

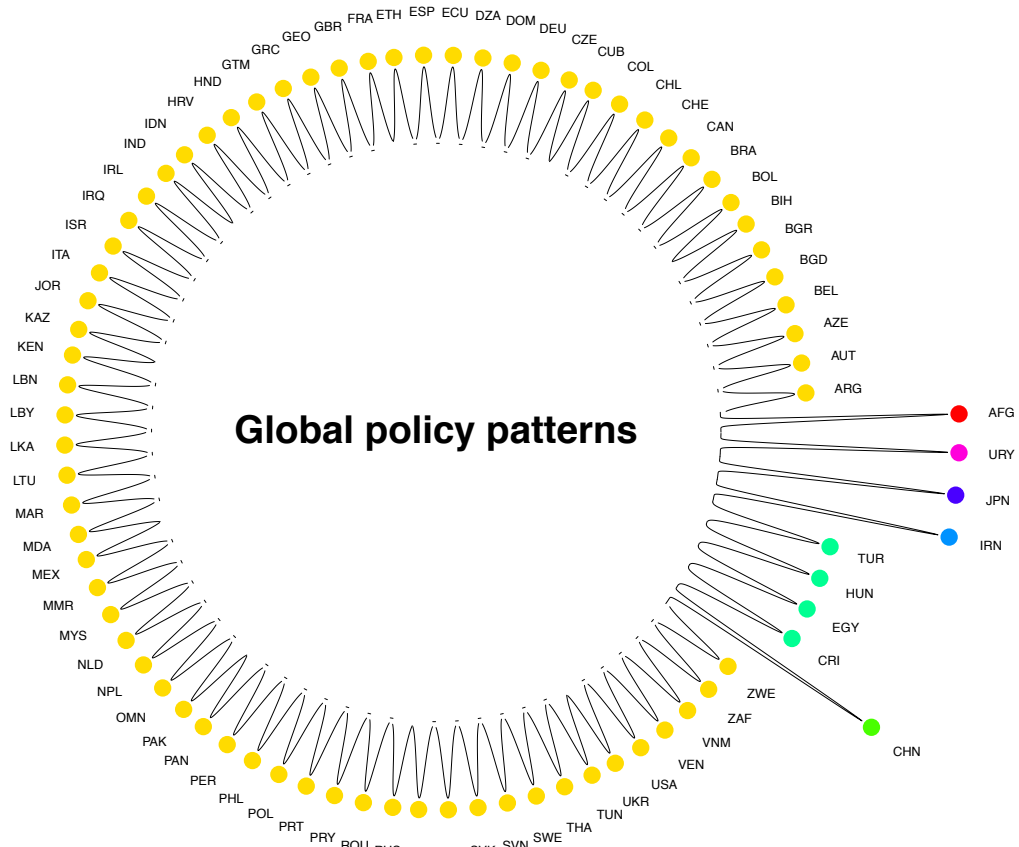
**Supplementary Figures and Tables for the manuscript  
entitled “A global analysis of the COVID-19 policy activity  
levels and evolution patterns”**

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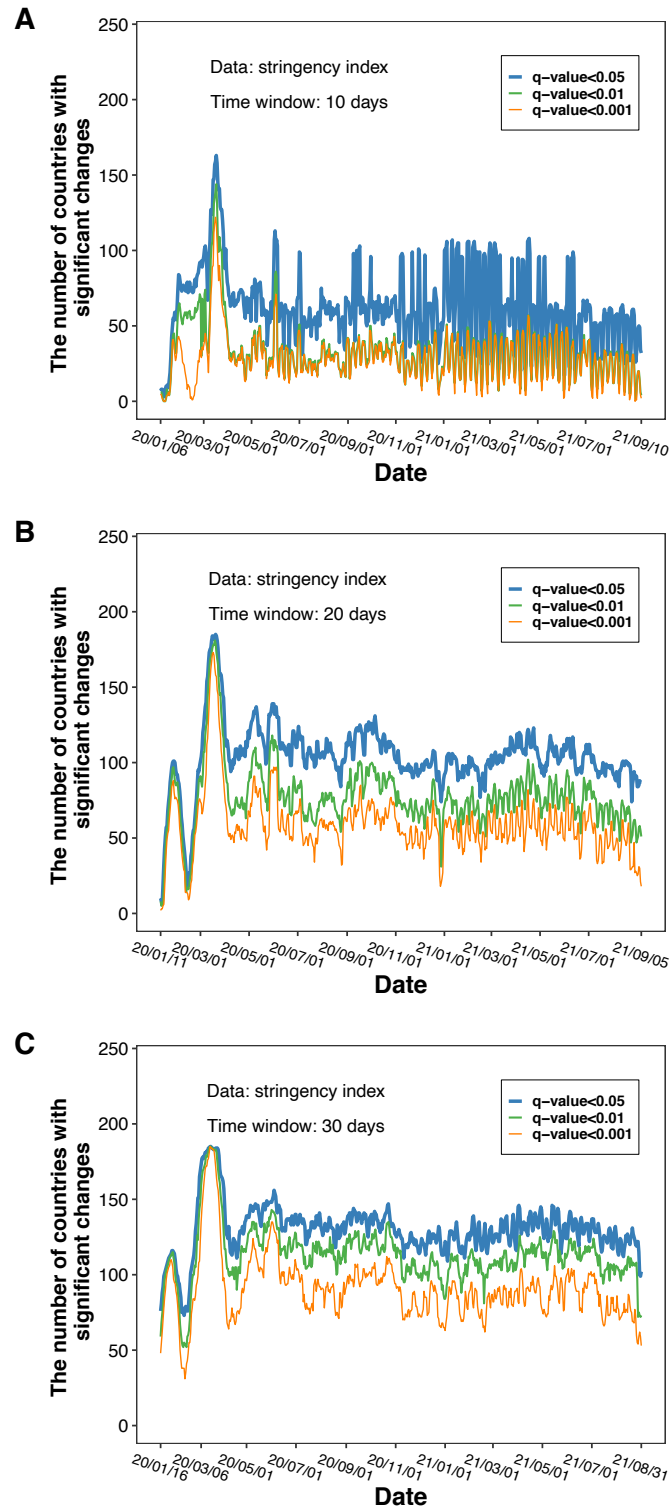
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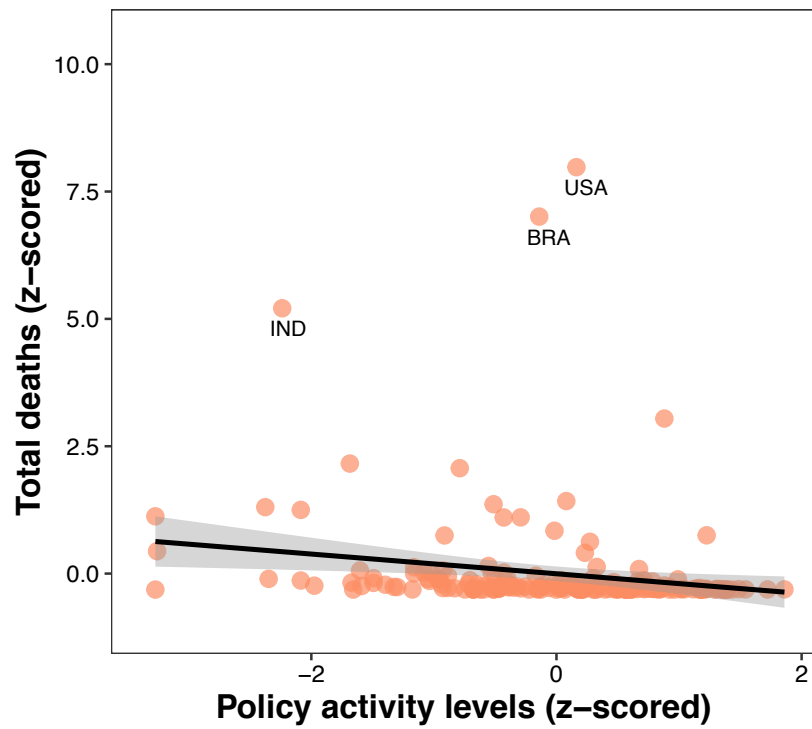


**Fig. S1. Plot of global policy patterns.** For the selected 80 countries, the global policy patterns are evolving into seven main categories: *i) Afghanistan, ii) China, iii) Iran, iv) Japan, v) Uruguay, vi) Costa Rica, Egypt, Hungary and Turkey, and vii) the remaining 71 countries.*

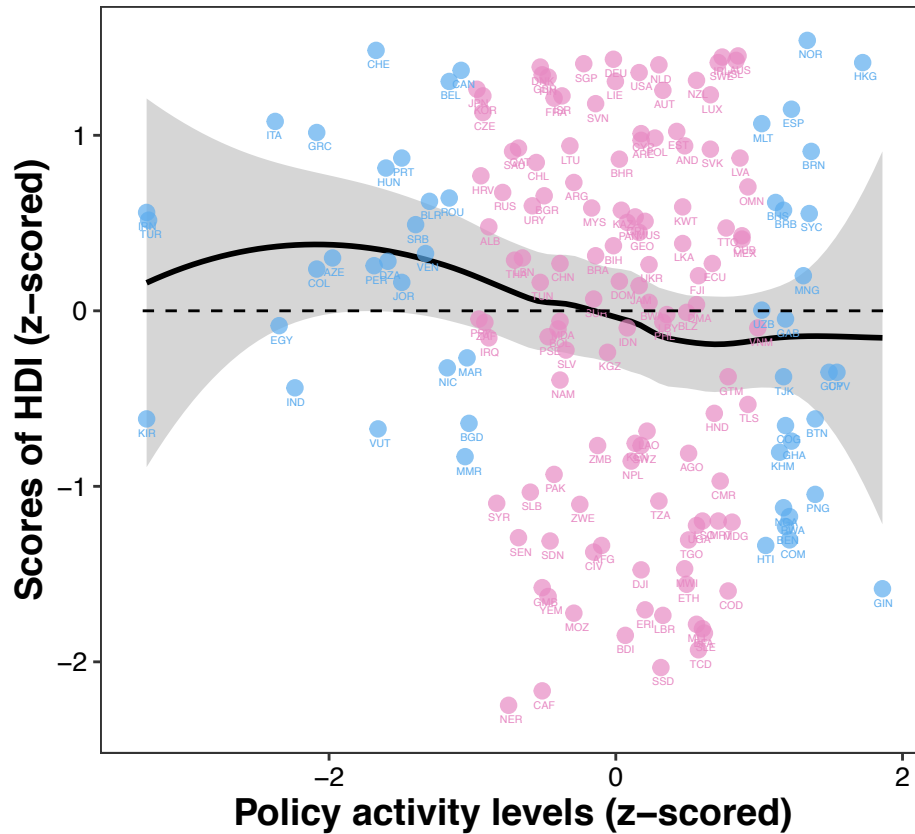




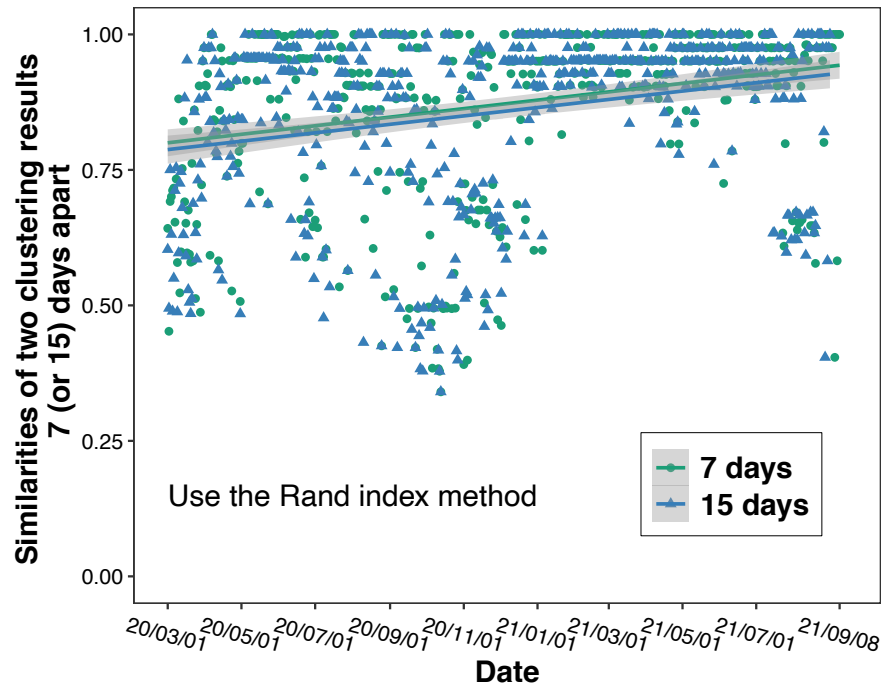
**Fig. S3. Testing the activity level of the stringency index scores of government policies.** Plots of the number of countries with significant changes ( $q\text{-value} < 0.05, 0.01, 0.001$ ) in stringency index scores of government policies with a 10-day time window (A), a 20-day time window (B) and a 30-day time window (C).



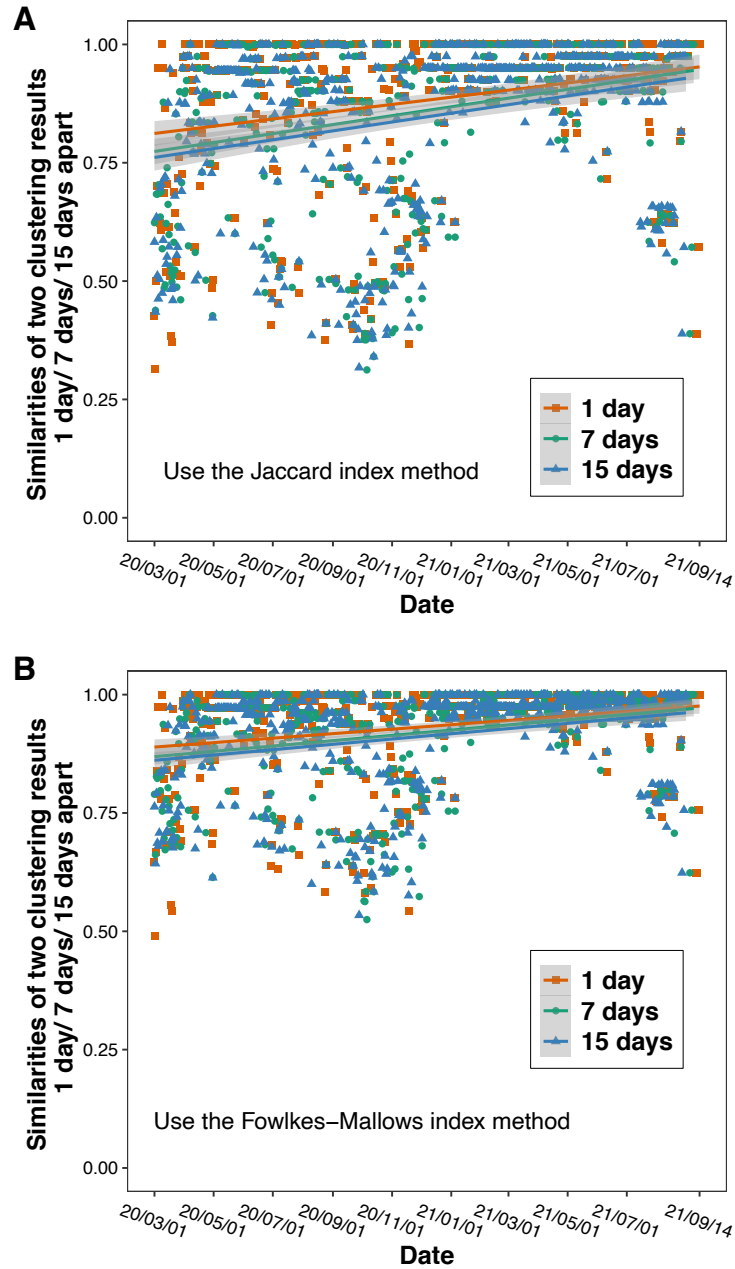
**Fig. S4. Plot of the changes of z-scores of total deaths vs. the z-scores of policy activity levels.** The policy activity level in each country here is calculated based on the policy-active countries with significant changes in the government policies but no significant changes in new deaths (see SI Appendix Robustness Checks). The fitting curves in black is estimated by the linear model.



**Fig. S5. Plot of the changes of z-scores of HDI scores vs. the z-scores of policy activity levels for 171 countries (countries with missing HDI scores were removed).** Points with the policy activity levels between -1 and 1 are marked in pink, and the rest are in blue. The fitting curve is estimated by locally estimated scatterplot smoothing. The black dotted line is the threshold for a score of 0 that indicates the global average of the HDI. The policy activity level in each country here is calculated based on the policy-active countries with significant changes in the government policies but no significant changes in new deaths (see SI Appendix Robustness Checks).



**Fig. S6. Plot of the similarities of two clustering results 7 and 15 days apart.** Based on the Rand index method, the green points denote the similarity between the clustering result of the cumulative strictness scores of the countries on that day and the clustering result 7 days later, and the blue points denote the similarity between the clustering result of the cumulative strictness scores of the countries on that day and the clustering result 15 days later. The fitting curve in blue and green both are estimated by the linear model.



**Fig. S7. Plots of the similarities of two clustering results 1 day, 7 days, and 15 days apart based on the different partition distance indexes.** The similarity between the clustering result of the cumulative strictness scores of the countries on that day and the clustering result 1 day, 7 days and 15 days later, based on the Jaccard index **(A)** and Fowlkes-Mallows index **(B)**, respectively. Both the Jaccard index and Fowlkes-Mallows index range from 0 to 1, a similarity equal to 1 means that the two clustering results are the same.



**Table S1. All 186 countries included in OxCGRT dataset.** Country names and ISO (Alpha-3) country codes (For more information, please see <https://www.iso.org/obp/ui/#search>).

Country name	Country code	Country name	Country code	Country name	Country code	Country name	Country code
Aruba	ABW	Denmark	DNK	Laos	LAO	Romania	ROU
Afghanistan	AFG	Dominican Republic	DOM	Lebanon	LBN	Russia	RUS
Angola	AGO	Algeria	DZA	Liberia	LBR	Rwanda	RWA
Albania	ALB	Ecuador	ECU	Libya	LYB	Saudi Arabia	SAU
Andorra	AND	Egypt	EGY	Liechtenstein	LIE	Sudan	SDN
United Arab Emirates	ARE	Eritrea	ERI	Sri Lanka	LKA	Senegal	SEN
Argentina	ARG	Spain	ESP	Lesotho	LSO	Singapore	SGP
Australia	AUS	Estonia	EST	Lithuania	LTU	Solomon Islands	SLB
Austria	AUT	Ethiopia	ETH	Luxembourg	LUX	Sierra Leone	SLE
Azerbaijan	AZE	Finland	FIN	Latvia	LVA	El Salvador	SLV
Burundi	BDI	Fiji	FJI	China-Macao	MAC	San Marino	SMR
Belgium	BEL	France	FRA	Morocco	MAR	Somalia	SOM
Benin	BEN	Faeroe Islands	FRO	Monaco	MCO	Serbia	SRB
Burkina Faso	BFA	Gabon	GAB	Moldova	MDA	South Sudan	SSD
Bangladesh	BGD	United Kingdom	GBR	Madagascar	MDG	Suriname	SUR
Bulgaria	BGR	Georgia	GEO	Mexico	MEX	Slovak Republic	SVK
Bahrain	BHR	Ghana	GHA	Mali	MLI	Slovenia	SVN
Bahamas	BHS	Guinea	GIN	Malta	MLT	Sweden	SWE
Bosnia and Herzegovina	BIH	Gambia	GMB	Myanmar	MMR	Eswatini	SWZ
Belarus	BLR	Greece	GRC	Mongolia	MNG	Seychelles	SYC
Belize	BLZ	Greenland	GRL	Mozambique	MOZ	Syria	SYR
Bermuda	BMU	Guatemala	GTM	Mauritania	MRT	Chad	TCD
Bolivia	BOL	Guam	GUM	Mauritius	MUS	Togo	TGO
Brazil	BRA	Guyana	GUY	Malawi	MWI	Thailand	THA
Barbados	BRB	China-Hong Kong	HKG	Malaysia	MYS	Tajikistan	TJK
Brunei	BRN	Honduras	HND	Namibia	NAM	Turkmenistan	TKM
Bhutan	BTN	Croatia	HRV	Niger	NER	Timor-Leste	TLS
Botswana	BWA	Haiti	HTI	Nigeria	NGA	Tonga	TON
Central African Republic	CAF	Hungary	HUN	Nicaragua	NIC	Trinidad and Tobago	TTO
Canada	CAN	Indonesia	IDN	Netherlands	NLD	Tunisia	TUN
Switzerland	CHE	India	IND	Norway	NOR	Turkey	TUR
Chile	CHL	Ireland	IRL	Nepal	NPL	China-Taiwan	TWN
China	CHN	Iran	IRN	New Zealand	NZL	Tanzania	TZA
Cote d'Ivoire	CIV	Iraq	IRQ	Oman	OMN	Uganda	UGA
Cameroon	CMR	Iceland	ISL	Pakistan	PAK	Ukraine	UKR
Democratic Republic of Congo	COD	Israel	ISR	Panama	PAN	Uruguay	URY
Congo	COG	Italy	ITA	Peru	PER	United States	USA
Colombia	COL	Jamaica	JAM	Philippines	PHL	Uzbekistan	UZB
Comoros	COM	Jordan	JOR	Papua New Guinea	PNG	Venezuela	VEN
Cape Verde	CPV	Japan	JPN	Poland	POL	United States	VIR

						Virgin Islands	
Costa Rica	CRI	Kazakhstan	KAZ	Puerto Rico	PRI	Vietnam	VNM
Cuba	CUB	Kenya	KEN	Portugal	PRT	Vanuatu	VUT
Cyprus	CYP	Kyrgyz Republic	KGZ	Paraguay	PRY	Yemen	YEM
Czech Republic	CZE	Cambodia	KHM	Palestine	PSE	South Africa	ZAF
Germany	DEU	Kiribati	KIR	Qatar	QAT	Zambia	ZMB
Djibouti	DJI	South Korea	KOR	Kosovo	RKS	Zimbabwe	ZWE
Dominica	DMA	Kuwait	KWT				

**Table S2. The selected 80 countries.** Country names and ISO (Alpha-3) country codes (For more information, please see <https://www.iso.org/obp/ui#search>).

Country name	Country code	Country name	Country code	Country name	Country code
Afghanistan	AFG	Georgia	GEO	Nepal	NPL
Argentina	ARG	Greece	GRC	Oman	OMN
Austria	AUT	Guatemala	GTM	Pakistan	PAK
Azerbaijan	AZE	Honduras	HND	Panama	PAN
Belgium	BEL	Croatia	HRV	Peru	PER
Bangladesh	BGD	Hungary	HUN	Philippines	PHL
Bulgaria	BGR	Indonesia	IDN	Poland	POL
Bosnia and Herzegovina	BIH	India	IND	Portugal	PRT
Bolivia	BOL	Ireland	IRL	Paraguay	PRY
Brazil	BRA	Iran	IRN	Romania	ROU
Canada	CAN	Iraq	IRQ	Russia	RUS
Switzerland	CHE	Israel	ISR	Saudi Arabia	SAU
Chile	CHL	Italy	ITA	Serbia	SRB
China	CHN	Jordan	JOR	Slovak Republic	SVK
Colombia	COL	Japan	JPN	Slovenia	SVN
Costa Rica	CRI	Kazakhstan	KAZ	Sweden	SWE
Cuba	CUB	Kenya	KEN	Thailand	THA
Czech Republic	CZE	Lebanon	LBN	Tunisia	TUN
Germany	DEU	Libya	LBY	Turkey	TUR
Dominican Republic	DOM	Sri Lanka	LKA	Ukraine	UKR
Algeria	DZA	Lithuania	LTU	Uruguay	URY
Ecuador	ECU	Morocco	MAR	United States	USA
Egypt	EGY	Moldova	MDA	Venezuela	VEN
Spain	ESP	Mexico	MEX	Vietnam	VNM
Ethiopia	ETH	Myanmar	MMR	South Africa	ZAF
France	FRA	Malaysia	MYS	Zimbabwe	ZWE
United Kingdom	GBR	Netherlands	NLD		