the potential to limit the spread of the deadly disease, help to end costly lockdowns, and facilitate economic recovery. Individuals may then form their perceptions of vaccine-developer countries on the basis of their understanding of countries' aggregate vaccine diplomacy at the national level (Fordham and Kleinberg 2012; Kinder and Kiewiet 1981; Mansfield and Mutz 2009). In particular, receiving information—whether through the media, from peers, or via other means—indicating that a foreign power distributed many vaccines to a country may increase trust in or favorability toward that country (Baum and Groeling 2009; Berinsky 2009; Brody 1991; Saunders 2015; Zaller 1992). This is likely to operate through citizens learning that a foreign government is more likely to provide public goods than previously expected, as studies in other contexts has shown (e.g. Bhandari, Larreguy and Marshall forthcoming; Lenz 2009).

While the individual experience of becoming vaccinated may be particularly salient in shaping attitudes, being exposed to information that aggregates the experiences of many conationals may provide a more precise signal of a foreign power's intentions toward an individual's country and its citizens. In line with long-running debates about egotropic and sociotropic drivers of economic voting (e.g. Ansolabehere, Meredith and Snowberg 2014; Lewis-Beck and Stegmaier 2000), it thus remains theoretically ambiguous whether personal experiences or aggregated information about the country as a whole will affect individuals more.

Leaders' public rhetoric suggests that they believe vaccine diplomacy will cultivate international support through the channels just described. Biden's words again are apt: "Planes carrying vaccines from the United States have already landed in 100 countries, bringing people all over the world a little 'dose of hope,' direct from the American people—and, importantly, [with] no strings

attached,"[26] not in exchange for "pressure for favors, or potential concessions. We're doing this to save lives."[27] China has similarly underscored the humanitarian nature of its vaccine distribution, noting that "There will certainly be no strings attached." Moreover, a Chinese foreign ministry spokesman noted that "The virus can spread across borders, but mankind's love also transcends borders."[28] Similarly, the Chinese Embassy in El Salvador tweeted: "China apportions vaccines to El Salvador without concern for geopolitical interest, without calculating economic benefits, and without imposing political conditions."[29]

2.3 Hypotheses

Summarizing the preceding discussion, our theory of affective shifts associated with vaccine provision suggests the following hypotheses relating to individual-level trust in foreign governments:

Hypothesis 1 (H1)**.** *Among individuals that receive a vaccine, trust in the foreign government of the country that developed the particular vaccine that they received will increase.*

Hypothesis 2 (H2)**.** *Learning about aggregate vaccine distribution in one's country will increase an individual's trust in the countries that provide the most vaccines, especially among individuals who underestimated the number of vaccines sent by these countries.*

Hypothesis 3 (H3)**.** *Receiving a vaccine developed by a foreign power or learning about large-scale aggregate vaccine distribution by a foreign power will cause individuals to become more likely to perceive the foreign power as motivated by the pursuit of a shared public good rather than other more self-serving reasons.*

We test these egotropic and sociotropic hypotheses in the context of COVID-19 vaccine distribution in Latin America. We test H1 in section 5 by estimating the effect of personally receiving a particular vaccine on trust in the country where that vaccine was developed, relative to trust in that

[26] Remarks by President Biden Before the 76th Session of the United Nations General Assembly, 9/21/21.
[27] "Biden says biggest vaccine donation 'supercharges' battle against coronavirus," *Reuters*, 6/10/2021.
[28] "Paraguay's 'Life and Death' Covid Crisis Gives China Diplomatic Opening," *New York Times*, 4/16/2021.
[29] Chinese Embassy in El Salvador, 7/26/2021.

same country among individuals that received a different vaccine. Section 6 tests H2 by experimentally providing information about aggregate vaccine distribution within a individual's country. In each section, we test H3 by further examining changes in perceptions of the motivations of vaccine-developing countries for distributing COVID-19 vaccines. Before detailing our observational and experimental identification strategies and reporting our results, we next describe our empirical setting and our survey data.

3 COVID-19 vaccine distribution in Latin America

Latin America provides an ideal context to explore the impacts of vaccine diplomacy. First, the region has been subject to foreign policy efforts—historically, from the US and Russia, and more recently China—aimed at creating goodwill among states and public audiences in order to help these foreign countries advance their economic and political interests. Second, Latin America has experienced some of the highest rates of COVID-19 infections and death globally over the course of the pandemic. Dense urban spaces, high rates of informal economic activity, and lack of access to adequate sanitation have increased structural vulnerability to the pandemic in Latin America. As a consequence, the need for vaccines is substantial. Third, great powers—including both the United States and China—have engaged in substantial vaccine diplomacy across Latin America, distributing millions of doses of their domestically-produced vaccines and supporting multilateral initiatives to promote vaccination in the region.

Great power intervention aimed at cultivating geostrategic influence has a long history in Latin America. During the Cold War, the US and the USSR pursued overt and covert strategies to sway public opinion and politics in the region in their favor. In the post-Cold War era, the US has pursued a flurry of multilateral and bilateral trade agreements, and exported American culture and values, while China has employed an aggressive and ideologically-agnostic strategy of direct investment and bilateral loans with Latin American governments to penetrate the United States' traditional sphere of influence. While the US emphasizes good governance and liberal values in their

interventions, China's aid has lacked values- and regime-based conditionality. These past experiences with the great powers likely shaped individuals' priors about the respective countries. Given the pandemic context in which citizens globally held China accountable for the virus' start, Latin American citizens may have held initially more cynical prior beliefs about China than they did of its geopolitical rivals.

This great power rivalry for Latin American hearts and minds has played out in the era of the coronavirus pandemic, which has had a substantial—albeit varied—impact on the region. Cumulative deaths due to COVID-19 have ranked among the highest around the world, but range from 39,000 in Chile to 630,000 in Brazil as of February 4, 2022. Relative to national population, Perú has had the highest mortality from COVID-19, with an estimated 628 COVID-19 deaths per 100,000 residents. In addition to mortality, the economic and social tolls of the pandemic in the region are widespread: Latin America experienced an economic recession, increases in poverty, years of school closures, and disruptions to other essential public health programs.

Vaccine provision has thus become an important foreign policy tool, which has been deployed along dimensions consistent with the great powers' post-Cold War postures towards Latin America.[30] Different strategies and country prioritization across vaccine producer countries, coupled with countries' varied domestic processes for lobbying for vaccine distribution and supply chain issues led to substantial variation in which vaccines were available at different times across countries in our sample. While experimental tests of the efficacy of the vaccines were conducted in some Latin American countries in 2020, the mass rollout of vaccines across the countries in our study—Argentina, Brazil, Chile, Colombia, México, and Perú—did not begin until late January and early February 2021. The earliest mass vaccination program began in Brazil on January 19, 2021, with Chile following on February 3, 2021; México, Perú, Argentina, and Colombia later launched their mass vaccination programs between February 9 and February 18, 2021. Vaccine programs initially prioritized healthcare workers and workers on the front-lines, as well as the elderly and populations at-risk due to prior medical conditions.[31] By late March through April 2021, the bulk

[30] Much of this investment is financed through loans to Latin American governments.

[31] Appendix Section A.1 explains country-by-country eligibility guidelines and rollout in greater detail.

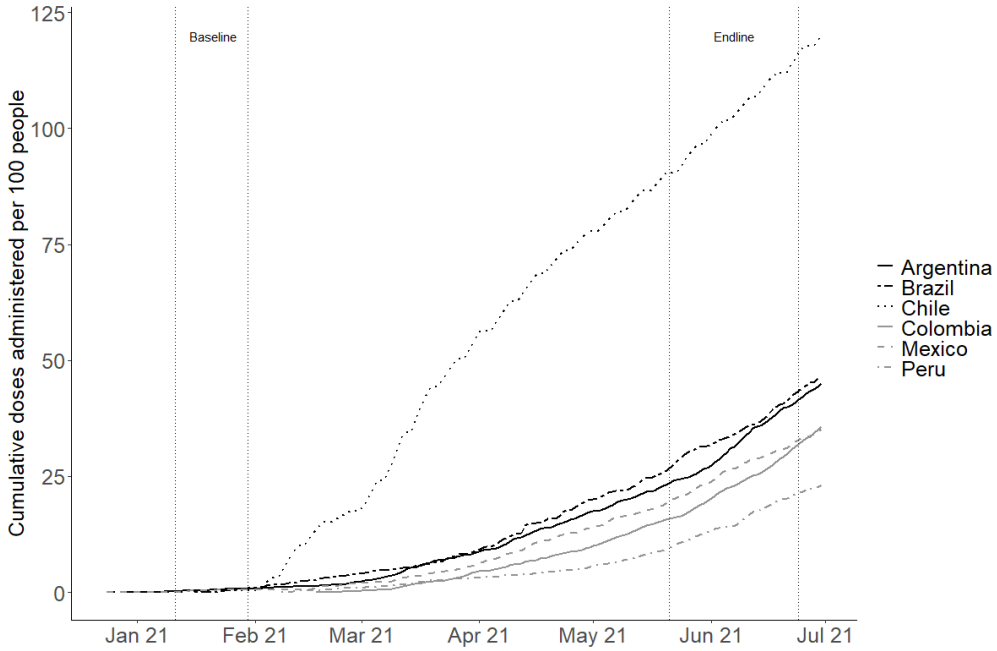


Figure 1: Cumulative doses per 100 people across six Latin American countries and survey dates

Note: Created with data from Our World in Data.

of these programs moved towards vaccinating the general population, working downwards in age and vulnerability brackets to prioritize access. Figure 1 shows the cumulative administration of vaccine doses per 100 residents in our six countries of interest across this period. By August 2021, Chile had vaccinated the greatest percentage of its residents, while Perú had the lowest vaccination rate at that time.

The composition of available vaccines varied considerably across Latin America, including across the countries in our study. By the end of our study, in June 2021, Argentina had contracts for vaccines developed in Russia (Sputnik V), the UK (AstraZeneca), China (SinoPharm), and India (Covishield), although AstraZeneca doses had not begun to be rolled out. At this time, China was the largest supplier of vaccines—whether SinoPharm or Sinovac—in Brazil, Chile, and Colombia, with the US supplying the second most vaccines—mostly developed by Pfizer-BioNTech—in Colombia and Chile. Brazil had rounded out their supply with AstraZeneca vaccines developed in the UK. In México and Perú, on the other hand, the US supplied the greatest number of doses (46% and 85%, respectively) during this time, with China supplying the second most. Below, Fig-

ure 4 displays this heterogeneity across countries at the time of our survey. The composition of vaccines available in each country has changed since the end of our study, as vaccines produced in the US have become more prevalent and concerns about efficacy (particularly in combating the novel variants) have shifted government strategies for vaccine acquisition.

4 Survey data

Our tests of hypotheses H1-H3 draw from an original panel survey conducted in Argentina, Brazil, Chile, Colombia, México, and Perú. These six countries rank among the most populous and worst hit by the pandemic in Latin America. The first survey was conducted in mid to late January 2021, while the followup survey was conducted in May and June 2021. While surveys were principally designed to understand COVID-19 vaccine hesitancy in Latin America, their timing provides a unique opportunity to examine changes in citizen attitudes toward foreign powers before and after the region's mass vaccination campaigns began.

The baseline survey recruited a sample of respondents from Netquest's large online panel of respondents to take a Qualtrics survey sent to them electronically by Netquest.[32] Invitations were updated dynamically with the goal of matching the marginal distribution of each nation's population in terms of its gender, age, socioeconomic level, and region. Because the baseline survey 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. The remaining respondents were then asked a variety of questions about their demographics and socioeconomic status, risk tolerance and rate of time preference, news consumption, views on COVID-19 vaccines and their government's management of the pandemic, pre-existing health conditions, social and political dispositions, and trust in a variety of domestic and international institutions.[33] Ultimately, 7,080 people—distributed evenly across our six countries—completed

[32]Netquest's opt-in panels include at least 125,000 individuals located in each country. Panelists are regularly invited to take surveys, although this is not their primary vocation.

[33]The survey also included an experiment providing information about vaccines and a conjoint experiment eliciting vaccine willingness in a variety of scenarios. The treatments in each case are orthogonal to the

the baseline survey.

The followup survey was designed to understand how vaccine distribution was shaping attitudes toward foreign governments. Accordingly, we invited the 3,039 respondents that had become eligible to receive a vaccine in their country by May 2021 to complete an endline survey. As in the baseline survey, we again elicited respondent trust in the current governments of China, India, Russia, the UK, and the US.[34] The endline survey further asked respondents if they had received their first vaccine dose, how long they waited to get vaccinated, the country in which they believed their vaccine was developed, and the name of the vaccine they received. At the end of this survey, we embedded the information experiment described below. Figure 2 summarizes the flow of the endline survey, while Appendix Section A.3 describes the survey protocols in detail.

By recruiting from an online panel and focusing on participants who registered some hesitancy about vaccinating in January 2021, were eligible to be vaccinated by May 2021, and completed our endline survey, our endline sample is not nationally representative. Table 1 reports summary statistics comparing individuals that completed our endline sample—both those that were vaccinated (included in our observational study) and all respondents (included in our experimental study)—with the most recent census data for each country's population and the 2021 round of the Latin American Public Opinion Project (LAPOP) survey. The data indicate that the full endline sample used for our experimental analysis is older, more educated, and of higher socioeconomic status than the general population. However, both our experimental and vaccinated samples are relatively similar in terms of observables—including attitudes toward COVID-19 and foreign governments—to the 2021 LAPOP sample, except in terms of age (due to our focus on vaccine-eligible respondents). Our sample thus remains similar along important observable dimensions to other frequently-used survey datasets.

Our more selected sample does, however, facilitate an observational research design that few other studies could emulate. First, the timing of the surveys enables us to assess respondents' beliefs

treatments of interest in this study and focused on willingness to take a COVID-19 vaccine once available to them.

[34] In the baseline survey, we asked about the US government under both Presidents Biden and Trump, but focus on trust in Biden's US government to maintain continuity with the endline survey.

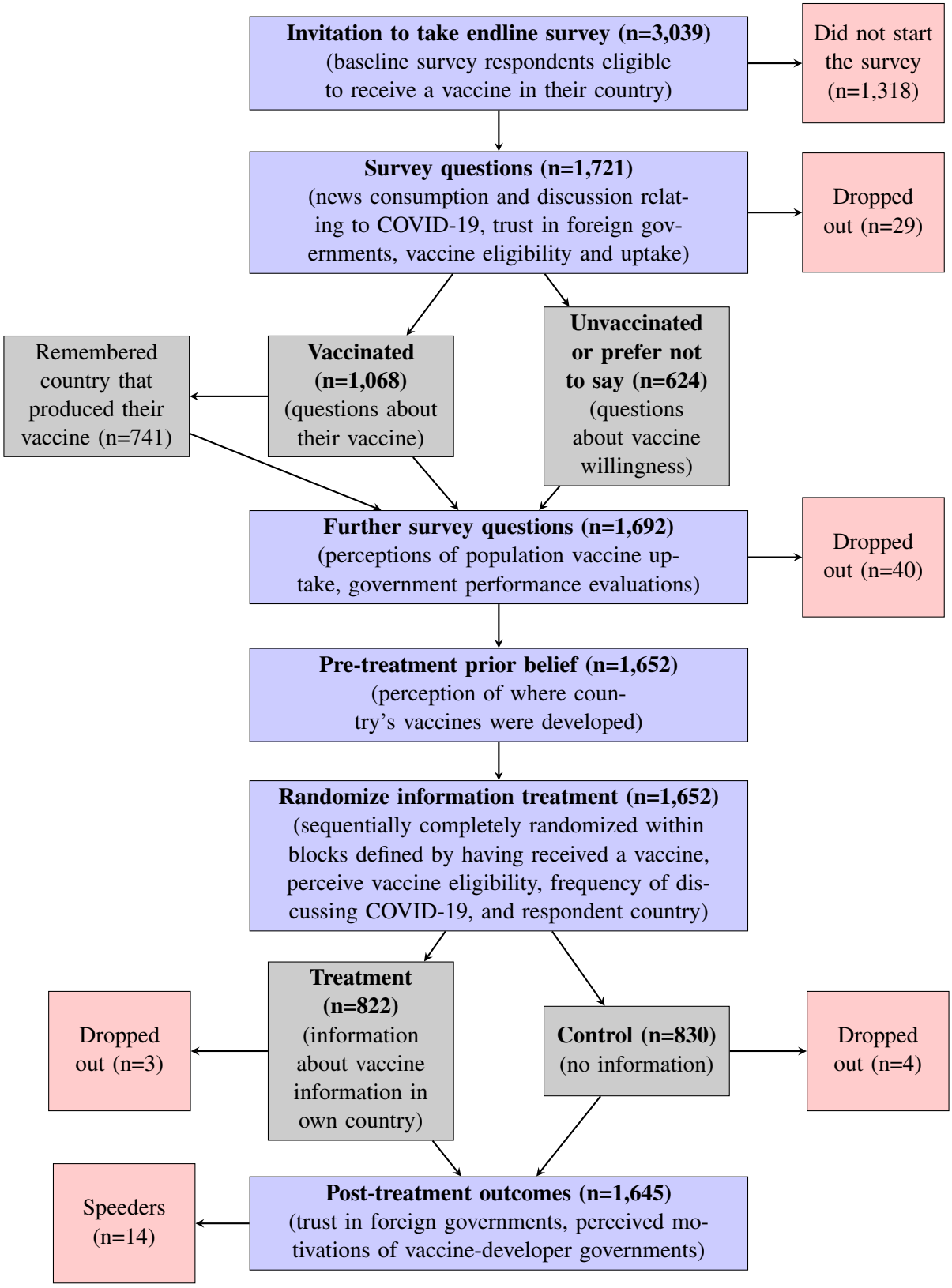


Figure 2: Overview of endline survey flow and treatment assignments

Notes: The n in each cell refers to the number of respondents that reach a given box. The full survey questionnaire is included in Appendix A.6.

Table 1: Sample summary statistics, in comparison with 2021 LAPOP survey and and recent census data

	Vaccinated sample	**Experimental sample**	**LAPOP 2021**	**Latest census**
Age	57.8	53.9	40.9	43.3
Male	52.3%	49.0%	49.5%	49.2%
Completed no formal education	1.3%	1.9%	1.2%	8.0%
Completed primary education	6.8%	7.9%	12.2%	31.5%
Completed secondary education	37.2%	41.4%	37.8%	39.8%
Completed tertiary education	54.7%	48.8%	48.9%	20.7%
Low socioeconomic status	23.0%	18.9%	20.8%	29.4%
Medium socioeconomic status	60.5%	60.0%	53.7%	61.9%
High socioeconomic status	16.5%	21.1%	25.5%	8.7%
Worse personal economic situation than before COVID-19	54.7%	57.9%	54.9%	
Believe COVID-19 is somewhat or very serious	89.9%	86.0%	73.0%	
Some or a lot of trust in mayor or local government	48.5%	42.9%	38.4%	
Some or a lot of trust in China	41.3%	35.4%	37.7%	
Some or a lot of trust in US	68.1%	60.3%	53.2%	

Notes: Census data is based on Netquest's sampling strategy. Our survey asked about the seriousness of COVID-19 pandemic, whereas the LAPOP survey asked about how worried people are about the COVID-19 pandemic.

before and after mass vaccination campaigns began in each country. Second, the endline survey elicited detailed information from a large number of vaccinated respondents about the particular vaccine they received. Third, the survey's panel structure provides baseline covariates that allow us to adjust for prior trust in foreign governments and estimate heterogeneous effects.

We focus on the same set of outcomes measuring trust in the major vaccine-developing foreign governments—China, India, Russia, the United Kingdom, and the US—across our observational and experimental analyses. Specifically, once during the baseline survey and twice within the endline survey (at the beginning and again after treatment exposure), respondents were asked: "How much trust do you have in the current governments of the following countries?" Respondents selected among five answers each time: no trust at all, little trust, some trust, a lot of trust, or don't know. We then constructed ordinal and categorical measures of trust. The ordinal scale ranges from 1 (no trust at all) to 4 (a lot of trust), with "don't know" responses coded at the median of 2.5.[35] The binary outcome instead classifies a respondent as trusting a country if they report some or a lot of trust. While the latter outcome encodes less information, it does not rely on imputing an ordinal

[35]We demonstrate below that the results are also robust to listwise deletion of "don't know" responses.

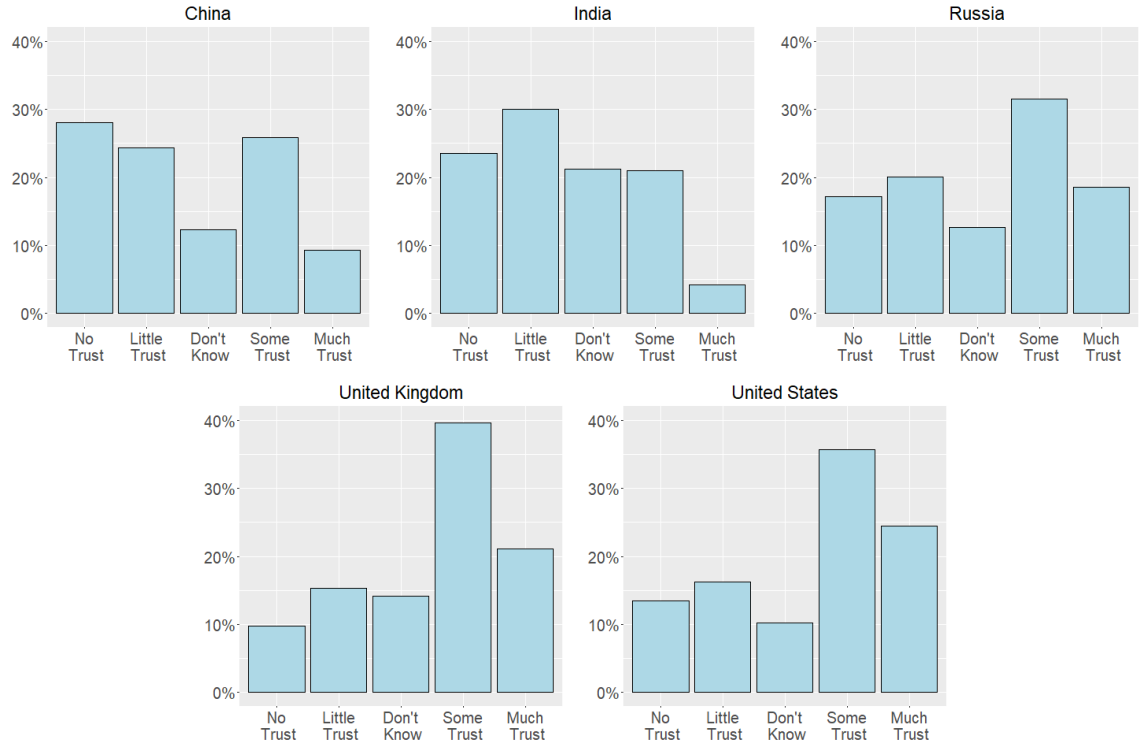


Figure 3: Distribution of trust in vaccine-developing countries

Note: Each figure pools initial endline responses across respondents from all countries.

value to "don't know" responses, which may not capture responses that lie between little and some trust. Figure 3 reports the distribution of trust by vaccine-developer country. While respondents had moderate levels of trust in each country at baseline, trust in the UK and US was notably higher than trust in Russia and China.

5 The effect of personally receiving a vaccine

Our first empirical analysis examines whether the particular vaccine that *an individual received* shapes their trust in the government of the country where that vaccine was developed, as anticipated by our egotropic hypothesis H1. If citizens attribute personally receiving a vaccine—and its expected health and other benefits—to the country where the vaccine was developed, the mass distribution of vaccines through public or private channels could have significant geopolitical implications.

5.1 Research design

We evaluate this first hypothesis among the 41% of endline respondents who reported having received at least one dose of a COVID-19 vaccine and who recalled the country where their vaccine was developed. More than a third of these vaccinated respondents resided in Chile, where vaccines became accessible earliest, while only around 10% were from Colombia or Perú. The average vaccinated respondent waited 4.4 weeks after the vaccine became available to them before getting vaccinated, while 56% had received a second dose by the time of our endline survey.

Figure 4 documents considerable heterogeneity across countries at the time of our survey—both at the national level for all adults and among our vaccine-eligible endline survey respondents—in the number of vaccines administered from manufacturers based in different countries. Vaccines developed by Chinese firms were common across our sample of Latin American 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 define our "treatment" variable as the country in which a vaccinated respondent believed their vaccine was developed. Individuals may be uncertain where their vaccine originated, although the perceived country did not match the country of the manufacturer that an individual reported for their vaccine (e.g. a respondent reported receiving a Chinese vaccine and that they received a Pfizer shot) in only 9% of cases. We theorize that changes in trust in government are most likely to respond to *perceptions* of the country where the vaccine was developed. , similar results emerge when we define the country by the nationality of the manufacturer of the specific vaccine that the respondent reported receiving and when dropping respondents where perception and manufacturer country disagree.

Identifying the causal effect of receiving one vaccine over another is challenging for two main reasons. First, vaccine eligibility and the supply of available vaccines varied across time and space. As Appendix Section A.1 explains in detail, the six countries in our study rolled out vaccines at different rates for different groups, although eligibility criteria generally prioritized older individ-

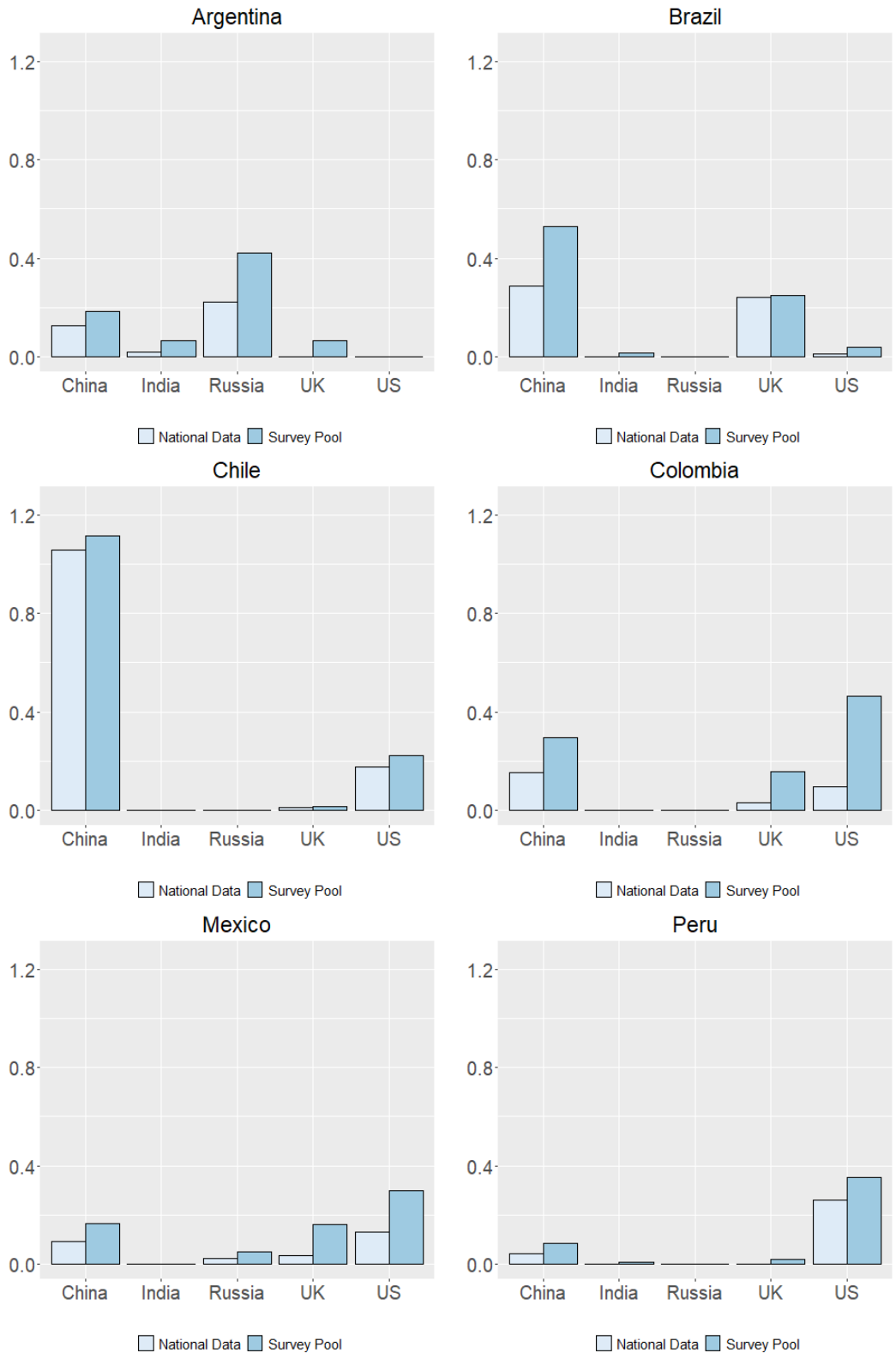


Figure 4: Number of vaccine doses per adult from each vaccine-developer country (in May 2021), by country

Note: Doses per adult (aged 18 or above) can exceed one because COVID-19 vaccines consist of two doses.

uals and individuals with pre-existing conditions before progressively extending access to younger and healthier cohorts.[36] Because different countries negotiated access to different vaccines and shipments for different vaccines arrived at different times, the vaccines immediately available to respondents varied across countries and by eligibility group within countries. Consequently, spurious correlations between the vaccine received and trust in foreign governments could emerge if citizens' trust in foreign governments is correlated with the factors that determine when an individual became eligible to receive a vaccine or the set of vaccines that a country (or locality) obtained. Second, although individuals that first became eligible to receive vaccines were generally invited to receive an unspecified vaccine from a particular place on a particular date or set of dates, some individuals could have waited for or sought out particular vaccines beyond those available to them.[37] If differences in trust in foreign governments shaped citizens' preferences between vaccines or correlated with the information individuals had about each vaccine, the association between the vaccine an individual ultimately received and their trust in that country's government could be confounded.

We combat these concerns by leveraging the panel structure of our data and *within-country-eligibility group* variation in the vaccine-developer country from which vaccinated respondents reported receiving their vaccine. Comparing individuals that became eligible for a vaccine in their country around the same time enables us to exploit plausibly exogenous variation in which vaccines were available at that moment. 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 vaccination site on the day when they sought to get vaccinated is likely to have been determined in large part by chance. In our robustness checks, we further exploit variation within regions and municipalities to account for any differences in where governments allocated particular vaccines. To the extent that multiple of vaccines could be obtained, we further leverage our panel data to condition on a respondent's prior levels of trust in foreign governments to mitigate the risk of

[36] Appendix Section A.2 describes adherence to rollout protocols by country. Eligibility rules were closely adhered to in Chile and Colombia, but were more localized and haphazard in Argentina, Brazil, México, and Perú. Eligibility groups in the latter four countries are thus more approximate.

[37] Cases of queue-jumping and obtaining access to more efficacious vaccines by political elites in Argentina and Perú have caused scandals. Wealthier individuals have also travelled to receive vaccines abroad.

selective sorting when a respondent had the capacity to pick between multiple vaccines. Within country-eligibility groups and for a given level of prior trust in foreign governments, the vaccine that a vaccinated individual received may then be conditionally ignorable.

Under this identifying assumption, we estimate the effect of receiving a vaccine developed in a particular country on trust in foreign governments in two ways. We first pool across vaccine-developing countries to compare levels of trust in foreign governments among individuals that did and did not receive a vaccine developed in that particular country by estimating the following OLS regression:[38]

$$Trust_{dic} = \alpha_{dgc} + \sum_{r} \beta_{dr} \mathbb{1}[Prior\ trust_{dic} = r] + \tau\, Country\ developed\ vaccine_{dic} + \varepsilon_{dic} \qquad (1)$$

where $Trust_{dic}$ is a measure 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 vaccine-developer country $\times$ country-eligibility group fixed effects, denoted by 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. Indicators for each baseline level of trust r (including "don't know") in each vaccine-developer country, $Prior\ trust_{dic}$, are included to guard against developer country-specific baseline differences in trust across individuals driving the results; flexibly adjusting for the pre-treatment outcome variable also increases estimation precision. Our second estimation strategy examines heterogeneity in the effect of trust across vaccine-developing countries by estimating analogous regressions separately for each developer country. Robust standard errors are clustered by respondent.

The primary threat to internal validity is that certain types of individuals could have obtained

[38]Despite our ordinal and categorical outcome variables, we use OLS for our main regression estimates to avoid the incidental parameter problem that arises when estimating nonlinear models with many fixed effects (Neyman and Scott 1948). In our design, fixed effects are necessary for identification. Moreover, the expected marginal effect is generally similar regardless of estimation method for binary treatments (Angrist and Pischke 2008). Nevertheless, Tables 3 and A6 show that our estimates are robust to using ordered logit and logit specifications, respectively, for our ordinal and binary trust outcome variables.

vaccines early, waited for particular vaccines, or been driven to alter their trust in foreign governments and preferences between vaccines between the baseline survey and receiving a vaccine. However, for the majority of citizens who were keen to get an effective vaccine but lacked economic or political resources to jump the queue, individual selection of a vaccine may be less of a concern. Another threat stems from the possibility that vaccination could affect a respondent's propensity to complete our endline survey. While vaccinated individuals could have been more enthusiastic about answering a survey about COVID-19 than non-vaccinated individuals, it is not clear why individuals that received particular vaccines would have been more likely to complete the survey.

Nevertheless, to validate the plausibility of our identification strategy in the face of these potential concerns, we examine whether individuals that received a vaccine developed in a particular country systematically differ in other ways. Specifically, Appendix Table A3 shows that, conditional on eligibility group within a country, the country that developed the vaccine that an individual received is balanced across a wide variety of predetermined individual-level covariates from our baseline survey. Broadly in line with chance, F-tests only reject the null hypothesis that there are no significant differences in characteristic means across respondents that received different vaccines for 10 of 86 covariates measured before vaccination in the baseline survey. Of particular importance, we detect no significant differences in baseline trust in current foreign governments, political dispositions, socioeconomic indicators, and views on how the pandemic is being managed. The few statistically significant differences arise for a couple of the questions about news consumption and comorbidities.[39] Although we cannot be certain that no respondent shopped around or waited for a preferred vaccine, these covariate balance tests suggest that this is sufficiently rare within eligibility groups such that the assignment of the country where a respondent's vaccine was developed is plausibly conditionally ignorable. Moreover, we demonstrate below that our estimates are robust to adjusting both for imbalanced, and for all predetermined covariates.

[39] As Table A3 also shows, further adjusting for baseline survey trust does little to alter balance.

5.2 Results

Pooling across vaccine-developing countries, column (1) in Table 2 reports a positive and statistically significant average effect of receiving a vaccine developed in China, Russia, the UK, or the US on trust in that country's government. The point estimate in panel A indicates that respondents' trust in the government of the country where their vaccine was developed increased by 0.17 levels on the four-point scale ranging from no trust (1) to a lot of trust (4); this equates to a 0.2 standard deviation increase in trust in governments of these foreign powers. Panel B similarly reports a 7 percentage point, or 12%, increase in the probability that an individual reported some or a lot of trust in the government of the country where their vaccine was developed. Appendix Table A4 shows that these estimates are positive in each country, although the effect magnitude and precision varies by respondent country subsample. These findings provide strong support for hypothesis H1 within our sample.

To understand whether scope for vaccine diplomacy might generalize to the broader population, we reweight our observations along observable dimensions. Specifically, using the most recent available census microdata, we reweight observations by the respondent's age category, education category, region, gender, and socioeconomic level to match the adult population distribution in each country. We implement two different approaches: reweighting by the marginal distribution of each variable and reweighting by the joint distribution across variables.[40] These estimates should be treated with some caution because the reweighted data are only nationally representative in terms of basic demographic characteristics and because reweighting the data—especially with respect to the joint distribution—reduces the precision of our estimates by heavily upweighting rare respondent types. That said, the results reported in Appendix Table A5 indicate that the effects of vaccine diplomacy are similar when applying rake weights, but around half the size when weighting by the joint distribution.

[40] While the latter approach is more representative, it also reduces estimation precision by assigning more extreme weights to individual types that rarely appear in the survey. The joint distribution weights cannot incorporate socioeconomic level, which is available at the aggregate level but is not generally available at the individual level in the census microdata.

Table 2: The effect of receiving a particular vaccine on an individual's trust in the government of the country where the vaccine was developed

	All governments (1)	Chinese government (2)	Russian government (3)	UK government (4)	US government (5)
Panel A: Outcome: trust in foreign government scale					
Country developed vaccine	0.171***	0.236***	-0.001	0.213**	0.152*
	(0.039)	(0.084)	(0.128)	(0.098)	(0.089)
R^2	0.28	0.23	0.27	0.18	0.20
Outcome range	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}
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
Panel B: Outcome: some or a lot of trust foreign government indicator					
Country developed vaccine	0.069***	0.100**	-0.047	0.109**	0.068
	(0.021)	(0.044)	(0.069)	(0.054)	(0.049)
R^2	0.22	0.21	0.19	0.14	0.13
Outcome range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Control outcome mean	0.59	0.35	0.51	0.70	0.67
Control outcome std. dev.	0.49	0.48	0.50	0.46	0.47
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 country-specific indicators for each level of pre-treatment baseline survey trust, which are omitted to save space, and is estimated using OLS. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Together, these findings indicate that the personal experience of vaccine diplomacy—which has the potential to influence entire populations—could meaningfully alter attitudes toward foreign powers. Although it is hard to directly compare estimates across studies examining different outcomes in distinct samples, our estimates also appear to be substantively important relative to other potential tools for increasing soft power currencies. The effect of vaccine diplomacy on our binary trust outcome is around three times larger than the increase in the probability that an individual approves of a foreign government immediately after a visit from their leader (Goldsmith, Horiuchi and Matush 2021), despite the fact that our outcome is not measured immediately after vaccination. In the case of local foreign aid projects, Blair, Marty and Roessler (forthcoming) find that Chinese projects may even reduce support for China in Africa, although the positive effect of US projects

on the belief that the US model of development is best is around double the magnitude of the effect of a respondent's vaccination on trust in the government where the vaccine was developed in our sample. Our findings also exceed the null effects of Chinese exports, aid, and investment in Latin America (Eichenauer, Fuchs and Brückner 2021).[41]

Columns (2)-(5) next distinguish effects by foreign government. Column (2) shows that the significant rise in trust associated with receiving a vaccine is particularly pronounced for the Chinese government. For both the ordinal and binary outcome variable, the increase in trust in the Chinese government of around a quarter of a standard deviation is almost double the effect on trust in the US government registered in column (5). This result contrasts with the findings of Blair, Marty and Roessler (forthcoming) and Eichenauer, Fuchs and Brückner (2021), and suggests that respondents may have attributed less self-serving and strategic motivations to China's vaccine distribution than to its development projects funded by foreign aid. It also provides clearer evidence of soft power than the more limited feeling thermometer changes observed between individuals from households that received Chinese vaccines and unvaccinated individuals earlier in the vaccine rollout (Urdinez and Winters 2021). We detect no effect on trust in the Russian government, but a large and statistically significant increase in trust of the UK government among the small number of respondents that received an AstraZeneca vaccine. The effect on trust in the US government is also positive and quite substantial in magnitude, albeit only statistically significant at the 10% level for the trust scale outcome. Although Figure 3 shows that baseline trust in China is lower than for the other foreign powers, the baseline level of trust is sufficiently low in each case that the slightly larger effects on trust in China is unlikely to arise due to ceiling effects.

5.3 Robustness checks

We next demonstrate that the positive effect of receiving a vaccine developed in a particular country on trust in that country is stable across various tests probing potential empirical concerns. The

[41] We cannot easily draw comparisons with the continuous treatment variable in Goldsmith, Horiuchi and Wood (2014), which reports that a 1% increase in HIV program funding increases the approval ratio by 0.2%.

results for these robustness tests for the trust scale outcome are presented in the main text, while Appendix Table A6 reports analogous results for the binary version of the trust outcome.

First, we address the potential concern that differences in the vaccines that survey respondents received are correlated with local differences in where different types of vaccines were delivered. This would introduce bias if, for example, governments allocated vaccines developed in a particular country to localities with increasingly favorable attitudes toward that country in order to increase uptake. To ensure that such differences are not driving our estimates, we exploit variation in the type of vaccine received by individuals in a given eligibility group *within the same locality* by including vaccine-developer country $\times$ country-eligibility group $\times$ locality fixed effects. These fixed effects soak up all differences in trust in a particular foreign government across individuals in different eligibility groups within a particular location. We operationalize locality in terms of both region—state, province, or department, depending on the country—and municipality. The results in panels A and B of Table 3 show that our findings are robust to the inclusion of either set of interactive fixed effects. Although the precision of the estimates declines, particularly for the by-country estimates using municipality fixed effects,[42] in both cases we observe statistically significant and numerically similar point estimates even when comparing individuals from the same eligibility group in the same location that received different vaccines.

Second, we further address the possibility that certain types of individuals within particular eligibility (and location) groups may have sought out particular vaccines. Our main specifications already non-parametrically adjust for baseline trust in the developer country—a likely determinant of the type of vaccine that a "vaccine-shopper" would seek out. To further probe whether differences in the types of individuals that receive different vaccines are driving the results, we assess whether our estimates are robust to including the observable covariates from the baseline survey.[43] The results in panel C of Table 3 show that our findings are robust to adjusting for the 10

[42]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 sparsely populated fixed effect cells and thus reduce the statistical power of the analysis.

[43]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.

Table 3: Robustness checks for the effect receiving a particular vaccine on an individual's trust in the government of the country where the vaccine was developed

	Outcome: trust in foreign government scale				
	All governments	Chinese government	Russian government	UK government	US government
	(1)	(2)	(3)	(4)	(5)
Panel A: Developer country × country-eligibility group × region fixed effects					
Country developed vaccine	0.175***	0.295**	-0.035	0.268**	0.058
	(0.053)	(0.117)	(0.179)	(0.133)	(0.114)
Observations	2,836	709	709	709	709
Panel B: Developer country × country-eligibility group × municipality fixed effects					
Country developed vaccine	0.225**	0.283	0.284	0.134	0.185
	(0.108)	(0.221)	(0.361)	(0.251)	(0.248)
Observations	2,836	709	709	709	709
Panel C: Adjusting for imbalanced predetermined covariates					
Country developed vaccine	0.164***	0.251***	-0.027	0.229**	0.150
	(0.040)	(0.088)	(0.127)	(0.101)	(0.092)
Observations	2,788	697	697	697	697
Panel D: Adjusting for 86 predetermined baseline covariates					
Country developed vaccine	0.181***	0.216**	0.066	0.223**	0.093
	(0.042)	(0.091)	(0.135)	(0.108)	(0.100)
Observations	2,548	637	637	637	637
Panel E: Defining treatment by country of reported vaccine manufacturer					
Country developed vaccine	0.196***	0.291***	0.037	0.196*	0.135
	(0.038)	(0.083)	(0.130)	(0.105)	(0.090)
Observations	2,836	709	709	709	709
Panel F: Dropping respondents where perception and manufacturer country disagree					
Country developed vaccine	0.189***	0.242***	0.082	0.227*	0.148
	(0.043)	(0.093)	(0.132)	(0.127)	(0.102)
Observations	2,572	643	643	643	643
Panel G: Dropping respondents who answered "don't know"					
Country developed vaccine	0.191***	0.245***	-0.001	0.228**	0.169*
	(0.042)	(0.091)	(0.128)	(0.103)	(0.097)
Observations	2,548	636	709	633	647
Panel H: Ordered logit estimation					
Country developed vaccine	0.405***	0.524**	0.069	0.527*	0.351
	(0.093)	(0.187)	(0.292)	(0.256)	(0.206)
Observations	2,836	709	709	709	709

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

covariates that registered statistically significant imbalances when conditioning on prior trust and eligibility group fixed effects.[44] Panel D further shows that the results are robust to including all 86 individual-level covariates over which we examined balance.

Third, it is also possible that the results could be driven by respondent misperceptions of the country that developed the vaccine they received. For instance, individuals with a positive view of the US might be more likely to believe that a vaccine was developed in the US. This is unlikely because—as Appendix Table A3 shows—baseline trust in a foreign government does not significantly predict the likelihood of recalling receiving a vaccine from that country. Nevertheless, to increase confidence that biased recall is not driving our results, we also define treatment by the country of the manufacturer of the vaccine that a respondent reported having received; for example, we define China as the country where the vaccine was developed when the respondent reported receiving a Sinovac vaccine. Panel E reports similar results using this alternative operationalization of treatment. Panel F further shows that our main findings are robust to restricting our sample to the respondents for whom perceptions of the country where their vaccine was developer match the country of the manufacturer.

Fourth, we demonstrate that our findings do not depend on the coding of "don't know" responses to the trust question. For our ordinal measure of trust, the main analyses coded these responses at the median of the outcome range. Panel G shows that dropping these responses does not meaningfully alter our estimates; in this specification, the increase in trust in the US government is notably larger and statistically significant. Combined with our results for the binary trust outcome—which simply categorizes "don't know" responses as not trusting—we can be confident that the coding of these responses does not account for our findings.

Finally, we demonstrate that the results are not driven by our decision to estimate linear regression specifications. Using ordered logit instead, panel H reports similarly statistically significant and positive effects on a respondent's level of trust in the government of the country where a re-

[44]These covariates are: consumption of news relating to COVID-19 from news websites, prior beliefs about herd immunity, concern that vaccines will not protect from COVID-19, several comorbidities, trust in various the US government under President Trump, the importance of receiving respect and recognition in the community, and one of 11 separate experimental treatments administered in the baseline survey.

spondent's vaccine was developed. Although the coefficient in column (1) cannot be interpreted on the same scale as the OLS estimate, the average marginal effects within our sample implies that receiving a vaccine from a particular country increased the probability of trusting that country's government by 1.9 percentage points and the probability of strongly trusting that country's government by 5.7 percentage points; a response in any other category became significantly less likely. For our binary outcome variable, Appendix Table A6 reports similarly robust findings using a logit model.

5.4 Potential mechanisms

The preceding results provide clear evidence that personal experiences with COVID-19 vaccines can significantly increase individuals' trust in foreign governments, increasing these governments' soft power resources. We next investigate whether, in line with theories of such power, this rise in affect is because egotropic experiences with vaccine distribution lead respondents to perceive foreign governments to possess normatively desirable motives. In particular, we examine whether receiving a particular vaccine induces respondents to perceive the corresponding foreign government to be motivated by the global public good or instead by more cynical incentives.

We explore the mechanisms through which citizen trust in foreign governments changes as a result of individual-level vaccination by asking respondents at the end of the survey *why* they thought the vaccines received by their country from the top three vaccine-developing countries were being distributed. For each of the three countries from which most vaccines had been sent to the respondent's country, we asked respondents which of the following reasons they believed motivated the distribution of vaccines by that specific country: to stop the spread of COVID-19 around the world; to help citizens of the respondent's country; to increase support for the vaccine-developer country within the respondent's country; to increase dependence on the vaccine-developer country; or for economic profit. As the outcome means at the foot of Table 8 indicate, stopping the global spread of the pandemic was the most popular answer among our vaccinated respondents (48% agreed). However, many were also somewhat cynical: 36% believed that the leading vaccine-

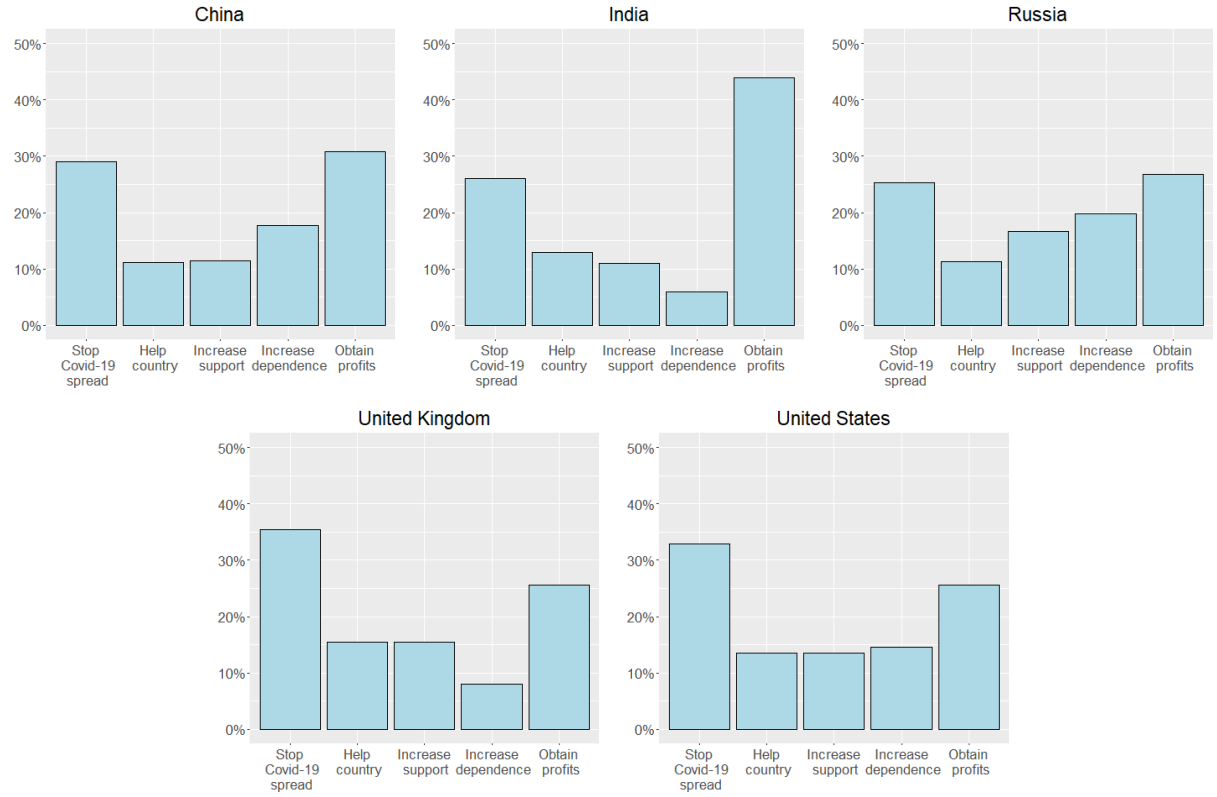


Figure 5: Respondents perceptions of motivation for developing vaccines

Note: Each figure pools initial endline responses across respondents from all countries.

developer countries were motivated by economic profit,[45] and 19% cited increasing dependence on the vaccine-developing country as its primary incentive.

While many citizens already thought the distribution of vaccines was motivated by global public health considerations, we examine whether the personal experience of receiving a particular vaccine strengthened this perception. Our theory expects that individual exposure to vaccination campaigns will increase an individual's favorability toward the country that developed their dose by instilling confidence that the sending country is pursuing shared or humanitarian objectives and may continue to do so in the future. Specifically, we estimate equation (1) to estimate the effect of receiving a vaccine developed in a particular country on the likelihood that a respondent attributed a given motivation to the government of that country. Column (1) of Table 4 shows that respondents became 4.4 percentage points, or almost 10%, more likely to believe that the government of the country that

[45] Although the pharmaceutical companies are surely at least in part motivated by profit, support for vaccine development or the government's role in distributing vaccines need not be.

Table 4: 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	0.044**	0.015	0.059***	-0.029	-0.006
	(0.022)	(0.021)	(0.020)	(0.019)	(0.020)
R^2	0.13	0.06	0.06	0.13	0.10
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 country-specific indicators for each level of pre-treatment baseline survey trust, and is estimated using OLS. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

developed their vaccine was pursuing the common public good of preventing the spread of COVID-19. While the perception that the foreign government was seeking to increase its support in the respondent's country increased by a similar amount, perceptions of the most cynical motivations in columns (4) and (5)—increasing dependence or economic profit—decreased somewhat, although not significantly so. Providing support for H3, these results thus suggest that personally receiving a vaccine increased citizen trust in a foreign government by favorably updating a citizen's belief that the foreign power is concerned for the global common good, a projection of power that follows a logic of appropriateness.

6 Learning about the aggregate vaccine distribution

While individuals exhibit durably greater trust in the country where the vaccine that they personally received was developed, trust in foreign governments might also respond to a sociotropic channel: information about the share of individuals *across the entire country* that received a vaccine developed in that country. Such aggregate information—which is often reported by the media and cued

by elites—may at least as effectively signal a foreign power's motives, and in turn the degree to which citizens should expect that government to act in ways that benefit the respondent's country and its citizens in future. In this next section, we test hypothesis H2 by evaluating the effect of informing respondents of aggregate vaccine distribution in their country on citizen trust in foreign governments.

6.1 Design

We embedded an experiment in our May 2021 endline survey to examine how information about the share of vaccine doses each country had received from the different vaccine-developer countries affects citizen trust in the governments of these countries. Following a large prior literature examining the effects of information provision in other politically-salient domains (see e.g., Dunning et al. 2019), our goal is to understand how truthful information of the type that the media, foreign governments, and domestic leaders might publicize shapes political attitudes. In particular, we assess whether respondents update from this information by examining how their trust in foreign governments responds to the content revealed and its relation to their prior beliefs.

As shown in Figure 2, the experiment commenced toward the end of the survey by eliciting respondents' prior beliefs. All respondents—regardless of their vaccination status—were asked to rank China, India, Russia, the UK, and the US in order of which country they believed had developed the most and least of the vaccines available in the respondent's own country. We focus on the ranking to reduce the cognitive burden of the task and because few respondents were likely to know the exact shares of vaccines originating in each developer country. Focusing on respondents that did not indicate the same ranking for multiple countries, Table 5 shows that respondents' prior beliefs were broadly aligned with the true ranking, especially for the top-ranked and bottom-ranked vaccine-developing countries. Nevertheless, there remained scope for many respondents to correct their beliefs. For our main analyses, we retain respondents that reported ties in their rankings.

Treated individuals were then shown a bar chart reporting the actual ranking and percentage of vaccines that their country had received from each vaccine-developing country at that moment

Table 5: Percentage of respondents ranking a vaccine-developer country in each ranking position, by respondent country

	Perceived ranking of vaccine-developer country									
	1st	2nd	3rd	4th	5th		1st	2nd	3rd	4th	5th
Argentina						**Colombia**					
China (2)	11%	61%	15%	10%	3%	China (1)	33%	27%	29%	5%	6%
India (3)	4%	12%	36%	20%	28%	India (4.5)	6%	3%	13%	19%	59%
Russia (1)	75%	11%	5%	4%	4%	Russia (4.5)	8%	19%	24%	32%	17%
UK (4.5)	3%	9%	30%	38%	19%	UK (3)	25%	16%	24%	24%	11%
US (4.5)	7%	6%	13%	28%	46%	US (2)	27%	35%	11%	21%	6%
Brazil						**Mexico**					
China (1)	60%	10%	11%	9%	11%	China (2)	26%	25%	23%	19%	7%
India (4.5)	5%	32%	17%	23%	23%	India (5)	5%	3%	9%	17%	65%
Russia (4.5)	7%	16%	22%	23%	33%	Russia (4)	21%	31%	27%	17%	5%
UK (2)	9%	23%	28%	23%	16%	UK (3)	17%	22%	21%	30%	10%
US (3)	18%	19%	23%	23%	17%	US (1)	31%	19%	20%	17%	13%
Chile						**Peru**					
China (1)	70%	11%	9%	5%	5%	China (2)	35%	30%	14%	12%	9%
India (4.5)	3%	4%	9%	20%	64%	India (4)	7%	3%	10%	13%	67%
Russia (4.5)	8%	23%	22%	30%	16%	Russia (4)	12%	31%	31%	22%	4%
UK (3)	7%	27%	34%	27%	6%	UK (4)	8%	19%	23%	41%	8%
US (2)	12%	34%	27%	18%	9%	US (1)	37%	18%	21%	12%	12%

Notes: The true ranking of each vaccine-developer country is in parentheses; joint rankings are given by rank means. We drop the 28% of respondents that did not provide unique 1-5 rankings for each country.

in time. For each vaccine-developing country, we combined all vaccines administered, including from bilateral sales delivered by pharmaceutical firms and COVAX donations by foreign governments. The example for Argentina in Figure 6 illustrates the clear and simple way in which this information was conveyed. Treatment assignment was randomized within blocks of similar individuals,[46] with control respondents receiving no information. All respondents were then asked the same trust in foreign governments question used in the previous analysis, before being asked about their perceptions of the intentions of the three great powers from where most vaccines in their

[46]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.

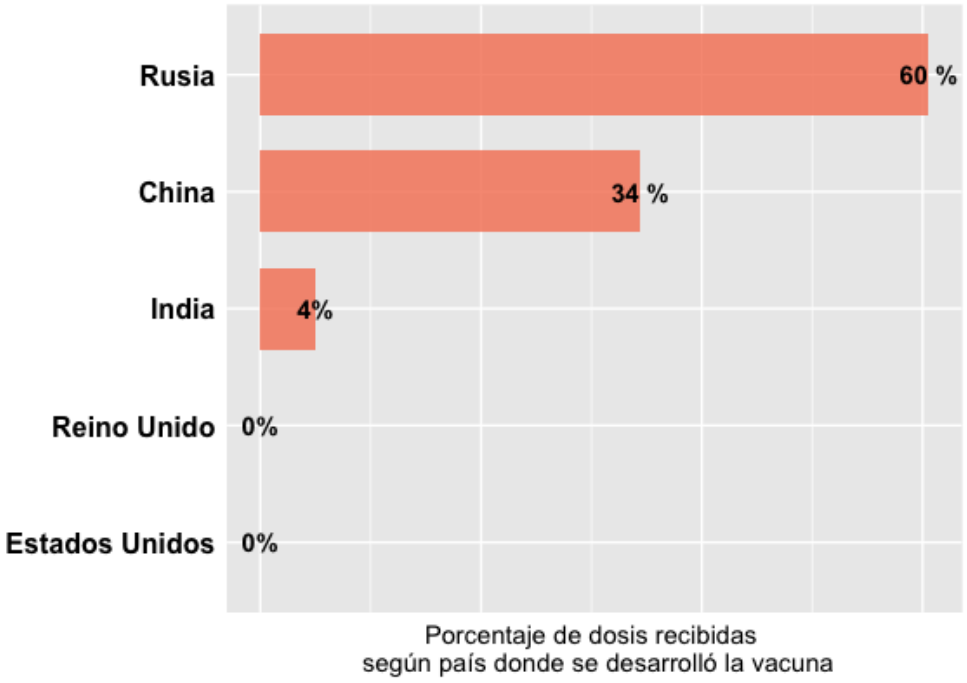


Figure 6: Screenshot of the information treatment (from Argentina)

Note: 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, the UK, and the US.

country originated.[47]

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

$$Trust_{dic} = \alpha_{dbc} + \sum_{r} \beta_{dr} \mathbb{1}[Prior\ trust_{dic} = r] + \tau\, Treatment_{ic} + \varepsilon_{dic}, \tag{2}$$

where $Prior\ trust_{dic}$ flexibly adjusts for the measure of trust from earlier in the endline survey to increase estimation precision, and b denotes a respondent's randomization block. Reflecting the level of treatment assignment, robust standard errors are clustered by individual respondent. We again also examine treatment effects by foreign government $d \in \{China, India, Russia, UK, US\}$ separately. Appendix Table A7 uses the same specification to show that treatment is well-balanced across predetermined covariates in the baseline and endline surveys; consistent with chance, only

[47] We did not elicit posterior beliefs about the ranking of developer countries to limit the risk of priming respondents to alter their trust and because the correct answer had just been provided.

8 of 101 predetermined—which include 15 responses from earlier in the endline survey, including the vaccine (if any) that a respondent received—differ at the 10% level.

However, the information content varies by foreign power and respondent country. Indeed, the effect of the information treatment is likely to depend on whether the reported rank of country d is high or low and falls above or below expectations. We thus examine heterogeneity in treatment effects by the reported rank of each developer country, the share of doses that each developer country contributed, and whether the rank met or exceeded prior expectations.[48] We estimate these heterogeneous effects using the following interactive OLS regression:

$$Trust_{dic} = \alpha_{dbc} + \sum_{r} \beta_{dr} \mathbb{1}[Prior\ trust_{dic} = r] + \gamma X_{dc} + \tau_0\, Treatment_{ic} + \tau_2 (Treatment_{ic} \times X_{dc}) + \varepsilon_{dic}, \quad (3)$$

where X_{dc} captures the rank or share of vaccine-developing country d or an indicator for reported rank being at least as high as a respondent's prior belief. The ranking variable is reversed, so higher scores indicate greater vaccine distribution, i.e. 5 corresponds to 1st and 1 corresponds to 5th. Following hypothesis H2, we expect treatment to increase trust most for the foreign governments whose vaccines are most prevalent and among the citizens that updated more favorably relative to their prior expectations.

6.2 Results

We report the average treatment effects in panel A of Tables 6 and 7. 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 and by 2 percentage points for our binary measure. Neither small change is statistically significant at the 5% level. This suggests that the average citizen's prior belief largely aligned with the information provided, or that any positive and negative responses across vaccine-developing countries netted out. Providing some support for the second

[48] We pool cases that met and exceeded expectations because reinforcing priors beliefs—especially regarding the top-ranked vaccine-developer country that could not have been ranked higher—could cement the relatively high baseline levels of trust in the foreign governments under consideration.

interpretation, columns (2)-(6) show that increases are largely driven by an increase in trust in the Chinese government of 0.16 levels, or almost 0.2 standard deviations. The US—the second largest vaccine-developer—also registered an increase in trust of around half this size among the average respondent. At the time of the survey, few vaccines developed in India or the UK had been administered in any country. These patterns suggest that receiving information about aggregate vaccine distribution is most likely to increase trust in the foreign governments of the countries from which most vaccines came.

We further investigate whether respondents are learning from the information provided by examining heterogeneity in response to the content of the treatment. The rank and share of vaccines varies across vaccine-developing and respondent countries. Pooling across respondent countries, column (1) in panel B of Table 6 shows that each unit increase in the five-country ranking—such as 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. Turning to our binary measure of trust, the same column in Table 7 indicates that each unit rank improvement increased the probability of trust in a foreign government by 3 percentage points and a 20 percentage increase in the share of vaccines developed in a given country also increased trust by a similar amount. Columns (2)-(6) of panels B and C find that respondents are most sensitive to the share of vaccines developed in China, Russia, and the US—the three countries from which most vaccines in the region at the time has originated.

The marginal effects of the reported ranking on each measure of trust are plotted in Figure 7. The figures show that treatment significantly increased trust in the governments of the top three vaccine-developing countries, and reduced it somewhat for the country that distributed fewest vaccines.[49] Although we cannot establish its durability, the effect of aggregate information on trust is large relative to personally receiving a particular vaccine: in contrast with the 7 percentage point effect of receiving a given vaccine, the effect on the probability of trusting a foreign government is 17 percentage points greater among treated respondents who were informed that a country pro-

[49] Appendix Tables A8 and A9 show that these estimates are broadly similar in each respondent country, except in Perú where responses to treatment were weaker.

Table 6: Effect of aggregate vaccine distribution information treatment on trust in foreign governments, outcome scale

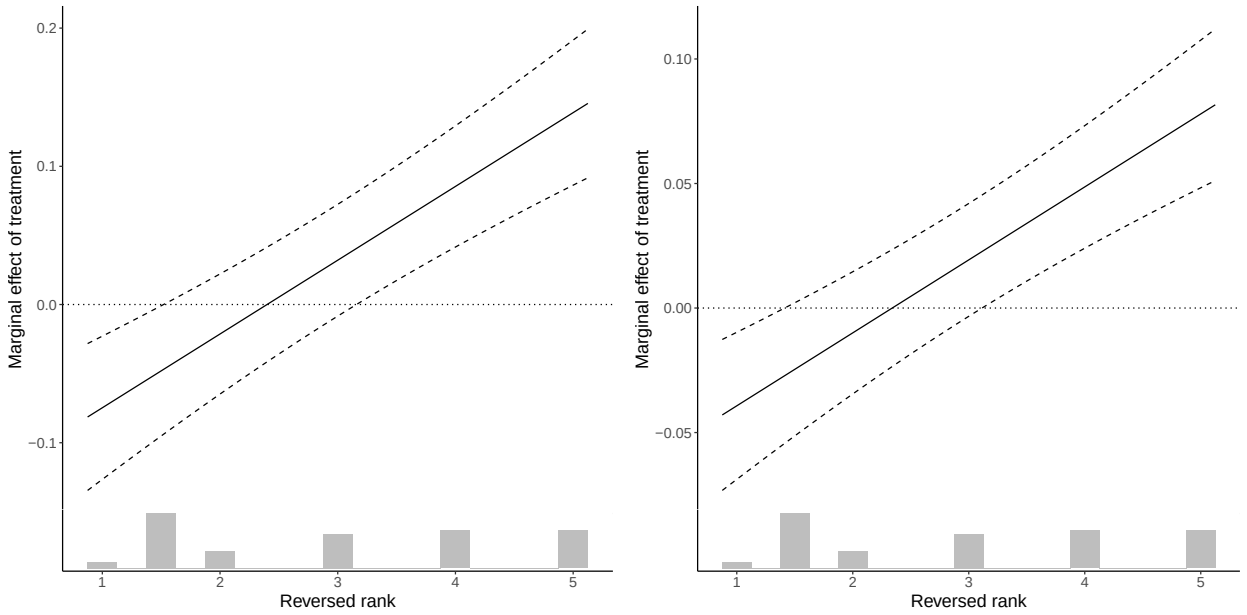
	Outcome: trust in foreign government scale					
	All governments (1)	Chinese government (2)	Indian government (3)	Russian government (4)	UK government (5)	US government (6)
Panel A: Average treatment effect						
Treated	0.034*	0.155***	-0.002	-0.015	-0.009	0.040
	(0.020)	(0.032)	(0.031)	(0.031)	(0.029)	(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***	0.172***	0.039	0.046**	0.020	0.065**
	(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	0.50	0.65	1.30	0.77	1.20
Panel C: Heterogeneity by the share of vaccines received by the respondent's country						
Treated × Share	0.271***	0.396***	1.452	0.257**	-0.105	0.168
	(0.045)	(0.127)	(1.817)	(0.129)	(0.207)	(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 relative to prior belief						
Treated × Reversed rank ≥ Reversed prior	0.115***	0.075	0.132**	0.055	0.044	0.119
	(0.030)	(0.100)	(0.064)	(0.064)	(0.060)	(0.075)
R^2	0.57	0.55	0.44	0.58	0.53	0.56
Reversed rank ≥ Reversed prior range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Reversed rank ≥ Reversed prior mean	0.63	0.87	0.57	0.38	0.56	0.75
Reversed rank ≥ Reversed prior std. dev.	0.48	0.33	0.49	0.48	0.50	0.43
Panel E: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs						
Treated × Reversed rank	0.054***	0.143**	0.061	0.048*	0.019	0.053**
	(0.010)	(0.066)	(0.045)	(0.025)	(0.038)	(0.026)
Treated × Reversed prior	0.006	0.061**	-0.061***	-0.006	0.007	0.038*
	(0.011)	(0.026)	(0.023)	(0.024)	(0.024)	(0.022)
R^2	0.57	0.55	0.44	0.58	0.53	0.56
Reversed prior range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Reversed prior mean	3.09	3.88	2.23	3.23	2.96	3.14
Reversed prior std. dev.	1.50	1.34	1.45	1.45	1.31	1.46
Outcome range	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}
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 country-specific indicators for each level of pre-treatment endline survey trust, and is estimated using OLS. Covariates and the lower-order interaction terms in panels B-E are omitted to save space. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 7: Effect of aggregate vaccine distribution information treatment on trust in foreign governments, binary outcome

	Outcome: some or a lot of trust foreign government indicator					
	All governments (1)	Chinese government (2)	Indian government (3)	Russian government (4)	UK government (5)	US government (6)
Panel A: Average treatment effect						
Treated	0.020*	0.087***	-0.011	-0.005	-0.008	0.035**
	(0.011)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)
R^2	0.48	0.43	0.35	0.47	0.46	0.47
Panel B: Heterogeneity by rank of vaccines received by the respondent's country						
Treated × Reversed rank	0.031***	0.090**	0.009	0.007	0.016	0.046***
	(0.005)	(0.037)	(0.028)	(0.014)	(0.023)	(0.014)
R^2	0.48	0.43	0.35	0.47	0.46	0.47
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	0.50	0.65	1.30	0.77	1.2
Panel C: Heterogeneity by the share of vaccines received by the respondent's country						
Treated × Share	0.150***	0.174**	0.488	0.027	-0.021	0.176***
	(0.026)	(0.074)	(1.202)	(0.079)	(0.124)	(0.066)
R^2	0.48	0.43	0.35	0.47	0.46	0.47
Share range	[0,0.85]	[0.14,0.84]	[0,0.04]	[0,0.6]	[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 relative to prior belief						
Treated × Reversed rank ≥ Reversed prior	0.067***	0.057	0.058	0.030	0.049	0.053
	(0.017)	(0.057)	(0.038)	(0.037)	(0.037)	(0.042)
R^2	0.48	0.43	0.35	0.47	0.46	0.47
Reversed rank ≥ Reversed prior range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Reversed rank ≥ Reversed prior mean	0.63	0.87	0.57	0.38	0.56	0.75
Reversed rank ≥ Reversed prior std. dev.	0.48	0.33	0.49	0.48	0.50	0.43
Panel E: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs						
Treated × Reversed rank	0.030***	0.078**	0.018	0.010	0.019	0.038**
	(0.006)	(0.038)	(0.029)	(0.015)	(0.024)	(0.015)
Treated × Reversed prior	0.001	0.025*	-0.021	-0.009	-0.012	0.023*
	(0.006)	(0.015)	(0.013)	(0.014)	(0.014)	(0.012)
R^2	0.48	0.43	0.35	0.48	0.46	0.48
Reversed prior range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Reversed prior mean	3.09	3.88	2.23	3.23	2.96	3.14
Reversed prior std. dev.	1.50	1.34	1.45	1.45	1.31	1.46
Outcome range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Control outcome mean	0.47	0.35	0.28	0.50	0.63	0.62
Control outcome std. dev.	0.50	0.48	0.45	0.50	0.48	0.49
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 country-specific indicators for each level of pre-treatment endline survey trust, and is estimated using OLS. Covariates and the lower-order interaction terms in panels B-E are omitted to save space. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.



(a) Trust in foreign government scale

(b) Some or a lot of trust foreign government

Figure 7: Moderation of the effect of aggregate vaccine distribution information treatment on trust in foreign governments, by vaccine-developer country rank

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 panel B in Tables 6 and 7. The bars at the foot of each plot indicate the distribution of each moderator.

vided the most vaccines than treated respondents who were informed that a country provided the least vaccines. Together, these results suggest that the mass distribution of COVID-19 vaccines can cultivate soft power currency for foreign powers in Latin America through both eogtropic and sociotropic channels.

While our findings are consistent with respondents learning from the information provided in the treatment, it remains possible that the information instead 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 should respond most to treatment. We seek to distinguish between the learning and priming interpretations in two ways. First, panel D compares treatment effects between the 63% of respondents that were encouraged to update positively about a country's rank or had their prior beliefs confirmed by the signal and the 37% of respondents that were encouraged to update negatively. The results show that, on average, the former group increased their trust in

the average foreign government by 0.12 more levels and became 7 percentage points more likely to trust a foreign government than the latter group. In other words, the treatment effects are driven by respondents that did not update unfavorably about the delivery of vaccines developed in a foreign country. Although the point estimates are noisier when examining countries separately, the differential effect is positive in each case. Second, panel E estimates effect heterogeneity with respect to the reported rank and respondent prior belief simultaneously. That the moderating effect loads predominantly on the reported ranking again suggests that treatment effects are principally driven by learning, rather than priming.

Furthermore, the effects detected in our sample appear to generalize to the broader population. We again apply rake and joint distribution weights to reweight observations to reflect the population distribution in terms of observable covariates. The results in Appendix Tables A10-A13 report similar effect magnitudes to our unweighted results, with respondents significantly increasing their trust in the governments of the foreign countries where the most vaccines available in a respondent's own country were developed. Our findings thus suggest that the dissemination of aggregate information about where different vaccines were developed could significantly alter public trust in foreign governments, and thereby enhance the soft power of the countries from which most vaccines emanate. This provides actionable implications for great powers aiming to brand and publicize their diplomatic efforts.

6.3 Robustness checks

The preceding results are robust across several alternative specifications. First, to ensure that chance covariate imbalances are not driving the results, Appendix Tables A14 and A15 report similar estimates when adjusting for the 8 predetermined covariates over which treatment is imbalanced. Second, Appendix Tables A16 and A17 show that our findings also remain robust to estimating treatment effects using ordered logit or logit, respectively, for our scale and binary trust outcomes. Finally, Appendix Tables A18 and A19 show that the results are robust to including only the respondents whose priors beliefs comprised a set of rankings that were unique for each vaccine-developing

Table 8: 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)
Treated	-0.067	0.022	0.098**	0.011	0.009
	(0.050)	(0.044)	(0.047)	(0.041)	(0.047)
Treated × Reversed rank	0.024**	0.001	-0.022*	0.009	-0.004
	(0.011)	(0.010)	(0.011)	(0.010)	(0.011)
R^2	0.13	0.07	0.05	0.11	0.12
Reversed rank range	[2,5]	[2,5]	[2,5]	[2,5]	[2,5]
Reversed rank mean	3.97	3.97	3.97	3.97	3.97
Reversed rank std. dev.	0.87	0.87	0.87	0.87	0.87
Outcome range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Control outcome mean	0.42	0.17	0.18	0.17	0.39
Control outcome std. dev.	0.49	0.37	0.38	0.38	0.49
Observations	5,085	5,085	5,085	5,085	5,085

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

country.

6.4 Potential mechanisms

To probe the mechanisms underlying the effects of providing information, we follow our previous approach of examining changes in beliefs about a foreign government's motivations for providing COVID-19 vaccines. Given the preceding findings, we focus on how the effect of treatment is moderated by the reported ranking. The results are reported in Table 8.

The changes in beliefs again support hypothesis H3, suggesting that similar mechanisms drive respondent updating from aggregate information as personal receipt of a specific vaccine. In particular, column (1) shows that the effect of treatment on the perception that a foreign government is preventing the spread of COVID-19 is significantly greater for the highest-ranked vaccine-

developer countries. Moving from the lowest to the highest rank implies a 12 percentage point difference in whether a respondent believed that a foreign government's vaccine diplomacy was motivated by pursuing a global public good. This again provides a clear rationale for citizens updating the extent to which they trust a foreign government. Moreover, the countries from which most vaccines came are also less likely to be perceived as distributing vaccines with the aim of increasing their international support. The fact that the governments of the countries from which most vaccines came are also seen as self-serving could help to explain respondents' larger increase in trust in response to favorable aggregate information than personal receipt of a given vaccine. Again, we find little evidence to suggest the more cynical interpretations of vaccine delivery are influenced by treatment.

7 Conclusion

Focusing on six major countries in Latin American, we leverage observational and experimental research designs to demonstrate that vaccine diplomacy—specifically the distribution of COVID-19 vaccines—can significantly alter trust in the governments of great powers. From an egotropic perspective, we find that individuals who received a vaccine developed in a particular country become notably more likely to trust the government of that country than the governments of other global powers, relative to individuals who received a different vaccine. Furthermore, from a sociotropic perspective, our results show that individuals also become more trusting of a foreign government after learning that many of the vaccines in their country originated from that government's country. In each case, the non-trivial increases in trust that we observe are driven by respondents becoming more likely to perceive foreign governments as pursuing a normatively desirable and important global public good.

These stark results suggest that vaccine diplomacy has the potential to generate soft power for vaccine-developing countries. Given the scale of the global demand for vaccines, and thus the opportunity for the superpowers of China and the US to compete for global hearts and minds, the

COVID-19 pandemic could play a major role in reshaping international relations as well as global public health in years to come. Indeed, our findings suggest that vaccine diplomacy may be just as important in cultivating trust—a key first step in establishing soft power—as more established foreign policy tools, such as foreign aid and diplomatic visits.

Having provided concrete empirical evidence of vaccine diplomacy's influence on trust in foreign governments, the natural next step in this research agenda is to study the downstream effects of such public opinion shifts on the recipient country's foreign policy behavior. In particular, it will be interesting to observe—beyond our motivating examples from Honduras and Paraguay—whether vaccine distribution facilitates great powers' agendas, such as ratifying treaties or allowing military bases. Because the most significant consequences of soft power accumulation are likely to materialize gradually, in part because many individuals are yet to be vaccinated, such phenomena will need to be studied over the coming years.

It will also be important to examine whether the documented changes in public opinion persist as the pandemic evolves. First, public opinion may respond to the changing efficacy of vaccines. At the time of our study, all of the vaccines of different national origin were perceived to be highly effective against severe disease, albeit varying in effectiveness against mild illness. These perceptions have changed in light of subsequent virus mutations. Since an important foreign policy literature argues that individuals form their opinions of and support for foreign policy based on the policy effectiveness (Eichenberg 2005; Gelpi, Feaver and Reifler 2009; Sagan and Valentino 2017), future research should investigate how shifts in vaccine efficacy may moderate the effects of vaccine diplomacy on the cultivation of reputational benefits for vaccine-sending countries. Second, research should eventually assess whether trust in foreign governments shaped by vaccine diplomacy endures as the pandemic recedes. Regardless of its durability, epidemics are likely to become more common and vaccines—long a part of the diplomatic repertoire (Huang 2021)—are likely to remain salient in our era of global interdependence (Fazal 2020). There is thus reason to anticipate that our findings will remain relevant to foreign statecraft beyond the current health crisis.

Another area of inquiry ripe for future research is the elite-level geopolitics of vaccine distri-

bution. Our article focused on citizens' responses to the receipt of COVID-19 vaccines, exploiting within-country variation in which vaccine and what information about vaccine diplomacy an individual receives. However, we take as given the aggregate patterns of vaccine distribution. The international relations field would benefit from a more comprehensive understanding of the politics of vaccine distribution: where and when vaccines are being sent and why. In particular, discussion has centered on whether great powers are seeking to consolidate alliances, remedy strained relations, or gain new geopolitical influence, and whether their diplomacy comes, in fact, with "no strings attached." Mapping vaccine flows would help to adjudicate between these different hypothesized motivations for vaccine distribution patterns. Our findings indicate that countries—particularly China, which has until recently maintained a limited foothold in Latin America—may be able to increase their soft power resources in regions far beyond their traditional geopolitical spheres of influence.

Our study's policy implication aligns with that of Goldsmith, Horiuchi and Wood (2014): states can "do well by doing good." The distribution of vaccines is not just the right thing to do for normative reasons of equity, humanitarian reasons of global health, and national strategic reasons of ending a pandemic that knows no borders, but it also serves geopolitical goals. For example, US vaccine diplomacy could serve the US' strong pivot to the Pacific to counter China's influence and could fend off China's gains in the US' geostrategic backyard—the western hemisphere. For such soft power currencies to materialize, our findings suggest that states likely need to distribute large quantities of COVID-19 vaccines in relative as well as absolute terms, gaining a top place in recipient states' vaccine arsenals. Our findings further indicate that information about and publicity of vaccine diplomatic efforts proves critical, consistent with the foreign policy literature on elite communication and cues. To have their greatest impact on global hearts and minds, countries may wish to specifically brand the motivations behind these efforts to convey their altruism and generosity.

Finally, we have focused on the effectiveness of public health diplomacy for cultivating soft power. However, our findings are not solely relevant to COVID-19 vaccine provision. Contempo-

rary great power competition comprises aid, public diplomacy, lending, and other bilateral interventions with potentially important soft power consequences—bolstered by increased interconnectivity and access to information around of foreign interventions. We highlight this as a theoretically important and potentially empirically rich area of ongoing research for scholars of international relations.

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Online Appendix

Contents

A.1 Overview of vaccine rollouts in Latin America

Rollout 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 1 in the main paper 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.

A.1.1 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.

A.1.2 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.

A.1.3 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.

A.1.4 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.

A.1.5 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.

A.1.6 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.2 Adherence to COVID-19 vaccine rollout protocols

We are not aware of systematic and reliable data on adherence to the rollout 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 could afford a trip to the US 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 such 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 were eligible.

At a logistical level, all countries experienced some interruptions to their rollouts. In México, challenges to vaccine distribution included militarized resistance from 14 villages, as well as slow efforts to vaccinate migrant populations, and delays due to shortages of the Sputnik V vaccine. Chile, Colombia, and Perú all experienced local vaccine shortages in certain areas, leading to temporary suspension of vaccination campaigns. Salient supply shortages included those in Valparaíso (Chile), Risaralda (Colombia), and Arequipa (Perú);. 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 rollout.

A.3 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? The study was approved by the institutional review board of the research team and complied with relevant ethical regulations for work with human participants. Written informed consent was obtained.

A.3.1 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 Perúvians 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 com-

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			Perú		
	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.

pleted 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.3.2 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):

> **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

	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

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

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.4 Estimating the effect of receiving a vaccine

A.4.1 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, 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 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:

$$\begin{aligned} X_{ic} = \alpha_{gc} + \tau_1 \textit{China developed vaccine}_{ic} + \tau_2 \textit{Russia developed vaccine}_{ic} \\ + \tau_3 \textit{UK developed vaccine}_{ic} + \varepsilon_{ic}, \end{aligned} \tag{A1}$$

where respondents that received a vaccine developed in the US are the omitted baseline 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 A3 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 86 covariates. When we further non-parametrically adjust for prior trust, by including $\sum_r \beta_{dr} \mathbb{1}[\textit{Prior trust}_{dic} = r]$ in the regression equation about, the final column shows that we still only observe 11 statistically significant differences. This suggests that the country where an individual's vaccine was developed was assigned in a plausibly exogenous manner.

A.4.2 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 (especially in the countries where few individuals had been vaccinated at the time of our endline survey), the estimated effect in each country is positive. The effect is smallest in Colombia, but relatively large and similar in magnitude in each other country.

Table A3: Covariate balance across individuals that received vaccines developed in different countries

Predetermined covariate	Mean	Std. dev.	Equality test (p value)	Equality test conditional on prior trust (p value)
Education	3.81	1.04	0.570	0.749
Education - At Least Primary	0.01	0.11	0.239	0.215
Education - At Least Secondary	0.08	0.28	0.039**	0.136
Education - At Least Other Higher	0.45	0.50	0.728	0.878
Education - At Least University	0.64	0.48	0.962	0.985
Female	0.52	0.50	0.140	0.287
Running Water in Home	0.96	0.19	0.875	0.878
Sewage in Home	0.82	0.39	0.878	0.707
Electricity in Home	0.95	0.21	0.731	0.664
No Running Water, Sewage, or Electricity in Home	0.00	0.04	0.870	0.912
Baseline COVID News Consumption - Aggregate	4.76	1.39	0.049**	0.169
Baseline COVID News Consumption - TV	5.95	1.74	0.450	0.594
Baseline COVID News Consumption - Radio	4.07	2.54	0.832	0.890
Baseline COVID News Consumption - Print	3.57	2.50	0.061*	0.118
Baseline COVID News Consumption - Word of Mouth	5.43	1.86	0.164	0.287
Baseline COVID News Consumption - WhatsApp	4.70	2.32	0.205	0.152
Baseline COVID News Consumption - Social Media	4.76	2.37	0.162	0.230
Baseline COVID News Consumption - News Websites	4.96	2.24	0.018**	0.030**
COVID Severity in Country	3.65	0.69	0.255	0.362
Percentage of vaccinated people needed to achieve herd community	83.40	19.69	0.113	0.091*
General Vaccine Hesitancy - Protect from Disease	4.09	0.96	0.120	0.047**
General Vaccine Hesitancy - Good for Community	4.18	0.90	0.520	0.382
General Vaccine Hesitancy - Trust in Government	3.14	1.29	0.345	0.378
General Vaccine Hesitancy - Follow Doctor Instructions	3.95	0.98	0.521	0.487
General Vaccine Hesitancy - Trust in International Medical Experts	3.99	0.94	0.170	0.101
General Vaccine Hesitancy - Refused Vaccine	0.13	0.33	0.997	0.994
COVID Hesitancy Reasons - Side Effects	0.54	0.50	0.989	0.973
COVID Hesitancy Reasons - Vaccine Gives COVID	0.09	0.29	0.361	0.361
COVID Hesitancy Reasons - Produced Too Quickly	0.49	0.50	0.553	0.701
COVID Hesitancy Reasons - Not Effective	0.13	0.34	0.164	0.209
COVID Hesitancy Reasons - Not At Risk of Getting COVID	0.02	0.13	0.842	0.863
COVID Hesitancy Reasons - Against Vaccines Generally	0.01	0.12	0.492	0.454
COVID Hesitancy Reasons - Prefer 'Natural' Immunity	0.04	0.20	0.131	0.183
COVID Hesitancy Reasons - Already Had COVID	0.05	0.21	0.536	0.432
COVID Hesitancy Reasons - Don't Trust Government	0.31	0.46	0.251	0.258
COVID Hesitancy Reasons - Financial Concerns	0.09	0.29	0.361	0.201
COVID Hesitancy Reasons - Other	0.10	0.29	0.102	0.160
Comorbidities - None	0.50	0.50	0.542	0.521
Comorbidities - Diabetes	0.16	0.36	0.363	0.364
Comorbidities - Cardiovascular Diseases	0.15	0.36	0.470	0.516
Comorbidities - Obesity	0.20	0.40	0.026**	0.026**
Comorbidities - Autoimmune Diseases	0.06	0.24	0.876	0.746
Comorbidities - Chronic Obstructive Pulmonary Disease	0.06	0.24	0.061*	0.059*
Comorbidities - Prefer Not To Share	0.03	0.17	0.009***	0.024**
Had COVID	0.09	0.29	0.151	0.097*
Know Someone Seriously Ill or Passed Away COVID	0.70	0.46	0.341	0.378
COVID Economic Situation	2.32	0.82	0.710	0.646
Government Vaccine Priority	3.36	1.14	0.263	0.294
Left/Right Political Scale	5.34	2.04	0.133	0.433
Satisfied with President COVID Management	2.19	1.37	0.761	0.908
Satisfied with Mayor COVID Management	2.68	1.28	0.539	0.764
Satisfied with Health Ministry COVID Management	2.44	1.30	0.271	0.447
Would Vote for Current President	0.22	0.42	0.461	0.549
Would Vote for Current Mayor	0.27	0.45	0.622	0.702
Trust in Current President	1.97	1.11	0.547	0.756
Trust in Current Mayor	2.39	1.04	0.846	0.889
Trust in National Health Ministry	2.29	1.10	0.170	0.309
Trust in National Medical Association	3.02	0.89	0.240	0.376
Trust in Left-Wing Newspaper	2.24	0.95	0.520	0.411
Trust in Right-Wing Newspaper	2.21	1.02	0.864	0.839
Trust in Religious Leader	2.03	0.89	0.387	0.210
Trust in Local Healthcare	3.27	0.77	0.133	0.206
Trust in Armed Forces	2.81	1.02	0.603	0.567
Trust in Civil Society Organizations	2.70	0.78	0.784	0.773
Trust in Government of China (baseline)	1.89	0.84	0.160	
Trust in Government of US Under Trump (baseline)	1.76	0.93	0.062*	0.04**
Trust in Government of US Under Biden (baseline)	2.59	0.91	0.621	
Trust in Government of UK (baseline)	2.59	0.88	0.894	
Trust in Government of Russia (baseline)	2.22	0.90	0.859	
Meeting Indoor With Non-Family Contributes to COVID	3.56	0.82	0.479	0.573
Risk Aversion	0.96	0.62	0.385	0.268
Discount Rate	3.28	0.79	0.635	0.748
Donation Amount	0.47	0.32	0.864	0.885
Important to Receive Respect and Recognition	2.73	0.99	0.079*	0.067*
Social Influence	2.31	0.84	0.478	0.371
Vaccine Information Treatment	0.20	0.40	0.452	0.305
Vaccine Information Treatment with Biden Endorsement	0.15	0.35	0.470	0.432
Vaccine Information Treatment with Expert Herd Immunity Prediction (60%)	0.07	0.25	0.752	0.675
Vaccine Information Treatment with Expert Herd Immunity Prediction (70%)	0.07	0.25	0.742	0.589
Vaccine Information Treatment with Expert Herd Immunity Prediction (70%)	0.07	0.26	0.115	0.127
Vaccine Information Treatment with Expert Herd Immunity Prediction (60%) and Current Willingness	0.10	0.30	0.206	0.178
Vaccine Information Treatment with Expert Herd Immunity Prediction (70%) and Current Willingness	0.08	0.27	0.454	0.589
Vaccine Information Treatment with Expert Herd Immunity Prediction (80%) and Current Willingness	0.08	0.27	0.018**	0.019**
Motivation Treatment - Altruism	0.26	0.44	0.151	0.145
Motivation Treatment - Economic Recovery	0.25	0.43	0.404	0.431
Motivation Treatment - Social Approval	0.25	0.43	0.122	0.091*

Note: 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 and (for the final column) country-specific indicators for each level of pre-treatment baseline survey trust.

Table A4: The effect of receiving a particular vaccine on an individual's trust in the government of the country where the vaccine was developed, by respondent country

	Outcome: trust in foreign government (all governments)					
	Argentinean respondents (1)	Brazilian respondents (2)	Chilean respondents (3)	Colombian respondents (4)	Mexican respondents (5)	Peruvian respondents (6)
Panel A: Outcome: trust in foreign government scale						
Country developed vaccine	0.137	0.375***	0.159*	0.042	0.161	0.215
	(0.109)	(0.144)	(0.085)	(0.140)	(0.108)	(0.262)
R^2	0.32	0.32	0.22	0.31	0.22	0.29
Outcome range	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}
Control outcome mean	2.80	2.59	2.70	2.92	2.80	2.66
Control outcome std. dev.	0.92	1.02	0.90	0.79	0.86	1.06
Panel B: Outcome: some or a lot of trust foreign government indicator						
Country developed vaccine	0.088	0.128**	0.074	-0.008	0.047	0.058
	(0.060)	(0.064)	(0.047)	(0.091)	(0.059)	(0.112)
R^2	0.26	0.27	0.18	0.22	0.15	0.28
Outcome range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Control outcome mean	0.60	0.54	0.59	0.60	0.62	0.57
Control outcome std. dev.	0.49	0.50	0.49	0.49	0.49	0.50
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 country-specific indicators for each level of pre-treatment baseline survey trust, and is estimated using OLS. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A.4.3 Reweighting to match the population

In estimating treatment effects, we did not apply population weights for each respondent to maximize the efficiency of our estimation of average treatment effects. However, as noted in the main paper, the sample is not nationally representative of adults for several reasons. To more thoroughly examine how the results extend to the general population, we further weight our estimates in two ways (taking the product of inverse probability of treatment assignment weights and population weights, wherever relevant). First, we apply rake weights to reweight observations according to the product of in-survey marginal distribution, relative to the national marginal distribution, across the following variables: age category, education level, region, gender, and (using data provided by Netquest) socioeconomic class. Second, within each country, we instead weight each respondent according to the relative frequency in the survey of the respondent's cell—defined by their age category, education, region, and gender—relative to the corresponding cell in the most recent avail-

able census. In other words, we reweight observations according to the joint distribution over these four variables in the population. In each case, a small number of observations are dropped because weights could not be defined. Because census data does not consistently include socioeconomic class, this dimension is omitted from the joint weights. The results are reported in Table A5.

A.4.4 Robustness tests for binary trust outcome

Table A6 reports analogous robustness tests to Table 3 in the main paper, except for our binary measure of trust.

A.5 Estimating the effect of information about aggregate vaccine distribution

A.5.1 Identification strategy and validation

The average and 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 A7 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 8 of 101 characteristics at the 10% level in our baseline specification in equation (2). The penultimate column reports 7 significant differences when predetermined trust covariates are excluded from the regression equation.

Due to time constraints, the experiment was not pre-registered and the analysis does not follow

Table A5: The effect of receiving a particular vaccine on an individual's trust in the government of the country where the vaccine was developed—with population weights

	All governments (1)	Chinese government (2)	Russian government (3)	UK government (4)	US government (5)
Panel A: Outcome: trust in foreign government scale—rake weights					
Country developed vaccine	0.166***	0.170	-0.065	0.364***	0.188
	(0.052)	(0.121)	(0.172)	(0.127)	(0.126)
R^2	0.28	0.27	0.27	0.24	0.22
Outcome range	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}
Control outcome mean	2.71	2.35	2.66	2.87	2.80
Control outcome std. dev.	0.92	0.96	0.92	0.85	0.90
Country developed vaccine mean	0.25	0.53	0.20	0.11	0.17
Observations	2,792	698	698	698	698
Panel B: Outcome: some or a lot of trust foreign government indicator—rake weights					
Country developed vaccine	0.072***	0.077	-0.070	0.210***	0.073
	(0.026)	(0.064)	(0.100)	(0.062)	(0.077)
R^2	0.24	0.26	0.22	0.19	0.16
Outcome range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Control outcome mean	0.57	0.37	0.55	0.67	0.62
Control outcome std. dev.	0.49	0.48	0.50	0.47	0.49
Country developed vaccine mean	0.25	0.53	0.20	0.11	0.17
Observations	2,792	698	698	698	698
Panel C: Outcome: trust in foreign government scale—joint weights					
Country developed vaccine	0.070	0.123	-0.338**	0.231*	0.125
	(0.054)	(0.124)	(0.157)	(0.133)	(0.133)
R^2	0.30	0.28	0.29	0.26	0.28
Outcome range	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}
Control outcome mean	2.71	2.40	2.67	2.89	2.74
Control outcome std. dev.	0.90	0.91	0.94	0.83	0.87
Country developed vaccine mean	0.25	0.53	0.20	0.11	0.17
Observations	2,836	709	709	709	709
Panel D: Outcome: some or a lot of trust foreign government indicator—joint weights					
Country developed vaccine	0.029	0.052	-0.244**	0.195**	0.049
	(0.037)	(0.085)	(0.118)	(0.087)	(0.102)
R^2	0.24	0.22	0.24	0.20	0.18
Outcome range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Control outcome mean	0.58	0.39	0.58	0.67	0.58
Control outcome std. dev.	0.49	0.49	0.49	0.47	0.49
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 country-specific indicators for each level of pre-treatment baseline survey trust, which are omitted to save space, and is estimated using WLS. The weights in panels A and B reflect the country-specific marginal distribution in terms of age category, education level, region, gender, and socioeconomic class. The weights in panels C and D reflect the country-specific joint distribution in terms of age category, education level, region, and gender. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A6: Robustness checks for the effect receiving a particular vaccine on an individual's trust in the government of the country where the vaccine was developed—binary trust outcome

	Outcome: some or a lot of trust foreign government indicator				
	All governments	Chinese government	Russian government	UK government	US government
	(1)	(2)	(3)	(4)	(5)
Panel A: Developer country × country-eligibility group × region fixed effects					
Country developed vaccine	0.082***	0.130**	-0.058	0.155**	0.045
	(0.029)	(0.058)	(0.094)	(0.067)	(0.068)
Observations	2,836	709	709	709	709
Panel B: Developer country × country-eligibility group × municipality fixed effects					
Country developed vaccine	0.108**	0.102	0.083	0.038	0.200
	(0.051)	(0.105)	(0.173)	(0.126)	(0.140)
Observations	2,836	709	709	709	709
Panel C: Adjusting for imbalanced predetermined predetermined covariates					
Country developed vaccine	0.067***	0.099**	-0.055	0.120**	0.071
	(0.022)	(0.046)	(0.070)	(0.056)	(0.050)
Observations	2,788	697	697	697	697
Panel D: Adjusting for 86 predetermined baseline covariates					
Country developed vaccine	0.076***	0.095**	-0.007	0.101	0.027
	(0.023)	(0.048)	(0.077)	(0.064)	(0.054)
Observations	2,548	637	637	637	637
Panel E: Dropping respondents who answered "don't know"					
Country developed vaccine	0.082***	0.107**	-0.047	0.110**	0.070
	(0.021)	(0.046)	(0.069)	(0.048)	(0.048)
Observations	2,548	636	709	633	647
Panel F: Defining treatment by country of reported vaccine manufacturer					
Country developed vaccine	0.091***	0.132***	-0.060	0.147***	0.063
	(0.022)	(0.044)	(0.074)	(0.056)	(0.049)
Observations	2,836	709	709	709	709
Panel G: Dropping respondents where perception and manufacturer country disagree					
Country developed vaccine	0.077***	0.110**	-0.028	0.122*	0.059
	(0.024)	(0.049)	(0.074)	(0.065)	(0.057)
Observations	2,572	643	643	643	643
Panel H: Logit estimation					
Country developed vaccine	0.363***	0.512**	-0.234	0.684*	0.352
	(0.113)	(0.226)	(0.341)	(0.380)	(0.268)
Observations	2,836	709	709	709	709

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

Table A7: Covariate balance across across treated and control individuals

Predetermined covariate	Mean	Std. dev.	Equality test (p value)	Equality test conditional on prior trust (p value)
Received COVID Vaccine	0.63	0.48		
Received Chinese COVID Vaccine	0.23	0.42	0.518	0.712
Received Indian COVID Vaccine	0.02	0.14	0.994	0.914
Received Russian COVID Vaccine	0.09	0.28	0.318	0.695
Received UK COVID Vaccine	0.04	0.20	0.723	0.561
Received US COVID Vaccine	0.07	0.26	0.482	0.651
Endline COVID News Consumption - Aggregate	3.76	1.40	0.847	0.609
Endline COVID News Consumption - TV	4.94	1.79	0.706	0.937
Endline COVID News Consumption - Radio	3.10	2.54	0.101	0.068*
Endline COVID News Consumption - Print	2.48	2.50	0.220	0.160
Endline COVID News Consumption - Word of Mouth	4.49	1.71	0.978	0.761
Endline COVID News Consumption - WhatsApp	3.51	2.31	0.603	0.679
Endline COVID News Consumption - Social Media	3.92	2.28	0.374	0.422
Endline COVID News Consumption - News Websites	3.86	2.30	0.467	0.702
COVID Vaccine Talked About Benefits	0.89	0.32		
COVID Vaccine Talked About Side Effects	0.81	0.39	0.079*	0.038**
COVID Vaccine Encouraged Others	2.07	1.09	0.114	0.379
Education	3.67	1.04	0.473	0.346
Education - At Least Primary	0.02	0.14	0.288	0.354
Education - At Least Secondary	0.10	0.30	0.475	0.539
Education - At Least Other Higher	0.51	0.50	0.262	0.140
Education - At Least University	0.70	0.46	0.799	0.689
Female	0.50	0.50	0.416	0.602
Running Water in Home	0.95	0.23	0.318	0.308
Sewage in Home	0.80	0.40	0.340	0.326
Electricity in Home	0.95	0.21	0.859	0.953
No Running Water, Sewage, or Electricity in Home	0.00	0.06	0.740	0.694
Baseline COVID News Consumption - Aggregate	4.59	1.49	0.122	0.190
Baseline COVID News Consumption - TV	5.75	1.88	0.192	0.310
Baseline COVID News Consumption - Radio	3.95	2.53	0.811	0.895
Baseline COVID News Consumption - Print	3.39	2.45	0.753	0.933
Baseline COVID News Consumption - Word of Mouth	5.32	1.90	0.526	0.625
Baseline COVID News Consumption - WhatsApp	4.42	2.40	0.348	0.409
Baseline COVID News Consumption - Social Media	4.70	2.41	0.102	0.093*
Baseline COVID News Consumption - News Websites	4.81	2.29	0.258	0.325
COVID Severity in Country	3.58	0.79	0.033**	0.063*
Percentage of vaccinated people needed to achieve herd community	79.64	25.18	0.135	0.181
General Vaccine Hesitancy - Protect from Disease	3.89	1.10	0.965	0.697
General Vaccine Hesitancy - Good for Community	4.01	1.03	0.924	0.739
General Vaccine Hesitancy - Trust in Government	3.01	1.30	0.413	0.529
General Vaccine Hesitancy - Follow Doctor Instructions	3.78	1.06	0.674	0.497
General Vaccine Hesitancy - Trust in International Medical Experts	3.77	1.08	0.423	0.682
General Vaccine Hesitancy - Refused Vaccine	0.16	0.37	0.295	0.492
COVID Hesitancy Reasons - Side Effects	0.56	0.50	0.292	0.337
COVID Hesitancy Reasons - Vaccine Gives COVID	0.11	0.31	0.800	0.936
COVID Hesitancy Reasons - Produced Too Quickly	0.49	0.50	0.346	0.433
COVID Hesitancy Reasons - Not Effective	0.18	0.38	0.131	0.164
COVID Hesitancy Reasons - Not At Risk of Getting COVID	0.03	0.17	0.256	0.247
COVID Hesitancy Reasons - Against Vaccines Generally	0.03	0.17	0.141	0.145
COVID Hesitancy Reasons - Prefer 'Natural' Immunity	0.06	0.24	0.779	0.749
COVID Hesitancy Reasons - Already Had COVID	0.05	0.22	0.163	0.238
COVID Hesitancy Reasons - Don't Trust Government	0.33	0.47	0.036**	0.057*
COVID Hesitancy Reasons - Financial Concerns	0.10	0.30	0.700	0.608
COVID Hesitancy Reasons - Other	0.08	0.27	0.759	0.802
Comorbidities - None	0.44	0.50	0.667	0.936
Comorbidities - Diabetes	0.16	0.36	0.325	0.228
Comorbidities - Cardiovascular Diseases	0.15	0.36	0.059*	0.055*
Comorbidities - Obesity	0.25	0.43	0.732	0.906
Comorbidities - Autoimmune Diseases	0.06	0.24	0.769	0.847
Comorbidities - Chronic Obstructive Pulmonary Disease	0.06	0.25	0.445	0.515
Comorbidities - Prefer Not To Share	0.03	0.17	0.974	0.905
Had COVID	0.09	0.29	0.235	0.275
Know Someone Seriously Ill or Passed Away COVID	0.70	0.46	0.828	0.691
COVID Economic Situation	2.26	0.86	0.224	0.256
Government Vaccine Priority	3.28	1.17	0.001***	0.003***
Left/Right Political Scale	5.20	2.05	0.399	0.416
Satisfied with President COVID Management	2.19	1.37	0.552	0.551
Satisfied with Mayor COVID Management	2.59	1.27	0.543	0.559
Satisfied with Health Ministry COVID Management	2.40	1.27	0.411	0.378
Would Vote for Current President	0.21	0.40	0.807	0.772
Would Vote for Current Mayor	0.24	0.43	0.252	0.275
Trust in Current President	1.99	1.11	0.531	0.461
Trust in Current Mayor	2.27	1.03	0.866	0.692
Trust in National Health Ministry	2.25	1.05	0.242	0.260
Trust in National Medical Association	2.90	0.93	0.244	0.367
Trust in Left-Wing Newspaper	2.17	0.94	0.643	0.825
Trust in Right-Wing Newspaper	2.18	0.98	0.717	0.897
Trust in Religious Leader	2.04	0.92	0.764	0.876
Trust in Local Healthcare	3.09	0.85	0.638	0.822
Trust in Armed Forces	2.79	1.03	0.394	0.280
Trust in Civil Society Organizations	2.62	0.82	0.526	0.490
Trust in Government of China (baseline)	1.89	0.86	0.258	0.345
Trust in Government of US Under Trump (baseline)	1.81	0.94	0.300	0.375
Trust in Government of US Under Biden (baseline)	2.46	0.91	0.798	0.743
Trust in Government of UK (baseline)	2.46	0.89	0.724	0.743
Trust in Government of Russia (baseline)	2.25	0.93	0.737	0.897
Meeting Indoor With Non-Family Contributes to COVID	3.42	0.94	0.687	0.611
Risk Aversion	0.97	0.66	0.615	0.552
Discount Rate	3.29	0.81	0.080*	0.153
Donation Amount	0.48	0.31	0.202	0.295
Important to Receive Respect and Recognition	2.66	1.01	0.107	0.198
Social Influence	2.28	0.86	0.621	0.869
Vaccine Information Treatment	0.21	0.41	0.575	0.507
Vaccine Information Treatment with Biden Endorsement	0.14	0.35	0.164	0.157
Vaccine Information Treatment with Expert Herd Immunity Prediction (60%)	0.07	0.25	0.664	0.798
Vaccine Information Treatment with Expert Herd Immunity Prediction (70%)	0.08	0.27	0.290	0.351
Vaccine Information Treatment with Expert Herd Immunity Prediction (70%)	0.07	0.26	0.885	0.830
Vaccine Information Treatment with Expert Herd Immunity Prediction (60%) and Current Willingness	0.08	0.27	0.614	0.540
Vaccine Information Treatment with Expert Herd Immunity Prediction (70%) and Current Willingness	0.07	0.25	0.955	0.874
Vaccine Information Treatment with Expert Herd Immunity Prediction (80%) and Current Willingness	0.08	0.27	0.302	0.280
Motivation Treatment - Altruism	0.25	0.43	0.061*	0.073*
Motivation Treatment - Economic Recovery	0.23	0.42	0.282	0.248
Motivation Treatment - Social Approval	0.25	0.43	0.818	0.880

Note: 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 and (for the final column) country-specific indicators for each level of pre-treatment baseline survey trust. p values do not exist for the variables used to define blocks.

a pre-analysis plan. However, it should be noted that our statistical analyses follow standard experimental procedures: we estimate OLS regressions, including only randomization block fixed effects and lagged outcomes as covariates; moreover, we code the outcome variable in two natural ways—as a scale and binary. The heterogeneous effects by the information provided in the treatment and how it relates to prior beliefs are widespread in the belief updating literature (e.g. Dunning et al. 2019).

A.5.2 Effects by respondent country

Tables A8 and A9 report 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.5.3 Reweighting to match the population

Tables A10-A13 report the experimental results, reweighting to match observable characteristics of the population. We again report estimates that reweight observations to match the marginal and joint population distribution. These methods are described in detail in section A.4.3. The results suggests that the unweighted effects in our sample are relatively similar to the reweighted effects, in each case.

A.5.4 Adjusting for imbalanced predetermined predetermined covariates

Tables A14 and A15 report our main estimates, adjusting for the few covariates that are imbalanced across treatment conditions. The results are not substantively affected.

Table A8: The effect of aggregate vaccine distribution information treatment on trust in foreign governments, by respondent country

	Outcome: trust in foreign government scale (all governments)					
	Argentinean respondents (1)	Brazilian respondents (2)	Chilean respondents (3)	Colombian respondents (4)	Mexican respondents (5)	Peruvian respondents (6)
Panel A: Average treatment effect						
Treated	0.010	-0.053	0.080***	0.116*	0.034	-0.009
	(0.030)	(0.040)	(0.024)	(0.060)	(0.033)	(0.045)
R^2	0.61	0.56	0.52	0.64	0.59	0.59
Panel B: Heterogeneity by rank of vaccines received by the respondent's country						
Treated × Reversed rank	0.052**	0.054*	0.066***	0.063	0.059**	0.010
	(0.022)	(0.029)	(0.017)	(0.042)	(0.023)	(0.035)
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	0.239*	0.288*	0.299***	0.462*	0.533***	0.031
	(0.126)	(0.167)	(0.074)	(0.274)	(0.192)	(0.132)
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 relative to prior belief						
Treated × Reversed rank ≥ Reversed prior	0.031	0.044	0.220***	0.166	-0.021	0.200**
	(0.064)	(0.081)	(0.050)	(0.122)	(0.070)	(0.094)
R^2	0.61	0.56	0.53	0.64	0.60	0.59
Reversed rank ≥ Reversed prior range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Reversed rank ≥ Reversed prior mean	0.64	0.57	0.65	0.60	0.62	0.61
Reversed rank ≥ Reversed prior std. dev.	0.48	0.50	0.48	0.49	0.48	0.49
Panel E: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs						
Treated × Reversed rank	0.032	0.054*	0.071***	0.079	0.046*	0.022
	(0.026)	(0.030)	(0.020)	(0.049)	(0.024)	(0.037)
Treated × Reversed prior	0.037	0.000	-0.008	-0.040	0.046*	-0.030
	(0.024)	(0.027)	(0.019)	(0.042)	(0.025)	(0.033)
R^2	0.61	0.56	0.53	0.64	0.60	0.59
Reversed prior range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Reversed prior mean	3.10	3.17	3.06	3.09	3.08	3.05
Prior belief SD	1.52	1.52	1.50	1.53	1.45	1.49
Outcome range	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}
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 country-specific indicators for each level of pre-treatment endline survey 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 A9: The effect of aggregate vaccine distribution information treatment on trust in foreign governments, by respondent country

	Outcome: some or a lot of trust foreign government indicator (all governments)					
	Argentinean respondents (1)	Brazilian respondents (2)	Chilean respondents (3)	Colombian respondents (4)	Mexican respondents (5)	Peruvian respondents (6)
Panel A: Average treatment effect						
Treated	-0.018	-0.017	0.032**	0.084**	0.038**	0.032
	(0.019)	(0.022)	(0.014)	(0.036)	(0.019)	(0.026)
R^2	0.48	0.46	0.46	0.54	0.50	0.50
Panel B: Heterogeneity by rank of vaccines received by the respondent's country						
Treated × Reversed rank	0.022	0.043***	0.033***	0.046*	0.029**	0.010
	(0.013)	(0.016)	(0.010)	(0.027)	(0.013)	(0.020)
R^2	0.49	0.46	0.46	0.55	0.50	0.50
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	0.089	0.217**	0.152***	0.313*	0.266**	0.059
	(0.078)	(0.092)	(0.042)	(0.173)	(0.109)	(0.074)
R^2	0.49	0.46	0.46	0.55	0.50	0.50
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 relative to prior belief						
Treated × Reversed rank ≥ Reversed prior	0.016	0.042	0.116***	0.137*	0.018	0.085
	(0.039)	(0.046)	(0.029)	(0.074)	(0.040)	(0.055)
R^2	0.48	0.46	0.46	0.55	0.50	0.50
Reversed rank ≥ Reversed prior range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Reversed rank ≥ Reversed prior mean	0.64	0.57	0.65	0.60	0.62	0.61
Reversed rank ≥ Reversed prior std. dev.	0.48	0.50	0.48	0.49	0.48	0.49
Panel E: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs						
Treated × Reversed rank	0.012	0.043***	0.037***	0.063**	0.023	0.014
	(0.016)	(0.016)	(0.012)	(0.031)	(0.014)	(0.021)
Treated × Reversed prior	0.019	0.005	-0.009	-0.039	0.020	-0.010
	(0.014)	(0.015)	(0.010)	(0.026)	(0.014)	(0.019)
R^2	0.49	0.46	0.46	0.55	0.51	0.50
Reversed prior range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Reversed prior mean	3.10	3.17	3.06	3.09	3.08	3.05
Prior belief SD	1.52	1.52	1.50	1.53	1.45	1.49
Outcome range	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}
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 country-specific indicators for each level of pre-treatment endline survey 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 A10: Effect of aggregate vaccine distribution information treatment on trust in foreign governments, outcome scale—using rake population weights

	Outcome: trust in foreign government scale					
	All governments (1)	Chinese government (2)	Indian government (3)	Russian government (4)	UK government (5)	US government (6)
Panel A: Average treatment effect						
Treated	0.030	0.161***	0.009	0.029	-0.021	-0.025
	(0.031)	(0.045)	(0.043)	(0.045)	(0.044)	(0.047)
R^2	0.59	0.60	0.45	0.63	0.54	0.57
Panel B: Heterogeneity by rank of vaccines received by the respondent's country						
Treated × Reversed rank	0.044***	0.093	0.101	0.048	-0.037	0.040
	(0.012)	(0.091)	(0.065)	(0.034)	(0.061)	(0.038)
R^2	0.59	0.60	0.46	0.63	0.54	0.58
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	0.50	0.65	1.30	0.77	1.20
Panel C: Heterogeneity by the share of vaccines received by the respondent's country						
Treated × Share	0.223***	0.301*	3.285	0.252	-0.398	0.069
	(0.059)	(0.173)	(2.732)	(0.195)	(0.350)	(0.169)
R^2	0.59	0.60	0.45	0.63	0.54	0.57
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 relative to prior belief						
Treated × Reversed rank $\geq$ Reversed prior	0.090**	-0.002	0.124	0.125	0.027	0.032
	(0.043)	(0.148)	(0.092)	(0.104)	(0.094)	(0.108)
R^2	0.59	0.60	0.46	0.63	0.54	0.57
Reversed rank $\geq$ Reversed prior range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Reversed rank $\geq$ Reversed prior mean	0.63	0.87	0.57	0.38	0.56	0.75
Reversed rank $\geq$ Reversed prior std. dev.	0.48	0.33	0.49	0.48	0.50	0.43
Panel E: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs						
Treated × Reversed rank	0.053***	0.143**	0.061	0.048*	0.019	0.053**
	(0.010)	(0.066)	(0.045)	(0.025)	(0.038)	(0.026)
Treated × Reversed prior	0.006	0.061**	-0.061***	-0.006	0.007	0.038*
	(0.011)	(0.026)	(0.023)	(0.024)	(0.024)	(0.022)
R^2	0.57	0.55	0.44	0.58	0.53	0.56
Reversed prior range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Reversed prior mean	3.09	3.88	2.23	3.23	2.96	3.14
Reversed prior std. dev.	1.50	1.34	1.45	1.45	1.31	1.46
Outcome range	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}
Control outcome mean	2.47	2.16	2.13	2.60	2.71	2.73
Control outcome std. dev.	0.93	0.94	0.83	0.96	0.80	0.90
Observations	8,060	1,612	1,612	1,612	1,612	1,612

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 country-specific indicators for each level of pre-treatment endline survey trust, and is estimated using WLS. The weights reflect the country-specific marginal distribution in terms of age category, education level, region, gender, and socioeconomic class. Covariates and the lower-order interaction terms in panels B-E are omitted to save space. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A11: Effect of aggregate vaccine distribution information treatment on trust in foreign governments, binary outcome—using rake population weights

	Outcome: some or a lot of trust foreign government indicator					
	All governments	Chinese government	Indian government	Russian government	UK government	US government
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Average treatment effect						
Treated	0.030*	0.090***	0.011	0.046*	-0.013	0.016
	(0.018)	(0.026)	(0.029)	(0.025)	(0.029)	(0.030)
R^2	0.50	0.49	0.32	0.54	0.49	0.46
Panel B: Heterogeneity by rank of vaccines received by the respondent's country						
Treated × Reversed rank	0.023***	0.077	0.057	-0.009	0.013	0.049*
	(0.008)	(0.053)	(0.049)	(0.019)	(0.042)	(0.026)
R^2	0.50	0.49	0.32	0.54	0.49	0.46
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	0.50	0.65	1.30	0.77	1.20
Panel C: Heterogeneity by the share of vaccines received by the respondent's country						
Treated × Share	0.110***	0.160	1.513	-0.059	-0.105	0.162
	(0.038)	(0.099)	(2.052)	(0.112)	(0.177)	(0.115)
R^2	0.50	0.49	0.32	0.54	0.49	0.46
Share range	[0,0.85]	[0.14,0.84]	[0,0.04]	[0,0.6]	[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 relative to prior belief						
Treated × Reversed rank ≥ Reversed prior	0.044	0.106	0.034	0.050	-0.024	0.057
	(0.027)	(0.087)	(0.062)	(0.053)	(0.058)	(0.067)
R^2	0.50	0.49	0.32	0.54	0.49	0.46
Reversed rank ≥ Reversed prior range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Reversed rank ≥ Reversed prior mean	0.63	0.87	0.57	0.38	0.56	0.75
Reversed rank ≥ Reversed prior std. dev.	0.48	0.33	0.49	0.48	0.50	0.43
Panel E: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs						
Treated × Reversed rank	0.030***	0.078**	0.018	0.010	0.019	0.038**
	(0.006)	(0.038)	(0.029)	(0.015)	(0.024)	(0.015)
Treated × Reversed prior	0.001	0.025*	-0.021	-0.009	-0.012	0.023*
	(0.006)	(0.015)	(0.013)	(0.014)	(0.014)	(0.012)
R^2	0.48	0.43	0.35	0.48	0.46	0.48
Reversed prior range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Reversed prior mean	3.09	3.88	2.23	3.23	2.96	3.14
Reversed prior std. dev.	1.50	1.34	1.45	1.45	1.31	1.46
Outcome range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Control outcome mean	0.46	0.32	0.27	0.50	0.61	0.59
Control outcome std. dev.	0.50	0.47	0.44	0.50	0.49	0.49
Observations	8,060	1,612	1,612	1,612	1,612	1,612

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 country-specific indicators for each level of pre-treatment endline survey trust, and is estimated using WLS. The weights reflect the country-specific marginal distribution in terms of age category, education level, region, gender, and socioeconomic class. Covariates and the lower-order interaction terms in panels B-E are omitted to save space. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A12: Effect of aggregate vaccine distribution information treatment on trust in foreign governments, outcome scale—using joint population weights

	Outcome: trust in foreign government scale					
	All governments (1)	Chinese government (2)	Indian government (3)	Russian government (4)	UK government (5)	US government (6)
Panel A: Average treatment effect						
Treated	0.037	0.192***	0.026	-0.020	-0.019	0.010
	(0.038)	(0.053)	(0.050)	(0.049)	(0.052)	(0.050)
R^2	0.58	0.57	0.43	0.64	0.52	0.60
Panel B: Heterogeneity by rank of vaccines received by the respondent's country						
Treated × Reversed rank	0.048***	0.083	0.091	0.045	-0.084	0.047
	(0.013)	(0.109)	(0.074)	(0.036)	(0.079)	(0.037)
R^2	0.59	0.57	0.43	0.64	0.52	0.60
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	0.50	0.65	1.30	0.77	1.20
Panel C: Heterogeneity by the share of vaccines received by the respondent's country						
Treated × Share	0.237***	0.282	2.838	0.217	-0.595	0.119
	(0.064)	(0.212)	(3.148)	(0.206)	(0.441)	(0.157)
R^2	0.59	0.57	0.43	0.64	0.52	0.60
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 relative to prior belief						
Treated × Reversed rank ≥ Reversed prior	0.112**	0.024	0.240**	0.023	-0.041	0.106
	(0.046)	(0.150)	(0.107)	(0.109)	(0.107)	(0.116)
R^2	0.58	0.57	0.43	0.64	0.52	0.60
Reversed rank ≥ Reversed prior range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Reversed rank ≥ Reversed prior mean	0.63	0.87	0.57	0.38	0.56	0.75
Reversed rank ≥ Reversed prior std. dev.	0.48	0.33	0.49	0.48	0.50	0.43
Panel E: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs						
Treated × Reversed rank	0.053***	0.143**	0.061	0.048*	0.019	0.053**
	(0.010)	(0.066)	(0.045)	(0.025)	(0.038)	(0.026)
Treated × Reversed prior	0.006	0.061**	-0.061***	-0.006	0.007	0.038*
	(0.011)	(0.026)	(0.023)	(0.024)	(0.024)	(0.022)
R^2	0.57	0.55	0.44	0.58	0.53	0.56
Reversed prior range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Reversed prior mean	3.09	3.88	2.23	3.23	2.96	3.14
Reversed prior std. dev.	1.50	1.34	1.45	1.45	1.31	1.46
Outcome range	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}
Control outcome mean	2.44	2.12	2.11	2.62	2.67	2.68
Control outcome std. dev.	0.92	0.93	0.83	0.95	0.82	0.89
Observations	8,240	1,648	1,648	1,648	1,648	1,648

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 country-specific indicators for each level of pre-treatment endline survey trust, and is estimated using WLS. The weights reflect the country-specific joint distribution in terms of age category, education level, region, and gender. Covariates and the lower-order interaction terms in panels B-E are omitted to save space. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A13: Effect of aggregate vaccine distribution information treatment on trust in foreign governments, binary outcome—using joint population weights

	Outcome: some or a lot of trust foreign government indicator					
	All governments	Chinese government	Indian government	Russian government	UK government	US government
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Average treatment effect						
Treated	0.037*	0.108***	0.021	0.028	0.000	0.028
	(0.021)	(0.030)	(0.034)	(0.028)	(0.030)	(0.028)
R^2	0.50	0.45	0.28	0.55	0.50	0.51
Panel B: Heterogeneity by rank of vaccines received by the respondent's country						
Treated × Reversed rank	0.022***	0.065	0.064	-0.025	-0.008	0.051**
	(0.008)	(0.062)	(0.053)	(0.023)	(0.044)	(0.024)
R^2	0.50	0.45	0.28	0.55	0.50	0.51
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	0.50	0.65	1.30	0.77	1.20
Panel C: Heterogeneity by the share of vaccines received by the respondent's country						
Treated × Share	0.105***	0.139	1.700	-0.154	-0.171	0.166*
	(0.038)	(0.119)	(2.218)	(0.131)	(0.203)	(0.099)
R^2	0.50	0.45	0.28	0.55	0.50	0.51
Share range	[0,0.85]	[0.14,0.84]	[0,0.04]	[0,0.6]	[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 relative to prior belief						
Treated × Reversed rank ≥ Reversed prior	0.072***	0.108	0.122*	0.010	-0.020	0.120*
	(0.027)	(0.079)	(0.074)	(0.059)	(0.062)	(0.067)
R^2	0.50	0.45	0.28	0.55	0.50	0.51
Reversed rank ≥ Reversed prior range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Reversed rank ≥ Reversed prior mean	0.63	0.87	0.57	0.38	0.56	0.75
Reversed rank ≥ Reversed prior std. dev.	0.48	0.33	0.49	0.48	0.50	0.43
Panel E: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs						
Treated × Reversed rank	0.030***	0.078**	0.018	0.010	0.019	0.038**
	(0.006)	(0.038)	(0.029)	(0.015)	(0.024)	(0.015)
Treated × Reversed prior	0.001	0.025*	-0.021	-0.009	-0.012	0.023*
	(0.006)	(0.015)	(0.013)	(0.014)	(0.014)	(0.012)
R^2	0.48	0.43	0.35	0.48	0.46	0.48
Reversed prior range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Reversed prior mean	3.09	3.88	2.23	3.23	2.96	3.14
Reversed prior std. dev.	1.50	1.34	1.45	1.45	1.31	1.46
Outcome range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Control outcome mean	0.45	0.31	0.26	0.50	0.58	0.57
Control outcome std. dev.	0.50	0.46	0.44	0.50	0.49	0.50
Observations	8,240	1,648	1,648	1,648	1,648	1,648

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 country-specific indicators for each level of pre-treatment endline survey trust, and is estimated using WLS. The weights reflect the country-specific joint distribution in terms of age category, education level, region, and gender. Covariates and the lower-order interaction terms in panels B-E are omitted to save space. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A14: The effect of aggregate vaccine distribution information treatment on trust in foreign governments, adjusting for imbalanced covariates

	Outcome: trust in foreign government scale (all governments)					
	All governments	Chinese government	Indian government	Russian government	UK government	US government
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Average treatment effect						
Treated	0.050**	0.161***	0.018	0.001	0.019	0.051
	(0.021)	(0.034)	(0.033)	(0.033)	(0.031)	(0.033)
R^2	0.58	0.56	0.44	0.58	0.53	0.57
Panel B: Heterogeneity by rank of vaccines received by the respondent's country						
Treated × Reversed rank	0.051***	0.148**	0.026	0.039*	0.028	0.060**
	(0.009)	(0.067)	(0.046)	(0.023)	(0.041)	(0.026)
R^2	0.58	0.56	0.44	0.58	0.53	0.58
Reversed rank range	[1,5]	[4,5]	[1,3]	[1.5,5]	[1.5,4]	[1.5,5]
Reversed rank mean	3.00	4.54	1.74	2.28	2.76	3.67
Reversed rank std. dev.	1.37	0.50	0.65	1.31	0.78	1.21
Panel C: Heterogeneity by the share of vaccines received by the respondent's country						
Treated × Share	0.248***	0.375***	0.519	0.217	-0.057	0.137
	(0.047)	(0.133)	(1.889)	(0.134)	(0.222)	(0.120)
R^2	0.58	0.56	0.44	0.58	0.53	0.57
Share range	[0,0.85]	[0.14,0.84]	[0,0.04]	[0,0.6]	[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 relative to prior belief						
Treated × Reversed rank ≥ Reversed prior	0.092***	0.003	0.122*	0.050	0.029	0.085
	(0.031)	(0.105)	(0.067)	(0.066)	(0.063)	(0.077)
R^2	0.58	0.56	0.44	0.59	0.53	0.58
Reversed rank ≥ Reversed prior range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Reversed rank ≥ Reversed prior mean	0.63	0.87	0.58	0.38	0.55	0.76
Reversed rank ≥ Reversed prior std. dev.	0.48	0.33	0.49	0.49	0.50	0.43
Panel E: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs						
Treated × Reversed rank	0.049***	0.122*	0.050	0.045*	0.026	0.048*
	(0.012)	(0.069)	(0.047)	(0.027)	(0.041)	(0.027)
Treated × Reversed prior	0.005	0.057**	-0.059**	-0.017	0.009	0.036
	(0.011)	(0.028)	(0.024)	(0.026)	(0.025)	(0.023)
R^2	0.58	0.56	0.44	0.59	0.53	0.58
Reversed prior range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Reversed prior mean	3.08	3.88	2.23	3.22	2.96	3.11
Reversed prior std. dev.	1.50	1.33	1.45	1.44	1.31	1.47
Outcome range	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}
Control outcome mean	2.51	2.20	2.15	2.56	2.82	2.81
Control outcome std. dev.	0.94	0.93	0.83	0.95	0.84	0.93
Observations	7,430	1,486	1,486	1,486	1,486	1,486

Notes: The specification in each column of each panel includes experimental block × respondent country × vaccine-developer country fixed effects, country-specific indicators for each level of pre-treatment endline survey trust, and the imbalanced covariates from Table A7, 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 A15: The effect of aggregate vaccine distribution information treatment on trust in foreign governments, adjusting for imbalanced covariates

	Outcome: some or a lot of trust foreign government indicator (all governments)					
	All governments	Chinese government	Indian government	Russian government	UK government	US government
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Average treatment effect						
Treated	0.024**	0.090***	-0.003	-0.002	0.006	0.031*
	(0.012)	(0.020)	(0.019)	(0.019)	(0.019)	(0.019)
R^2	0.48	0.43	0.35	0.47	0.46	0.48
Panel B: Heterogeneity by rank of vaccines received by the respondent's country						
Treated × Reversed rank	0.028***	0.061	0.006	0.006	0.019	0.044***
	(0.005)	(0.039)	(0.029)	(0.014)	(0.024)	(0.015)
R^2	0.48	0.43	0.35	0.47	0.46	0.48
Reversed rank range	[1,5]	[4,5]	[1,3]	[1.5,5]	[1.5,4]	[1.5,5]
Reversed rank mean	3.00	4.54	1.74	2.28	2.76	3.67
Reversed rank std. dev.	1.37	0.50	0.65	1.31	0.78	1.21
Panel C: Heterogeneity by the share of vaccines received by the respondent's country						
Treated × Share	0.131***	0.128*	0.265	0.025	0.006	0.143**
	(0.027)	(0.078)	(1.263)	(0.082)	(0.129)	(0.067)
R^2	0.48	0.43	0.35	0.47	0.46	0.48
Share range	[0,0.85]	[0.14,0.84]	[0,0.04]	[0,0.6]	[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 relative to prior belief						
Treated × Reversed rank ≥ Reversed prior	0.057***	0.023	0.058	0.028	0.040	0.043
	(0.018)	(0.061)	(0.040)	(0.040)	(0.038)	(0.044)
R^2	0.48	0.43	0.35	0.47	0.46	0.48
Reversed rank ≥ Reversed prior	[0,1]	[0,1]	[0,1]	[0,1]	[0,1]	[0,1]
Reversed rank ≥ Reversed prior mean	0.63	0.87	0.58	0.38	0.55	0.76
Reversed rank ≥ Reversed prior std. dev.	0.48	0.33	0.49	0.49	0.50	0.43
Panel E: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs						
Treated × Reversed rank	0.028***	0.047	0.016	0.012	0.022	0.037**
	(0.007)	(0.040)	(0.030)	(0.016)	(0.025)	(0.016)
Treated × Reversed prior	0.000	0.031*	-0.021	-0.016	-0.015	0.022*
	(0.006)	(0.016)	(0.014)	(0.015)	(0.015)	(0.013)
R^2	0.48	0.43	0.35	0.47	0.46	0.49
Reversed prior range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Reversed prior mean	3.08	3.88	2.23	3.22	2.96	3.11
Reversed prior std. dev.	1.50	1.33	1.45	1.44	1.31	1.47
Outcome range	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}
Control outcome mean	0.48	0.35	0.28	0.51	0.63	0.63
Control outcome std. dev.	0.50	0.48	0.45	0.50	0.48	0.48
Observations	7,430	1,486	1,486	1,486	1,486	1,486

Notes: The specification in each column of each panel includes experimental block × respondent country × vaccine-developer country fixed effects, country-specific indicators for each level of pre-treatment endline survey trust, and the imbalanced covariates from Table A7, 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. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A.5.5 Ordered logit and logit estimation

Tables A16 and A17 report the experimental results using ordered logit and logit estimators for the scale and binary trust outcome variables, respectively. Although the point estimates of course change, the results continue show clear and statistically significant effects on trust.

A.5.6 Excluding respondents with non-unique prior belief rankings

When eliciting prior beliefs about the ranking of vaccine-developing countries, the survey instrument allowed respondents to indicate ties by providing the same ranking (between 1 and 5) multiple times. Although 72% of respondents provide a unique set of ranks, i.e. a different ranking for each country, others indicated ties or straight-lined this question. To ensure that our results are not driven by the 28% of respondents that did not provide unique rankings, Tables A18 and A19 demonstrate that the results are robust to excluding these respondents.

A.6 Endline survey questionnaire

Below we include the full survey instrument in Spanish (Argentine version). The Portuguese translation and the code determining responses orderings, randomizations, and which questions were shown to which respondents are available upon request. English translations for key variables are provided in section A.3.2.

Table A16: The effect of aggregate vaccine distribution information treatment on trust in foreign governments, ordered logit estimation

	Outcome: trust in foreign government scale (all governments)					
	All governments	Chinese government	Indian government	Russian government	UK government	US government
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Average treatment effect						
Treated	0.091	0.451***	-0.028	-0.053	-0.046	0.124
	(0.061)	(0.095)	(0.092)	(0.094)	(0.095)	(0.096)
Panel B: Heterogeneity by rank of vaccines received by the respondent's country						
Treated × Reversed rank	0.176***	0.542**	0.119	0.131	0.046	0.218**
	(0.027)	(0.190)	(0.131)	(0.069)	(0.121)	(0.079)
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	0.50	0.65	1.30	0.77	1.20
Panel C: Heterogeneity by the share of vaccines received by the respondent's country						
Treated × Share	0.840***	1.148**	4.340	0.722	-0.464	0.580
	(0.139)	(0.369)	(5.431)	(0.400)	(0.674)	(0.394)
Share range	[0,0.85]	[0.14,0.84]	[0,0.04]	[0,0.6]	[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 relative to prior belief						
Treated × Reversed rank ≥ Reversed prior	0.351***	0.189	0.399*	0.142	0.140	0.417
	(0.089)	(0.297)	(0.193)	(0.193)	(0.196)	(0.230)
Reversed rank ≥ Reversed prior range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Reversed rank ≥ Reversed prior mean	0.63	0.87	0.57	0.38	0.55	0.75
Reversed rank ≥ Reversed prior std. dev.	0.48	0.33	0.49	0.48	0.50	0.43
Panel E: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs						
Treated × Reversed rank	0.169***	0.446*	0.200	0.128	0.045	0.191*
	(0.031)	(0.197)	(0.135)	(0.078)	(0.121)	(0.082)
Treated × Reversed prior	0.016	0.193*	-0.200**	0.001	0.018	0.101
	(0.033)	(0.082)	(0.069)	(0.073)	(0.077)	(0.069)
Reversed prior range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Reversed prior mean	3.09	3.88	2.23	3.23	2.96	3.14
Reversed prior std. dev.	1.50	1.34	1.45	1.45	1.31	1.46
Outcome range	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}
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 fixed effects and country-specific indicators for each level of pre-treatment endline survey trust, and is estimated using ordered logit. 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 A17: The effect of aggregate vaccine distribution information treatment on trust in foreign governments, logit estimation

	Outcome: some or a lot of trust foreign government indicator (all governments)					
	All governments	Chinese government	Indian government	Russian government	UK government	US government
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Average treatment effect						
Treated	0.164*	0.665***	-0.069	-0.047	-0.030	0.288**
	(0.088)	(0.141)	(0.141)	(0.140)	(0.142)	(0.145)
Panel B: Heterogeneity by rank of vaccines received by the respondent's country						
Treated × Reversed rank	0.237***	0.674**	0.083	0.054	0.116	0.366***
	(0.040)	(0.280)	(0.219)	(0.103)	(0.183)	(0.124)
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	0.50	0.65	1.30	0.77	1.20
Panel C: Heterogeneity by the share of vaccines received by the respondent's country						
Treated × Share	1.155***	1.274**	3.957	0.207	-0.125	1.603***
	(0.197)	(0.539)	(9.380)	(0.595)	(1.004)	(0.601)
Share range	[0,0.85]	[0.14,0.84]	[0,0.04]	[0,0.6]	[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 relative to prior belief						
Treated × Reversed rank ≥ Reversed prior	0.526***	0.398	0.445	0.264	0.395	0.391
	(0.129)	(0.434)	(0.295)	(0.288)	(0.288)	(0.343)
Reversed rank ≥ Reversed prior range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Reversed rank ≥ Reversed prior mean	0.63	0.87	0.57	0.38	0.55	0.75
Reversed rank ≥ Reversed prior std. dev.	0.48	0.33	0.49	0.48	0.50	0.43
Panel E: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs						
Treated × Reversed rank	0.235***	0.579**	0.142	0.088	0.132	0.306**
	(0.044)	(0.287)	(0.224)	(0.114)	(0.183)	(0.128)
Treated × Reversed prior	0.005	0.185*	-0.165*	-0.091	-0.100	0.198*
	(0.045)	(0.111)	(0.100)	(0.105)	(0.112)	(0.104)
Reversed prior range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Reversed prior mean	3.08	3.88	2.23	3.22	2.96	3.11
Reversed prior std. dev.	1.49	1.32	1.45	1.45	1.29	1.47
Outcome range	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}
Control outcome mean	0.47	0.35	0.28	0.50	0.63	0.62
Control outcome std. dev.	0.50	0.48	0.45	0.50	0.48	0.49
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 fixed effects and country-specific indicators for each level of pre-treatment endline survey trust, and is estimated using logit. Standard errors clustered by respondent are in parentheses. 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 A18: Effect of aggregate vaccine distribution information treatment on trust in foreign governments, excluding respondents with non-unique rankings, outcome scale

	Outcome: trust in foreign government scale					
	All governments (1)	Chinese government (2)	Indian government (3)	Russian government (4)	UK government (5)	US government (6)
Panel A: Average treatment effect						
Treated	0.059**	0.167***	0.020	0.012	0.019	0.075**
	(0.023)	(0.037)	(0.036)	(0.037)	(0.033)	(0.037)
R^2	0.59	0.57	0.46	0.59	0.57	0.57
Panel B: Heterogeneity by rank of vaccines received by the respondent's country						
Treated × Reversed rank	0.052***	0.196***	0.017	0.018	0.080*	0.068**
	(0.010)	(0.074)	(0.051)	(0.028)	(0.045)	(0.031)
R^2	0.60	0.57	0.46	0.59	0.57	0.57
Reversed rank range	[1,5]	[4,5]	[1,3]	[1.5,5]	[1.5,4]	[1.5,5]
Reversed rank mean	3.00	4.54	1.70	2.23	2.78	3.75
Reversed rank std. dev.	1.38	0.50	0.64	1.26	0.73	1.18
Panel C: Heterogeneity by the share of vaccines received by the respondent's country						
Treated × Share	0.276***	0.468***	-0.895	0.115	0.123	0.242*
	(0.051)	(0.146)	(2.139)	(0.160)	(0.236)	(0.136)
R^2	0.60	0.57	0.46	0.59	0.57	0.57
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	0.54	0.01	0.12	0.08	0.24
Share std. dev.	0.27	0.25	0.01	0.22	0.14	0.25
Panel D: Heterogeneity by rank of vaccines received by the respondent's country relative to prior belief						
Treated × Reversed rank ≥ Reversed prior	0.100***	0.059	0.130*	-0.022	0.125*	0.025
	(0.034)	(0.125)	(0.076)	(0.076)	(0.069)	(0.106)
R^2	0.60	0.57	0.46	0.59	0.57	0.57
Reversed rank ≥ Reversed prior range	[0,1]	[0,1]	[0,1]	[0,1]	[0,1]	[0,1]
Reversed rank ≥ Reversed prior mean	0.65	0.90	0.64	0.34	0.58	0.81
Reversed rank ≥ Reversed prior std. dev.	0.48	0.30	0.48	0.47	0.49	0.39
Panel E: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs						
Treated × Reversed rank	0.051***	0.142*	0.053	-0.005	0.092**	0.052
	(0.014)	(0.078)	(0.052)	(0.032)	(0.045)	(0.034)
Treated × Reversed prior	0.008	0.082**	-0.091***	0.046	-0.043	0.048
	(0.013)	(0.032)	(0.032)	(0.031)	(0.030)	(0.030)
R^2	0.60	0.57	0.46	0.60	0.57	0.58
Reversed prior range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Reversed prior mean	3.00	3.93	1.92	3.19	2.89	3.07
Reversed prior std. dev.	1.41	1.24	1.19	1.34	1.15	1.36
Outcome range	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}	{1,2,2.5,3,4}
Control outcome mean	2.51	2.20	2.15	2.57	2.84	2.78
Control outcome std. dev.	0.94	0.92	0.83	0.95	0.84	0.94
Observations	6,010	1,202	1,202	1,202	1,202	1,202

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 country-specific indicators for each level of pre-treatment endline survey 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. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A19: Effect of aggregate vaccine distribution information treatment on trust in foreign governments, excluding respondents with non-unique rankings, binary outcome

	Outcome: some or a lot of trust foreign government indicator					
	All governments (1)	Chinese government (2)	Indian government (3)	Russian government (4)	UK government (5)	US government (6)
Panel A: Average treatment effect						
Treated	0.024*	0.080***	-0.012	0.001	0.005	0.045**
	(0.014)	(0.022)	(0.021)	(0.022)	(0.021)	(0.021)
R^2	0.49	0.44	0.36	0.46	0.47	0.48
Panel B: Heterogeneity by rank of vaccines received by the respondent's country						
Treated × Reversed rank	0.029***	0.059	-0.013	0.003	0.041	0.048***
	(0.006)	(0.044)	(0.033)	(0.017)	(0.028)	(0.018)
R^2	0.49	0.44	0.36	0.46	0.48	0.48
Reversed rank range	[1,5]	[4,5]	[1,3]	[1.5,5]	[1.5,4]	[1.5,5]
Reversed rank mean	3.00	4.54	1.70	2.23	2.78	3.75
Reversed rank std. dev.	1.38	0.50	0.64	1.26	0.73	1.18
Panel C: Heterogeneity by the share of vaccines received by the respondent's country						
Treated × Share	0.141***	0.124	-1.062	0.014	0.090	0.213***
	(0.030)	(0.089)	(1.447)	(0.098)	(0.150)	(0.079)
R^2	0.49	0.44	0.36	0.46	0.47	0.48
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	0.54	0.01	0.12	0.08	0.24
Share std. dev.	0.27	0.25	0.01	0.22	0.14	0.25
Panel D: Heterogeneity by rank of vaccines received by the respondent's country relative to prior belief						
Treated × Reversed rank ≥ Reversed prior	0.061***	0.008	0.064	0.009	0.087**	0.019
	(0.020)	(0.076)	(0.047)	(0.046)	(0.043)	(0.060)
R^2	0.49	0.44	0.37	0.46	0.48	0.48
Reversed rank ≥ Reversed prior range	[0,1]	[0,1]	[0,1]	[0,1]	[0,1]	[0,1]
Reversed rank ≥ Reversed prior mean	0.65	0.90	0.64	0.34	0.58	0.81
Reversed rank ≥ Reversed prior std. dev.	0.48	0.30	0.48	0.47	0.49	0.39
Panel E: Heterogeneity by rank of vaccines received by the respondent's country and prior beliefs						
Treated × Reversed rank	0.028***	0.031	0.002	-0.006	0.052*	0.039**
	(0.008)	(0.046)	(0.034)	(0.020)	(0.029)	(0.019)
Treated × Reversed prior	0.003	0.043**	-0.033*	0.018	-0.039*	0.026
	(0.008)	(0.020)	(0.019)	(0.019)	(0.020)	(0.016)
R^2	0.49	0.44	0.37	0.46	0.48	0.49
Reversed prior range	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]	[1,5]
Reversed prior mean	3.00	3.93	1.92	3.19	2.89	3.07
Reversed prior std. dev.	1.41	1.24	1.19	1.34	1.15	1.36
Outcome range	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}	{0,1}
Control outcome mean	0.48	0.36	0.29	0.51	0.64	0.62
Control outcome std. dev.	0.50	0.48	0.45	0.50	0.48	0.49
Observations	6,010	1,202	1,202	1,202	1,202	1,202

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 country-specific indicators for each level of pre-treatment endline survey trust, and is estimated using OLS. Covariates and the lower-order interaction terms in panels B-E are omitted to save space. Standard errors clustered by respondent are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

En los últimos meses, ¿con qué frecuencia ha consumido noticias sobre COVID-19 de las siguientes fuentes?

	Nunca	Una vez cada dos meses	Una vez al mes	Una vez cada dos semanas	Una vez por semana	Varias veces por semana	Diariamente
Televisión	○	○	○	○	○	○	○
Periódicos	○	○	○	○	○	○	○
Radio	○	○	○	○	○	○	○
Conversaciones con otros	○	○	○	○	○	○	○
WhatsApp	○	○	○	○	○	○	○
Redes sociales (e.j. Facebook, Twitter)	○	○	○	○	○	○	○
Sitios web de noticias	○	○	○	○	○	○	○

En los últimos meses, ¿con qué frecuencia ha conversado sobre vacunas de COVID-19 con su familia o amigos?

- ○ Nunca
- ○ Una vez cada dos meses
- ○ Una vez al mes
- ○ Una vez cada dos semanas
- ○ Una vez por semana
- ○ Varias veces por semana
- ○ Diariamente

En los últimos meses, ¿ha conversado sobre los beneficios de las vacunas de COVID-19 con su familia o amigos?

- ○ No
- ○ Sí
- ○ No sé

En los últimos meses, ¿ha conversado sobre los efectos secundarios de las vacunas de COVID-19 con su familia o amigos?

- ○ No
- ○ Sí
- ○ No sé

En los últimos meses, ¿con qué frecuencia ha motivado a sus familiares o amigos para que reciban una vacuna contra el COVID-19?

- ○ Nunca
- ○ Muy pocas veces
- ○ A veces
- ○ Muchas veces
- ○ No sé

¿Cuánta confianza tiene en los actuales gobiernos de los siguientes países?

	Nada de confianza	Poca confianza	Algo de confianza	Mucha confianza	No sé
Estados Unidos	○	○	○	○	○
Rusia	○	○	○	○	○
India	○	○	○	○	○
Reino Unido	○	○	○	○	○
China	○	○	○	○	○

Vaccination outcomes

¿Es usted elegible para recibir una vacuna contra el COVID-19 en ${e://Field/country}?

- ○ No
- ○ Sí
- ○ Prefiero no decir

¿Ya recibió una vacuna contra el COVID-19?

- » No
- » Sí
- » Prefiero no decir

Vaccine experience (if vaccinated)

¿Cuántas dosis de la vacuna ha recibido?

- Una (1)
- Dos (2)
- Todavía no he sido vacunado

Después de ser elegible, ¿cuántas semanas esperó para recibir su primera dosis de la vacuna?

- [ ] Número de semanas:
- No recuerdo

¿Se acuerda cuál vacuna recibió?

- Astra-Zeneca/Oxford
- CanSino
- Covaxin
- Covishield
- Johnson and Johnson (Janssen)
- Moderna
- Pfizer/BioNTech
- Sinopharm
- Sinovac (CoronaVac)
- Sputnik V
- No recuerdo

¿Sabe qué país desarrolló la vacuna que usted recibió?

- ○ China
- ○ Estados Unidos
- ○ India
- ○ Reino Unido
- ○ Rusia
- ○ No sé
- ○ No recuerdo

¿Le dijo a otras personas que usted se vacunó?

- ○ No
- ○ Sí, a algunas personas
- ○ Sí, a muchas personas
- ○ No sé

¿Cómo reaccionaron estas personas cuando les dijo que se vacunó? Seleccione todas las que correspondan.

- ☐ Estaban felices por mí
- ☐ Estaban felices porque hice algo bueno por los demás
- ☐ No entendían por qué me vacuné
- ☐ Estaban celosos de mí
- ☐ No hubo reacción

Después de vacunarse, ¿intentó convencer a otras personas para que se vacunen?

- ○ No
- ○ Sí, a algunas personas
- ○ Sí, a muchas personas
- ○ No sé

Vaccine intentions (if ineligible and unvaccinated)

¿Hasta qué punto está usted de acuerdo o en desacuerdo?

Si una vacuna contra el COVID-19 estuviera disponible, yo me vacunaría.

- ○ Muy en desacuerdo
- ○ En desacuerdo
- ○ Ni de acuerdo ni en desacuerdo
- ○ De acuerdo
- ○ Muy de acuerdo
- ○ No estoy seguro

Si una vacuna contra el COVID-19 estuviera disponible para usted ahora, ¿cuántos meses esperaría antes de vacunarse?

- ○ [ ] Numero de meses:
- ○ Nunca tomaría una vacuna

¿Qué tan probable es que motive a familiares o amigos a que se vacunen?

- ○ Nada probable
- ○ Poco probable
- ○ Algo probable
- ○ Muy probable

Si recibe la vacuna contra el COVID-19, ¿qué tan probable es que le diga a otros que usted se vacunó?

- ○ Nada probable
- ○ Poco probable
- ○ Algo probable
- ○ Muy probable

Vaccine intentions (if eligible and unvaccinated)

¿Hasta qué punto está usted de acuerdo o en desacuerdo?

Dado que ya soy elegible para vacunarme, yo me vacunaría.

- ○ Muy en desacuerdo
- ○ En desacuerdo
- ○ Ni de acuerdo ni en desacuerdo
- ○ De acuerdo
- ○ Muy de acuerdo
- ○ No estoy seguro

Dado que ya es elegible para vacunarse, ¿cuántos meses esperaría antes de vacunarse?

- ○ _____ Numero de meses:
- ○ Nunca tomaría una vacuna

Dado que ya es elegible para vacunarse, ¿por qué no se ha vacunado? Seleccione todas las que correspondan.

- [ ] Estoy preocupado por los efectos secundarios
- [ ] No tengo tiempo para vacunarme
- [ ] Mi riesgo de contraer el COVID-19 es tan bajo que no necesito la vacuna
- [ ] No hay vacunas disponibles en mi municipio
- [ ] No creo que las vacunas sean efectivas contra el COVID-19
- [ ] Estoy en contra de las vacunas
- [ ] Temo que las vacunas fueron desarolladas demasiado rápido
- [ ] Temo que la vacuna me dará COVID-19
- [ ] Ya tuve COVID-19
- [ ] Temo que no podré pagar una vacuna para el COVID-19
- [ ] Prefiero adquirir inmunidad tras contraer COVID-19, sin necesidad de una vacuna
- [ ] No confío en el gobierno
- [ ] [ ] Otra:

¿Qué tan probable es que motive a familiares o amigos a que se vacunen?

- ○ Nada probable
- ○ Poco probable
- ○ Algo probable
- ○ Muy probable

Si recibe la vacuna contra el COVID-19, ¿qué tan probable es que le diga a otros que usted se vacunó?

- ○ Nada probable
- ○ Poco probable
- ○ Algo probable
- ○ Muy probable

General vaccine questions

¿Cuáles de las siguientes afirmaciones son **ciertas** sobre las vacunas contra el COVID-19? Seleccione todas las que correspondan.

- [ ] No se sabe si hay efectos secundarios graves de tomar una vacuna contra el COVID-19
- [ ] No es posible contraer COVID-19 de una vacuna
- [ ] Ningún país ha aprobado el uso de vacunas contra el COVID-19
- [ ] Las vacunas se han sometido a exhaustivas pruebas clínicas
- [ ] Las pruebas muestran que las vacunas son altamente eficaces en prevenir infecciones de COVID-19
- [ ] Ninguno de los anteriores

Si una vacuna contra el COVID-19 estuviera disponible para todos ahora, aproximadamente ¿qué porcentaje de personas de su municipio piensa que se vacunarían?

0 25 50 75 100

Para que el COVID-19 pare de propagarse, ¿qué porcentaje de personas piensa que necesitan vacunarse?

0 25 50 75 100

¿Qué tan importante es para usted vacunarse para detener la propagación del virus en su comunidad?

- ○ Nada importante
- ○ Poco importante
- ○ Algo importante
- ○ Muy importante

¿Qué tan importante es para usted vacunarse para ayudar a que todos puedan regresar a trabajar normalmente?

- ○ Nada importante
- ○ Poco importante
- ○ Algo importante
- ○ Muy importante

¿Dentro de cuántos meses cree que las cosas regresarán a la normalidad en ${e://Field/country}?

- ○ _____ Número de meses:
- ○ Nunca regresarán a la normalidad

List experiment - Control

A continuación verá una lista de actividades. Por favor indique **CUÁNTAS** de estas actividades ha realizado en los últimos tres meses. No nos interesa qué actividades en particular ha realizado, solo cuántas ha realizado.

- Escuchó al presidente hablar de COVID-19
- Comió dentro de un restaurante
- Viajó a un país extranjero

- ○ 0
- ○ 1
- ○ 2
- ○ 3

List experiment - Treatment

A continuación verá una lista de actividades. Por favor indique **CUÁNTAS** de estas actividades ha realizado en los últimos tres meses. No nos interesa qué actividades en particular ha realizado, solo cuántas ha realizado.

- Escuchó al presidente hablar de COVID-19
- Recibió una vacuna contra el COVID-19
- Comió dentro de un restaurante
- Viajó a un país extranjero

- ○ 0
- ○ 1
- ○ 2
- ○ 3
- ○ 4

Political questions

Con respecto al manejo de la pandemia, ¿qué tan satisfecho está usted con las siguientes autoridades?

	Nada satisfecho	No satisfecho	Ni satisfecho ni insatisfecho	Satisfecho	Muy satisfecho
${e://Field /health_ministry}	○	○	○	○	○
${e://Field /mayor_gender} de su municipalidad	○	○	○	○	○
Presidente ${e://Field /president}	○	○	○	○	○

Si hubiese una **elección presidencial** mañana, ¿votaría usted a favor del partido o alguien de la coalición del Presidente ${e://Field/president}?

- Sí
- No, votaría por un candidato de la oposición
- No votaría
- No sé

¿Por cuál partido de la oposición votaría en una elección presidencial?

- Frente para la Victoria (Justicialismo Kirchnerista, Unidad Ciudadana)
- Partido Justicialista (Peronismo, Massismo, otros no Kirchneristas)
- Unión Cívica Radical
- Partido Socialista (incluyendo GEN)
- PRO (Propuesta Republicana)
- Partido provincial en el gobierno (e.j. MPN)
- Partido de izquierda (PO, Frente de Izquierda, MAS, etc.)
- Coalición Cívica ARI (CC ARI)
- Cambiemos
- [ ] Otro:
- No sé

Si la **elección para ${e://Field/mayor} en su municipio** fuese mañana, ¿votaría usted a favor del partido o alguien de la coalición del actual ${e://Field/mayor}?

- » Sí
- » No, votaría por un candidato de la oposición
- » No votaría
- » No sé

¿Por cuál partido de la oposición votaría en las elecciones locales (o en la elección para ${e://Field/mayor})?

- » Frente para la Victoria (Justicialismo Kirchnerista, Unidad Ciudadana)
- » Partido Justicialista (Peronismo, Massismo, otros no Kirchneristas)
- » Unión Cívica Radical
- » Partido Socialista (incluyendo GEN)
- » PRO (Propuesta Republicana)
- » Partido provincial en el gobierno (e.j. MPN)
- » Partido de izquierda (PO, Frente de Izquierda, MAS, etc.)
- » Coalición Cívica ARI (CC ARI)
- » Cambiemos
- [ ] » Otro:
- » No sé

Perceived distribution of vaccines

Hasta dónde sabe, ¿qué países cree que desarrollaron la mayoría de las vacunas disponibles en ${e://Field/country}?

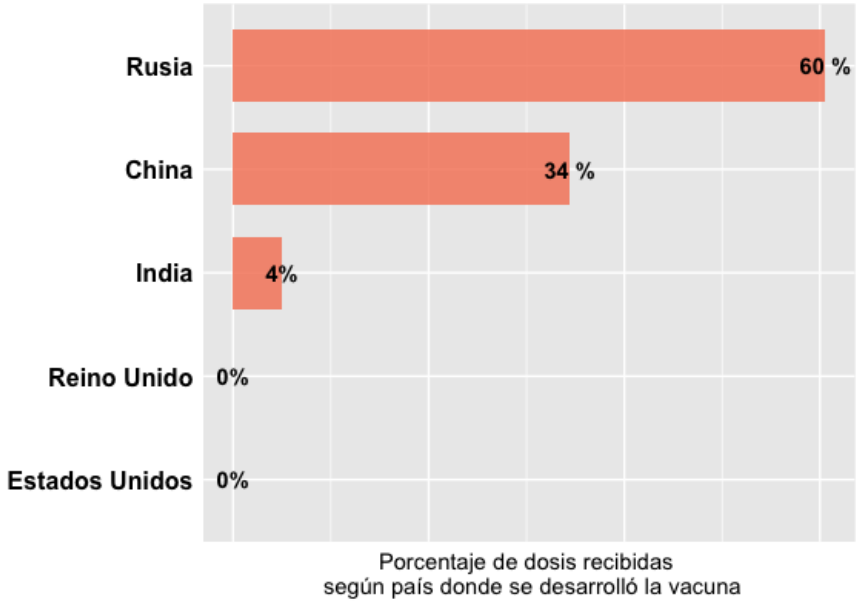
Por favor, clasifique los siguientes países de mayor (1) a menor (5), insertando el número al lado del país correspondiente. O sea, el número uno (1) indica que la mayoría de las vacunas en ${e://Field/country} fueron desarrolladas por el país indicado.

Reino Unido	
Rusia	
India	
China	
Estados Unidos	

Trust experiment control (gets nothing)

Trust experiment treatment (ranking)

Hasta ahora, ${e://Field/country} ha recibido la mayoría de sus dosis de la vacuna de los siguientes desarrolladores:



Repeat trust question

¿Cuánta confianza tiene en los actuales gobiernos de los siguientes países?

	Nada de confianza	Poca confianza	Algo de confianza	Mucha confianza	No sé
» China	○	○	○	○	○
» Estados Unidos	○	○	○	○	○
» India	○	○	○	○	○
» Reino Unido	○	○	○	○	○
» Rusia	○	○	○	○	○

Mechanisms

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

${e://Field/vaccine_received_1} está proveyendo vacunas a ${e://Field/country} para:

- [ ] Incrementar la dependencia de ${e://Field/country} en ${e://Field/vaccine_received_1}
- [ ] Detener rápidamente la propagación del COVID-19 en el mundo
- [ ] Aumentar el apoyo a ${e://Field/vaccine_received_1} entre las personas de ${e://Field/country}
- [ ] Obtener ganancias económicas
- [ ] Ayudar a los ciudadanos de ${e://Field/country}

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

${e://Field/vaccine_received_2} está proveyendo vacunas a ${e://Field/country} para:

- [ ] Obtener ganancias económicas
- [ ] Aumentar el apoyo a ${e://Field/vaccine_received_2} entre las personas de ${e://Field/country}
- [ ] Detener rápidamente la propagación del COVID-19 en el mundo
- [ ] Incrementar la dependencia de ${e://Field/country} en ${e://Field/vaccine_received_2}
- [ ] Ayudar a los ciudadanos de ${e://Field/country}

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

${e://Field/vaccine_received_3} está proveyendo vacunas a ${e://Field/country} para:

- [ ] Detener rápidamente la propagación del COVID-19 en el mundo
- [ ] Ayudar a los ciudadanos de ${e://Field/country}
- [ ] Incrementar la dependencia de ${e://Field/country} en ${e://Field/vaccine_received_3}
- [ ] Obtener ganancias económicas
- [ ] Aumentar el apoyo a ${e://Field/vaccine_received_3} entre las personas de ${e://Field/country}

Behavioral question

¿Le gustaría recibir un enlace de ${e://Field/health_ministry} para recibir mas información sobre como vacunarse?

Si usted selecciona sí, lo verá en la siguiente pantalla.

- ○ No
- ○ Sí

Este es el enlace: haga click aquí.

Este enlace abrirá en una nueva pestaña; por favor recuerde completar la encuesta.