Causal conditions of the effectiveness of criminal justice in the European Union, OECD, and Brazil

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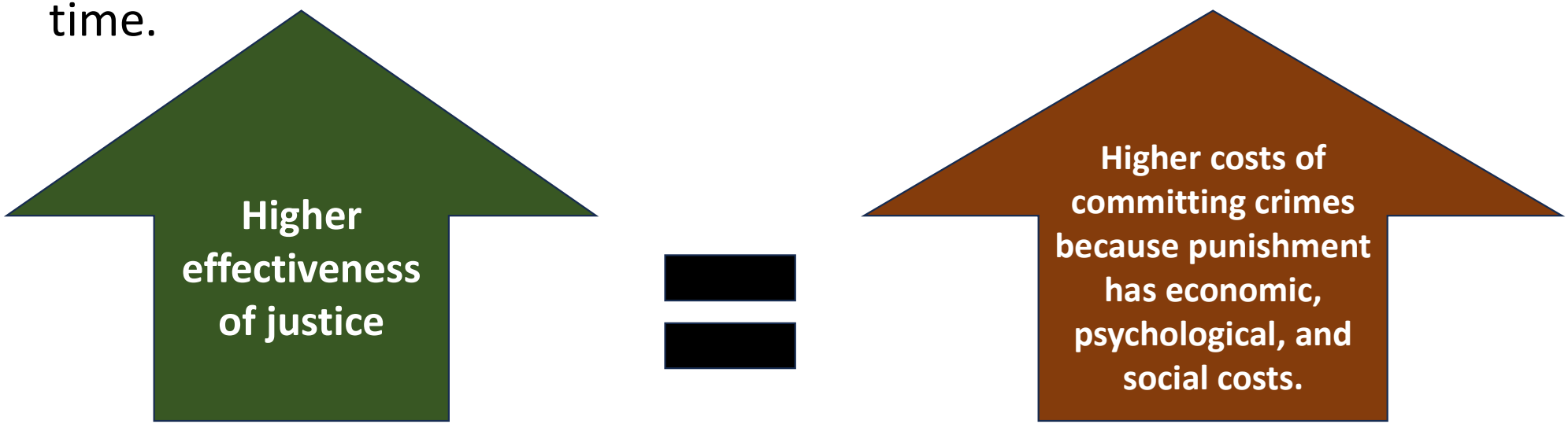
EFFECTIVENESS OF JUSTICE

- **Deterrence theory**: indicates that judicial systems reduce criminality by punishment offences with (Beccaria, 1766; Bentham, 1789):
  - **certainty**,
  - severity,
  - **celerity**.

EFFECTIVENESS OF JUSTICE

- **Certainty** and **celerity** are the result of an **effective system of justice**, because they imply a high probability of being punished in a short time.



EFFECTIVENESS OF CRIMINAL JUSTICE

- This study seeks to understand whether a number of factors:
  - (i) independence of the justice system from interest groups;
  - (ii) transparency in the State;
  - (iii) income inequality;
- are configured as **necessary or sufficient conditions for low or high effectiveness of criminal justice system**
- **Method: Fuzzy-set Qualitative Comparative Analysis**
- Macro analysis: European Union, the Organisation for Economic Co-operation and Development (OECD) and Brazil – 39 countries.

EFFECTIVENESS OF CRIMINAL JUSTICE

- This study measures the effectiveness of criminal justice system using the World Justice Project (2021) - Rule of Law Index 2021 (WJP-RLI).
- The degree of effectiveness of the criminal justice **(EFFCRJUS)** is measured by the average of the scores of the sub-factors of WJP-RLI 8.1 and 8.2. WJP–RLI (2021, p. 19):
  - the sub-factor "8.1 Criminal investigative system is effective" measures "whether perpetrators of crimes are effectively apprehended and charged. It also measures whether police, investigators, and prosecutors have adequate resources, are free of corruption, and perform their duties competently";
  - the sub-factor "8.2 Criminal adjudication system is timely and effective" measures "whether perpetrators of crimes are effectively prosecuted and punished. It also measures whether criminal judges and other judicial officers are competent and produce speedy decisions."

CAUSAL CONDITIONS: (i) Independence of the justice system from interest groups

- The "Public Choice" literature has shown that well-informed and powerful interest groups (minorities) who have resources, easy access to the "media" and proximity to political power, influence public choice in favour of their interests (Becker, 1983; Krueger, 1974; Olson, 1965; Stigler, 1974, Tullock, 1967).
- Pressure from interest groups can also be directed at judicial decisions and affect the functioning of the judicial system.
- It is to be expected that interest groups will exert pressure to avoid or delay unfavourable decisions and to accelerate favourable decisions.

CAUSAL CONDITIONS: (i) Independence of the justice system from interest groups

- The measure of the degree of independence of the justice system from interest groups **(INDIG)** was also obtained in WJP-RLI (2021).
- It consists of the scores of the sub-factor "2.2 Government officials in the judicial branch do not use their public office for private gain", which measures:
  - "whether judges and judicial officials refrain from soliciting and accepting bribes to perform duties or expedite processes, and whether the judiciary and judicial rulings are free of improper influence by the government, private interests, and criminal organizations." (WJP–RLI, 2021, p. 18) .
- The data from WJP-RLI (2021) was mainly collected for the year 2020.

CAUSAL CONDITIONS: (ii) Transparency in the State

- The principle of transparency has acquired great importance.
- Transparency:
  - (1) Transparency means increasing the quantity and quality of information available to interested parties (information dimension)
  - (2) Transparency means increasing the constraints on decision makers to allow citizens to access information and hold them accountable for their actions (accountability dimension).

CAUSAL CONDITIONS: (ii) Transparency in the State

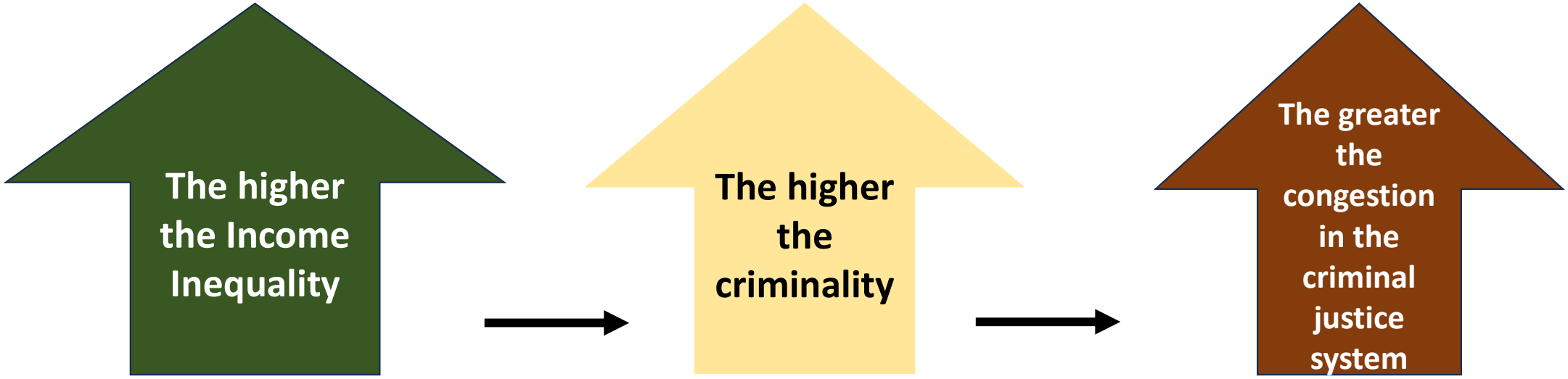
- The degree of transparency **(TRANSP)** is measured by the average of the scores of the factors of WJP-RLI 1 and 3
  - Factor 1 ("Constrains on government powers") measures the accountability dimension of transparency.
    - The sub-factors included in factor 1 can be seen in WJP–RLI (2021, p. 16).
  - Factor 3 ("Open government") measures the information dimension of transparency.
    - The sub-factors included in factor 3 can be seen in WJP–RLI (2021, p. 17).

CAUSAL CONDITIONS: (iii) Income inequality

- The relationship between the degree of income inequality and the effectiveness of criminal justice has not yet been studied.
- The criminological literature suggests that inequality is one of the determinants of violent crime (Buonanno and Vargas, 2019; Coccia, 2018; Santos, Testa and Weiss, 2018).
- There is also evidence that inequality at the level of non-violent crimes, such as corruption, is associated with higher crime rates (e.g., Policardo and Carrera, 2018; You and Khagram, 2005).

CAUSAL CONDITIONS: (iii) Income inequality

- It is therefore to be expected that:



CAUSAL CONDITIONS: (iii) Income inequality

- The degree of income inequality **(INEQUAL)** is measured by the estimate of Gini index of inequality in equivalized household disposable (post-tax, post-transfer) income.
- The values of the Gini index were collected in the Standardised World Income Inequality Database (SWIID).
- A Gini index of 0 represents perfect equality, while an index of 100 represents maximum inequality.
- The data was collected for the year 2020.

Fuzzy-set Qualilative Comparative Analysis (fsQCA)

(Ragin, 2000, 2008)

- **Empirical Study - fsQCA**
  - The fsQCA uses Boolean logic to establish necessary and sufficient conditions.
  - FsQCA allows for gradations in set membership (mix of qualitative and quantitative methodology)
    - Variable data is calibrated in the range between zero and one, using as thresholds percentiles 95 (full membership), 50 (central point); 5 (full non-membership):
    - Values higher than 0.5 mean membership in a given set: the more closer to percentile 95, the higher the degree of membership in the set;
    - Values lower than 0.5 mean low membership in a given set (variable): the more closer to percentile 5, the higher the degree of membership in the “negation (~)” (logical complement) of the set.
    - Values near percentile 50 are points of maximum ambiguity
  - In this study the data was computed using the software package fsQCA 3.0 developed by Charles Ragin and Sean Davey, which uses the **Quine-McCluskey algorithm**

Advantages and limitations of fsQCA

- **ADVANTAGES**
  - **Asymmetry** - the cause of the negative outcome is not seen as the inverse of the cause of the positive outcome.
  - **Conjunctural causation -** combinations of conditions, rather than just a single condition, lead to the presence of outcome.
  - **Equifinality** – there may be multiple causal configurations of conditions, or pathways, that lead to the outcome.

Necessary conditions

- Condition A is **necessary** for outcome K if in each case the degree of membership in A is consistently **greater than or equal** to the degree of membership in K. (K is a subset of A)
    - For example, “high transparency" will be a necessary condition for "high effectiveness of criminal justice system" if, taking into account all cases (countries), membership in the condition “high transparency” is consistently **greater or equal** to level of membership in “high effectiveness of criminal justice system“.
  - **Consistency** indicates the degree to which cases that are members of a given condition are also members of the outcome.
  - To consider that a condition is a necessary condition, the consistency of this condition must be **at least 90% (0.9)** (Fiss, 2011). - **[Σ(min(Ai,Ki))/Σ(Ki) ≥ 0.9]**

Sufficient conditions

- Condition A (or a set of conditions, for example B and C) is **sufficient** for K if in all cases the membership in condition A (or set of conditions B and C) is consistently **less than or equal** to the membership in K. (A is a subset of K)
  - To consider that a condition (or a combination of conditions) is a **sufficient condition, the consistency of this condition must be at least 80% (0.8).** - **[Σ(min(Ai,Ki))/Σ(Ai) ≥ 0.8]**

Note – why in the study of necessary conditions combinations of conditions are not considered: logical ***and*** (combination of conditions) is obtained by taking the minimum membership score of each case in the sets that are combined – that´s why in the study of necessary conditions, combinations of conditions are not incorporated – hardly, lower values of membership than those of the single conditions could be higher than the degree of membership in the outcome.

What affects countries' effectiveness of criminal justice?

- MODELS
  - *EFFCRJUS = f(INDIG; TRANSP; INEQUAL) – (high effectiveness of criminal justice model)*
  - *~ EFFCRJUS = g(INDIG; TRANSP; INEQUAL) – (low effectiveness of criminal justice model)*

(2 models, because asymmetry is possible)

Sample:

This study covers **39 cases** (countries), including Brazil, the European Union and OECD countries - with the exception of Iceland, Israel and Switzerland (not assessed in WJP-RLI, 2021) and Costa Rica and Colombia, which only became members of the OECD in 2021 and 2020, respectively.

Table 1. Sets and fsQCA calibration thresholds

SETS	Full membership – percentile 95	Central point-percentile 50	Full non-membership – percentile 5
EFFCRJUS	0.707	0.610	0.382
INDIG	0.980	0.880	0.570
TRANSP	0.896	0.715	0.501
INEQUAL	42.880	30.100	24.390

NECESSARY CONDITIONS

Table 2. Necessary conditions for high/low effectiveness of criminal justice system

Sets	Outcome: HIGH EFFCRJUS		Outcome: LOW EFFCRJUS	
	Consistency	Coverage	Consistency	Coverage
INDIG	**0.908018**	0.829290	0.482057	0.404313
~INDIG	0.347762	0.422342	0.796465	0.888291
TRANSP	0.838170	0.829197	0.472951	0.429684
~ TRANSP	0.423512	0.466667	0.811998	0.821680
INEQUAL	0.550910	0.585162	0.715586	0.698015
~INEQUAL	0.715691	0.732628	0.574719	0.540282

A high degree of independence of the justice system from interest groups is a necessary condition for a high effectiveness of the criminal justice system.

SUFFICIENT CONDITIONS – HIGH EFFECTIVENESS OF CRIMINAL JUSTICE

*(intermediate solution and **parsimonious solution** in bold)*

Pathways	Raw coverage	Consistency
INDIG	0.908018	0.82929

The prefix '*' denotes "and"; '~' means low membership in a set ('low'). In bold the conditions that incorporate the parsimonious solution. The numbers in parentheses after the name of each member case represent the Fuzzy Score for the combination of conditions represented in each pathway (membership in the pathway), followed by the Fuzzy Score for the outcome (membership in the outcome); Assumptions: high transparency, low income inequality. Technical Notes: Frequency Cutoff: 1.0; Consistency Cutoff: 0.828341; Solution Coverage: 0.908018; Solution Consistency: 0.82929.

The sufficiency analysis yields only one sufficient condition for high criminal justice effectiveness:

a high degree of independence of the justice system from interest groups is a sufficient (and, as shown before, a necessary) condition for high criminal justice effectiveness.

Transparency and inequality are not present in the sufficient conditions for high criminal justice effectiveness.

SUFFICIENT CONDITIONS – LOW EFFECTIVENESS OF CRIMINAL JUSTICE

*(intermediate solution and **parsimonious solution** in bold)*

Pathways	Raw coverage	Consistency
~INDIG * ~TRANSP	0.762185	0.902919

Member cases: Bulgaria (0.95,0.88), Turkey (0.95,0.94), Mexico (0.93,0.99), Hungary (0.88,0.79), Brazil (0.84,0.99), Croatia (0.84,0.88), Romania (0.8,0.81), Slovenia (0.71,0.87), Greece (0.66,0.85), Italy (0.65,0.75), Slovakia (0.6,0.87), Chile (0.52,0.88), Poland (0.52,0.75).

Pathways	Raw coverage	Consistency
~ INDIG * INEQUAL	0.621853	0.897912

Member cases: Mexico (0.95,0.99), Turkey (0.91,0.94), Bulgaria (0.89,0.88), Brazil (0.84,0.99), Romania (0.72,0.81), Italy (0.66,0.75), Latvia (0.66,0.72), Chile (0.57,0.88), Greece (0.55,0.85), Portugal (0.52,0.87).

The prefix '*' denotes "and"; '~' means low membership in a set ('low'). In bold the conditions that incorporate the parsimonious solution. The numbers in parentheses after the name of each member case represent the Fuzzy Score for the combination of conditions represented in each pathway (membership in the pathway), followed by the Fuzzy Score for the outcome (membership in the outcome).; Assumptions: low transparency, high income inequality. Technical Notes: Frequency Cutoff: 1.0; Consistency Cutoff: 0.839385; Solution Coverage: 0.778789; Solution Consistency: 0.892572

Two different pathways that are sufficient conditions for low effectiveness of the criminal justice system.

- A low degree of independence of the justice system from interest groups combined with a low degree of transparency is a sufficient condition for low criminal justice effectiveness.
- A low degree of independence of the justice system from interest groups combined with a high degree of income inequality is a sufficient condition for low criminal justice system effectiveness.

Conclusions

- The causal condition that seems to be critical to criminal justice effectiveness is the degree of independence of the justice system from interest groups.
  - Interest group influence tends to lower the effectiveness of criminal justice. Therefore, pressures to avoid or delay judicial decisions that harm their interests are dominant in their influence.
- The results also show that the effect of economic inequality and of transparency on criminal justice effectiveness interact with the degree of independence of the justice system from interest groups.

Policy implications

- It is important the control the influence of interest groups on the judicial system :
  - It is important to conduct public evaluation of the performance of judicial actors;
  - Iti is desirable the increase of the incompatibilities between the exercise of judicial functions and the exercise of political or private functions.
- Measures should also be taken to increase the transparency in the judicial institutions, including courts:
  - Greater use of electronic means and less interference of discretionary power in the conduct of proceedings.
  - Freely accessible online publication of decisions and procedural elements of all judicial bodies.
  - Offences committed by judges, prosecutors and other legal actors, and the corresponding penalties, should be widely publicised.
- It is also important to address economic inequality and to reduce social conflict.

Data sets

This study covers 39 cases (countries), including Brazil, the European Union and OECD countries - with the exception of Iceland, Israel and Switzerland (not assessed in WJP-RLI, 2021) and Costa Rica and Colombia, which only became members of the OECD in 2021 and 2020, respectively.

COUNTRIES	INDIG	TRANSP	INEQUAL	ADR	EFFCRJUS	EFFCIJUS
Australia	0.95	0.805	32.6	0.81	0.675	0.7
Austria	0.93	0.775	27.5	0.85	0.745	0.775
Belgium	0.94	0.805	26	0.81	0.615	0.63
Brazil	0.71	0.555	46.6	0.65	0.265	0.33
Bulgaria	0.58	0.51	38.9	0.65	0.46	0.485
Canada	0.95	0.81	29.4	0.76	0.68	0.6
Chile	0.85	0.71	45.4	0.74	0.455	0.51
Croatia	0.71	0.58	29.5	0.72	0.455	0.36
Cyprus	0.9	0.635	30.1	0.77	0.68	0.445
Czechia	0.87	0.7	24.4	0.8	0.645	0.53
Denmark	0.99	0.905	26.9	0.86	0.72	0.8
Estonia	0.95	0.815	30.9	0.86	0.58	0.725
Finland	0.98	0.895	26	0.78	0.69	0.775
France	0.9	0.74	30	0.82	0.605	0.64
Germany	0.95	0.83	29.8	0.85	0.685	0.835
Greece	0.81	0.645	30.9	0.75	0.48	0.4
Hungary	0.67	0.415	28.3	0.65	0.51	0.35
Ireland	0.98	0.81	28.6	0.84	0.695	0.595
Italy	0.81	0.67	33.7	0.7	0.525	0.325
Japan	0.98	0.71	32.7	0.81	0.675	0.715
KoreaRep	0.87	0.71	33.6	0.85	0.69	0.805
Latvia	0.81	0.72	35	0.69	0.54	0.61
Lithuania	0.83	0.74	35.4	0.78	0.63	0.81
Luxembourg	0.95	0.805	29.6	0.8	0.675	0.72
Malta	0.88	0.64	28.2	0.7	0.555	0.465
Mexico	0.31	0.525	42.6	0.58	0.25	0.305
Netherlands	0.97	0.835	27.4	0.83	0.61	0.775
NewZealand	0.96	0.84	31.6	0.79	0.67	0.715
Norway	0.98	0.915	26.2	0.91	0.705	0.845
Poland	0.87	0.565	29.7	0.77	0.525	0.42
Portugal	0.87	0.72	32.1	0.8	0.465	0.49
Romania	0.71	0.615	34.1	0.77	0.5	0.545
Slovakia	0.57	0.685	22.6	0.67	0.465	0.485
Slovenia	0.78	0.65	24.3	0.79	0.465	0.545
Spain	0.88	0.715	32	0.82	0.58	0.51
Sweden	0.97	0.865	26.7	0.82	0.625	0.855
Turkey	0.57	0.34	39.9	0.68	0.395	0.41
UKingdom	0.96	0.8	31.4	0.78	0.685	0.67
USA	0.89	0.715	37.7	0.74	0.64	0.64

Calibrated sample

COUNTRIES	INDIG	TRANSP	INEQUAL	ADR	EFFCRJUS	EFFCIJUS
Australia	0.89	0.82	0.64	0.75	0.88	0.78
Austria	0.82	0.73	0.2	0.93	0.98	0.9
Belgium	0.86	0.82	0.1	0.75	0.54	0.59
Brazil	0.16	0.1	0.98	0.05	0.01	0.05
Bulgaria	0.05	0.05	0.89	0.05	0.12	0.22
Canada	0.89	0.83	0.41	0.39	0.9	0.5
Chile	0.43	0.48	0.97	0.28	0.12	0.27
Croatia	0.16	0.13	0.42	0.2	0.12	0.06
Cyprus	0.65	0.25	0.5	0.44	0.9	0.15
Czechia	0.48	0.45	0.05	0.68	0.75	0.31
Denmark	0.96	0.96	0.16	0.95	0.97	0.93
Estonia	0.89	0.84	0.55	0.95	0.4	0.83
Finland	0.95	0.95	0.1	0.5	0.92	0.9
France	0.65	0.6	0.49	0.82	0.48	0.62
Germany	0.89	0.87	0.46	0.93	0.91	0.95
Greece	0.34	0.27	0.55	0.33	0.15	0.1
Hungary	0.12	0.01	0.28	0.05	0.21	0.06
Ireland	0.95	0.83	0.31	0.9	0.93	0.49
Italy	0.34	0.35	0.7	0.14	0.25	0.04
Japan	0.95	0.48	0.65	0.75	0.88	0.81
KoreaRep	0.48	0.48	0.69	0.93	0.92	0.93
Latvia	0.34	0.52	0.76	0.11	0.28	0.53
Lithuania	0.38	0.6	0.78	0.5	0.65	0.94
Luxembourg	0.89	0.82	0.43	0.68	0.88	0.82
Malta	0.5	0.26	0.27	0.14	0.33	0.18
Mexico	0	0.07	0.95	0.01	0.01	0.04
Netherlands	0.94	0.88	0.19	0.87	0.5	0.9
NewZealand	0.92	0.89	0.59	0.59	0.86	0.81
Norway	0.95	0.96	0.11	0.99	0.95	0.96
Poland	0.48	0.11	0.45	0.44	0.25	0.12
Portugal	0.48	0.52	0.62	0.68	0.13	0.23
Romania	0.16	0.2	0.72	0.44	0.19	0.35
Slovakia	0.05	0.4	0.02	0.07	0.13	0.22
Slovenia	0.28	0.29	0.05	0.59	0.13	0.35
Spain	0.5	0.5	0.61	0.82	0.4	0.27
Sweden	0.94	0.92	0.14	0.82	0.61	0.96
Turkey	0.05	0.01	0.91	0.09	0.06	0.11
UKingdom	0.92	0.8	0.58	0.5	0.91	0.71
USA	0.57	0.5	0.86	0.28	0.72	0.62

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