Appendix (For Online Publication)

A Data

Stringency Index and Covid data . This data comes from Roser et al. (2020).

https://ourworldindata.org/grapher/covid-stringency-index?time=2020-01-22..latest

Political Variables . Our main set of political variables are from the Polity Project:

https://www.systemicpeace.org/polityproject.htmlhttps://www.systemicpeace.org/polityproject.html. We use variables from 2018.

Additionally we obtain measures of the size of the selectorate and the winning coalition from Bueno de Mesquita and Smith (2018).

Proofs

Proof of Theorem 1

Proof Condition (3) can be expressed as $F_i \equiv P_i\Big[(1-\tau)+\frac{\tau}{w_i^2}\Big]+\frac{\tau}{w_i^2}[\sum_{-i}P_{-1}]-\frac{\kappa}{w_i^2}=0$, where $P_i \equiv \frac{d\rho_i}{dp}(Y_{\rho i}-\bar{Y})+\frac{dY_{\rho i}}{dp}\rho_i$ is the total marginal effect of the pandemic policy p on coalition i. This implies that, for, say a pair of members indexed 1 and 2, $P_1[w_1^2(1-\tau)+\tau]+\tau[P_2+P_3+...+P_K]=P_2[w_2^2(1-\tau)+\tau]+\tau[P_1+P_3+...+P_K]$. This reduces to $P_1[w_1^2(1-\tau)]=P_2[w_2^2(1-\tau)]$, or $w_1^2P_1=w_2^2P_2$. More generally, for any pair (a,b) of coalition members from groups c and d, $w_c^2P_a=w_d^2P_b$.

Proof of Theorem 2

Proof Take any K-tuple of members from W, each of whom derives marginal benefit from the policy, respectively denoted as $P_1, P_2, ...P_K$. Then the proof of Theorem 1 also implies that $w_1^2P_1=w_2^2P_2=...=w_K^2P_K$. Since $w_1>w_2>...w_K$, it must be that $P_1<P_2<...P_K$.

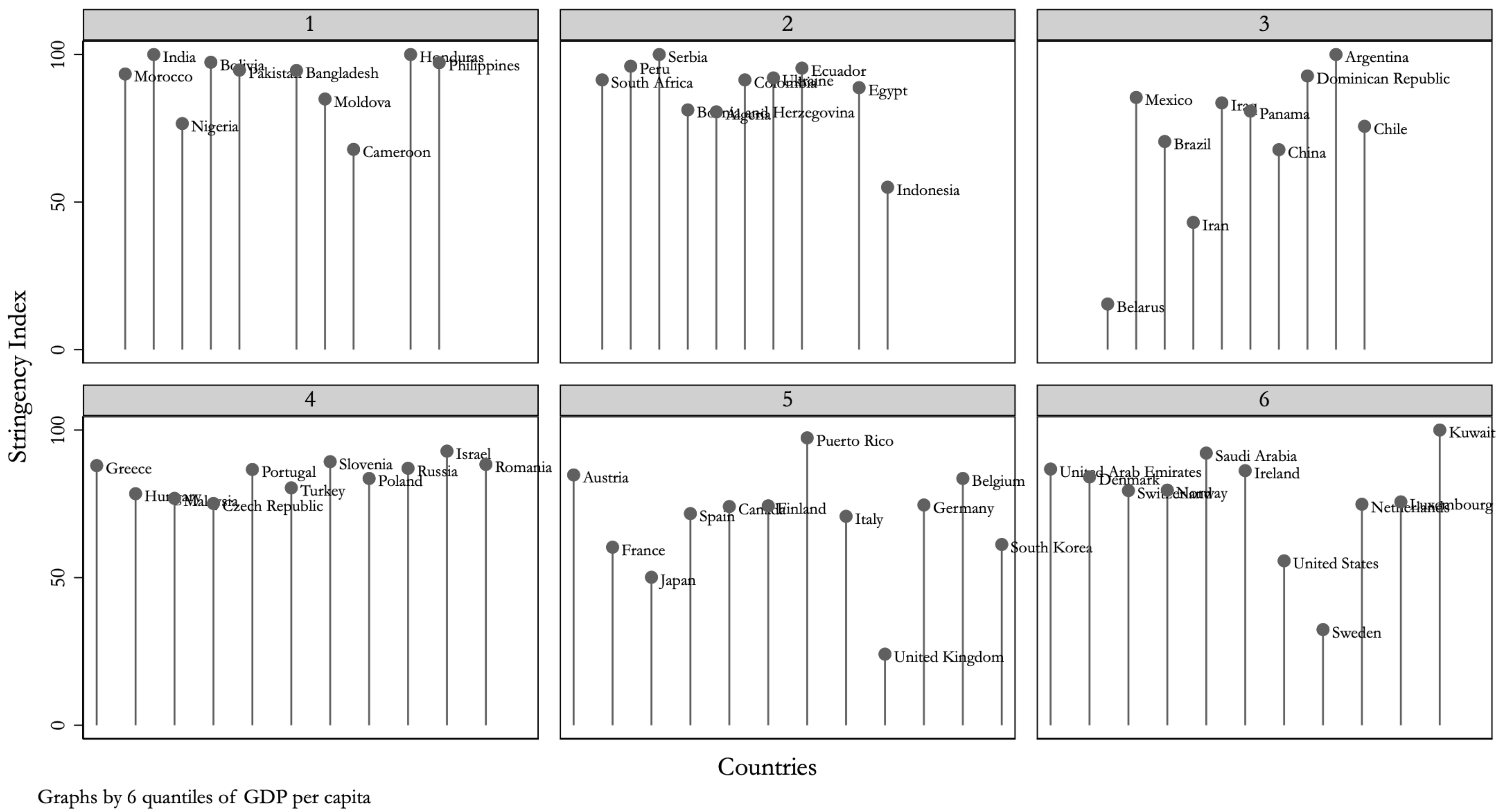
Proof of Theorem 3

Proof By Theorem 2, P_K-P_1 is largest, and P_1/P_K closest to zero, than other pairs of total marginal effects. Set $P_1/P_K\approx 0$ and $\frac{1}{P_K}\approx 0$. Then $\frac{1}{\frac{d\rho_K}{dp}(Y_{\rho K}-\bar{Y})+\frac{dY_{\rho K}}{dp}\rho_K}\approx 0$, which is implicit in (η_K,ϵ_K), since $\frac{d\rho_K}{dp}=\frac{\partial\rho_K}{\partial p}+\eta_K\frac{\partial(\frac{\sum_i S_i\rho_i}{S})}{\partial p}$ and $\frac{dY\rho_K}{dp}=\frac{\partial Y\rho_K}{\partial p}+\epsilon_K\frac{\partial(\sum_i S_iy_i)}{\partial p}$ are functions of η_K and ϵ_K.

This is true for any K-tuple of members from W – the member belonging to w_K always experiences the largest marginal effect of the policy and, thus, the policy most closely reflects her HV–EV profile. (See subsequent discussion in the text.)

B Additional Figures

Figure 7: A snapshot of the stringency index at the point when 100 deaths were reached. Data: (Roser et al. 2020).



This figure includes data on all countries with at least 100 deaths as of July 2020.

Figure 8: The stringency index for selected countries at 10, 100, 200, and 500 deaths respectively.