
International Simurgh Development Index ۲۰۲۱



By *Simurgh Group*
Institute of Research Activities for Millenium Planning

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Executive Summary

This report presents Simurgh Development Index ۲۰۲۱. Simurgh development Index has been developed by incorporating game theory, chaos theory and institutional economics. The importance of Simurgh index is the focus on the role of players and organizations in either laying the ground for development or reducing the potential of development.

Simurgh is a symbol of wisdom, cooperation in ancient Iranian beliefs. Moreover, it refers to coordination while respecting differences. Therefore, it can be seen as the symbol of mechanism design.

As a model, Simurgh development means that development proceeds as a result of the activity of the three keys of coordination, cooperation and confidence in order to continuously open access to property rights. Although international indicators largely reflect the status of these three key development keys, the description of their status does not reflect the impact of the players affecting them. In other words, the most important way to distinguish the Simorgh Development Index from other development indicators is to show the effect of the actors (various governmental and non-governmental organizations) on the three keys of development. In addition, the Simurgh Development Index measures development in terms of dynamic and cross-sectional potentials for development. Simurgh Model has been developed in Simurgh Group of “Research Activities for Millennium Planning” (RAMP). Simurgh Model is about the ability to convert properties into capital and to convert capital into wealth by all citizens of a community, No matter their physical condition, political stance, gender, ethnicity, personality, social status, etc.

Calculations are based on Legatum Prosperity Index data. According to calculations and based on the work of knowledge, action and power elites, Norway with a score of ۰,۹۱۷ has the most open access to property rights. But Syria, with a score of ۰,۲۰۳, has the most limited access to property rights, and state fragility is still very high.

This report is organized as follows: first section is dedicated to the concept of Simorgh index of development; in second section, presenting the social order of world countries, we describe the role of elites in development of world countries based on Simurgh Development Index (SDI); and in third section, the indicators of each country are presented as attachment.

Reza Madjidzadeh

Acknowledgement

I would like to thank the Legatum Institute for publishing appropriate and multidimensional indicators for development. The calculation and publication of the Simorgh Development Index would not have been possible for all countries of the world without these indicators.



About the author

Reza Madjidzadeh is the director of Simorgh Development Group of Research Activities for Millennium Planning (RAMP). He is majored in Development economics and planning. His main areas of studies include development economics, game theory, institutional dynamics, and political economy. He has been focused on explaining underdevelopment from the viewpoint of a developing country, based an analytical framework incorporating institutional economics, game theory, and chaos theory. Simorgh Development Index is on of the outcomes of this efforts.

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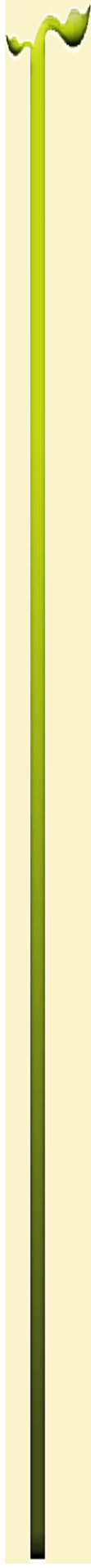


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A. Conceptualization

There are many insightful indices dedicated to measure the level of development. They measure and report the comparative level of development across countries based on an interdisciplinary point of view. Governance, opportunities, business environment, natural environment, social capital and etc. are among the variety of domains covered by these indices. However, the tendency of states toward laying the ground for inclusive development is taken for granted in most international indices. Moreover, the state is considered as a single actor implicitly, such that achieving the rule of law, taking the anti-corruption measures, distributing opportunities fairly, opening access to rights, and so on are depended on this single actor's behavior and decisions. States include several organizations and actors having a variety of preferences. So, asking "how much you feel secure walking at night" won't give us any useful insight about who makes the streets insecure at nights! While it is important to know the level of perceived security, knowing the responsible actor or organization about security or insecurity is important as well. This is the point of view of "Simurgh Index". Simurgh Index holds that different organizations and actors, including legislation, judiciary, administration, and so on does not necessarily have incentives to develop their country as assumed in many development theories. To put it differently, who is responsible to achieve good governance? Government itself?! Why has this not been done so far? The World Bank has been publishing governance indicators for more than two decades, so the issue is not ignorance of the importance of governance reform. The main issue is conflict of interest.

Violence and discrimination are two important factors which lead to failure of coordination, cooperation, and prevailing mistrust. These two factors are present in all societies, but there are different degrees of them and the type of control and confrontation with them is also different. The method of controlling and combating violence and discrimination is one of the outputs of laws and regulations that are enacted and enforced in societies. Elite organizations have a role to play in setting these rules and regulations. The extent of prevention of coercion and discrimination is determined by the interrelationships of elite organizations and conflicts of interest. Relationships among elite organizations create a state space that is a dynamic aspect of development. The dynamic aspect of development means the transition from privilege-based relations among powerful and elite groups to the rule of law, preventing the military from entering politics and the economy, especially in terms of their accountability to civil and democratic institutions, and ultimately the stability of organizations and open access to a variety of organizations.

The cross-sectional aspect means how much knowledge accumulated at any point in time can grasp resources and turn them into capital. If the dynamic aspect is ignored, then growth may occur intermittently, but this growth is not stable and does not exceed a certain level. But if we pay attention to the dynamic aspect, society can unleash its potential and increase innovation in various areas of life and society.

The theoretical framework of Simurgh Development Index (SDI) is as follows: Early development theories were based on the observation of researchers from developed societies whose physical

infrastructures had to be compensated for the devastations of World War II. Hence, in the transfer of theories to the underdeveloped world, the main problem was introduced the lack of physical infrastructures, and capital accumulation, while problems with the bad governance, transaction costs, property rights insecurity, the opportunism resulting from the implementation of discriminatory or ineffective rules, etc., prevented capital accumulation success in laying the ground for a continues and stable economic growth. The shock therapy of 1990's was supposed to fix the main problems allegedly resulted from a non-Laissez Faire structure of the LDCs, while ignoring the lack of required institutional arrangements, or taking its presence for granted.

Since then, institutionalists have emphasized institutional reform, but the mechanism for realizing it is a new black box. In other words, we have realized that making an appropriate cocoon of institutions, to motivate agents toward productive activities, is the prerequisite for bringing the society out from its old cocoon to an HDC, but how can we perform this transition?

Good governance, efficient and non-discriminatory property rights, low transaction costs, etc. must be improved, so who do this improvising? D.C. North, et al (2009, 2012) pointed that it is a random, rather than regularity, that elites being inspired to decide or to motivate to move toward impersonality and thereby opening access to property rights, gradually. Therefore, a framework similar to the theory of games is needed in order to analyze the underdevelopment on the basis of which different groups do not have the same preferences and interests. The dominant elite prefer the status quo, but transformative groups are looking to change it. This division can be more detailed. Moreover, North (2005) had argued that an efficient account for economic change requires considering the stock of knowledge, demographic properties, and state in every society. So, the problem of underdevelopment isn't confined to governance, but elites in the spheres of knowledge and resources matter too.

It seems that North et al. (2009) laying the ground for explaining state and its role in economic change and social order. But it seems that deceased North did not has the opportunity to expand the aspect of knowledge and resources. Yet, most of the institutionalism literature is devoted to governance. Hence, Simurgh Development Index takes into account all three institutional aspects, knowledge and resources.

It is argued that institutional structure explains this divergence through incentives. We call this feature as the motivational vector. A motivational vector means that an array of formal and informal institutions determines the rewards or punishments of certain behaviors. Based on this motivational structure, actors find opportunities and choose to take advantage of these opportunities to turn their properties into capital, and more importantly is what properties they have to do with these opportunities. In this way, the vector of choice is also formed. The motivations and information derived from formal and informal institutions make actors acknowledging somethings as capable-to-turn into capital and something not capable; for example, the mental structure and the structure of opportunities affects the view on waste as a recyclable material with potential redefinition in one community or only a worthless thing based on the traditional view on wealth and capital in another community. The result of people's choices and their investment is an accumulation that is consistent with the structure of motivation and choice; for example, all societies experience economic growth, but their growth quality is different and depends on the type of motivated activities. The encouragement of nonproductive activities in a

motivational structure and the encouragement of productive activities in another motivational structure can lead to economic growth for both societies, but in the long run, the former will have a weak productive power and non-resilience, accumulation of which will be a wasted human capital as well as increasing unemployment. These three vectors form the structure of *Simurgh Model* (figure 1). In figure 1, the direction from point *A* toward point *C*, to *D*, and then *B* is the Simurgh Model path in time *t*. *AC* is the motivational vector; *CD* is the choice vector; and *DB* is the accumulation vector. The starting path from point *A* to *B* represents a macroscopic view of Simurgh Model or non-Simurgh Model, and traditionally, economic performance analysis is based on the analysis of paths *A* through *B* or the assignment of *B* components to point *A* components collectively. In practice, however, the path of Simurgh Model is driven by three vectors of motivation-selection-accumulation.

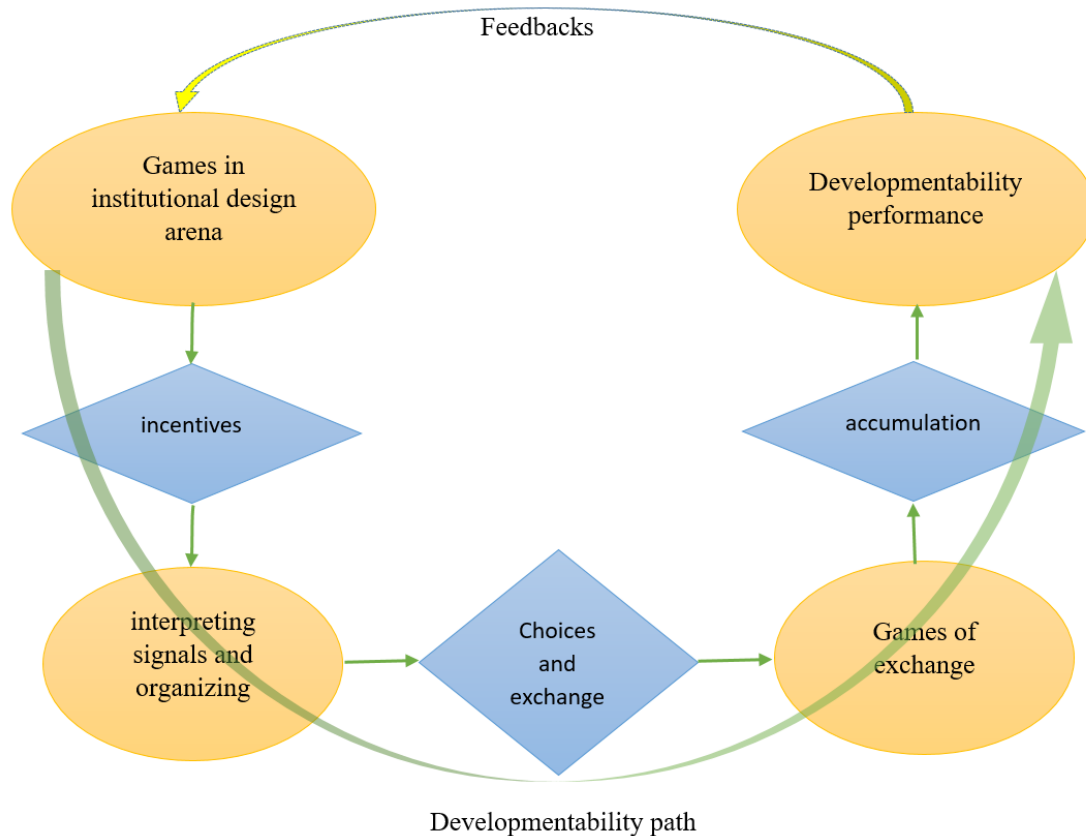
Figure 1, Meso-level Structure of Simurgh Model



ACDB path could be assigned to any time, but we must remember that institutions are long run-effective phenomena; i.e. an institution established in time *t* will be effective until will be replaced by another institution which may take a several years, or even several decades. Thus, if the Simurgh Model path of time *t* is denoted by *ACDB* and the Simurgh Model path of time *t + 1* is denoted by *A'C'D'B'*, then the points *A* and *A'* would have shared elements of which are some elements of informal institutions, formal institutions not changed because of path-dependency, while the difference between two points are elements and features of enforcing, governance, and such new established institutions. The more rapid are socio-economic-political changes, the more difference between two subsequent point *A* will be observed. Furthermore, legislation in parliamentary systems is a routine process which leads to a faster change in formal rules. However, one can set equal time intervals in order to compare Simurgh Model path of a country through time, or of several countries in one time or through time. Also, there is a kind of correspondence between Simurgh Model path and HCIA method of Avner Greif (1996). The analogy is on the comparative nature, but the difference is on accounting for two seemingly distinct level of games of which the institutional design game results constraints the game of exchange in micro-level. Every period *t*, main effective business, social and political organizations' leaders or institutional designers' bargains for maintain, manipulate, change, replace, or innovate new rules governing contracts. So, Simurgh Model path has features of game dynamics, since their games results in institutional arena influence games in exchange level. The details of Simurgh Model paths are presented in figure 1, where begins from the ellipse in top-left corner with institutional designers' bargain to maintain, to change, to establish, to introduction, or to repeal rules in forms or

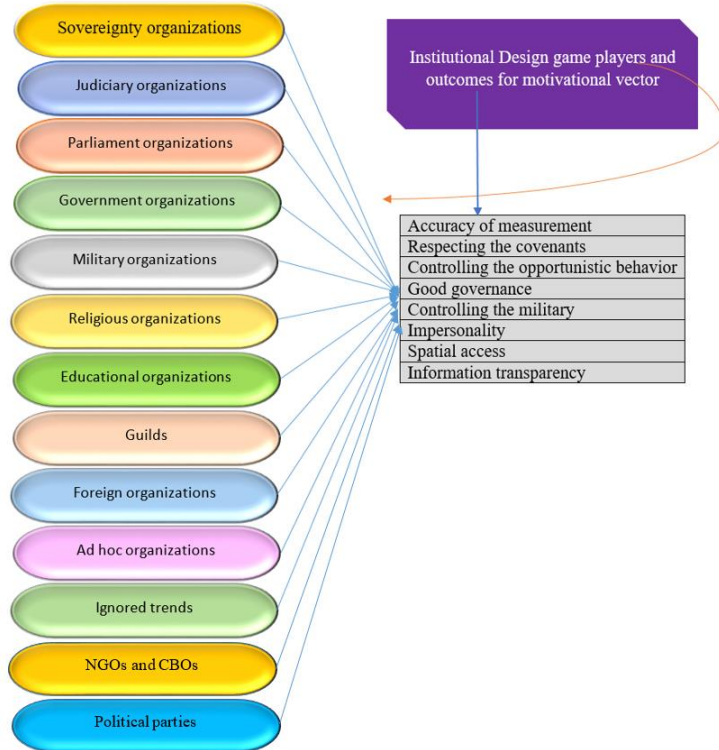
institutions based on the perceived opportunities they observed from feedbacks of previous periods.

Figure ۳, Details of a Simurgh Model path



Institutional designers are the members of exchange and allocation level, too. Institutional design game is a context-specific game. In a general picture, they are involved in field games. This game is going through time, with some players take hawk strategy while others play dove in every period. Of course, the proportion of hawks or doves is not the same in different periods, and depending on the difference between the expected payoffs from a certain institutional design (modification, modification, or presentation of a new rule or its implementation method or its population), this ratio changes through time. The actors interpret the signals sent from the game's institutional design results and perceive various signals about profitable opportunities for selection and investment that affects their choices and exchanges. So, Games of exchange is shaped based on which accumulation occurs thereby Simurgh Model potential is realized.

Figure ٣, Institutional Design Game and players



Organizations leaders are the main institutional design game players (figure ٣). Organizations related to sovereignty, judiciary, parliament, government, military, religious, education, guilds, abroad, NGOs, CBOs, and political parties are the members of institutional design game. However, not all organizations listed on figure ٤ are involved in the game design of a particular community; in fact, the list of institutional design actors depends on the type of social order. Therefore, the list of institutional designers in the community A can be different from the list of institutional design actors in community B, depending on their social order structure. In addition, there is an ignored trend in the list of actors, which is not a real or organization actor, but the

representative and importance of neglected trends and their effect on the cost of maintaining property and the proprietary rights of them.

Franke and Quintyn (٢٠١٢) suggested the indicators for testing the North-Wallis-Weingast doorsteps framework. Most of their indicators is used in Simurgh's dynamic aspect. The weight of each indicator related to dynamic and cross-sectional aspect is calculated based on survey of experts, based on pairwise comparison. The list of indicators is as follows:

- Dynamic aspect
 - Rule of law
 - Independence of juridical system from the government
 - Independence of juridical system from the militaria
 - Non-discrimination in defining minority groups rights (religious or ethnics)
 - Non-discrimination in defining females rights, compared with males.
 - Impartiality and fairness in enforcing rules and laws.
 - Impartiality and fairness in enforcing contracts.
 - Coincidence of formal and informal rules.
 - Serious control of corruption
 - Political stability
 - Transparency
 - Security of contracts between private agents
 - Security of property rights
 - Controlling the military
 - Preventing the military interference in the rule of law and in the political process

- Preventing the military interference in the resource allocation and economy.
 - Preventing the violent actions by underground political organizations
 - Impartiality of the military and no linkage with religious groups.
 - Monitoring the military by parliamentary.
- Access to organizations
 - No parallel organization for governmental organizations
 - Ease of market entry for new firms in production sector
 - Assigning religious groups members in governmental office
 - Assigning ethnic group's members in governmental office
 - Assigning disable persons in governmental office
 - Market enter is free
 - Guilds independency from government
- Cross-sectional aspect
 - Spatial access
 - Access to international opportunities
 - Access to international markets
 - Expand relations with neighboring countries
 - Expand relations with the countries of the world
 - Quality of port services
 - Quality of airport services
 - Quality of road and rail services
 - Fair distribution of opportunities among regions
 - Environmental sustainability
 - Access to safe drinking water
 - Renewable energy infrastructure
 - Pollutant emission management
 - Climate change management
 - Biodiversity conservation
 - Janus technologies
 - Digital skills in the population
 - Facilitate the transfer of knowledge and technology
 - Embracing breakthrough technologies
 - Facilitate the commercialization of ideas
 - Stock of knowledge
 - Transforming brain drain to brain gain
 - University-Industry Collaboration
 - Problem-oriented education
 - Educational equality
 - Up-to-date educational infrastructure
 - Transaction costs
 - Free and open access to internet
 - Controlling the opportunistic behavior
 - Confidence to courts system
 - E-government development
 - Soundness of banks

- Financial development
- Reducing business barriers
- Free flow of information
- Low-cost legal procedurals

Calculation:

Every policy or action's **impact** on Simurgh Index(EPAI)= Players weighted impact (determined through pairwise comparison)* population affected by the policy or action (as a percentage of whole population)* subindex weighted impact* related index weighted impact* (-1) [if the impact is negative] or (+1) [if the impact is positive].

J_{th} aspect of Simurgh Index= $\sum(EPAI)_i, i=1, \dots, n$

i: number of impacts.

J: Dynamic, Cross sectional

Simurgh Index= Dynamic Simurgh Index weighted +Cross-sectional Simurgh Index weighted

International Simurgh Development Index

Though SDI has been calculated for Iranian development since ۲۰۱۸, calculating this index for other countries need information about the combination of dominant coalition as well as weight of each elite group and their strategies in their countries. Due to lack of enough resources, Simurgh group, classified the elite groups of all countries into three groups: Elites of Knowledge, Elites of Power, and Elites of Action. Research institutes, for example, are included in the area of knowledge elites' organizations. These three groups are corresponded, respectively, with stock of knowledge, governance, and resource allocation. The outcome of these three areas is as: Accuracy in measuring rights and Variety in contracts, Fare definition of rights and efficient enforcement of contracts, and respecting the contracts and rights. Therefore, data provided by Legatum Institute is used for calculating the International Simurgh Development Index (ISDI) as table ۱.

Table ۱. subindices of International Simurgh Development Index (ISDI)

	Accuracy in measuring rights and Variety in contracts	Fare definition of rights and efficient enforcement	Respecting the contracts
Elites of Knowledge	<ul style="list-style-type: none"> • Availability of skilled workers • High-tech manufactured exports • Access to quality education • Average quality of higher education institutions • Skillset of university graduates • Digital skills among population 	<ul style="list-style-type: none"> • Women's average years in school • Education inequality 	<ul style="list-style-type: none"> • Emotional wellbeing • Depressive disorders
Elites of Action	<ul style="list-style-type: none"> • Internet usage • Domestic and international market access • Patent applications 	<ul style="list-style-type: none"> • Protection of women's workplace, education and family rights 	<ul style="list-style-type: none"> • Dispute settlement through violence • Safety walking alone at night • Physical security of women

	<ul style="list-style-type: none"> • Use of digital payments 	<ul style="list-style-type: none"> • Consensus on democracy and a market economy as a goal • Access to finance • Financing of SMEs • Quality of banking system and capital markets • Soundness of banks • Equal treatment and absence of discrimination • Anti-monopoly policy 	<ul style="list-style-type: none"> • Business costs of crime and violence • Business costs of organized crime • Personal autonomy and individual rights • Women's agency • Perceived tolerance of ethnic minorities • Market-based competition • Generalized interpersonal trust • Confidence in financial institutions and banks • Conflict of interest regulation • Volunteering • Wastewater treatment • Freshwater withdrawal
Elites of Power	<ul style="list-style-type: none"> • Transparency of government policymaking • Military involvement in rule of law and politics • Efficiency of government spending • Political diversity of media perspectives • Policy coordination • Legal costs 	<ul style="list-style-type: none"> • Judicial independence • Right to associate and organize • Non-discriminatory civil justice • Executive powers are effectively limited by the judiciary and legislature • Government powers are subject to independent and non-governmental checks • Intellectual property protection • Civil justice • Clientism • Enforcement of regulations • Protection of property rights 	<ul style="list-style-type: none"> • Public trust in politicians • Political terror • Extrajudicial killings • Freedom of movement • Freedom from arbitrary interference with privacy • Autonomy from the state • Press freedom from government censorship • Freedom of opinion and expression • Freedom of belief and religion • Use of public office for private gain • Political participation and rights • Public trust in politicians • Confidence in judicial system and courts • Poverty rate at national poverty lines

The sum of the rows in Table 1 shows the effect of each elite group as effective players in development. In contrast, the sum of the columns of this table also shows the developments of the three aspects of development in terms of rights and contracts. In attachment C, these subindices read as follows: KA=Knowledge Elites on Accuracy in measuring rights and Variety in contracts; KD= Knowledge Elites on Fare definition of rights and efficient enforcement; KR= Knowledge Elites on Respecting the contracts and rights; AA= Action Elites on Accuracy in measuring rights and Variety in contracts; AD= Action Elites on Fare definition of rights and efficient enforcement; AR= Action Elites on Respecting the contracts and rights; PA= Power Elites on Accuracy in

measuring rights and Variety in contracts; PD= Power Elites on Accuracy in measuring rights and Variety in contracts; and PR= Power Elites on Respecting the contracts and rights. Similarly, table ۲ shows the indicators that have been used to determine the level of social order of countries (access to property rights) based on the approach of North et al. (۲۰۰۹).

table ۲. indicators of social order

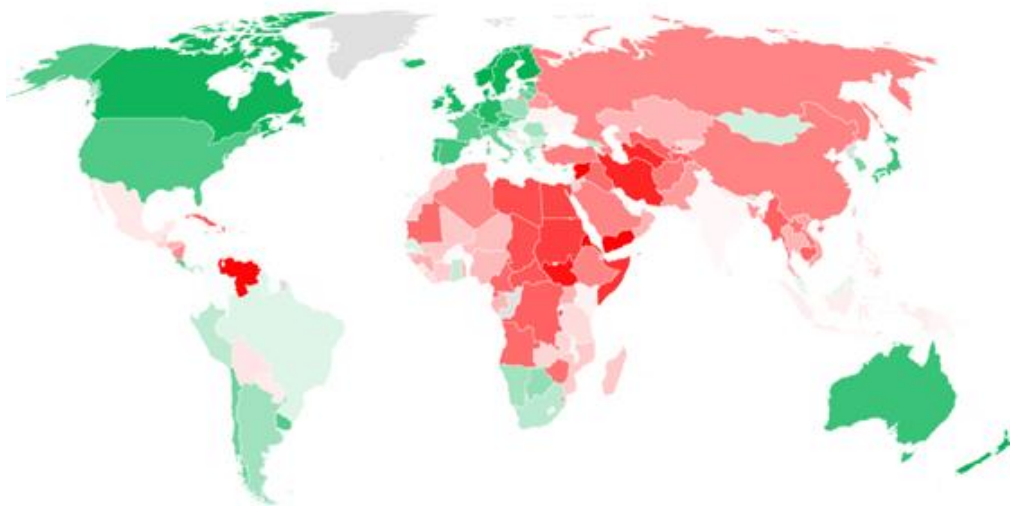
Consolidated political control of the organizations with violence	Business costs of crime and violence Military involvement in rule of law and politics
perpetually lived elite organizations	Personal autonomy and individual rights Freedom of movement Freedom from arbitrary interference with privacy Autonomy from the state Freedom of opinion and expression Freedom of belief and religion Perceived tolerance of ethnic minorities Consensus on democracy and a market economy as a goal Democracy level Prevalence of foreign ownership of companies Anti-monopoly policy Private companies are protected and permitted
Rule of law for elites.	Political terror Press freedom from government censorship Government media censorship Government religious intimidation and hostility Executive powers are effectively limited by the judiciary and legislature Government powers are subject to independent and non-governmental checks Government officials are sanctioned for misconduct Civil justice Anti-corruption policy Clientelism Public sector corruption Government quality and credibility Protection of property rights Conflict of interest regulation

B. Report

B-1. Social Order by Country

Map 1 shows the social order of world countries based on the analytical framework introduced by North et al (1999). Bold green or an index score above 0.5 indicates open access to property rights; that is countries such as Norway, New Zealand and Canada. In contrast, Bold red, or an index score of less than 0.3, indicates normal order and limited access to property rights; i.e., countries such as Syria, Yemen and Venezuela.

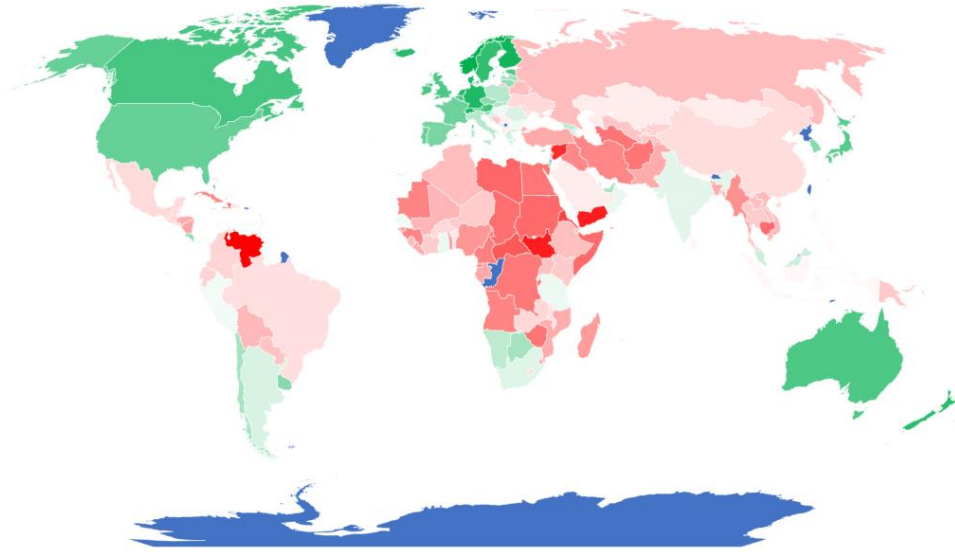
Map-1. social order of world countries



B-2. Players' Impact

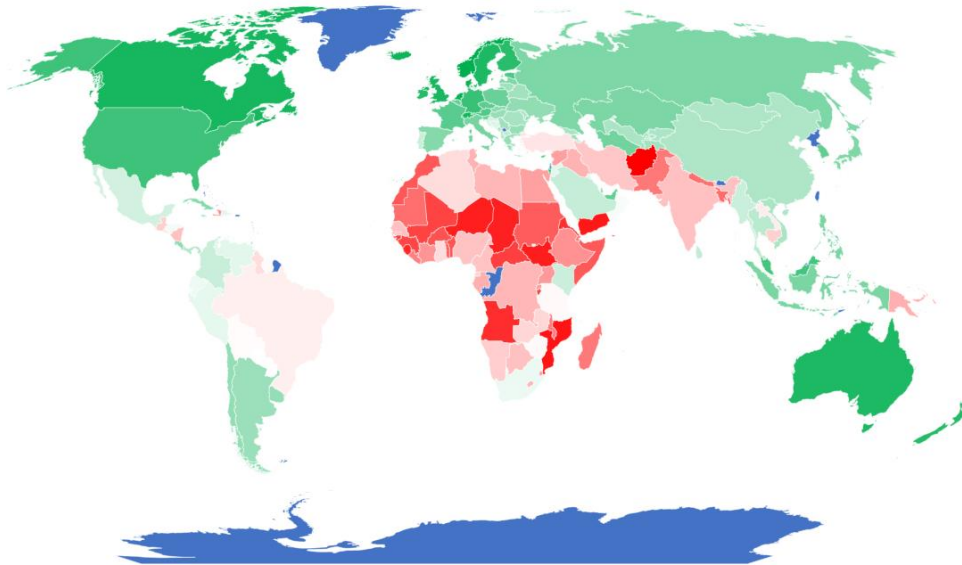
Map 2 shows the effect of the power elites on the three components of property rights and contracts. Red color refers to a weak effect, green color to a strong effect, pale red, and pale green colors to a moderate effect. The map is interpreted in such a way that the red color spectrum indicates that most of the behaviors of the power elites are anti-developmental. In contrast, the green spectrum means that most of the behaviors of the power elites are in favor of development. For example, less than 20 percent of the behaviors or policies of the ruling elites in countries such as Iran or Saudi Arabia are in favor of development, while in countries such as Norway or Australia, more than 80 percent of their actions are in favor of development.

Map-۶. effect of the power elites on the three components of property rights and contracts



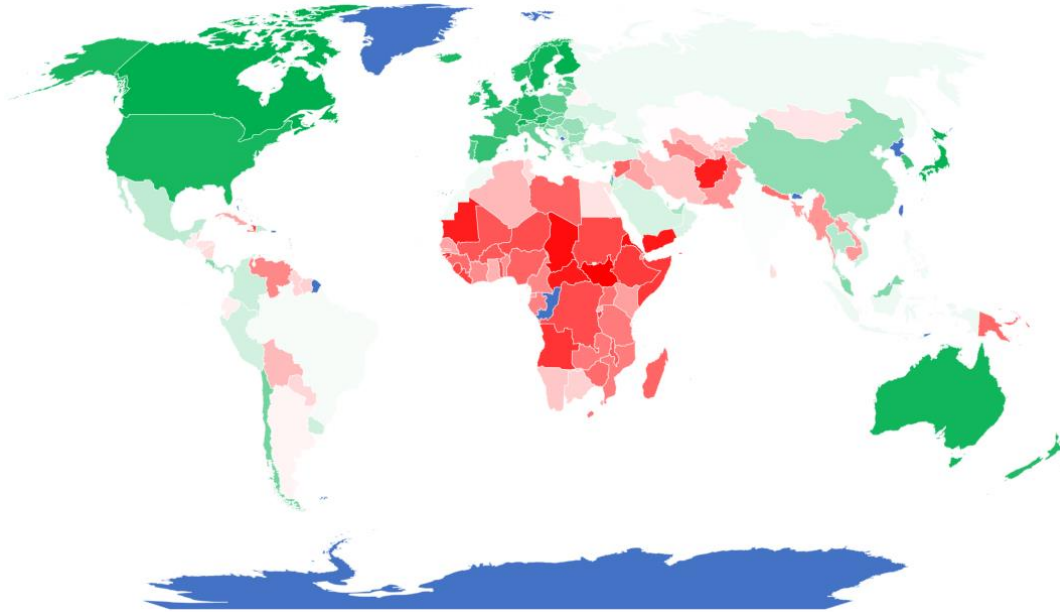
Map ۶ shows the effect of the knowledge elites on the three components of property rights and contracts. Interpreting of the map is the same as the map-۶. However, there are differences between tow maps, Including the change of color of Russia and China compared to the map ۶. This change means that the knowledge elites in the two countries, compared to the power elites, have a more positive impact on development and store good knowledge for development.

Map-۷. effect of the knowledge elites on the three components of property rights and contracts



Finally, map 4 shows the effect of the action elites on the three components of property rights and contracts. Again, action elites in Russia and China have better effect on development, compared with power elites. Yet, their effect is worse than of power and knowledge elites in Argentina.

Map-4. effect of the action elites on the three components of property rights and contracts



How can these maps be interpreted? In open access societies, the role of all three groups of elites in development is balanced, but in limited access societies, this role is not balanced. While in restricted access countries, all three groups play a weak role in development. In other words, their negative effects outweigh their positive effects.

C. Attachments

country	KA	KD	KR	AA	AD	AR	PA	PD	PR
Afghanistan	0.255	0.203	0.358	0.066	0.316	0.293	0.436	0.285	0.356
Albania	0.346	0.851	0.600	0.441	0.675	0.501	0.590	0.383	0.573
Algeria	0.399	0.587	0.506	0.333	0.521	0.443	0.499	0.405	0.455
Angola	0.175	0.394	0.389	0.087	0.369	0.312	0.402	0.353	0.383
Argentina	0.495	0.821	0.584	0.395	0.558	0.580	0.637	0.495	0.649
Armenia	0.495	0.867	0.535	0.424	0.704	0.580	0.617	0.551	0.634
Australia	0.794	0.913	0.576	0.914	0.784	0.823	0.820	0.782	0.742
Austria	0.682	0.823	0.613	0.875	0.798	0.787	0.766	0.793	0.832
Azerbaijan	0.441	0.826	0.580	0.319	0.673	0.519	0.497	0.406	0.527
Bahrain	0.502	0.751	0.552	0.643	0.668	0.595	0.501	0.493	0.477
Bangladesh	0.237	0.434	0.476	0.326	0.444	0.426	0.437	0.328	0.528
Belarus	0.537	0.912	0.431	0.467	0.627	0.449	0.449	0.461	0.464
Belgium	0.73	0.866	0.476	0.877	0.771	0.693	0.804	0.770	0.767
Belize	0.287	0.702	0.605	0.409	0.572	0.430	0.538	0.424	0.560
Benin	0.443	0.254	0.379	0.214	0.428	0.493	0.445	0.480	0.607
Bolivia	0.314	0.714	0.558	0.276	0.531	0.499	0.475	0.332	0.535
Bosnia and Herzegovina	0.361	0.725	0.609	0.477	0.632	0.498	0.465	0.380	0.560
Botswana	0.334	0.701	0.374	0.298	0.589	0.507	0.681	0.595	0.711
Brazil	0.304	0.677	0.566	0.463	0.592	0.553	0.518	0.479	0.504
Bulgaria	0.451	0.863	0.599	0.693	0.720	0.566	0.612	0.510	0.559
Burkina Faso	0.371	0.225	0.475	0.113	0.381	0.423	0.416	0.429	0.630
Burundi	0.335	0.336	0.344	0.030	0.353	0.404	0.356	0.298	0.439
Cabo Verde	0.375	0.483	0.519	0.156	0.564	0.570	0.623	0.582	0.706
Cambodia	0.276	0.596	0.581	0.349	0.430	0.391	0.289	0.222	0.533
Cameroon	0.462	0.540	0.414	0.340	0.375	0.382	0.465	0.291	0.358
Canada	0.775	0.943	0.586	0.938	0.855	0.795	0.794	0.769	0.803
Central African Republic	0.375	0.314	0.322	0.064	0.277	0.319	0.331	0.245	0.382
Chad	0.307	0.215	0.395	0.052	0.256	0.306	0.394	0.259	0.397
Chile	0.528	0.829	0.566	0.791	0.724	0.612	0.664	0.672	0.645
China	0.567	0.711	0.566	0.746	0.646	0.626	0.525	0.531	0.434
Colombia	0.427	0.708	0.626	0.667	0.629	0.482	0.446	0.461	0.554
Comoros	0.361	0.427	0.596	0.053	0.410	0.442	0.297	0.280	0.479
Congo	0.398	0.592	0.388	0.121	0.368	0.375	0.413	0.302	0.370
Costa Rica	0.651	0.743	0.545	0.757	0.673	0.615	0.690	0.650	0.718
Croatia	0.412	0.811	0.499	0.756	0.797	0.598	0.587	0.578	0.641
Cuba	0.501	0.841	0.621	0.328	0.493	0.405	0.409	0.381	0.365
Cyprus	0.673	0.845	0.606	0.795	0.714	0.603	0.725	0.648	0.660
Czechia	0.592	0.919	0.575	0.778	0.819	0.711	0.667	0.642	0.780
Côte d'Ivoire	0.439	0.346	0.485	0.303	0.382	0.437	0.504	0.432	0.488
Democratic Republic of Congo	0.311	0.405	0.394	0.065	0.287	0.291	0.328	0.244	0.341
Denmark	0.79	0.883	0.673	0.910	0.840	0.805	0.806	0.867	0.868
Djibouti	0.316	0.379	0.467	0.150	0.497	0.434	0.480	0.368	0.513
Dominican Republic	0.382	0.719	0.574	0.632	0.654	0.521	0.519	0.417	0.590
Ecuador	0.416	0.698	0.532	0.458	0.558	0.500	0.434	0.444	0.574
Egypt	0.34	0.589	0.378	0.409	0.591	0.468	0.359	0.340	0.383
El Salvador	0.306	0.663	0.563	0.511	0.665	0.438	0.507	0.399	0.580
Equatorial Guinea	0.479	0.536	0.448	0.347	0.441	0.411	0.459	0.301	0.439
Eritrea	0.256	0.331	0.376	0.013	0.313	0.302	0.295	0.296	0.278
Estonia	0.635	0.911	0.590	0.827	0.865	0.709	0.743	0.782	0.807

country	KA	KD	KR	AA	AD	AR	PA	PD	PR
Eswatini	0.256	0.705	0.351	0.328	0.509	0.449	0.367	0.395	0.523
Ethiopia	0.354	0.362	0.546	0.066	0.342	0.388	0.498	0.413	0.461
Finland	0.802	0.884	0.565	0.888	0.869	0.829	0.881	0.855	0.849
France	0.661	0.872	0.564	0.869	0.806	0.696	0.730	0.720	0.765
Gabon	0.352	0.671	0.334	0.309	0.414	0.353	0.551	0.324	0.410
Georgia	0.383	0.891	0.583	0.647	0.633	0.634	0.696	0.560	0.638
Germany	0.734	0.884	0.585	0.919	0.817	0.752	0.876	0.806	0.844
Ghana	0.407	0.538	0.548	0.343	0.446	0.484	0.614	0.482	0.611
Greece	0.599	0.842	0.480	0.739	0.622	0.599	0.592	0.594	0.616
Guatemala	0.362	0.514	0.576	0.533	0.587	0.389	0.503	0.374	0.599
Guinea	0.289	0.235	0.513	0.167	0.417	0.413	0.428	0.331	0.386
Guinea-Bissau	0.284	0.248	0.459	0.019	0.322	0.383	0.387	0.330	0.507
Guyana	0.327	0.744	0.423	0.385	0.605	0.419	0.574	0.466	0.613
Haiti	0.203	0.480	0.541	0.147	0.310	0.302	0.288	0.234	0.442
Honduras	0.31	0.652	0.668	0.541	0.530	0.397	0.443	0.332	0.526
Hong Kong	0.784	0.826	0.471	0.669	0.864	0.797	0.770	0.739	0.664
Hungary	0.467	0.901	0.542	0.751	0.719	0.608	0.582	0.487	0.623
Iceland	0.816	0.864	0.647	0.910	0.801	0.754	0.886	0.793	0.819
India	0.41	0.463	0.533	0.489	0.571	0.532	0.651	0.533	0.553
Indonesia	0.48	0.631	0.890	0.540	0.573	0.520	0.514	0.455	0.628
Iran	0.323	0.667	0.436	0.531	0.397	0.418	0.468	0.343	0.330
Iraq	0.416	0.520	0.429	0.276	0.476	0.464	0.467	0.305	0.376
Ireland	0.776	0.887	0.595	0.858	0.799	0.776	0.802	0.756	0.789
Israel	0.718	0.909	0.557	0.735	0.799	0.672	0.682	0.718	0.615
Italy	0.641	0.859	0.515	0.824	0.705	0.647	0.603	0.628	0.691
Jamaica	0.46	0.817	0.578	0.435	0.622	0.493	0.566	0.566	0.621
Japan	0.613	0.918	0.453	0.971	0.873	0.722	0.794	0.753	0.756
Jordan	0.488	0.749	0.440	0.529	0.703	0.486	0.529	0.517	0.601
Kazakhstan	0.553	0.885	0.559	0.392	0.636	0.539	0.566	0.463	0.525
Kenya	0.473	0.674	0.607	0.271	0.470	0.461	0.514	0.427	0.477
Kuwait	0.443	0.741	0.500	0.455	0.659	0.563	0.584	0.494	0.602
Kyrgyzstan	0.373	0.839	0.633	0.252	0.658	0.489	0.476	0.386	0.578
Laos	0.503	0.474	0.562	0.318	0.462	0.409	0.450	0.350	0.571
Latvia	0.569	0.912	0.505	0.789	0.779	0.648	0.619	0.660	0.715
Lebanon	0.552	0.732	0.346	0.390	0.531	0.438	0.410	0.384	0.473
Lesotho	0.349	0.708	0.319	0.250	0.351	0.434	0.515	0.443	0.536
Liberia	0.308	0.371	0.536	0.075	0.358	0.393	0.492	0.380	0.430
Libya	0.386	0.504	0.488	0.206	0.391	0.358	0.388	0.246	0.385
Lithuania	0.543	0.892	0.450	0.752	0.800	0.607	0.668	0.662	0.727
Luxembourg	0.79	0.844	0.620	0.917	0.805	0.819	0.902	0.814	0.860
Madagascar	0.222	0.446	0.522	0.116	0.439	0.411	0.373	0.356	0.497
Malawi	0.326	0.512	0.371	0.092	0.456	0.387	0.505	0.431	0.572
Malaysia	0.765	0.778	0.621	0.751	0.724	0.599	0.632	0.588	0.609
Mali	0.341	0.181	0.502	0.124	0.392	0.393	0.435	0.357	0.539
Malta	0.632	0.775	0.585	0.833	0.775	0.693	0.806	0.662	0.787
Mauritania	0.18	0.421	0.555	0.073	0.262	0.343	0.420	0.282	0.430
Mauritius	0.469	0.710	0.616	0.607	0.664	0.626	0.647	0.615	0.712
Mexico	0.449	0.732	0.551	0.677	0.675	0.476	0.507	0.429	0.543
Moldova	0.392	0.879	0.558	0.523	0.633	0.576	0.521	0.432	0.521



country	KA	KD	KR	AA	AD	AR	PA	PD	PR
Mongolia	0.394	0.795	0.655	0.414	0.588	0.473	0.563	0.451	0.539
Montenegro	0.47	0.815	0.565	0.514	0.696	0.610	0.652	0.520	0.600
Morocco	0.368	0.362	0.355	0.523	0.625	0.474	0.557	0.531	0.538
Mozambique	0.247	0.222	0.410	0.289	0.373	0.395	0.447	0.363	0.485
Myanmar	0.373	0.554	0.832	0.338	0.442	0.373	0.381	0.367	0.437
Namibia	0.284	0.635	0.527	0.381	0.502	0.468	0.641	0.609	0.633
Nepal	0.306	0.363	0.492	0.108	0.448	0.452	0.572	0.421	0.616
Netherlands	0.819	0.898	0.637	0.900	0.835	0.761	0.850	0.817	0.869
New Zealand	0.701	0.898	0.667	0.796	0.852	0.806	0.850	0.810	0.822
Nicaragua	0.226	0.590	0.589	0.496	0.502	0.441	0.494	0.260	0.509
Niger	0.307	0.141	0.463	0.068	0.371	0.433	0.490	0.367	0.562
Nigeria	0.283	0.472	0.657	0.153	0.410	0.398	0.413	0.357	0.437
North Macedonia	0.355	0.799	0.634	0.519	0.669	0.563	0.551	0.456	0.568
Norway	0.781	0.952	0.642	0.812	0.822	0.842	0.910	0.876	0.867
Oman	0.505	0.549	0.564	0.529	0.636	0.549	0.574	0.567	0.575
Pakistan	0.362	0.376	0.450	0.298	0.453	0.415	0.455	0.389	0.448
Panama	0.419	0.782	0.634	0.664	0.700	0.510	0.562	0.476	0.636
Papua New Guinea	0.319	0.452	0.584	0.170	0.401	0.414	0.462	0.392	0.559
Paraguay	0.247	0.721	0.627	0.313	0.627	0.483	0.453	0.390	0.549
Peru	0.328	0.764	0.577	0.633	0.599	0.520	0.592	0.480	0.603
Philippines	0.599	0.772	0.630	0.510	0.592	0.525	0.529	0.442	0.625
Poland	0.522	0.910	0.615	0.787	0.759	0.669	0.677	0.601	0.644
Portugal	0.592	0.724	0.442	0.780	0.774	0.725	0.746	0.708	0.779
Qatar	0.691	0.644	0.599	0.450	0.732	0.648	0.661	0.550	0.619
Romania	0.39	0.886	0.588	0.669	0.707	0.607	0.535	0.575	0.666
Russia	0.553	0.911	0.526	0.478	0.654	0.497	0.538	0.421	0.404
Rwanda	0.482	0.396	0.420	0.128	0.594	0.553	0.615	0.580	0.559
Saudi Arabia	0.592	0.671	0.511	0.472	0.658	0.605	0.566	0.513	0.475
Senegal	0.448	0.398	0.564	0.206	0.526	0.488	0.578	0.510	0.586
Serbia	0.461	0.819	0.608	0.611	0.718	0.545	0.515	0.454	0.602
Seychelles	0.486	0.777	0.624	0.483	0.649	0.540	0.574	0.598	0.659
Sierra Leone	0.251	0.230	0.460	0.066	0.325	0.451	0.458	0.401	0.497
Singapore	0.92	0.815	0.584	0.931	0.837	0.778	0.781	0.800	0.743
Slovakia	0.46	0.887	0.600	0.767	0.787	0.636	0.681	0.604	0.685
Slovenia	0.575	0.911	0.572	0.816	0.806	0.717	0.699	0.653	0.748
Somalia	0.27	0.302	0.516	0.081	0.323	0.384	0.350	0.253	0.431
South Africa	0.38	0.773	0.498	0.425	0.647	0.507	0.613	0.531	0.614
South Korea	0.708	0.891	0.480	0.977	0.741	0.620	0.695	0.708	0.698
South Sudan	0.271	0.201	0.432	0.031	0.233	0.298	0.256	0.215	0.246
Spain	0.614	0.836	0.519	0.830	0.803	0.751	0.735	0.691	0.739
Sri Lanka	0.439	0.783	0.558	0.447	0.528	0.480	0.521	0.479	0.593
Sudan	0.297	0.359	0.446	0.216	0.317	0.324	0.361	0.327	0.337
Suriname	0.441	0.674	0.469	0.331	0.609	0.452	0.497	0.439	0.681
Sweden	0.795	0.920	0.572	0.907	0.818	0.812	0.799	0.811	0.843
Switzerland	0.876	0.820	0.605	0.898	0.863	0.797	0.876	0.820	0.881
Syria	0.304	0.630	0.371	0.222	0.392	0.349	0.330	0.268	0.187
São Tomé and Príncipe	0.46	0.511	0.563	0.123	0.468	0.450	0.485	0.495	0.631
Taiwan, China	0.7	0.872	0.588	0.489	0.836	0.718	0.702	0.744	0.741
Tajikistan	0.396	0.812	0.667	0.202	0.553	0.514	0.501	0.363	0.540



country	KA	KD	KR	AA	AD	AR	PA	PD	PR
Tanzania	0.47	0.599	0.510	0.200	0.427	0.426	0.593	0.521	0.585
Thailand	0.498	0.667	0.643	0.646	0.664	0.550	0.482	0.439	0.497
The Gambia	0.413	0.262	0.559	0.043	0.442	0.472	0.583	0.501	0.557
Togo	0.326	0.397	0.390	0.130	0.361	0.384	0.450	0.331	0.434
Trinidad and Tobago	0.414	0.862	0.613	0.584	0.635	0.472	0.616	0.550	0.620
Tunisia	0.418	0.597	0.348	0.396	0.532	0.502	0.603	0.526	0.502
Turkey	0.341	0.626	0.552	0.553	0.624	0.551	0.450	0.382	0.457
Turkmenistan	0.5	0.868	0.656	0.125	0.513	0.480	0.308	0.315	0.448
Uganda	0.354	0.559	0.374	0.163	0.465	0.391	0.536	0.368	0.482
Ukraine	0.494	0.903	0.529	0.558	0.638	0.524	0.563	0.421	0.492
United Arab Emirates	0.659	0.799	0.612	0.498	0.706	0.710	0.703	0.664	0.603
United Kingdom	0.805	0.878	0.620	0.885	0.834	0.761	0.783	0.745	0.810
United States	0.694	0.934	0.556	0.937	0.800	0.764	0.797	0.714	0.731
Uruguay	0.567	0.792	0.559	0.425	0.679	0.665	0.635	0.712	0.763
Uzbekistan	0.398	0.814	0.640	0.254	0.562	0.525	0.484	0.391	0.526
Venezuela	0.384	0.714	0.581	0.357	0.464	0.286	0.196	0.163	0.242
Vietnam	0.509	0.671	0.668	0.637	0.591	0.528	0.408	0.435	0.510
Yemen	0.279	0.243	0.371	0.098	0.306	0.262	0.268	0.207	0.245
Zambia	0.359	0.613	0.501	0.116	0.448	0.482	0.561	0.430	0.478
Zimbabwe	0.4	0.736	0.444	0.338	0.302	0.351	0.329	0.284	0.461



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