

Distinguishing Countries on the Basis of Modified HDI

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Abstract

The well-known Human Development Index (HDI) encompasses only three rather basic aspects of human welfare. However, development goes beyond these factors and therefore this research paper extends to the effect of new dimensions namely political and cultural freedom, control of corruption, electric power consumption, leisure conditions measured by number of mobile cellular subscriptions, quality of life and wellbeing measured by improved water resources and sanitation facilities and population growth that can be incorporated into HDI for better express progress in development. This paper explores the relationship between these factors of human well-being and distinguishes 122 countries between low HDI and high HDI. The primary reason of inclusion of additional factors is to provide a holistic measure of progress of countries and thus, yielding a more precise conclusion of their development status.

Keywords: HDI, Development, Country

Introduction

United Nations Development Programme (UNDP) publishes the human development report as a metric to assess the social and economic development levels of countries. This index makes it possible to follow changes in the development levels over time and to compare the development levels of different countries. The Human Development Index (HDI) summarizes major components like a long and healthy life, being knowledgeable and have a good standard of living.

HDI was established to place emphasis on individuals, more precisely on their opportunities to realize satisfying work and lives. Evaluating a country's potential for individual human development provides a supplementary metric for evaluating a country's level of development besides considering standard economic growth statistics, such as gross domestic product (GDP). This index can also be used to examine the various policy choices of nations; if, for example, two

countries have approximately the same gross national income (GNI) per capita, then it can help to evaluate why they produce widely disparate human development outcomes.

The variables used by UNDP for calculating are as follows:

- **Life expectancy at birth:** Number of years a newborn infant could expect to live if prevailing patterns of age-specific mortality rates at the time of birth stay the same throughout the infant's life.
- **Mean years of schooling:** Average number of years of education received by people ages 25 and older, converted from education attainment levels using official durations of each level.
- **Expected years of schooling:** Number of years of schooling that a child of school entrance age can expect to receive if prevailing patterns of age-specific enrolment rates persist throughout the child's life.
- **Gross national income (GNI) per capita:** Aggregate income of an economy generated by its production and its ownership of factors of production, less the incomes paid for

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the use of factors of production owned by rest of the world, converted to international dollars.

Modified HDI

However, this research paper introduces and incorporates the effects of the following additional measures

- **Political and Cultural Freedom:** As per UNDP idea of development “Freedom is more than an idealistic goal—it is a vital component of human development”. Sen (2000) states that democracy encourages a society to prioritize, what it aims to do and UNDP (2002) sees it not only as a value but also a means with which to achieve development. For this the data has been taken from Freedom House by the U.S.-based non-governmental organization which a yearly survey and report Freedom in the World that measures the of civil degree liberties and political rights in every nation. Each country and territory is assigned between 0 and 4 points on a series of 25 indicators, for an aggregate score of up to 100. These scores are used to determine two numerical ratings, for political rights and civil liberties, with a rating of 1 representing the most free conditions and 7 the least free.
- **Control on Corruption:** Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as “capture” of the state by elites and private interests.
- **Electric power consumption (kWh per capita):** Energy is deeply implicated in each of the economic, social and environmental dimensions of human development. Energy services provide an essential input to economic activity. They contribute to social development through education and public health and help meet the basic human need for food and shelter. Modern energy services can improve the environment, for example by reducing the pollution caused by inefficient equipment and processes and by slowing deforestation. But, rising energy use can also worsen pollution, and mismanagement of energy resources can harm ecosystems. The

relationships between energy use and human development are extremely complex.

Mobile Cellular Subscriptions (per 100 people): Mobile cellular subscriptions reflect the degree of leisure conditions and advancement in the country and is thus a measurement of development.

- **Percentage of population with access to Improved Water Source and improved Sanitation Facilities** is a measure of quality of life and wellbeing of the citizens and thus reflects development of the country.
- **Population Growth (annual %):** More people could mean more mouths to feed, more health care and education services to provide, and so forth. Also, more population for a country rich in resources could also mean greater economic development. After all, the more people you have, the more work is done, and more value is created. Thus, the effect of population on the development of countries can be mixed.

Literature Review

We have taken reference for the factors and data used in our research from a few already published reports including: A proposal for a modified Human Development Index by María Andreina Salas-Bourgoin (1990), Global Energy Futures and Human Development: A Framework for Analysis by Alan D. Pasternak (2000) and Human Development: Beyond the Human Development Index by Ranis,, Stewart & Amman (2006). This paper introduces two new factors for the measurement of HDI of countries namely employment and political freedom in terms (i) employment-to-population ratio; (ii) non-vulnerable employment as a share of total employment, and (iii) the Democracy Index, with an aim to make HDI better able to serve as a proxy for progress in human development. These factors create and expand opportunities and choices. There is an acknowledged correlation between these indicators and human development. It also explains and calculates modified HDI for 117 countries. The modified HDI indicates that the countries with overall high HDI suffers in terms of employment, while developing countries lag behind in the quality of employment. It also revealed that modified HDI scores of countries like Russian

Federation and the Bolivarian Republic of Venezuela, with restricted political freedom decline. Alan D. Pasternak (2000) worked on the relationship between measures of human well-being and consumption of energy and electricity. A correlation is shown between the United Nations' Human Development Index (HDI) and annual per-capita electricity consumption for 60 populous countries comprising 90% of the world's population. Inter-country comparisons show that incomes rise with electricity use beyond the annual 4,000 kWh per-capita level. These additional incomes can contribute to higher standard of living. It concludes that neither the Human Development Index nor the Gross Domestic Product of developing countries will increase without an increase in an electricity use. Ranis, Stewart & Samman (2006) identifies 11 new aspects of Human development. 8 indicators were found that were highly correlated to HDI. Of these indicators is number of Telephone/Cell phone subscribers, an indicator of leisure conditions and technological advancements. Another factor used is Corruption Index, which is the misuse of public power for private benefits and hinder the outreach of benefits and policies to the target segment of societies.

Research Methodology

• Model Specification

Model specification is based on the available literature and theory. Such literature summarized in the review of literature helped us to identify independent, dependent and the relationship between them. In our analysis we tried to estimate the effect of factors like political and cultural freedom, control of corruption, electric power consumption, mobile cellular subscriptions, improved water resources and sanitation facilities and population growth in distinguishing countries between low HDI countries and high HDI countries.

• Gathering of data

Data was gathered from (i) HDI report by UN Development Programme report (ii) Freedom House report (iii) World Bank. It is acrossectional data of various determinants of HDI across 122 countries of the world.

• Execution of Model- Choosing appropriate econometric techniques

First, new measures affecting HDI are explained, besides the basic variables, life expectancy at birth, mean years of schooling, expected years of schooling and GNI per capita and then proceeded to determine appropriate econometric techniques that could group countries into clusters with similar characteristics on the basis of the variables chosen. Cluster analysis divided the countries into two clusters (High HDI and Low HDI) with respect to 11 factors used in our analysis and then used discriminant analysis to check the accuracy of classification.

• Interpreting the results

We interpreted the results of cluster using the ANOVA table, cluster membership table and discriminant analysis with the help Test of Equality Group Means table, Pooled Within-Group Matrices table, Eigen values, Wilks lambda and classification results at a significance level of 5%. The results were significant at the said level, thus analysis, the additional factors introduced and the clusters formed are plausible.

Analysis

Table 1: Cluster Analysis

Initial Cluster Centers	Cluster	
	1	2
Life Expectancy at Birth	78.3230	61.9360
Expected Years of Schooling	13.4061	5.4227
Mean Years of Schooling	9.7646	1.6580
GNI per capita	129915.6009	889.4556
Freedom Rating	6	4
Control on Corruption	.8915	-.6416
Electric Power Consumption	15309.4300	51.4408
Mobile Cellular Subscriptions	159.1317	46.4959
Improved Water Source	100	58
Improved Sanitation Facilities	98	11
Population Growth	4.4126	3.8358

Source: Author's own creation

This table shows that the cluster center for life expectancy at birth is greater for cluster 1 than cluster 2. Similarly, the cluster center for expected years of schooling lies around 13.40 for cluster 1 while its 5.42

for cluster 2 implying that citizens belonging to countries in cluster 1 are expected to receive more years of schooling.

Table 2: Cluster Membership

Case Number	Countries	Cluster	Distance
1	Norway	1	20316.978
2	Australia	1	7954.176
3	Switzerland	1	7331.296
4	Germany	1	7430.187
5	Denmark	1	8590.235
6	Singapore	1	27794.309
7	Netherlands	1	6749.407
8	Ireland	1	9203.161
9	Iceland	1	43969.546
10	Canada	1	8723.682
11	United States	1	2881.163
12	Sweden	1	4549.028
13	United Kingdom	1	14354.870
14	Japan	1	13914.112
15	Israel	2	19482.291
16	Luxembourg	1	12081.010
17	France	1	13441.738
18	Belgium	1	10235.886
19	Finland	1	12126.443
20	Austria	1	7824.346
21	Slovenia	2	17042.413
22	Italy	1	18350.919
23	Spain	1	18961.715
24	Czech Republic	2	16418.486
25	Greece	2	12893.199
26	Estonia	2	14838.493
27	Cyprus	2	17275.691
28	Malta	2	17487.733
29	Qatar	1	79439.935
30	Poland	2	12009.309
31	Lithuania	2	13861.265
32	Chile	2	9581.725
33	Saudi Arabia	1	2652.135

(Contd...)

34	Portugal	2	14082.555
35	United Arab Emirates	1	15674.333
36	Hungary	2	11294.454
37	Latvia	2	10431.419
38	Argentina	2	8745.755
39	Croatia	2	8194.877
40	Bahrain	1	15332.187
41	Montenegro	2	4002.951
42	Romania	2	7195.107
43	Kuwait	1	25733.675
44	Belarus	2	3709.525
45	Oman	1	17030.950
46	Uruguay	2	6962.498
47	Bulgaria	2	4755.991
48	Kazakhstan	2	10431.176
49	Bahamas	2	9320.214
50	Malaysia	2	12611.990
51	Panama	2	7226.215
52	Mauritius	2	5703.180
53	Trinidad and Tobago	2	16567.950
54	Costa Rica	2	1773.765
55	Serbia	2	2110.588
56	Cuba	2	4845.596
57	Iran (Islamic Republic of)	2	4364.311
58	Georgia	2	3429.887
59	Turkey	2	6496.698
60	Sri Lanka	2	2186.114
61	Albania	2	1998.059
62	Lebanon	2	1293.327
63	Mexico	2	4138.893
64	Azerbaijan	2	4168.551
65	Brazil	2	1950.489
66	Bosnia and Herzegovina	2	2467.977
67	The former Yugoslav Republic of Macedonia	2	413.061
68	Algeria	2	1519.247
69	Armenia	2	4060.610
70	Ukraine	2	5043.211
71	Jordan	2	2152.315
72	Peru	2	1277.683

(Contd...)

73	Thailand	2	2305.352
74	Ecuador	2	1879.185
75	China	2	2080.350
76	Mongolia	2	1801.754
77	Jamaica	2	4048.984
78	Colombia	2	1014.091
79	Suriname	2	4049.416
80	Tunisia	2	2121.617
81	Dominican Republic	2	776.654
82	Moldova (Republic of)	2	7260.223
83	Botswana	2	2453.631
84	Gabon	2	6870.441
85	Paraguay	2	4107.098
86	Egypt	2	2316.810
87	Indonesia	2	2574.074
88	Philippines	2	4118.305
89	El Salvador	2	4675.718
90	Bolivia (Plurinational State of)	2	6251.014
91	South Africa	2	2073.836
92	Iraq	2	1067.435
93	Morocco	2	5205.019
94	Nicaragua	2	7663.169
95	Guatemala	2	5418.411
96	Namibia	2	2541.816
97	Micronesia (Federated States of)	2	8953.796
98	Tajikistan	2	9668.484
99	Honduras	2	7927.980
100	India	2	6719.911
101	Bangladesh	2	9093.959
102	Ghana	2	8598.526
103	Zambia	2	8901.050
104	Cambodia	2	9342.943
105	Nepal	2	10112.266
106	Myanmar	2	7556.515
107	Kenya	2	9574.549
108	Pakistan	2	7409.398
109	Angola	2	6235.027
110	Tanzania (United Republic of)	2	9993.505
111	Nigeria	2	7095.125

(Contd...)

112	Cameroon	2	9538.146
113	Zimbabwe	2	10780.470
114	Senegal	2	10181.063
115	Haiti	2	10798.934
116	Togo	2	11165.303
117	Benin	2	10470.826
118	Gambia	2	10749.860
119	Ethiopia	2	10924.541
120	Mozambique	2	11275.531
121	South Sudan	2	10578.089
122	Niger	2	11550.317

Source: Author's own creation

Cluster analysis has divided 122 countries into two main groups and that are country with high Human Development Index and country with low Human

Development Index. The country which is in cluster one are high HDI country and the country in cluster 2 are low HDI country. As per the analysis 27 countries have High HDI and 95 have low HDI

Table 3: ANOVA

	Cluster		Error		F	Sig.
	Mean Square	Df	Mean Square	Df		
Life Expectancy at Birth	1806	1	39	120	46	.000
Expected Years of Schooling	235	1	6	120	42	.000
Mean Years of Schooling	190	1	6	120	30	.000
GNI per capita	30841593827	1	142994497	120	216	.000
Freedom Rating	27	1	3	120	9	.004
Control on Corruption	64	1	0	120	135	.000
Electric Power Consumption	2026852961	1	22532759	120	90	.000
Mobile Cellular Subscriptions	10002	1	971	120	10	.002
Improved Water Source	2298	1	137	120	17	.000
Improved Sanitation Facilities	13639	1	546	120	25	.000
Population Growth	0.352	1	1.551	120	0.227	.635

Source: Author's own creation

According to the ANOVA table, life expectancy at birth, expected year of schooling, GNI per capita, mean year of schooling, improvement sanitation facilities, improved water source, electric power consumption, control on corruption, are less than

0.005, they are significant. Population growth is more than 0.005 that is why it is insignificant. Hence it is ideal to segregate the respondents of these variables into different groups.

Table 4: Discriminant Analysis

Group Statistics					
Cluster Number of Case		Mean	Std. Deviation	Valid N (list wise)	
				Unweight	Weighted
HIGH HDI	Life Expectancy at Birth	81	3	27	27
	Expected years of schooling	16	2	27	27
	Mean Years of Schooling	11	2	27	27
	GNI per capita	50545	20278	27	27
	Freedom Rating	2	2	27	27
	Control on Corruption	1	1	27	27
	Electric Power Consumption	11980	9598	27	27
	Mobile Cellular Subscriptions	134	27	27	27
	Improved Water Source	99	1	27	27
	Improved Sanitation Facilities	99	2	27	27
	Population Growth	1	1	27	27
LOW HDI	Life Expectancy at Birth	71	7	95	95
	Expected Years of Schooling	13	2	95	95
	Mean Years of Schooling	8	3	95	95
	GNI per capita	12245	8295	95	95
	Freedom Rating	3	2	95	95
	Control on Corruption	0	1	95	95
	Electric Power Consumption	2162	1813	95	95
	Mobile Cellular Subscriptions	112	32	95	95
	Improved Water Source	89	13	95	95
	Improved Sanitation Facilities	73	26	95	95
	Population Growth	1	1	95	95
TOTAL	Life Expectancy at Birth	73	7	122	122
	Expected Years of Schooling	14	3	122	122
	Mean Years of Schooling	9	3	122	122
	GNI per capita	20721	19917	122	122
	Freedom Rating	3	2	122	122
	Control on Corruption	0	1	122	122
	Electric Power Consumption	4335	6253	122	122
	Mobile Cellular Subscriptions	117	32	122	122
	Improved Water Source	91	12	122	122
	Improved Sanitation Facilities	79	26	122	122
	Population Growth	1	1	122	122

Source: Author's own creation

It can be interpreted from the table that the mean life expectancy at birth, years of schooling, expected years of schooling, gross national income per capita, control on corruption, electric power consumption, mobile cellular subscriptions, percentage of population with access to improved water source and improved

sanitation facilities, population growth of cluster 1 is greater than the mean of that of cluster 2. Also the political and cultural freedom rating of cluster 1 is higher (2.2037) representing that degree of civil liberties and political rights is higher for cluster 1 than for cluster 2.

Table 5: Tests of Equality of Group Means

	Wilks' Lambda	F	df1	df2	Sig.
Life Expectancy at Birth	.724	46	1	120	.000
Expected Years of Schooling	.740	42	1	120	.000
Mean Years of Schooling	.800	30	1	120	.000
GNI per capita	.357	216	1	120	.000
Freedom Rating	.934	9	1	120	.004
Control on Corruption	.470	135	1	120	.000
Electric Power Consumption	.572	90	1	120	.000
Mobile Cellular Subscriptions	.921	10	1	120	.002
Improved Water Source	.877	17	1	120	.000
Improved Sanitation Facilities	.828	25	1	120	.000
Population Growth	.998	.227	1	120	.635

Source: Author's own creation

As we can see the p value of all the variables except population growth are less than 0.005. Therefore, there is a significant mean difference between high and low HDI, with respect to all the variables. The null hypothesis of equality of group means among high and low HDI is rejected.

Table 6: Pooled Within-Groups Matrices

Pooled Within-Groups Matrices												
	Life Expectancy at Birth	Expected Years of Schooling	Mean Years of Schooling	GNI per capita	Freedom Rating	Control on Corruption	Electric Power Consumption	Mobile Cellular Subscribers	Improved Water Source	Improve Sanitation Facilities	Population Growth	
Correlation	Life Expectancy at Birth	1.000	.698	.627	.355	-.408	.510	.192	.292	.739	.808	-.585
	Expected Years of Schooling	.698	1.000	.756	.304	-.535	.569	.268	.356	.652	.701	-.639
	Mean Years of Schooling	.627	.756	1.000	.369	-.396	.519	.245	.345	.634	.725	-.620
	GNI per capita	.355	.304	.369	1.000	-.057	.323	.241	.406	.391	.424	-.073
	Freedom Rating	-.408	-.535	-.396	-.057	1.000	-.660	-.108	-.087	-.335	-.208	.492
	Control on Corruption	.510	.569	.519	.323	-.660	1.000	.235	.245	.471	.379	-.434
	Electric Power Consumption	.192	.268	.245	.241	-.108	.235	1.000	.142	.216	.233	-.115
	Mobile Cellular Subscriptions	.292	.356	.345	.406	-.087	.245	.142	1.000	.561	.445	-.137
	Improved Water Source	.739	.652	.634	.391	-.335	.471	.216	.561	1.000	.776	-.553
	Improved Sanitation Facilities	.808	.701	.725	.424	-.208	.379	.233	.445	.776	1.000	-.549
	Population Growth	-.585	-.639	-.620	-.073	.492	-.434	-.115	-.137	-.553	-.549	1.000

Source: Author's own creation

The diagonal from top left to bottom right is equal to 1 (because a variable will always be perfectly correlated with itself). Also, there exist no perfect correlation between any two factors.

Table 6: Eigen values

Function	Eigen Value	% of Variance	Cumulative %	Canonical Correlation
1	3.001 ^a	100.0	100.0	.866

Source: Author's own creation

The Eigen values explain the discriminating ability of a function. An Eigen value of greater than 1 expected as it would imply that the predictor variables have good discriminating power and the model is significant overall. It is simply the ratio of explained variation to unexplained variation. Therefore, a higher degree of explained variation in the sample used is expected. The larger the Eigen value the more variance the function explains in the dependent variable value of 3.001 is high and shows canonical correlation of 0.866, which measures the linkage between discriminant scores.

Table 7: Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	Df	Sig.
1	.250	158.756	11	.000

Source: Author's own creation

Results of Wilk's Lambda show how well prediction model fits in. It is significant and tests whether or not there are equal variances among groups. If this value is greater than 0.001 then it can be interpreted that there is equal group variance. Although, the null hypothesis is rejected for equal group variance, still analysis is proceeded with caution.

Table 8: Canonical Discriminant Function

Canonical Discriminant Function	
	Function 1
LifeExpectancyatBirth	.045
ExpectedYearsofSchooling	.102
MeanYearsofSchooling	-.037
GNI per capita	.000
FreedomRating	.156
ControlonCorruption	.889
ElectricPowerConsumption	.000
MobileCellularSubscriptions	-.004
ImprovedWaterSource	-.019
ImprovedSanitationFacilities	-.009
PopulationGrowth	.189
(Constant)	-3.499

Source: Author's own creation

This table shows the relative importance of our predictor variables. These are unstandardized discriminant functions, which shall be used in the final equation. In this case, control on corruption has the highest relative value.

Table 9: Functions at Group Centroids

Cluster Number of Case	Function
	1
HIGH HDI	3.223
LOW HDI	-.916

Source: Author's own creation

The functions at group centroids are the mean discriminant functions scores for each group. It's good when predicted group membership is accurate. In this case it is 94.4% and relatively higher and indicates there are few false negatives. This means that 94.4% of the groups were correctly classified.

Table 10: Classification Results

		Cluster Number of Case	Predicted Group Membership		Total
			HIGH HDI	LOW HDI	
Original	Count	HIGH HDI	25	2	27
		LOW HDI	1	94	95
	%	HIGH HDI	92.6	7.4	100.0
		LOW HDI	1.1	98.9	100.0

Source: Author's own creation

As it can be seen, 92.6% of high HDI are classified correctly as high HDI and 98.9% low HDI are classified correctly as low. HDI. Therefore, overall 97.5% countries are classified correctly.

Conclusion

The addition of new measures, namely, political and cultural freedom, control of corruption, electric power consumption, leisure conditions measured by number of mobile cellular subscriptions, quality of life and wellbeing measured by improved water resources and sanitation facilities and population growth in defining HDI is an attempt to make the HDI better able to serve as a proxy for progress in human development.

In this study used two techniques have been used-cluster analysis and discriminant analysis. Cluster

analysis helped in grouping the countries into High HDI and Low HDI with respect to the above stated 7 factors besides the basic factors. At a significance level of 0.5 percent, we found that all the factors, except population are significant in determining the clusters. Cluster 1 represented countries with high HDI and Cluster 2 represented countries with low HDI. The analysis has grouped 27 countries as High HDI and 95 as low HDI. Further, to check whether the clusters formed are significantly different from each other or not and to evaluate the accuracy of classification, discriminant analysis was run. The classification results indicate 97.5% accuracy thus, evidencing that the factors used in discriminating the countries as low and high HDI as well as the clusters found are plausible. We can conclude that the inclusion of additional factors can provide a holistic measure of progress of countries and thus yielding a more precise conclusion of their development status.

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APPENDIX

Country	HDI	Life Expectancy at Birth (years)	Expected Years of Schooling (years)	Mean Years of Schooling (years)	Gross National Income (GNI) Per Capita	HDI Rank	Freedom Rating	Control on Corruption	Electric Power Consumption (kWh per capita)	Mobile Cellular Subscriptions (per 100 people)	Improved Water Source (% of population with access)	Improved Sanitation Facilities (% of population with access)	Population Growth Annual %	Clusters	Discriminant Results
Norway	0.9494	81.711	17.6719	12.7464	67614.3535	1	1	2.2428	22999.93	111.1232	100	98	0.9951	HIGH HDI	HIGH HDI
Australia	0.9387	82.537	20.4327	13.1751	42822.1963	3	1	1.8821	10077.83	107.7201	100	100	1.3911	HIGH HDI	HIGH HDI
Switzerland	0.9391	83.133	16.0404	13.37	56363.9578	2	1	2.1364	7520.166	136.4697	100	100	1.1383	HIGH HDI	HIGH HDI
Germany	0.9257	81.092	17.0959	13.1876	44999.6471	4	1	1.8379	7035.483	116.7123	100	99	0.8657	HIGH HDI	HIGH HDI
Denmark	0.9246	80.412	19.1888	12.7002	44518.924	6	1	2.211	5858.802	125.037	100	100	0.7064	HIGH HDI	HIGH HDI
Singapore	0.9249	83.209	15.4	11.5724	78162.3239	4	4	2.0927	8844.688	146.526	100	100	1.1864	HIGH HDI	HIGH HDI
Netherlands	0.9243	81.706	18.1165	11.9141	46325.5766	6	1	1.8843	6712.775	123.5384	100	98	0.4432	HIGH HDI	HIGH HDI
Ireland	0.9227	81.052	18.5792	12.314	43797.9681	8	1	1.6154	5721.835	103.7055	98	91	1.2828	HIGH HDI	HIGH HDI
Iceland	0.9211	82.724	18.9942	12.1909	37065.2145	9	1	1.9391	5383.248	114.0146	100	99	1.0419	HIGH HDI	HIGH HDI
Canada	0.9203	82.224	16.325	13.1051	42581.9143	9	1	1.8866	15541.5	82.9772	100	100	0.8518	HIGH HDI	HIGH HDI
United States	0.9196	79.222	16.5382	13.2179	53245.077	11	1	1.3969	12986.74	117.5867	99	100	0.7297	HIGH HDI	HIGH HDI
Sweden	0.9127	82.347	16.0555	12.2737	46250.7938	15	1	2.2411	13480.15	130.3794	100	99	1.0575	HIGH HDI	HIGH HDI
United Kingdom	0.9095	80.849	16.3109	13.2841	37930.827	16	1	1.8763	5129.528	124.1322	100	99	0.795	HIGH HDI	HIGH HDI
Japan	0.9035	83.684	15.3405	12.464	37267.9641	17	1	1.5692	7819.715	126.5422	100	100	-0.1061	HIGH HDI	HIGH HDI
Israel	0.8989	82.561	15.998	12.7619	31214.7148	19	2	0.943	6600.898	133.4676	100	100	1.9813	LOW HDI	HIGH HDI
Luxembourg	0.8985	81.881	13.8637	11.9508	62470.3913	20	1	2.0967	13914.68	148.5106	100	98	2.36	HIGH HDI	HIGH HDI
France	0.8974	82.359	16.2651	11.6252	38085.4003	22	1	1.3057	6937.863	102.6132	100	99	0.4394	HIGH HDI	HIGH HDI
Belgium	0.8955	80.984	16.6353	11.381	41243.3138	21	1	1.5733	7709.123	114.2236	100	100	0.5794	HIGH HDI	HIGH HDI
Finland	0.8945	81.006	17.0479	11.194	38868.1355	23	1	2.2753	15249.99	135.4469	100	98	0.3294	HIGH HDI	HIGH HDI
Austria	0.8934	81.583	15.9122	11.334	43608.8239	24	1	1.5193	8360.519	157.4083	100	100	1.0666	HIGH HDI	HIGH HDI
Slovenia	0.8903	80.575	17.3483	12.1219	28664.2115	25	1	0.773	6727.999	113.2193	100	99	0.0752	LOW HDI	LOW HDI
Italy	0.8866	83.338	16.2583	10.8688	33572.9825	27	1	0.0163	5002.407	143.4217	100	100	-0.0964	HIGH HDI	LOW HDI
Spain	0.8842	82.767	17.7003	9.7908	32778.5151	26	1	0.5839	5355.987	108.1966	100	100	-0.0714	HIGH HDI	LOW HDI
Czech Republic	0.8778	78.775	16.814	12.3323	28143.9776	28	1	0.4337	6258.891	115.5656	100	99	0.1966	LOW HDI	LOW HDI
Greece	0.8659	81.071	17.2175	10.5395	24807.3339	29	2	-0.0766	5062.606	112.9502	100	99	-0.6589	LOW HDI	LOW HDI
Estonia	0.8651	77.012	16.5028	12.5474	26361.8939	31	1	1.2936	6732.367	148.6881	100	97	0.0656	LOW HDI	LOW HDI
Cyprus	0.8556	80.332	14.2561	11.6952	29458.8227	34	1	1.0074	3624.896	131.7902	100	100	0.7501	LOW HDI	LOW HDI
Malta	0.8559	80.726	14.5946	11.2713	29499.5602	35	1	0.9004	5007.441	121.5477	100	100	1.0498	LOW HDI	LOW HDI
Qatar	0.8555	78.323	13.4061	9.7646	129915.6009	33	6	0.8915	15309.43	159.1317	100	98	4.4126	HIGH HDI	HIGH HDI
Poland	0.8552	77.62	16.3739	11.9029	24116.9922	36	1	0.6695	3971.8	142.687	98	97	-0.0666	LOW HDI	LOW HDI
Lithuania	0.8481	73.495	16.5231	12.7021	26006.4776	37	1	0.6177	3821.145	139.5164	97	92	-0.9408	LOW HDI	LOW HDI
Chile	0.8466	81.956	16.3356	9.8965	21665.458	38	1	1.28	3911.649	129.4704	99	99	0.8417	LOW HDI	LOW HDI
Saudi Arabia	0.8466	74.444	16.1123	9.6275	51320.1132	38	7	0.0521	9444.216	176.5888	97	100	2.5041	HIGH HDI	HIGH HDI
Portugal	0.8427	81.183	16.5658	8.8825	26103.6293	41	1	0.9647	4662.601	110.4117	100	100	-0.4141	LOW HDI	LOW HDI

United Arab Emirates	0.8398	77.119	13.33	9.5	66203.2998	42	6	1.0719	11263.53	187.348	100	98	0.9156	HIGH HDI	HIGH HDI
Hungary	0.8362	75.313	15.8952	12.02	23394.3242	43	2	0.1486	39665.958	118.9117	100	98	-0.2379	LOW HDI	LOW HDI
Latvia	0.8299	74.342	15.9741	11.7364	22589.1736	44	2	0.4682	3507.405	127.5007	99	88	-0.8186	LOW HDI	LOW HDI
Argentina	0.8274	76.457	17.2605	9.85	20945.1211	45	2	-0.547	3052.382	146.7018	99	96	1.0099	LOW HDI	LOW HDI
Croatia	0.8274	77.495	15.2596	11.2222	20291.3437	46	2	0.2452	3714.383	103.7667	100	97	-0.8241	LOW HDI	LOW HDI
Bahrain	0.8239	76.715	14.5	9.419	37236.363	46	7	0.1389	19592.23	185.262	100	99	2.6187	HIGH HDI	HIGH HDI
Montenegro	0.8072	76.401	15.1337	11.2872	15409.6051	49	3	-0.1318	4612.341	162.1559	100	96	0.0561	LOW HDI	LOW HDI
Romania	0.8024	74.837	14.735	10.7998	19427.6093	51	2	-0.0176	2584.412	107.1402	100	79	-0.4707	LOW HDI	LOW HDI
Kuwait	0.8002	74.549	13.26	7.2654	76075.2074	50	5	-0.2251	15213.42	163.1505	99	100	3.9741	HIGH HDI	HIGH HDI
Belarus	0.7958	71.464	15.6602	11.9768	15629.447	51	7	-0.335	3679.979	123.636	100	94	0.1593	LOW HDI	LOW HDI
Oman	0.7958	76.97	13.7409	8.1	34402.2755	53	6	0.2689	6553.52	159.8606	93	97	5.8562	HIGH HDI	HIGH HDI
Uruguay	0.7948	77.351	15.5119	8.5791	19148.0563	54	1	1.3168	3067.951	150.597	100	96	0.3505	LOW HDI	LOW HDI
Bulgaria	0.7936	74.322	15.0404	10.7988	16261.2603	57	2	-0.2646	4708.927	129.2717	99	86	-0.6381	LOW HDI	LOW HDI
Kazakhstan	0.7941	69.588	14.9719	11.676	22093.0865	56	6	-0.8526	5599.904	156.8789	93	98	1.4636	LOW HDI	LOW HDI
Bahamas	0.7916	75.556	12.7	10.8679	21565.0508	58	6	-0.93	2202.394	111.2826	87	89	1.1912	LOW HDI	LOW HDI
Malaysia	0.7895	74.901	13.0799	10.1109	24619.6547	59	4	0.2351	4596.332	143.8901	98	96	1.6247	LOW HDI	LOW HDI
Panama	0.7877	77.755	13.039	9.854	19470.2025	60	2	-0.3707	2062.764	174.1943	95	75	1.6579	LOW HDI	LOW HDI
Mauritius	0.7814	74.595	15.1698	9.094	17947.964	64	2	0.3008	2182.509	140.5813	100	93	0.1324	LOW HDI	LOW HDI
Trinidad and Tobago	0.7799	70.52	12.747	10.8835	28049.0864	64	2	-0.3007	7134.035	157.6727	95	92	0.4125	LOW HDI	LOW HDI
Costa Rica	0.7765	79.613	14.1645	8.7075	14006.3551	66	1	0.7484	1957.93	150.6621	98	95	1.0512	LOW HDI	LOW HDI
Serbia	0.7757	75.049	14.3607	10.8186	12202.1278	66	2	-0.267	4271.745	120.52	99	96	-0.4948	LOW HDI	LOW HDI
Cuba	0.7747	79.573	13.9574	11.7508	7455.0625	69	7	0.0705	1434.033	29.6507	95	93	0.1892	LOW HDI	LOW HDI
Iran (Islamic Republic of)	0.7741	75.581	14.8242	8.77	16395.1774	68	3	-0.4584	811.9002	132.5525	87	61	1.181	LOW HDI	LOW HDI
Georgia	0.7694	75.02	13.9049	12.2465	8855.8299	71	3	0.6796	2688.489	128.9506	100	86	-0.266	LOW HDI	LOW HDI
Turkey	0.767	75.528	14.5966	7.8879	18704.5273	72	4	-0.1544	2854.566	96.0213	100	95	1.598	LOW HDI	LOW HDI
Sri Lanka	0.7664	75.049	13.9672	10.9151	10788.9085	72	5	-0.3441	531.2696	110.5859	96	95	0.9344	LOW HDI	LOW HDI
Albania	0.7642	77.968	14.1797	9.6468	10252.4698	75	3	-1.342	2309.367	106.3802	95	93	-0.2912	LOW HDI	LOW HDI
Lebanon	0.7628	79.537	13.2879	8.6055	13311.5762	74	5	-0.8838	2892.77	92.1646	99	81	4.3342	LOW HDI	LOW HDI
Mexico	0.7617	76.972	13.2991	8.555	16383.1067	77	3	-0.7659	2090.176	85.9886	96	85	1.3349	LOW HDI	LOW HDI
Azerbaijan	0.7585	70.896	12.6504	11.16	16413.2603	77	6	-0.93	2202.394	111.2826	87	89	1.1912	LOW HDI	LOW HDI
Brazil	0.7541	74.748	15.1953	7.76	14145.1374	79	2	-0.3965	2601.366	126.5923	98	83	0.8528	LOW HDI	LOW HDI
Bosnia and Herzegovina	0.7498	76.634	14.1757	9.0135	10090.7744	82	4	-0.3939	3365.674	90.152	100	95	-0.846	LOW HDI	LOW HDI

The former Yugoslav Republic of Macedonia	0.7481	75.532	12.8942	9.4437	12405.2167	83	6	-0.4934	2539.611	152.7312	98	93	0.3514	LOW HDI	LOW HDI
Algeria	0.7448	75.027	14.3578	7.7854	13532.9608	84	6	-0.6629	1356.265	106.3843	84	88	1.92	LOW HDI	LOW HDI
Armenia	0.7429	74.886	12.7132	11.2911	8189.1152	85	5	-0.5338	1965.784	115.8899	100	90	0.3685	LOW HDI	LOW HDI
Ukraine	0.743	71.129	15.3067	11.34	7361.0112	81	3	-0.9799	3418.585	144.0232	96	96	-0.2608	LOW HDI	LOW HDI
Jordan	0.7415	74.175	13.1359	10.098	10111.3338	85	6	0.2601	1888.117	179.433	97	99	3.8961	LOW HDI	LOW HDI
Peru	0.7397	74.814	13.3863	9.0135	11294.8403	89	3	-0.5338	1307.511	109.8669	87	76	1.2937	LOW HDI	LOW HDI
Thailand	0.7398	74.616	13.575	7.912	14518.643	88	6	-0.4934	2539.611	152.7312	98	93	0.3514	LOW HDI	LOW HDI
Ecuador	0.7393	76.121	14.024	8.27	10536.1553	87	3	-0.6712	1380.61	79.7734	87	85	1.5056	LOW HDI	LOW HDI
China	0.7377	75.963	13.5358	7.6418	13345.4775	91	7	-0.2821	3927.044	92.1801	96	77	0.5081	LOW HDI	LOW HDI
Mongolia	0.7348	69.806	14.8455	9.75	10449.2073	93	2	-0.4916	2017.514	104.9642	64	60	1.7958	LOW HDI	LOW HDI
Jamaica	0.73	75.82	12.8358	9.6389	8350.0231	94	3	-0.2316	1055.523	111.5146	94	82	0.3435	LOW HDI	LOW HDI
Colombia	0.7273	74.229	13.5954	7.5559	12762.2053	95	4	-0.2982	1289.57	115.7448	91	81	0.9098	LOW HDI	LOW HDI
Suriname	0.725	71.277	12.7066	8.307	16017.9883	97	2	-0.2391	3631.864	136.831	95	79	0.959	LOW HDI	LOW HDI
Tunisia	0.7246	74.982	14.6416	7.0892	10248.5779	97	2	-0.0722	1444.107	129.9115	98	92	1.1576	LOW HDI	LOW HDI
Dominican Republic	0.7217	73.65	13.1693	7.6789	12756.4012	101	3	-0.8184	1578.152	82.5867	85	84	1.1708	LOW HDI	LOW HDI
Moldova (Republic of)	0.699	71.731	11.8136	11.916	5026.2599	105	3	-0.9112	1386.234	108.0397	88	76	-0.0644	LOW HDI	LOW HDI
Botswana	0.6977	64.508	12.6173	9.2336	14662.8197	107	3	0.8496	1748.615	169.003	96	63	1.856	LOW HDI	LOW HDI
Gabon	0.6971	64.936	12.5647	8.0703	19043.5872	109	6	-0.7141	1172.887	161.1213	93	42	2.8622	LOW HDI	LOW HDI
Paraguay	0.693	73.004	12.3184	8.1351	8181.6938	110	3	-0.947	1563.505	105.3896	98	89	1.312	LOW HDI	LOW HDI
Egypt	0.6914	71.325	13.0989	7.11	10064.0599	111	3	-0.6712	1380.61	79.7734	87	85	1.5056	LOW HDI	LOW HDI
Indonesia	0.6888	69.052	12.8677	7.9348	10053.3377	113	3	-0.4584	811.9002	132.5525	87	61	1.181	LOW HDI	LOW HDI
Philippines	0.6818	68.34	11.733	9.3269	8395.0948	114	3	-0.4535	699.2051	115.7514	92	74	1.5996	LOW HDI	LOW HDI
El Salvador	0.6798	73.271	13.1699	6.5324	7732.0254	115	3	-0.4237	939.1534	145.2557	94	75	0.4969	LOW HDI	LOW HDI
Bolivia (Plurinational State of)	0.6741	68.743	13.7874	8.1997	6154.8876	118	3	-0.6964	752.687	92.1839	90	50	1.5272	LOW HDI	LOW HDI
South Africa	0.6664	57.658	12.995	10.3319	12087.2136	119	2	0.0325	4228.861	164.5117	93	66	1.5853	LOW HDI	LOW HDI
Iraq	0.6495	69.026	10.0855	6.5839	11607.7286	121	6	-1.3689	1305.687	93.8275	87	86	3.1205	LOW HDI	LOW HDI
Morocco	0.6474	74.31	12.0549	5.0378	7194.9165	123	5	-0.2203	901.1284	126.8723	85	77	1.404	LOW HDI	LOW HDI
Nicaragua	0.6452	75.212	11.67	6.544	4746.6995	124	4	-0.8883	580.4792	116.1055	87	68	1.125	LOW HDI	LOW HDI
Guatemala	0.6396	72.062	10.7211	6.3024	7063.2044	126	4	-0.7332	577.8859	111.4813	93	64	2.0443	LOW HDI	LOW HDI
Namibia	0.64	65.062	11.6576	6.676	9769.8485	126	2	0.3158	1584.569	106.5812	91	34	2.2754	LOW HDI	LOW HDI
Micronesia (Federated States of)	0.6378	69.268	11.6811	9.7211	3291.4797	126	3	-0.7659	2090.176	85.9886	96	85	1.3349	LOW HDI	LOW HDI

Tajikistan	0.6275	69.582	11.2619	10.3558	2600.5856	129	6	-1.1257	1479.777	98.5903	74	95	2.1987	LOW HDI
Honduras	0.6247	73.334	11.2375	6.1695	4466.3418	130	4	-0.5667	630.1355	95.5421	91	83	1.7064	LOW HDI
India	0.6236	68.322	11.6966	6.2988	5663.4748	131	3	-0.352	805.5992	78.0617	94	40	1.1675	LOW HDI
Bangladesh	0.5788	71.985	10.1787	5.2416	3341.4907	140	4	-0.8083	310.3912	81.8993	87	61	1.1201	LOW HDI
Ghana	0.5788	61.531	11.5026	6.94	3838.6703	140	2	-0.1978	354.7141	129.736	89	15	2.2744	LOW HDI
Zambia	0.5791	60.819	12.5123	6.896	3463.7127	139	4	-0.3396	707.1902	74.4718	65	44	3.0241	LOW HDI
Cambodia	0.5631	68.807	10.9049	4.6696	3095.3176	143	6	-1.118	271.4332	133.0003	76	42	1.6035	LOW HDI
Nepal	0.5582	69.989	12.2176	4.0678	2337.0695	144	4	-0.578	139.1437	96.7491	92	46	1.169	LOW HDI
Myanmar	0.5556	66.118	9.074	4.744	4943.1286	146	6	-0.8362	216.7776	75.6841	81	80	0.9192	LOW HDI
Kenya	0.5547	62.164	11.08	6.3141	2880.7396	147	4	-1.0088	166.7382	80.6782	63	30	2.5993	LOW HDI
Pakistan	0.5504	66.365	8.1069	5.0895	5031.1731	148	5	-0.8107	471.0416	66.9166	91	64	2.0454	LOW HDI
Angola	0.5335	52.698	11.39	4.9799	6290.8959	150	6	-1.3948	312.476	60.8439	49	52	3.428	LOW HDI
Tanzania (United Republic of)	0.5306	65.512	8.9237	5.78	2466.9027	152	3	-0.6821	99.1675	75.8558	56	16	3.1008	LOW HDI
Nigeria	0.5271	53.057	9.9705	6	5442.9013	151	5	-1.0837	144.4799	82.1857	69	29	2.6404	LOW HDI
Cameroon	0.5175	55.958	10.415	6.1094	2894.2776	154	6	-1.0743	280.6667	71.8454	76	46	2.6385	LOW HDI
Zimbabwe	0.5156	59.2	10.3143	7.7343	1587.7232	158	6	-1.3042	536.9955	84.7888	77	37	2.3456	LOW HDI
Senegal	0.494	66.929	9.4677	2.7598	2250.1336	163	2	0.0609	223.4962	99.9468	79	48	2.9192	LOW HDI
Haiti	0.4928	63.119	9.1	5.1795	1656.9432	164	5	-1.2375	38.9692	68.8437	58	28	1.3024	LOW HDI
Togo	0.4874	60.175	11.9658	4.6988	1262.1741	167	4	-0.7257	152.72	67.708	63	12	2.5659	LOW HDI
Benin	0.4851	59.76	10.686	3.51	1979.2506	168	2	-0.5608	100.2264	85.6443	78	20	2.773	LOW HDI
Gambia	0.4516	60.463	8.94	3.292	1540.8295	173	6	-0.7141	1172.887	161.1213	93	42	2.8622	LOW HDI
Ethiopia	0.4478	64.602	8.3515	2.5808	1522.9548	174	6	-0.4502	69.7158	42.764	57	28	2.5415	LOW HDI
Mozambique	0.4176	55.478	9.0688	3.4991	1098.4358	182	4	-0.7488	462.6203	74.2388	51	21	2.8914	LOW HDI
South Sudan	0.4183	56.134	4.8716	4.8491	1882.4988	179	7	-1.6875	39.8926	23.8555	59	7	3	LOW HDI
Niger	0.3526	61.936	5.4227	1.658	889.4556	187	4	-0.6416	51.4408	46.4959	58	11	3.8358	LOW HDI