

Who Gives Covid-19 Vaccinations to Whom and Why?

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Introduction

- Covid-19 pandemic
- Amazingly quick response with vaccines
- Most of the vaccinations allocated to the rich countries of the world
- Vaccine donations to poorer countries
- Bilateral donations and multilateral donation (COVAX)
- Central Question: Who Gives Covid-19 Vaccinations to Whom and Why?
 - Multiple actors, i.e., international organizations, vaccine producers, and national governments
 - Multiple imperative, i.e., scientific, ethical, economic, and geopolitical
 - Different proposals/guidelines for vaccine distribution, but limited evidence about how donors distribute COVID-19 vaccines

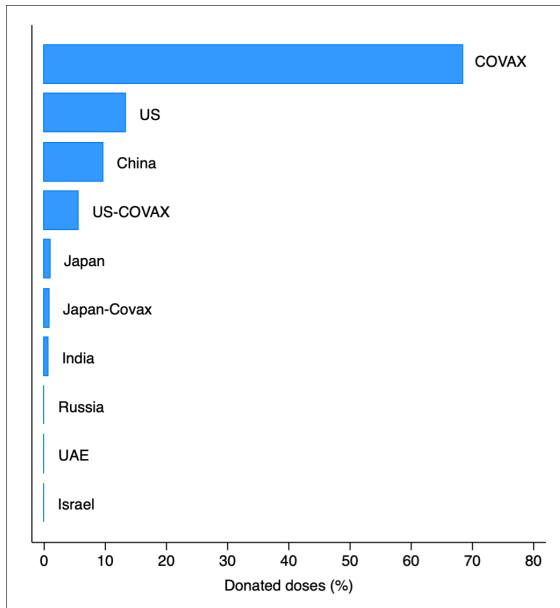
Overview

- Our paper modelled after Alesina and Dollar (2000 in JEG): Who Gives Foreign Aid to Whom and Why?
- They find different patterns across donors, but political and strategic considerations play a prominent role
 - US- security, with particular interest in the Middle East.
 - UK and France – ex-colonies
 - Nordic donors – “correct incentives”, income, trade openness, democracy is linked to increased aid flows

Overview

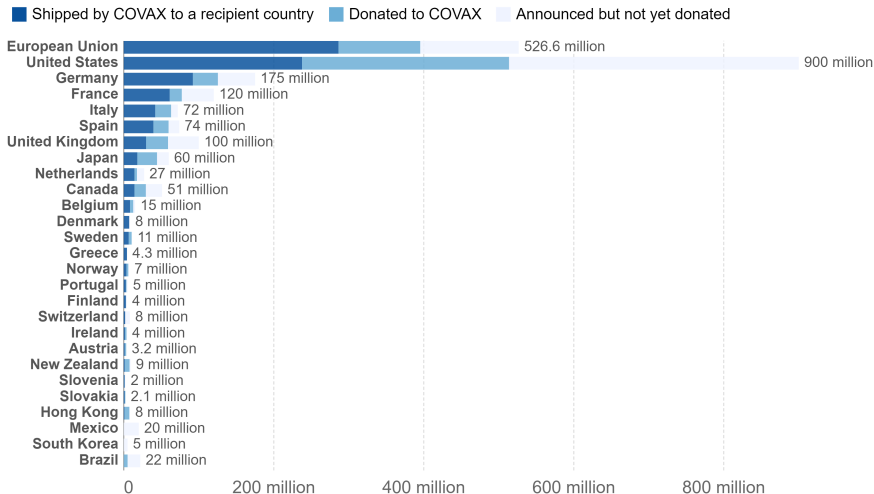
- We account for the US-China rivalry that defines the world today
- Underlying puzzle is to ascertain the motivations of donors, receiving countries' need of vaccines and donors' geopolitical and strategic interest
 - security – alliances
 - a form of development assistance
 - fight the pandemic

Donated Doses, Percentage by Donor



COVID-19 vaccine doses donated to COVAX

Doses donated to the COVAX initiative by each country.

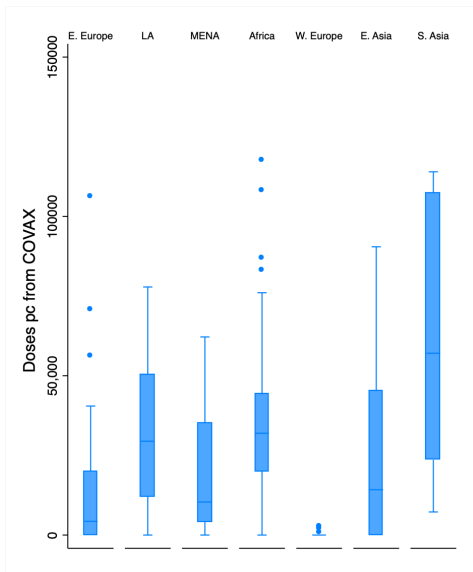


Source: COVAX, ACT-Accelerator Hub (23 March 2022)

OurWorldInData.org/coronavirus • CC BY

Note: COVAX is a worldwide initiative aimed at equitable access to COVID-19 vaccines. It is directed by Gavi, CEPI, and the WHO.

COVAX Doses, by Region



Vaccine Donation: UNICEF, August 2022



Vaccine Donation Recipients

Analysis

- Data for all countries, excluding rich industrialized countries, Western European countries, Canada, U.S, Australia, New Zealand, Hong Kong, Israel, South Korea, and Taiwan
- Number of doses per capita (logged) distributed by donor

Analysis

- Two clusters of vaccine aid determinants: i) receiving countries' needs and ii) geopolitics.
 - Covid deaths – Ln number of excess deaths due to COVID-19
 - Health workers – Ln number of health workers
 - Economic development – Ln GDP pc
 - Ageing population – Pop. aged 65 and above (% of total pop.)
 - Population size – Ln total population
- Trade openness – Total trade as a proportion of GDP
- Democracy – Civil liberties index
- Belt and Rode Initiative – Long-term policy and investment program implemented by the China
- Regions: (1) East Europe and post-Soviet Republics*, (2) Latin America, (3) Middle East and North Africa, (4) Sub-Saharan Africa, (5) East Asia, and (6) South Asia.

Table 1: OLS Estimates of the Determinants of Vaccine Aid

	COVAX	US	China	US-COVAX
Covid-19 deaths	0.574* (0.283)	0.751** (0.248)	0.817* (0.327)	0.109 (0.456)
Health care personnel	0.005 (0.014)	0.004 (0.011)	-0.021 (0.019)	0.022 (0.017)
Ageing population	-0.547*** (0.132)	0.056 (0.089)	-0.152 (0.140)	-0.284* (0.142)
Economic development	-1.333† (0.679)	-0.697 (0.447)	-1.407† (0.727)	-2.288*** (0.672)
Population size	-0.158 (0.246)	-0.115 (0.235)	-1.205*** (0.295)	0.314 (0.355)
Trade openness	0.022 (0.184)	0.108 (0.183)	0.126 (0.242)	0.008 (0.233)
Democracy	4.212† (2.236)	-0.519 (2.148)	-5.486* (2.356)	3.628 (2.577)
Belt and Road	0.416 (0.681)	0.181 (1.124)	3.351* (1.368)	1.724 (1.226)
Latin America	3.036* (1.355)	8.035*** (1.483)	0.106 (1.689)	-0.911 (1.803)
Middle East-North Africa	1.470 (1.938)	1.828 (1.372)	-1.958 (2.400)	2.586 (2.287)
Sub-Saharan Africa	-0.214 (1.687)	2.002 (1.341)	0.563 (1.914)	2.556 (2.313)
East Asia	2.163 (1.771)	3.531* (1.734)	2.145 (2.143)	2.709 (2.253)
South Asia	2.920† (1.583)	4.095† (2.164)	4.196* (1.746)	5.235* (2.538)
Observations	128	128	128	128

Heteroskedasticity-robust standard errors are shown in parentheses

† $p < .10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2: OLS Estimates of the Determinants of Vaccine Aid

	Japan	Japan-COVAX	India	Russia	UAE	Israel
Covid-19 deaths	0.412* (0.177)	0.047 (0.345)	0.307 (0.337)	-0.093 (0.262)	0.288* (0.133)	0.022 (0.040)
Health care personnel	0.008 (0.005)	0.003 (0.009)	0.009 (0.015)	0.021 (0.015)	0.039** (0.012)	-0.000 (0.002)
Ageing population	-0.039 (0.048)	-0.159 (0.096)	-0.146 (0.136)	-0.216† (0.111)	-0.001 (0.056)	-0.015 (0.027)
Economic development	-0.549† (0.289)	-0.216 (0.392)	0.160 (0.587)	-0.338 (0.451)	-0.616* (0.273)	-0.001 (0.042)
Population size	0.113 (0.131)	-0.084 (0.321)	-0.669* (0.314)	-0.346† (0.192)	0.021 (0.136)	-0.005 (0.041)
Trade openness	0.107 (0.079)	0.229 (0.213)	0.032 (0.235)	0.084 (0.179)	-0.123 (0.103)	0.039 (0.032)
Democracy	-0.034 (1.105)	-2.595 (2.269)	-0.320 (2.281)	-2.195 (1.913)	-1.270 (0.839)	0.092 (0.254)
Belt and Road	0.292 (0.272)	0.329 (0.935)	0.902 (1.226)	0.097 (0.499)	-0.205 (0.485)	-0.487 (0.348)
Latin America	0.280 (0.401)	-0.736 (0.936)	3.421† (1.791)	-2.186 (1.392)	1.131 (0.826)	0.022 (0.169)
Middle East-North Africa	0.674 (0.524)	-1.310 (1.462)	0.875 (1.812)	-3.921* (1.750)	2.017† (1.077)	-0.290 (0.230)
Sub-Saharan Africa	0.640 (0.589)	-1.148 (1.376)	2.965 (1.950)	-3.135† (1.754)	2.594* (1.170)	-0.377 (0.289)
East Asia	5.305*** (1.536)	1.361 (1.790)	1.738 (1.894)	-1.643 (1.715)	2.874* (1.197)	-0.212 (0.157)
South Asia	1.958 (1.471)	4.510† (2.363)	9.952*** (1.838)	-3.191* (1.581)	1.592† (0.936)	-0.399 (0.271)
Observations	128	128	128	128	128	128

Heteroskedasticity-robust standard errors are shown in parentheses

† $p < .10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Conclusion

- Differences in vaccine aid between major and minor donors
- Major donors' vaccination aid has been generally aimed at fighting the pandemic, focused on receiving countries' needs
 - Vaccine donations follow Covid-19 deaths
 - Poorer countries tend to be recipients of vaccine donations
- Geopolitics and strategic considerations play an important role
 - COVAX tends to give to more democratic countries and China to more authoritarian countries
 - China is strongly motivated by expanding its influence where it already has influence, namely Belt and Road
 - Bilateral aid in general allocated to neighbors

Way Forward

- Finish this paper (descriptive)
- Soft strategy to addressing endogeneity – vaccination effects and vaccination aid
- Develop a more theoretical paper on vaccine diplomacy
- Other spin-offs – consequences of vaccination policy