Reply to Spreco, Schön, and Timpka: Perceived Corruption and Preferences for COVID-19 Vaccine Allocations

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In the year since our experiment was fielded (1), vaccination rates around the world have exhibited marked variation. In their response to our original article, Spreco et al. highlight an important challenge for global public health officials: states with a lower vaccinated population fraction (VPF) also tend to be more corrupt, as measured by the Corruption Perceptions Index (CPI) (2). Vaccines are a public good and hence governments play a critical role in vaccinating their populations. In contexts with high levels of governmental corruption, citizens will, and should, be skeptical as to whether they will have appropriate access to this critical public good.

We concur with the authors that this skepticism could affect citizen preferences for how

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vaccines are distributed to the general public. Citizens in high corruption countries may prefer alternative vaccine distribution strategies based on markets and private provisions, if this avoids issues of government inefficacy. That said, a very reasonable concern is that private modes of distribution would be inequitable, with access favoring the rich over the poor. We would therefore also expect that support for private distribution would be tempered by individuals' financial ability to purchase vaccines on the private market.

Indeed, we do find that public preferences favor private provision in countries with high levels of corruption. As shown in Figure 1, subjects in more corrupt countries (indicated by low CPI scores) were more willing to purchase vaccines privately ($t = -33.7, p < 0.001$).[1] On average, subjects in more corrupt countries were 1.7 times more likely to indicate they would be willing to purchase a vaccine privately. This evidence is consistent with the authors' proposed argument, that individuals will demand private access when they cannot trust their domestic government to provide an effective vaccination program. An important qualification though is that the poor are, as we would expect, less enthusiastic than are the rich in both contexts.

We observe a similar pattern of enthusiasm for, or opposition to, private provision dependent on individuals' ideological leanings. Figure 2 compares the enthusiasm of left and right-leaning subjects for private provision. It is the case that those on the left are consistently less enthusiastic for market provision of COVID-19 vaccines than those on the right. This difference is observed in both high and low corruption settings. What is striking in Figure 2 is that despite this ideological difference, both those on the left and right are significantly more enthusiastic for private provision of COVID-19 vaccines in the high corrupt countries in our sample.

As Spreco et al. indicate, corruption is a serious threat to efforts to vaccinate the global population against COVID-19 (2). One consequence that we elaborate on in this response

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[1]CPI scores were taken from the Transparency International website: https://www.transparency.org/en/cpi/2020/ [Accessed: 7 February 2022]

is the relatively higher levels of enthusiasm in corrupt countries for private provision of vaccines. These correlations are suggestive and should be the basis for further well-identified research helping us to understand how corruption shapes public confidence in, and preferences for, vaccine allocation mechanisms.

References

[1] R Duch, et al., Citizens from 13 countries share similar preferences for covid-19 vaccine allocation priorities. *Proc. Natl. Acad. Sci. U.S.A.* **118**, e2026382118 (2021).

[2] A Spreco, T Schon, T Timpka, Corruption should be taken into account when considering covid–19 vaccine allocation. *Proc. Natl. Acad. Sci. U.S.A.* (2022).

Figure 1: Comparison of subjects' willingness to purchase a Covid-19 vaccine privately, across individuals' incomes and countries' level of corruption.
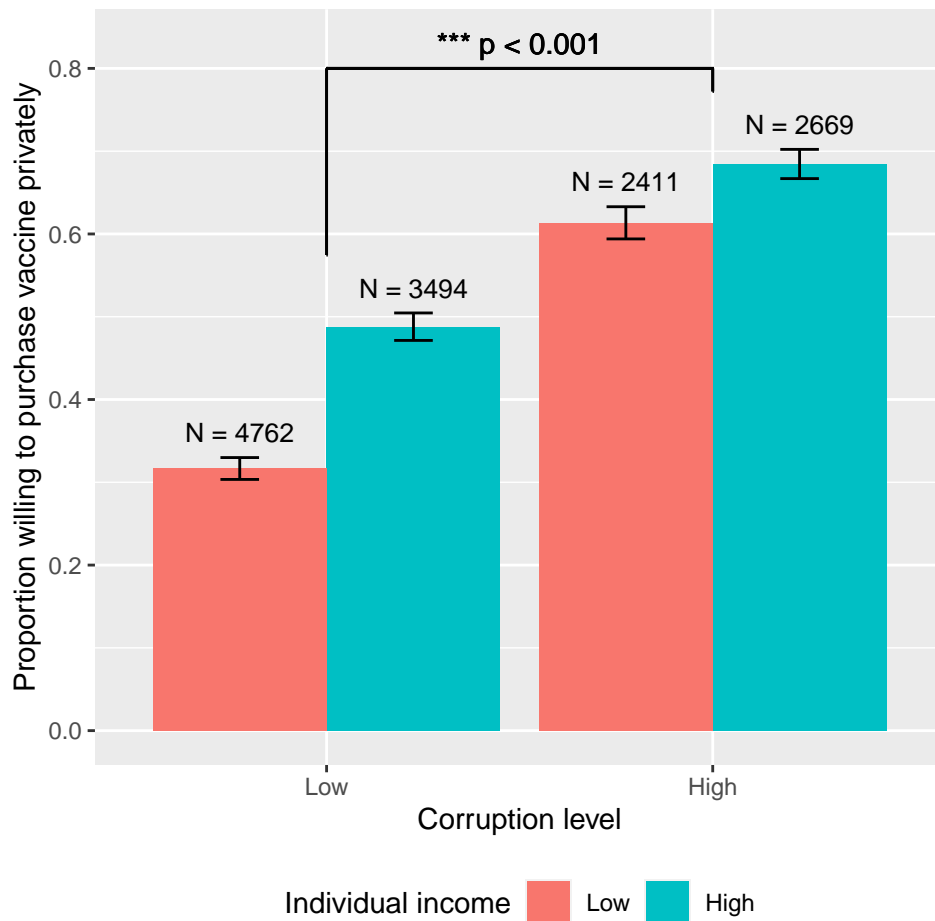
Subject income is categorised as 'High' ('Low') dependent on being above (below) the corresponding country's median income. A country's level of corruption is measured by the Corruption Perception Index (CPI), a 0-100 scale where higher scores indicate less corruption. We categorise CPI scores less than (greater than or equal to) 50 as having a "High" ("Low") level of corruption. 95% confidence intervals are shown for each proportion. The bracket indicates the significance of a t-test of the difference in means between *all* subjects in low and high CPI countries respectively.

Figure 2: Comparison of subjects' willingness to purchase a Covid-19 vaccine privately, across ideological self-placement and countries' level of corruption.