

Preserve, Pressure, Protect, and Peel:

The US-China Rivalry and the Politics of Vaccine Provision

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Abstract

Lead states compete for influence and followers, and the COVID-19 pandemic served as an important reminder that health aid can be a foreign policy tool. How and to which countries do states distribute aid amidst a global crisis and great power rivalry? This article integrates multiple literatures and presents a novel typology of strategies: preserving existing partnerships, pressuring opponents, protecting recipients based on need, and peeling off countries from geopolitical rivals. It analyzes how the US and China distributed life-saving COVID-19 vaccines through 2021-2022. Regression results and Bayesian reasoning of original elite interviews suggest the US approach is characterized by protecting and peeling, while patterns of Chinese distribution suggest a combination of pressuring, preserving, and protecting. Case studies of Paraguay and Nicaragua – historic allies of Taiwan – further support these conclusions. This raises questions regarding the circumstances under which aid provision is instrumental and how rivals compete during global crises.

Keywords: COVID-19, foreign aid, vaccines, provision, United States, hegemonic competition, peeling

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1 Introduction

At the World Health Assembly in May 2020, President Xi announced China's vaccines would be an affordable, accessible global public good (Tan and Regalado 2020). In June, President Biden claimed the US would donate doses free and clear to countries most in need (White House 2021a). China highlighted its selfless early global distribution while the late-coming US underscored its "no strings attached" donations. Yet global shortages coupled with spiking COVID deaths meant that such vaccines were sources of leverage. As countries like China and Russia provided doses to other countries, many raised concerns that vaccines would be used for political gain (O'Reilly 2021; Sun 2025) or reputation improvement (Urdinez 2023). This raises an important set of questions: how do lead states provide such critical aid amidst pressing public health and geopolitical concerns? Do they leverage aid to favor friends and pressure others, or appeal to recipients and attend to recipient need?

The consensus in the foreign aid literature is that provision is a tool for promoting the provider's national interest, or a means of addressing the recipient's humanitarian needs (Alesina and Dollar 2000; Kuziemko and Werker 2006; Dreher et al. 2018; Bermeo 2011). Both bi and multilateral assistance often serve major power interests (Kersting and Kilby 2016; Dreher, Sturm, and Vreeland 2015; Lim and Vreeland 2013; R. Clark and Dolan 2021). Yet this does not adequately account for the distinct logics providers might pursue, nor the ways in which provision is dynamic and affected by the actions of other providers. Contemporary analyses of COVID assistance often omit this important competitive dynamic (Fuchs et al. 2020; Suzuki and Yang 2022). On this front, hegemonic order theorists are well-placed to discuss the symbolic and social nature of such vaccine provision but are susceptible to undervaluing the possibility of providing in accordance with recipient needs.

This article integrates these literatures and presents a novel typology of strategies that helps structure comparison and better captures the influence of great power competition on provision (Collier, Laporte, and Seawright 2008). Providers could *preserve* existing partnerships, *pressure* other states for political gain or improved governance, *peel* less aligned or battleground countries from geopolitical rivals, and of course, *protect* public health. This typology builds on existing work that takes seriously the favoritism of political allies and partners (Alesina and Dollar 2000) but also recognizes that in great power rivalry, lead states compete for followers (Ikenberry and Nexon 2019, Doshi 2021).

The analysis occurs in two steps. First, I present a descriptive analysis of US and Chinese vaccine provision during 2021 and 2022 aimed at uncovering the distribution patterns of both. It is crucial to analyze both countries to understand the competitive pressures that plausibly shaped their distribution patterns to various recipients. I find China, one of the first global providers, largely exported vaccines bilaterally. It *pressured* Taiwan's allies and *preserved* partners such as Belt and Road members and arms importers. However, it also *protected* public health by sending vaccines to countries with more COVID deaths. By contrast, the US was late to global provision but largely donated vaccines in what evidence suggests to be a *protect-peel* approach.

Regression results show that the US and China pursued different sets of strategies – itself, an important and novel contribution. However, closer scrutiny is warranted. The quantitative analysis can miss important side payments or conditionalities, as well as infrequent but politically decisive quid-pro-quos relevant to *preserving* and *peeling*. Moreover, while the quantitative evidence suggests a US *protect-peel* strategy and a Chinese *pressure-preserve-protect* one, substantial prior research shows each provider has a track record of the other's approach. Both Chinese and US aid are sensitive to recipient needs, suggesting *protection* is reasonable for both

(Hoeffler and Sterck 2022). However, favoritism in American aid and lending is well-known and would lead one to expect a *pressure-preserve-protect* strategy (Kilby 2006; Dreher et al. 2013), while Chinese documented efforts to gain economic followers could be a form of *peeling* (Broz, Zhang, and Wang 2020; Qian, Vreeland, and Zhao 2023). Thus, I apply Bayesian reasoning (Fairfield and Charman 2022; Bennett, Charman, and Fairfield 2021) to adjudicate between the *protect-peel* or *pressure-preserve-protect* strategies for both the US and China. I draw on 26 original interviews with US officials, officers, and advisors as well as two cases of vaccine distribution: to Paraguay and to Nicaragua. These two cases are useful; both are historic allies of Taiwan and were in the middle of the US-China rivalry during the pandemic. *Protect-peel* and *pressure-preserve-protect* predict different delivery patterns to these countries, providing an important opportunity to further test these hypotheses.

The piece makes three major contributions. It presents a generalizable set of approaches for goods provision amidst geopolitical rivalries, building on yet adjudicating between the expectations of foreign aid, hegemonic, and global health literatures. Empirically, it provides a needed comparative and competitive account of vaccine provision between two of the most important great powers, which is lacking in contemporary analysis of COVID-19 health diplomacy (Fuchs et al. 2020; Suzuki and Yang 2022).

Additionally, existing research is unable to provide insight into the black box of decision-making or the distribution patterns of one of the largest vaccine donors, the United States. This piece presents one of the first, if not the only look into this sensitive decision-making process, shedding light on *how* allocation decisions were created, debated, and executed with coordination with recipients and multilateral organizations like the WHO.

Finally, this piece shows how hegemonic contestation between great powers can have potential positive externalities through a competition of provision. In their struggle for followers, prestige, and legitimacy, such states may be incentivized to provide more goods more quickly or more affordably in the international system than would have been the case without such competition (Clunan 2014; Ikenberry and Nexon 2019; Barder 2015).

2 The Politics of Provision: Four Strategies

Health aid is often seen as a source of leverage (Drezner 2020; Johnson 2020), but, in some ways vaccines are particular. They are more one-off; once a population is inoculated, the potential for an extreme dependence on that product is reduced. Moreover, vaccines are disease-specific;¹ importing one does not necessarily undercut domestic manufacturers' current research on other diseases. Finally, donor-recipient partnerships can also foster longer-term pharmaceutical research and collaboration (Yeremia and Raditio 2021).

Nevertheless, vaccines can be withheld or provided conditionally. Particularly during periods of acute demand, a providing state has leverage. Vaccine diplomacy then, is the deployment of ostensibly health-focused programming for non-health foreign policy goals (Fazal 2020) and represents the most recent manifestation of potential tensions between recipient need and donor interest.² A state's patterns of distribution imply differing ends and means; below are four such strategies with observable implications.

¹ Admittedly, new variants COVID-19 create longer-term demand for additional doses and boosters than might have initially been expected.

² See Cheng and Minhas (2021; Steele (2017) as well as (Dreher et al. 2020; Hoeffler and Outram 2011); Bermejo, (2011); Berthélemy, (2006); Stone, 2006).

2.1 Preserve

As McKinlay and Little (1977, 63) stated, “the restricted allocation of aid reinforces the idea that the donor attaches some special significance or commitment to the recipient”. States often favor certain like-minded and friendly countries or those who vote with them in the UN (Alesina and Dollar 2000) in their developmental aid and multilateral lending (Kersting and Kilby 2016; Dreher, Sturm, and Vreeland 2015; Lim and Vreeland 2013). Vaccine provision is another avenue by which states may continue to preserve these valuable relations; by saving lives, vaccines help insulate a recipient’s economy from pandemic disruption, and demonstrate the government is an effective provider amidst a crisis. The providing state also benefits. While promises of provision could “tie the hands” of the provider (Fearon 1997); successful delivery strengthens the donor’s image as a reliable partner (Miller 2011). Pursuing a strategy of preserving would predict those with closer strategic relations, such as allies and arms trade partners, or more similarly voting countries in the UN would be likely to receive more doses.

2.2 Pressure

While *preserving* focuses on provider-recipient ties, another use of aid as “an instrument of political power” (Liska 1960) is as leverage to secure foreign policy concessions (de Mesquita and Smith 2007; 2016; Kuziemko and Werker 2006). A state could condition vaccines to *pressure* recipients to change policies. For the PRC this could mean pressuring allies of Taiwan to strip recognition from the island³ or pressuring countries to drop support from investigations into Uyghur mistreatment (Solonya and Standish 2021).⁴ The US could leverage vaccines to incentivize reforms in backsliding democracies (e.g. Nicaragua), punish illiberal regimes (e.g.

³ This could work both ways; China could pressure those who recognize Taiwan and the US could punish those who removed such recognition (116th United States Congress 2020; Bermeo 2017).

⁴ This case is discussed and analyzed in the Appendix.

North Korea, Myanmar), or induce cooperation from friends to boycott Chinese 5-G technology (Cha 2020). Beyond making assistance conditional, a more coercive version of this is *withholding* of aid. During a global pandemic, the decision to *not* provide doses creates acute pressure on the target country, but once the recipient changes policy, they are likely to receive doses.

Pressuring need not imply a recipient is an “enemy”, only that some recipient policy is objectionable to the provider. It is entirely possible for a provider to *pressure* its friends. Conversely, non-allied countries do not necessarily become targets for *pressuring*. While *pressuring* might seem like the intuitive opposite of *preserving*, it is distinct both in its logic and in the potential recipients targeted. *Preserving* is based more on donor-recipient ties, while *pressuring* is more related to donor-recipient policies.

2.3 Protect

The recipient’s need may also be consequential (Cingranelli 1993; Lumsdaine 1993). Norms of appropriateness should incentivize providers to provide vaccines for reasons beyond naked self-interest (Neumayer 2003; Schraeder, Hook, and Taylor 1998). Chief among these are providing based on medical need - the severity of COVID-19. Another would be equitably providing vaccines, working to ensure all countries, especially those that cannot produce vaccines themselves, have some access to vaccines (August et al. 2022; De Maio 2014). The WHO aimed for both, working to ensure all countries could obtain at least a 20% vaccination rate as soon as possible, while also aiming to provide medical aid in response to more severe COVID-19 crises. Thus, lower-income countries, non-vaccine-producing countries, and countries with more severe COVID-19 burden should receive more doses.

2.4 Peel

The final strategy focuses not on rewarding existing friends but on appealing to those courted by a rival provider. Lead states provide goods to other states in exchange for support or complicity in their preeminence (I. Clark 2011; Ikenberry and Nexon 2019; Lake 2014); this reciprocity helps underwrite the lead state's legitimacy, prestige, and reputation (Gilpin 1983; Khong 2019). It also helps build a camp of supporters vis-à-vis the rival (Doshi 2021). The US-China rivalry involves a competition in governance model and international leadership (Johnston 2019), with many countries caught in the middle. Consequently, the US or China could try to use vaccines to peel countries away from their competitor.

Which states might be more likely to experience this courting? Those on the “frontier” of the rivalry, such as allies of Taiwan are particularly likely (Portada, Lem, and Paudel 2020). Other states with newer ties, shallower institutionalization of relations, or which are the subject of a competitor's courting, could be opportune targets. Finally, a fence-sitting country's own efforts to leverage international rivalries could shape whether a country is affected by peeling.

While *protecting* and *preserving* focus on different sets of recipients compared to *peeling*, it is possible that providers could target a similar group of recipient states (e.g. allies of Taiwan) for *peeling* and *pressuring*. However, the ex-ante withholding or conditionality of assistance in the latter ratchets up the costs of the status quo while in *peeling*, the donor's positive provision is an inducement to encourage greater alignment with the provider. *Peeling* is more akin to a soft-power strategy of doing well by doing good (Goldsmith, Horiuchi, and Wood 2014). Observationally then, *pressuring* implies fewer doses or more conditions, while with *peeling* we would expect the opposite.

Which strategies would we expect in the case of vaccine provision from the US and China given that both could plausibly pursue more than one strategy at a time, but neither could pursue all four given supply and production constraints? With sufficient logistical capacity and vaccine supply, a provider could employ a basket of strategies in response to their goals and their concerns about other providers. I draw on the descriptive results from Section 4.1 and foreign aid research to focus the qualitative analysis on *pressure-preserve-protect* and *protect-peel*.⁵

The former is derived from the well-established finding that foreign aid is used to advance the concrete geostrategic interests of the provider. The provider can *preserve* and *protect* “friendly governments” (Wellner et al. 2025) while *pressuring* problematic recipients through withholding and conditionality (Regilme and Hodzi 2021). In this hypothesis, the policies of recipients and political ties to the donor are particularly important for decisions about vaccine provision.

Protect-peel on the other hand, stems from another key motivation for foreign aid – generating soft power and enhancing the donor’s reputation. *Protecting* public health allows donors to “do well” by “doing good” (Goldsmith, Horiuchi, and Wood 2014), and *peeling* is another powerful signal that can generate recipient support for the provider. A country might expect assistance from its patron superpower, but the provision from a rival patron is likely a stronger signal of goodwill precisely because it is less expected.

3 Research Design and Methods

To analyze US and Chinese patterns of vaccine deliveries, I regress US and Chinese vaccine deliveries at the country-month level on a host of covariates that link to the four strategies. This reveals patterns in donor distribution. Then, I analyze US donation decision-making drawing

⁵ These hypotheses are restated in full form for qualitative analysis in Section 4.2.

on 26 senior and working-level interviews of those working on, or advising US vaccine distribution. Variation in vertical and horizontal positionality gives insights into cross-team deliberations, actor responsibilities, and evidence corroboration (Collier 2011; Davies 2001; Tansey 2007). To link this to actual outcomes, I examine the cases of Chinese and US provision to Paraguay and Nicaragua.

I analyze evidence within a Bayesian heuristic framework (Fairfield and Charman 2017; 2022; Bennett, Charman, and Fairfield 2021). This involves “mentally inhabiting” the world of each hypothesis to assess the likelihood of outcomes and evidence relative to what that specific hypothesis predicts relative to others (Hunter 1984). We gain confidence in the hypothesis wherein that evidence is more expected (Fairfield and Charman 2022, 16). What matters is not whether evidence is *consistent* with a particular hypothesis, but rather if it is *more likely* to be observed in a world of that hypothesis compared to alternative worlds of the rival explanations. Evidence that could occur under more than one of the hypotheses can still increase confidence in one of the hypotheses over rivals if it is *less expected* under the rivals. Bayesian analysis requires mutually exclusive hypotheses, and while the strategies are not mutually exclusive, the hypotheses of which combination a state uses, are. To focus on the weight of the evidence, I use indifference priors (Fairfield and Charman 2022, 99, fn. 39).

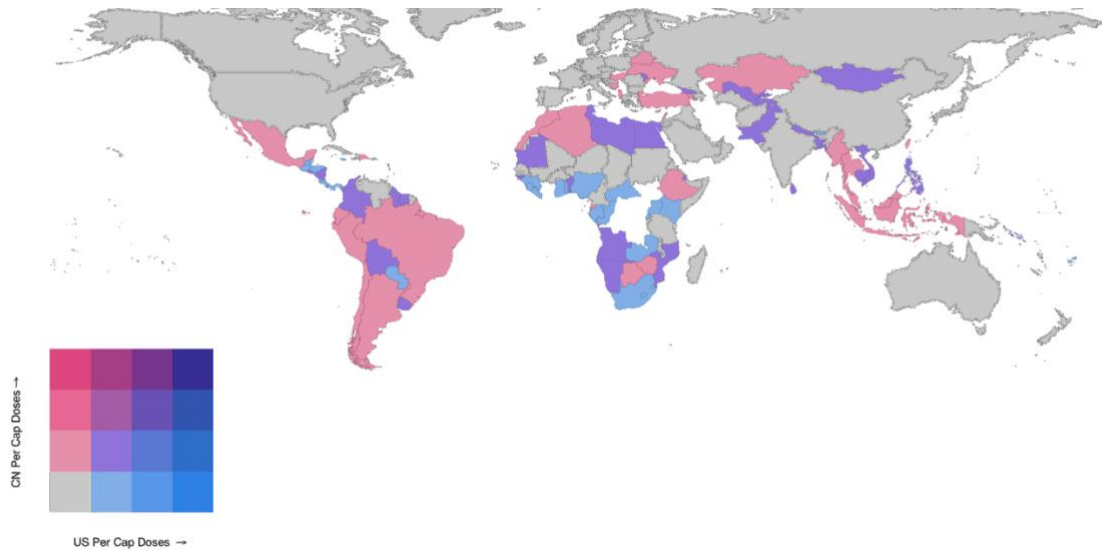
4 Providing in the Pandemic: China and US Vaccine Delivery

As of the spring of 2023, China has delivered 1.64 billion doses with roughly 82% of doses as bilateral exports (Bridge Consulting 2022). The US has delivered over 684.2 million doses of vaccine and pledged another 415.8 million doses for a total of 1.1 billion doses (Kaiser Family Foundation 2022). Almost all US doses were donated through the multilateral COVID-19

Vaccines Global Access (COVAX) mechanism, though early US doses were donated bilaterally.

Figure 1 shows the geographic distribution of both vaccine deliveries per capita in the world.

Figure 1 US and Chinese Dose Distribution



*US data from the Kaiser Family Foundation,
Chinese data from Beijing Bridge Consulting*

To assess distribution systematically, I employ a linear model regressing confirmed delivered doses starting from January 2021 through December 2022.⁶ This is a descriptive, rather than causal model, illustrating where doses went during a period of acute demand. The unit of analysis is country-month and the dependent variables are Chinese or US doses delivered to a particular country in a given month.⁷ I use the following specifications.

$$\log(\text{Doses} + 1) = C + \beta_1 \text{Strategic Factors}_i + \beta_2 \text{Public Health Factors}_i + \beta_3 \text{Controls} + \varepsilon_i$$

⁶ This excludes doses provided for phase III testing. These confirmed delivered doses from the Kaiser Family Foundation (US doses) and Beijing Bridge Consulting Company (Chinese doses).

⁷ 179 countries were included in the analysis, based on the availability of common controls such as V-Dem score.

To expand on β_1 , I add covariates between recipients and the US and China, but stress that the relevance of the variables for each strategy depends on (1) which provider is being analyzed and (2) the directionality of expected correlations. First, is recipient ideological similarity with the provider, proxied with average pre-pandemic dyadic UN vote ideal point distance (IDP) (Bailey, Strezhnev, and Voeten 2017).⁸ Next, is strategic closeness - binary alliance status with the US Ally (Leeds et al. 2002) as well as logged “trend indicator values” – a measure of arms exports to recipient countries from 2017-2019 (“SIPRI Arms Transfers Database” 2024). Now, consider if one is analyzing US donations; more US doses to US allies and US arms recipients would be expected under a *preserving* strategy, while more Chinese doses to US allies and arms recipients would be expected under a *peeling* strategy. Conversely, more Chinese doses to Chinese arms recipients is expected under *preserving* (for China) but more US doses to such countries would be expected under a US *peeling* strategy.

Aid and trade also proxy for geopolitical interest (Kilby 2006), so I include logged measures of both, averaged from 2017-2019 and drawn from the OECD and AidData (Dreher et al. 2020). Since like-mindedness could also be a function of regime type, I include political openness with 2020 V-Dem scores (Coppedge et al. 2021).⁹

Another key indicator is Taiwan recognition (binary for 2020) as such countries are on the frontier of the US-China rivalry (Portada, Lem, and Paudel 2020).¹⁰ The US could try to *peel* these countries or China could try to *peel* through provision or *pressure* through withholding.¹¹ I also

⁸ I follow Bailey et al. (2017) and only include IDP in a particular model.

⁹ Other checks available on request include use of Freedom House Political Rights and Civil Liberties scores in the case of US donations (Cruz, Keefer, and Scartascini 2021). There were no associations with civil liberties, though greater political rights were negatively associated with US bilateral donations and positively associated with US COVAX and overall donations.

¹⁰ Greater US or Chinese provision to such countries would be consistent with a *peeling* strategy, while conditioning or withholding doses would be consistent with a *pressuring* strategy.

¹¹ I appreciate the comment of an anonymous reviewer who noted helping an ally of an ally is once removed, and should not necessarily be considered *preserving*.

add the UN IDP between the recipient and the *rival* provider.¹² Membership in Chinese-led organizations and Belt and Road Initiative (BRI) projects could also matter.¹³ China could try to *preserve* such countries,¹⁴ while the US could attempt to *peel* such countries with positive provision, or *pressure* such countries through conditionality and withholding. For membership, I construct a 0-4 index counting membership in the AIIB, Shanghai Cooperative Organization (SCO), the BRI, and the Regional Comprehensive Economic Partnership (RCEP). Finally, for the US, which started providing vaccines after China, I also include Total Chinese doses (log), since providing doses to countries that received Chinese vaccines was seen as a way to offset Chinese influence (Mahtani 2021).

For *protecting* public health, β_2 I draw on metrics identified in interviews - new cases and deaths in recipient countries, lagged by one month and aggregated to the country-month level (WHO Health Emergency Dashboard 2022).¹⁵

Controls such as domestic vaccine production capacity,¹⁶ country population and GDP per capita are also included, though in this case, the interpretation of the latter may have implications for *protecting* and *preserving* hypotheses. Wealthier countries might be able to pay for vaccines suggesting a potential transactional consideration if there is a positive association.¹⁷

¹² More doses to countries with voting similarity to the provider is more consistent with *preserving*; by contrast more doses to countries that vote more similarly to one's rival indicate *peeling*.

¹³ I logged investments per capita between 2013 and 2020; (Chen 2022)

¹⁴ Xiaofeng Liang, former head of China's Center for Disease Control and Prevention, stated countries in China's Belt and Road Initiative (BRI) should be prioritized for Chinese vaccines (Yanzhong Huang 2021). Subsequent visits by China's Foreign Minister Wang to the Philippines and Myanmar suggested vaccine provision may have facilitated new infrastructure projects or commitments.

¹⁵ In an additional robustness check available upon request, I also use excess mortality, defined by the WHO as "the mortality above what would be expected based on the non-crisis mortality rate in the population of interest (WHO 2022)". However, at the time of writing, this is only available for part of 2021.

¹⁶ I thank an anonymous reviewer for this suggestion. I add a binary variable that takes the value of 1 if it (1) contributed to the production of a COVID vaccine that received WHO emergency use listing (COVID19 Vaccine Tracker 2022) or (2) helped produce one of the "leading vaccines" as of August 2022 (Klobucista 2022).

¹⁷ This strategic calculus for prioritizing wealthier countries was directly articulated in the Trump plan for international vaccine donation, discussed below.

This analysis is not meant to imply Chinese and US doses or their allocation mechanisms are identical. Vaccine efficacy varies between donors, as does the distribution channel (bi vs. multilateral; donation vs. export). Generally, multilateral distribution and donations reduce provider control and thus, potential for leverage, relative to bilateral distribution and exports. This is because providers have less direct control over recipient targeting in the former, and lose leverage over recipients via price negotiations in the latter.¹⁸ Ultimately, the quantitative findings should be interpreted as patterns of the specific provider, given its particular distribution approach and degree of control within those channels.

4.1 Quantitative Findings

The dependent variables (logged doses provided), differ by provider so I report results for China and the US separately. Table 1 *Chinese Dose Distribution* presents results for Chinese distribution, controlling for Chinese trade and recipient population.¹⁹ Models 1 and 2 analyze all Chinese vaccine deliveries, while 3-4, and 5-6 analyze donations and exports. Almost all models show strong and consistent associations *preserving* existing friends and *pressuring* countries that recognize Taiwan or which are closer to the US. However, I also find evidence of China *protecting* public health.

¹⁸ The US at least, did continue some degree of consultation regarding where COVAX doses would go (J. Sullivan 2021)

¹⁹ I control for trade since the aid findings have historically been a better predictor of favoritism in multilateral aid than exports (Kilby 2006). Adding a control for geographic distance does not change the significance or magnitudes of the estimates, and only Chinese *donations* (not total doses nor exports) were negatively correlated with geographic distance (Mayer and Zignago 2011).

Table 1 Chinese Dose Distribution

		<i>Dependent variable:</i>					
		Log All Doses		Log Donated Doses		Log Exported Doses	
		(1)	(2)	(3)	(4)	(5)	(6)
Pressure (-) or Peel (+)	Taiwan Ally	-1.349*** (0.412)	-1.364*** (0.410)	-0.483 (0.302)	-0.399 (0.300)	-0.925*** (0.343)	-0.998*** (0.342)
	Ideal point distance from US		0.769*** (0.132)		0.439*** (0.097)		0.482*** (0.111)
	US ally	-0.099 (0.143)	-0.091 (0.143)	-0.093 (0.105)	-0.059 (0.105)	-0.073 (0.119)	-0.088 (0.119)
	Arms Exports from US (Log)	-0.158*** (0.046)	-0.153*** (0.046)	-0.092*** (0.034)	-0.083** (0.034)	-0.134*** (0.039)	-0.136*** (0.039)
Preserve	Ideal point distance from China	-0.620*** (0.162)		0.013 (0.119)		-0.640*** (0.135)	
	Arms Exports from China (Log)	0.371*** (0.055)	0.367*** (0.055)	0.177*** (0.041)	0.151*** (0.040)	0.278*** (0.046)	0.292*** (0.046)
	BRI investment per capita (Log)	0.097*** (0.034)	0.101*** (0.034)	0.081*** (0.025)	0.079*** (0.025)	0.041 (0.028)	0.047* (0.028)
	CN-led Org Membership	0.444*** (0.091)	0.456*** (0.090)	0.257*** (0.066)	0.265*** (0.066)	0.365*** (0.075)	0.373*** (0.075)
Protect	Lagged new COVID cases	-0.110** (0.049)	-0.122** (0.049)	-0.003 (0.036)	-0.014 (0.036)	-0.115*** (0.041)	-0.120*** (0.041)
	Lagged new COVID deaths	0.673*** (0.051)	0.683*** (0.051)	0.206*** (0.037)	0.223*** (0.037)	0.583*** (0.042)	0.582*** (0.043)
Controls	V-Dem Score	-0.776** (0.374)	0.094 (0.416)	-0.889*** (0.274)	-0.226 (0.305)	-0.133 (0.312)	0.297 (0.348)
	GDP per capita (Log)	-0.469*** (0.149)	-0.465*** (0.146)	-0.323*** (0.109)	-0.235** (0.107)	-0.290** (0.124)	-0.346*** (0.122)
	Vaccine Producer	-2.276*** (0.420)	-2.055*** (0.418)	-0.560* (0.308)	-0.499 (0.307)	-2.104*** (0.350)	-1.921*** (0.350)
Controls		Yes	Yes	Yes	Yes	Yes	Yes
Observations		3,769	3,769	3,769	3,769	3,769	3,769
Adjusted R ²		0.168	0.173	0.074	0.079	0.161	0.161
F Statistic (df = 17; 3751)		45.867***	47.220***	18.783***	20.091***	43.685***	43.438***

Note:

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Controls: Recipient population (log) and Chinese exports (log).

One of the clearest findings is that Taiwan allyship is a liability for Chinese vaccine access, a finding consistent with Dreher et al. (2018) and Hoeffler and Sterck (2022). No country that recognized Taiwan received *any* doses of Chinese vaccines,²⁰ but, the moment a country removed recognition from Taiwan (as Nicaragua did in December of 2021), it received Chinese vaccines. More to *pressuring*, countries with closer ties (arms exports and UN IDP) to the U.S. received fewer Chinese doses. A 50% increase in arms imports from the U.S. would be associated with a 6.2% decrease in Chinese doses. If China pursued a *protect-peel* strategy, this evidence would be extremely unlikely.

Second, the data show that China also *preserved* its partners. Former head of China's CDC, Xiaofeng Liang, stated BRI countries should be prioritized ([Yanzhong Huang 2021](#)), and strikingly, BRI investment was a strong predictor of prized Chinese *donations*. Countries that voted similarly with China in the UN also received more doses, though these tended to come in the form of *exports*. Under a *preserving* strategy, it is reasonable to reward both BRI countries and similarly voting countries in the UN, but because BRI investment is more substantial and long-term, it is plausible that China would favor BRI countries through donations, while exporting doses to countries that vote similarly in the UN.

However, the results reveal a final important pattern - one of the strongest predictors of Chinese doses was lagged COVID-19 deaths. Drawing on Model 2, a 50% increase in lagged COVID deaths is correlated with a 29.1% increase in actual Chinese doses delivered. This evidence is striking and unexpected if China's approach excluded a *protect* consideration.

²⁰ Another way to observe this is to examine the Beijing Bridge tracker, current late 2022. Examining their map of Chinese vaccines reveals all of Taiwan's allies are grayed out (having not received any doses). Countries were able to receive Chinese doses if such doses were donated through third-party countries.

Moving to the analysis of US vaccine donations, Table 2 *US Donation Distribution* presents US donation patterns controlling for US trade and recipient population. It shows correlations expected under a *protect-peel* strategy, but surprising under a *pressure-preserve-protect* one.

First, US bilateral donations, where the US has greater control, are predicted by lagged COVID deaths, prior Chinese doses, and recipient vote similarity to China. Using Model 3, a 50% increase in lagged COVID deaths would be correlated with a 4.05% increase in bilateral donations delivered. Second, US allies and arms exporters received fewer US doses overall while recipients that were closer to China (arms exporters, vote similarity with China in the UN) received more US donations. A 50% increase in Chinese arms exports would predict a 16.7% *increase* in US donations overall. Finally, US COVAX donations were positively predicted by Taiwan allyship, prior receipt of Chinese doses, and Chinese arms exports.

These patterns are far more expected under *protect-peel* rather than *pressure-preserve-protect*. Donations to countries with severe COVID burden, or which had received less effective Chinese vaccines is entirely expected under a *protect-peel* strategy. Sending doses through COVAX to Taiwan's allies and countries more aligned with China is similarly expected under this approach, but extremely unlikely under the *pressure* part of a *pressure-preserve-protect* strategy. Crucially, sending fewer doses to US allies is extremely unlikely in a *pressure-preserve-protect* strategy but entirely consistent with *protect-peel*. Thus, the quantitative evidence suggests that the Chinese vaccine allocation followed a *pressure-preserve-protect* strategy while the United States donations followed a *protect-peel* strategy. Findings are robust to various checks found in the Appendix, including robust regressions and month-fixed effects. Since there are many zero-case observations and many covariates are time-invariant during this window, I also present a cross-sectional analysis in the Appendix and the results are quite similar.

Table 2 US Donation Distribution

		<i>Dependent variable:</i>					
		Log All Doses		Log Bilateral Doses		Log COVAX Doses	
		(1)	(2)	(3)	(4)	(5)	(6)
Protect	Lagged new COVID cases	0.027 (0.051)	0.023 (0.051)	-0.039** (0.016)	-0.038** (0.016)	0.076* (0.046)	0.073 (0.046)
	Lagged new COVID deaths	0.032 (0.053)	0.044 (0.053)	0.096*** (0.017)	0.097*** (0.017)	-0.103** (0.048)	-0.092* (0.048)
Peel (+) / Pressure (-)	Taiwan Ally	0.230 (0.449)	0.281 (0.449)	0.050 (0.143)	0.069 (0.143)	0.935** (0.402)	0.975** (0.402)
	Ideal point distance from China		-0.413** (0.170)		-0.129** (0.054)		-0.335** (0.153)
	Arms Exports from China	0.365*** (0.057)	0.341*** (0.058)	0.004 (0.018)	0.001 (0.018)	0.333*** (0.051)	0.312*** (0.052)
	Chinese Doses (Log)	0.014 (0.014)	0.009 (0.014)	0.007 (0.004)	0.007* (0.004)	0.022* (0.012)	0.017 (0.012)
	BRI investment per capita (Log)	0.016 (0.035)	0.011 (0.035)	-0.007 (0.011)	-0.008 (0.011)	-0.007 (0.032)	-0.011 (0.032)
	CN-led Org Membership	-0.253*** (0.095)	-0.248*** (0.095)	-0.047 (0.030)	-0.049 (0.030)	-0.109 (0.085)	-0.104 (0.085)
	Ideal point distance from US	0.015 (0.142)		0.090** (0.045)		-0.018 (0.127)	
	US ally	-0.282* (0.149)	-0.248* (0.149)	-0.012 (0.047)	-0.008 (0.048)	-0.305** (0.134)	-0.276** (0.134)
	Arms Exports from US	-0.103** (0.048)	-0.099** (0.048)	-0.004 (0.015)	-0.004 (0.015)	-0.073* (0.043)	-0.069 (0.043)
	V-Dem Score	0.845* (0.436)	0.978** (0.396)	0.245* (0.139)	0.170 (0.126)	1.012*** (0.391)	1.161*** (0.355)
Controls	GDP per capita (Log)	-0.759*** (0.153)	-0.666*** (0.155)	-0.080* (0.049)	-0.068 (0.049)	-0.344** (0.137)	-0.263* (0.139)
	Vaccine Producer	-0.664 (0.444)	-0.769* (0.446)	-0.093 (0.141)	-0.127 (0.142)	-0.443 (0.398)	-0.529 (0.400)
Controls		Yes	Yes	Yes	Yes	Yes	Yes
Observations		3,769	3,769	3,769	3,769	3,769	3,769
Adjusted R ²		0.099	0.100	0.036	0.036	0.085	0.087
F Statistic (df = 18; 3750)		23.885***	24.248***	8.812***	8.904***	20.552***	20.845***

Note:

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Controls: Recipient population (log) and US exports (log)

4.2 Tracing US Decision-Making

The empirical record suggests differing baskets of strategies between China and the US. In this section, I move beyond descriptive patterns and focus on US decision-making to adjudicate between two hypotheses of US distribution. I restate these hypotheses with relevant observable implications to assess the qualitative evidence.

H_{pressure-preserve-protect} = A provider primarily uses a combination of pressure, preserve, and protect strategies for vaccine distribution, with the pressure strategy dominating.

Most importantly, a provider *pressures* recipient states by withholding vaccines or imposing conditionality in order to change policies that are particularly objectionable to the provider. If the recipient state's policies are too problematic, the provider is likely to withhold or condition vaccines even in the face of severe public health concerns or military/economic considerations. As a second-order strategy, the provider also *preserves* countries with closer military and economic ties, using vaccines to support countries that have institutionalized ties like alliances, large military imports from the provider, and substantial economic investments. As a third-order strategy, it *protects* recipient public health, providing more vaccines to those with greater COVID-19 severity. Executive-branch policymakers mainly consider vaccine provision as a source of political leverage and use such assistance first to coerce those with policies or political relations that are objectionable to the provider and second to reinforce close strategic partners. Public health considerations are present, but unlikely to supersede *pressure* or *preserve* considerations.

Alternatively and based on the above findings, the US may have followed a *protect-peel* approach.

H_{protect-peel} = A provider primarily follows a protect and peel strategies, with the protect strategy dominating.

The provider is primarily concerned about sending vaccines to states with severe COVID-19 burden or which are unable to produce or procure vaccines, as quickly as possible. At the same time, the provider also targets states in the middle of the geopolitical rivalry for *peeling*, sending more doses to countries that are being courted by one's rival or that are on this rivalry's frontline. Executive-branch policymakers tend to prioritize the public health considerations of recipients, though their *peel* strategy means it is likely that they also pay attention to, and aim to counter *pressuring* or *peeling* efforts from the rival provider.

I draw on 26 interviews across the Trump administration and Biden administrations. Interviewees ranged in perspective from senior advisors to desk-level officers, as well as a range of departments from State and Defense to Health and Human Services (HHS), USAID, and the Executive.²¹ The White House and National Security Council (NSC) were instrumental in determining US distribution policy (USAID 2021; White House 2021b; 2021c).²² Since the Biden administration ultimately delivered US doses abroad, I focus analysis on the Biden administration. However, I also weigh evidence from the Trump administration's tentative plans for global distribution in the Appendix. Evidence from the Biden administration weighs in favor a *protect-peel* strategy relative to a *pressure-preserve-protect* strategy.

4.2.1 Donations: Deciding and Delegating

The NSC received recommendations for where to donate based on cases per capita, cases per 100,000, and death rates, with extra priority given to hotspots (Former US State Department Officer 2021). One officer at State said "People wanted to make sure that countries were getting it that needed it the most. I just want to commend the people who were staying impartial. There was

²¹ A full discussion of the sample, sampling strategy, and interview conduct is found in the Appendix.

²² Congress appeared to be involved only in a funding approval capacity (Respondent 15 2022, 15).

nothing I saw that would have concerned me as a private citizen (Former US State Department Officer 2021; 2022, 1). However, early US donations were bilateral and some individuals did admit, with some hesitancy, that the US was tracking where China sent its doses. They were concerned about lower Chinese vaccine efficacy and recipients being less protected than they might think. An individual in a different department, stated, “there doesn't seem to be any sense of ...like dark murky waters of you know who gets what exactly. It's pretty upfront and pretty transparent in that regard” (Respondent 16 2022).

Those in the Department of Defense (DoD), tasked with implementing policy (M. G. Clark 2022; Former Department of Defense Officer 2022b; 2022a), offered a different perspective. Interviewees admitted there *were* conversations entailing the use of strategic, political, or other as one respondent put it, ‘national interest’ considerations for determining destinations. During one meeting with the NSC, one officer from the Stability and Humanitarian Assistance group inquired about geopolitical and strategic considerations for recipients. They were then told those were not and would not be considered. A senior-level advisor from the Department of Defense even separately noted their surprise at the *lack* of such strategic considerations:

Full disclosure, I came here fully expecting and fully kind of hoping that we would be thinking about national interests... you know, ‘Hey let's help first’ but secondarily support it...And then I when I got here, I was told nothing can suggest that this is vaccine diplomacy. Because it's not. It needs to be around why you were over there, and now you're here, which is delivering vaccines, where they can get used and not sit around. (Respondent 14 2022)

The testimonials of those in the State Department are expected under both hypotheses; one would expect them to focus on getting doses to where they are needed and the political sensitivity of any potential political calculations would make them unlikely to note any ‘murky waters’ or

‘grand conspiracy’. Thus, this evidence alone does not weigh heavily in favor of either *pressure-preserve-protect* or *protect-peel*.

However, the testimonies from the Department of Defense are a different matter. Those interviewed spoke not only to their direct experience but also their observations in larger, regular meetings with the NSC. With insights spanning multiple agencies and levels of seniority, it is implausible these individuals were unaware of secret political calculations. It is unlikely a Defense officer would report hearing people inquire about the *possibility* of adding strategic and political considerations if these were in fact, *already* considered. Moreover, it is also hard to imagine the instrumental incentives in the *pressure-preserve-protect* world that would lead the informant to make this story up. That they were aware of such conversations and witnessed such considerations expressly rejected, weighs in favor of *protect-peel*. Similarly, senior testimony regarding the lack of ‘national interest’ considerations is extremely surprising if the US was already *pressuring* or *preserving* some states but is entirely expected under a *protect-peel* approach.

A final piece of evidence is that the US was tracking Chinese vaccine distribution. This is somewhat more expected under a *protect-peel* strategy relative to a *pressure-preserve-protect* one. Chinese doses could be interpreted as a proxy for COVID-19 severity and such information could help *protect* public health by allowing the US to direct the more effective Moderna and Pfizer doses to countries which had only received less effective Chinese ones. From a *peeling* perspective, such information is also quite expected. Concerns that China was courting countries through vaccines would make this information crucial if the US wanted to match, counter, or even out-donate China. Tracking Chinese doses is slightly less expected under a *pressure-preserve-protect* strategy. The *protect* aspect is similar, and from a *pressure* perspective, Chinese dose information could be useful insofar as outside access to Chinese vaccines might undercut any US

leverage that comes from conditionality or withholding. However, this information is less likely under a *preserve* strategy; it is less obvious what information about Chinese distribution patterns does to provide new insight into which countries are politically or strategically important for the US. On the whole, then, the Defense testimonies weigh in favor *protect-peel* compared to *pressure-preserve-protect*.

4.2.2 COVAX and the Multilateral Distribution of the US

Over time, more US donations went through COVAX, which importantly, had a centralized No-Fault Compensation Mechanism to compensate those who had adverse reactions to the vaccine (WHO, n.d.). This precludes the need to create separate indemnity agreements with each recipient.

In its collaboration with COVAX, the US had some input in the latter's delegation. As Biden's National Security Advisor Jake Sullivan noted, "Ultimately, the United States *will have* [original emphasis] the authority to say the doses are going here, as opposed to there, but that will be done in very close consultation and partnership with COVAX and *crucially*, according to COVAX's formula..." (J. Sullivan 2021). Yet those inside and outside the Biden administration still observed the US largely delegating decision-making to COVAX. Interviewees noted a feeling of 'outsourcing' by August and September of 2021:

Respondent: August or September of 2021 was when it really started shifting over to you know just give it all to COVAX and let them decide... We're not doing this for political favors, we're giving it to them so they can distribute as they see fit. (Former US State Department Officer 2022)

Another officer in USAID described tracking recipient demand and vaccination rates to send to COVAX. They stated:

Basically, all the allocation and determinations of where the donations are going to run through COVAX, and that ...takes away all of the like weird convoluted dotted lines around the flow of vaccines. and puts it all into basically one warehouse. (Respondent 16 2022)

These testimonials weigh in favor of *protect-peel* over *pressure-preserve-protect*. A *protect-peel* strategy predicts the US will quickly move doses to those in need. COVAX's no fault compensation mechanism is extremely advantageous to this end, so delegation is expected. Delegation would also be quite plausible under a *peel* strategy, which focuses on giving to countries on the frontline or caught in the middle of the US-China rivalry. Many such countries are in the Global South, so donating COVAX would be efficient, consistent with COVAX's vaccine equity goals, and subtle from the perspective of closed-door US advising. In a *pressure-preserve-protect* world, the US might still utilize COVAX for some crisis distribution. However, the large degree of delegation is surprising because it undercuts America's *pressuring* leverage in bilateral negotiations. Moreover, delegation and consultation with COVAX not only makes direct targeting of friends more challenging as it raises the risks associated with such targeting. If COVAX officials repeatedly saw the US veto their decisions in order to *preserve* friends (mostly wealthy countries in the Global North), they could leak this information, damaging America's reputation. It would be much simpler and more efficient to avoid COVAX and *preserve* and *pressure* through bilateral donations. Thus, this weighs strongly in relative favor of *protect-peel*.

4.3 Cases of Vaccine Distribution: Paraguay and Nicaragua

I examine vaccine provision to Paraguay and Nicaragua, two countries with distinct political ties to the US and the PRC. Under the *protect-peel* and *pressure-preserve-protect* frameworks, these cases should exhibit different donation patterns. A Bayesian analysis of the evidence weighs in favor of the PRC pursuing a *pressure-preserve-protect* approach relative to *protect-peel* while the Biden Administration pursued a *protect-peel* strategy, relative to *pressure-preserve-protect*.

Paraguay and Nicaragua countries are presidential republics in Latin America - a region the U.S. prioritized for donations (White House 2021b). They share similar demographic

characteristics.²³ Paraguay's GDP (\$39 billion) is more than double Nicaragua's (\$14 billion), and its GDP per capita (\$5,400) is significantly higher than Nicaragua's (\$2,090), indicating a stronger capacity to purchase vaccines.

More importantly, their relations to the US and political openness differ. While not a fully liberal democracy,²⁴ Paraguay's Freedom House rating was about 65 between 2017 and 2021 (Freedom House 2021), and public approval of US leadership was roughly 50%.²⁵ Relations have historically been cooperative (Beittel 2010; Mora and Cooney 2010). Nicaragua, in contrast, has grown increasingly authoritarian under President Ortega, who has jailed opposition candidates, banned NGOs, and cracked down on journalists. Its Freedom House score fell from 47 to 23 between 2017 and 2021, mirroring worsening U.S.-Nicaragua relations.

Moreover, neither country has a mutual defense treaty with America nor Major Non-NATO ally designation. Neither have BRI projects nor substantial Chinese arms imports. Thus, they are unlikely candidates for *preserving* from the US or China, and aid to them could be considered once-removed.²⁶ Finally, both were allies of Taiwan in 2020 making them subject to the US TAIPEI Act of 2019, which aimed to support Taiwan's allies while threatening punishments on states that abandoned the island (116th United States Congress 2020). They are also likely targets of Chinese *pressuring* given China's history of denying aid to Taiwan's allies (Dreher et al. 2018; Hoeffler and Sterck 2022). Now, to a brief preview of the findings.

²³ Paraguay's population is roughly 7.2 million while Nicaragua's is roughly 6.2 million and the country's life expectancy are 74 and 75 respectively. Their median ages are 29 and 27 the two countries had historically similar levels of inequality. Recently however, Paraguay's Gini coefficient has dropped to 43.5 while Nicaragua's remains around 46.2 (World Bank 2022).

²⁴ I thank an anonymous reviewer for the nuance regarding both Paraguay and Nicaragua's regime openness.

²⁵ Paraguay's public approval of US leadership was 48% with 35% refusing or answering "Don't Know" (Gallup 2015).

²⁶ I thank an anonymous reviewer for pointing this distinction out.

Particular attention is warranted for the timing of doses, the extent to which these doses were conditional on Taiwan allyship, and the details in how and why doses were provided. In the Paraguay case, the key evidence weighing in favor of a Chinese strategy of *pressure-preserve-protect* over *protect-peel* is China's ultimate withholding of doses to Paraguay as it became more clear it was not abandoning Taiwan. Key evidence weighing in favor of a US strategy of *protect-peel* over *pressure-preserve-protect* are the timing of US donations around COVID spikes and details of Paraguay's distribution capacity.

For Nicaragua, the PRC's *pressure-preserve-protect* strategy is apparent – no doses to the country before it abandoned Taiwan and millions of doses just days after it did. For the US, the timing of doses right before President Ortega's "sham" election, the lack of conditionality, and the decision to donate even after Nicaragua abandoned Taiwan all weigh heavily in favor of *protect-peel* over *pressure-preserve-protect*.

4.3.1 Public Health, Appeals, and Peeling in Paraguay

In March 2021, Paraguay faced over 220,000 COVID-19 cases, more than 4,500 deaths, and protests over its handling of the pandemic (BBC News 2021). On March 24th, Paraguay's government claimed that unofficial Chinese brokers had offered vaccines in exchange for severed ties with Taiwan (Graham-Harrison 2021). In response, Secretary Blinken reassured President Abdo Benitez of US support, but Foreign Minister Euclides Acevedo warned about China's vaccine leverage and that Paraguay needed "proof of their [America and Taiwan's] love" in the form of tangible support (Parks 2021).

Paraguay did not abandon Taiwan and never received vaccines from China.²⁷ It received two tranches of vaccine donations from the United States—one million doses on July 9 and another

²⁷ Explaining why Paraguay maintained ties to Taiwan while Nicaragua did not is beyond the scope of this paper.

million on July 27. According to an official involved, the second tranche was informed by Paraguay's improved vaccine distribution. Initially, Paraguay administered 20,000 doses per day, but the "Expanded Program on Immunization" and mass, car-based vaccination efforts increased capacity to 100,000 (Respondent 14 2022; MercoPress 2021). Senior Advisor M.G. Clark assured Paraguayan officials that the increased distribution capacity would enable the rapid follow-up donation (M. G. Clark 2022).

The evidence weighs in favor of China pursuing a *pressure-preserve-protect* strategy relative to *protect-peel*. The most important piece of evidence is China's continued withholding of vaccine provision after it became clear Paraguay was not flipping recognition of Taiwan. This is entirely expected under a *pressuring* strategy. Moreover, given the lack of BRI projects, the lack of vaccine provision is also expected; there was little for China to *preserve*. On the other hand, if China was pursuing a *protect-peel* strategy, one would expect China to provide vaccines given the worsening situation and a strategy of positively induced realignment.

For the US, the timing of the first tranche of US donations is unsurprising under a *pressure-preserve-protect* hypothesis. Given the reports of Chinese vaccine diplomacy, it is reasonable to expect the US to respond by rushing assistance to *preserve* a friend. The provision and timing of the second tranche is not that surprising either – two donations might simply have been the original plan and repeat donations could send a stronger reassuring signal both to Paraguay and other allies of Taiwan.

However, the provision and timing of the two US donations is better predicted under a *protect-peel* hypothesis. Under a *protect* strategy, one would expect large donations in the wake of rising overall cases and deaths, along with Paraguay's demonstrated ability to receive and distribute doses. Moreover, rushing aid to an ally of Taiwan could arguably be better understood

as *peeling* rather than *preserving*. Support to countries on the frontline of the US-China rivalry is entirely expected under the *peel* portion of a *protect-peel* hypothesis. Overall, the two donations are expected in the *pressure-preserve-protect* hypothesis but the details surrounding the increased vaccination capacity, along with the fact that the donations are likely under *both* aspects of the *protect-peel* hypothesis mean the evidence weighs slightly in favor of *protect-peel*.

4.3.2 No Strings in Nicaragua

The US historically provided aid to Nicaragua conditionally, and slashed aid when President Ortega side-stepped the constitution in 2011 and secured reelection (Burke et al. 2005). It cut \$3 million in assistance, passed legislation to limit both US, and multilateral lending assistance to the country, and levied additional sanctions on top Nicaraguan officials after Ortega jailed opposition leaders (Harrison 2022) and pre-emptively declared the November 2021 elections illegitimate (Blinken 2021). Thus, the lack of conditions on US doses despite Nicaragua's democratic backsliding, coupled with its continued provision after Nicaragua abandoned Taiwan weigh in favor of a *protect-peel* strategy. China's dose withholding but subsequent provision upon Nicaragua's abandonment of Taiwan weigh strongly in favor of *pressure-preserve-peel*.

In May of 2021, Ortega's government was boasting astonishingly low COVID numbers relative to its neighbors. Yet, publicly available data from nonprofits estimated total cumulative cases likely exceeded 15,000, along with 3000+ deaths (Kahn 2021). Nicaragua lacked cold chain capabilities needed for Pfizer donations as of June 2021 (Torrez 2021), but on August 27, Nicaragua received critical cold-storage and transportation equipment from Japan; this included 600 transport thermoses, 600 thermometers, and 78 20-liter thermal boxes coupled with thousands of cold packs (UNICEF 2021).

By September, the situation had worsened; [Observatorio Ciudadano](https://observatorio-ciudadano.org/) reported almost 30,000 "suspicious cases" and over 5,500 deaths, spread across every single department and

autonomous region in the country (Observatorio Ciudadano 2021). Vaccination rates remained so low that thousands of Nicaraguans crossed into neighboring Honduras to receive vaccinations (Reuters 2021). On October 29, roughly a week before the ‘illegitimate’ November 7th election (AFP 2021), the US delivered 305,370 Pfizer doses to the country. US Ambassador to Nicaragua, Kevin Sullivan stated that election considerations were not a concern:

Ambassador Sullivan: The White House described the Nicaraguan elections as sort of a ‘pantomime’. So that sort of climate is not easy to warm up through vaccine donations... when it came to vaccine donations and the pandemic in general, our actions would be based on public health considerations and not on other things. (K. Sullivan 2022)

A few months later, on December 9, Nicaragua announced it was severing ties with Taiwan and establishing relations with the PRC (Myers 2021). Four days after it did so, it received 200,000 donated Sinopharm doses – the first of 1 million donated doses from the PRC (BBC 2021). PAHO and Canada donated additional cold-chain refrigerators to the country in March of 2022 (PAHO 2022), and while the US was sharply critical of Nicaragua’s abandonment of Taiwan (Myers 2021), it still provided a second larger donation of roughly 650,000 doses of Pfizer. including pediatric doses in July of 2022 (Confidencial 2022).

Under a *pressure-preserve-protect* strategy from China, the withholding of doses and immediate timing of provision post-Taiwan flip are entirely expected. The coercion and quid-pro-quo are clear; only by renouncing Taiwan could Nicaragua establish official relations with and receive vaccine donations from, the PRC. Under a Chinese *protect-peel* strategy, the timing at which the PRC offered assistance would be similar, e.g. proximate to the spiking COVID burden. However, one would expect the PRC to provide doses even without Nicaragua’s change in policy, perhaps to foster goodwill that in the future, would cause Nicaragua to reconsider on Taiwan.

Under a *pressure-preserve-protect* strategy, US donations are extremely surprising. If America sought to *pressure* Ortega's regime, it is unlikely to donate without concessions on say, the release of political prisoners. Moreover, donating around the election is surprising. A *protect* strategy could predict this timing, but this would allow Ortega to claim credit, project competence, or provide a timely source of rents to sway voters. Funneling vaccines to favored or swing constituencies would empower rather than *pressure* a regime the US deemed illegitimate. If the US sought to *preserve* an ally of Taiwan, the second donation is even more surprising. After Nicaragua flipped recognition from Taiwan, the US under the TAIPEI Act of 2019, would be expected to cut assistance to the country in order to encourage it to reconsider its relations with Taiwan. It is almost inconceivable that under a *pressure-preserve-protect* strategy, the US would increase vaccine aid.

By contrast, under a US *protect-peel* strategy, these donations to Nicaragua would be entirely expected. Nicaragua's deteriorating COVID situation was well-known despite the rosy official statistics, meaning US officials could track and utilize such information to address acute need during October. Moreover, under a *protect* strategy, the prior logistical contributions of cold-chain technology from Japan, Canada, and PAHO were crucial prerequisites for Pfizer donations. Finally, under the *peel* strategy, donations on either side of Nicaragua's flip on Taiwan are reasonable – either to keep Nicaragua loyal or to entice it back. The decision to donate vaccines, along with the timing, weigh heavily in favor of a *protect-peel* strategy.

5 Implications and Conclusion

This article provides a framework of four strategies that are generalizable to other contexts of provision and the first inside look into how America made critical vaccine distribution decisions.

It also tested a *pressure-preserve-protect* and *protect-peel* hypothesis for Chinese and US vaccine distribution in the context of great power competition. While both appeared sensitive to recipient needs (*protect*), China *pressured* allies of Taiwan by denying them vaccines, while *preserving* ideological, strategic, and BRI partners. The US, criticized for its late global vaccine provision, provided more doses to countries that were closer to China, which is interpreted here as *peeling*. Applying Bayesian reasoning to insights from original interviews about US decision-making, along with case studies of important cases likely to further adjudicate between competing hypotheses further weigh in favor of a US *protect-peel* strategy relative to alternatives.

This raises several important avenues for future research. First, the degree of donor interest in aid provision varies with respect to provider. There is a need to understand why and under what circumstances foreign aid is political. While China and the US varied in provision patterns, do such differences manifest for authoritarian and democratic regimes more broadly (Sun 2025)? As the proposed Trump plan for global provision suggested, the US might well have prioritized allies and wealthier countries under a second Trump term, and thus the story is likely more complicated than a simple regime type dichotomy. But future research could examine this empirically over time and across crises.

Second, the differing strategies used by the US and China may point to distinct approaches to hegemonic order contestation and great power rivalry. Many acknowledge the uncertain future of the liberal international order (Ikenberry 2020; Mearsheimer 2018), raising questions about whether and how China may seek to challenge, adjust, or remake the international order (Goh 2019; Johnston 2019). The provision of critical health aid could demonstrate hegemonic leadership, reinforce friendships, and otherwise strengthen relations already being cultivated through efforts like Belt and Road or other Chinese-led organizations. China's mix of strategies

appears to resemble a hegemonic strategy of “building” a base of followers (Doshi 2021). Conversely, the US, may focus more on *peeling* countries that are in the middle or have aligned more closely with China. The battleground states and fence-sitters are of great interest to the US and China, and competition over and for this group of states may have positive externalities. Such countries may benefit from this “competition for provision”.

The pandemic has been a crisis of unprecedented scale, and it has shed light not only on fundamental health inequities and gaps in the global health infrastructure but also on the differing strategies countries in a position to provide, ultimately pursue. The concerns of new variants or future pandemics suggest the politics of provision are likely to remain important topics of political and policy study.

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Interview Data is largely confidential and not available. Respondents were assured any transcripts of the interview would not be published. Where possible, I aim to provide context and longer statements to avoid concerns of cherry-picking or misinterpretation.