

Appendix 2B. The Global Peace Index 2010

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I. Introduction

The concept of peace is notoriously difficult to define. The simplest way of approaching it is in terms of harmony achieved by the absence of war or conflict. Applied to states, this would suggest that those not involved in wars with neighbouring states or suffering internal violent conflicts have achieved a state of peace. This is what Johan Galtung defined as ‘negative peace’—an absence of violence.¹ The concept of negative peace is immediately intuitive and empirically measurable and can be used as a starting point to elaborate its counterpart concept, ‘positive peace’: having established what constitutes an absence of violence, is it possible to identify which structures and institutions create and maintain peace?

The Global Peace Index (GPI) is a step in this direction. It is a measurement of peace that seeks to determine what cultural attributes and institutions are associated with states of peace. It is based on a scoring model that ranks 149 countries by their relative states of peace using 23 indicators. The indicators have been selected as being the best available data sets that reflect the incidence or absence of peace. They contain both quantitative data and qualitative scores from a range of trusted sources.

The GPI’s principal aim is to investigate positive peace. It does this by identifying correlations with other indexes and databases and investigating the relative importance of a range of potential determinants or ‘drivers’ that may influence the creation and nurturing of peaceful societies, both internally and externally.

The Global Peace Index was founded by Steve Killelea, an Australian technology entrepreneur and philanthropist, and is published by the Institute for Economics and Peace (IEP), a think tank dedicated to research and education on the relationship between economic development, business and peace.² The GPI is developed by the Institute for Economics and Peace, supported by the Economist Intelligence Unit (EIU), which collates and calculates the data and rankings, and guided by an international advisory panel.³

¹ Galtung, J., ‘Editorial’, *Journal of Peace Research*, vol. 1, no. 1 (1964).

² More information on the IEP is available at <<http://www.economicsandpeace.org/>>.

³ The choices of indicators and the weights assigned to them were agreed after extensive consultation with the GPI Advisory Panel, which included the following experts in 2009–10: Kevin Clements, Chairman (University of Otago), Ian Anthony (SIPRI), Sultan Barakat (University of York), Nick Grono (International Crisis Group), Ron Horvath (University of Sydney), Toshiya Hoshino (Osaka University), Linda Jamison (Center for Strategic and International Studies, Washington, DC), Manuela Mesa (Centro de Educación e Investigación para la Paz, Madrid), Dan Smith, Ekaterina Stepanova (IMEMO) and Paul van Tongeren (Global Partnership for the Prevention of Armed Conflict, The Hague).

Table 2B.1. The Global Peace Index 2010

Rank	Country	Score	Rank	Country	Score
1	New Zealand	1.188	50	Bulgaria	1.785
2	Iceland	1.212	51	Zambia	1.813
3	Japan	1.247	51	Malawi	1.813
4	Austria	1.290	53	Sierra Leone	1.818
5	Norway	1.322	54	Latvia	1.827
6	Ireland	1.337	55	Tanzania	1.832
7	Denmark	1.341	56	Libya	1.839
7	Luxembourg	1.341	57	Burkina Faso	1.852
9	Finland	1.352	58	Morocco	1.861
10	Sweden	1.354	59	Namibia	1.864
11	Slovenia	1.358	60	Bosnia and Herzegovina	1.873
12	Czech Republic	1.360	61	Panama	1.878
13	Portugal	1.366	62	Greece	1.887
14	Canada	1.392	63	Gambia	1.890
15	Qatar	1.394	64	Nicaragua	1.924
16	Germany	1.398	65	Albania	1.925
17	Belgium	1.400	66	Moldova	1.938
18	Switzerland	1.424	67	Indonesia	1.946
19	Australia	1.467	68	Equatorial Guinea	1.948
20	Hungary	1.495	68	Jordan	1.948
21	Slovakia	1.536	70	Bahrain	1.956
22	Malaysia	1.539	71	Argentina	1.962
23	Oman	1.561	72	Cuba	1.964
24	Uruguay	1.568	73	Swaziland	1.966
25	Spain	1.588	74	Gabon	1.981
26	Costa Rica	1.590	75	Rwanda	2.012
27	Netherlands	1.610	76	Cyprus	2.013
28	Chile	1.616	77	Madagascar	2.019
29	Poland	1.618	77	Paraguay	2.019
30	Singapore	1.624	79	Senegal	2.031
31	United Kingdom	1.631	80	China	2.034
32	France	1.636	81	Bolivia	2.037
33	Botswana	1.641	82	Nepal	2.044
34	Laos	1.661	83	Brazil	2.048
35	Taiwan	1.664	83	Macedonia, FYR	2.048
36	Bhutan	1.665	85	United States	2.056
37	Tunisia	1.678	86	Angola	2.057
38	Viet Nam	1.691	87	Bangladesh	2.058
39	Kuwait	1.693	88	Montenegro	2.060
40	Italy	1.701	89	Peru	2.067
41	Croatia	1.707	90	Serbia	2.071
42	Lithuania	1.713	91	Guyana	2.095
43	South Korea	1.715	92	Mongolia	2.101
44	United Arab Emirates	1.739	93	Dominican Republic	2.103
45	Romania	1.749	94	Trinidad and Tobago	2.107
46	Estonia	1.751	95	Kazakhstan	2.113
47	Mozambique	1.779	95	Papua New Guinea	2.113
48	Ghana	1.781	97	Ukraine	2.115
49	Egypt	1.784	98	Jamaica	2.138

Rank	Country	Score	Rank	Country	Score
99	Liberia	2.148	125	Honduras	2.395
100	Uganda	2.165	126	Turkey	2.420
101	Ecuador	2.185	127	Ethiopia	2.444
102	Congo, Republic of the	2.192	128	India	2.516
103	El Salvador	2.195	129	Yemen	2.573
104	Iran	2.202	130	Philippines	2.574
105	Belarus	2.204	131	Burundi	2.577
106	Cameroon	2.210	132	Myanmar	2.580
107	Mexico	2.216	133	Sri Lanka	2.621
107	Saudi Arabia	2.216	134	Lebanon	2.639
109	Mali	2.240	135	Zimbabwe	2.678
110	Uzbekistan	2.242	136	Central African Republic	2.753
111	Cambodia	2.252	137	Nigeria	2.756
112	Guatemala	2.258	138	Colombia	2.787
113	Armenia	2.266	139	North Korea	2.855
114	Haiti	2.270	140	Congo, Dem. Republic of	2.925
115	Syria	2.274	141	Chad	2.964
116	Algeria	2.277	142	Georgia	2.970
117	Turkmenistan	2.295	143	Russia	3.013
118	Côte d'Ivoire	2.297	144	Israel	3.019
119	Azerbaijan	2.367	145	Pakistan	3.050
120	Kenya	2.369	146	Sudan	3.125
121	South Africa	2.380	147	Afghanistan	3.252
122	Venezuela	2.387	148	Somalia	3.390
123	Mauritania	2.389	149	Iraq	3.406
124	Thailand	2.393			

The Global Peace Index 2010 appears in table 2B.1. The results of the index are discussed in section II. The methodology of the GPI is explained in section III, while section IV investigates the potential determinants of peace that the GPI can help identify.

II. Highlights and changes

In the Global Peace Index 2010, New Zealand is ranked as the country most at peace for the second consecutive year, followed by Iceland and Japan. Small, stable and democratic countries are consistently ranked highly; 15 of the top 20 countries are Western or Central European countries. This is an increase from 14 last year, and reflects an improvement in Hungary's score. Qatar and Australia remain in the top 20, in 15th and 19th places, respectively. All five Scandinavian countries are in the top 10 of the 2010 GPI, although the scores and ranks of all but Iceland deteriorated slightly. Island nations generally fare well, with the notable exception of Sri Lanka.

For the fourth year running, the country ranked least at peace is Iraq. Somalia, Afghanistan and Sudan follow. All four countries are in a state of ongoing conflict and upheaval. Afghanistan's score improved slightly from last year and it rose by one position.

Table 2B.2. Countries with the greatest change in Global Peace Index score, 2009–10

Country	Score, 2010	Change in score, 2009–10	Rank, 2010	Change in rank, 2009–10 ^a
<i>Top 5 risers</i>				
Ethiopia	2.444	-0.107	127	+1
Mauritania	2.389	-0.088	123	+1
Hungary	1.495	-0.080	20	+7
Lebanon	2.639	-0.078	134	-2
Haiti	2.270	-0.060	114	+2
<i>Top 5 fallers</i>				
Cyprus	2.013	+0.276	76	-28
Russia	3.013	+0.264	143	-7
Philippines	2.574	+0.247	130	-15
Georgia	2.970	+0.234	142	-8
Syria	2.274	+0.225	115	-23

^a The Global Peace Index (GPI) 2009 included only 144 countries while the GPI 2010 includes 149 countries, which affects the change in rank between 2009 and 2010.

The average score for the 149 states surveyed in the 2010 GPI is 2.02 (based on a 1–5 scale), a slight rise (indicating a decline in peace) compared with 2009, when the average was 1.964. There is little variance between the overall scores of the top 20 countries (from 1.188 for New Zealand to 1.495 for Hungary, a difference of 0.307). The 20 lowest-ranked countries exhibit a far greater spread (from 2.574 for the Philippines to 3.406 for Iraq, a difference of 0.832).

The countries whose score has changed the most compared to the GPI for 2009 are listed in table 2B.2.⁴

III. Methodology and data sources

The indicators

The GPI advisory panel chose 23 indicators of the existence or absence of peace, divided into three thematic categories.⁵

1. *Measures of ongoing domestic and international conflict.* The GPI is intended to review the state of peace in countries over the past year, although many indicators are based on available data from the past two years. The advisory panel decided against including data reflecting a country's historical experience of domestic and international conflict on the grounds that the GPI uses authoritative statistics on ongoing intra- and interstate wars. These, combined with two indicators scored by the EIU's analysts, comprise 5 of the 23 indicators (see table 2B.3).

⁴ For further analysis of why each of these countries has moved see *Global Peace Index, 2010 Methodology, Results and Findings* (Institute for Economics and Peace: Sydney, 2010).

⁵ For the precise definition of each indicator see *Global Peace Index* (note 4).

Table 2B.3. Measures of ongoing domestic and international conflict

Indicator	Weight	Source
Number of external and internal conflicts fought	5	UCDP/PRIO Armed Conflict Dataset
Estimated number of deaths from organized conflict (external)	5	UCDP
Number of deaths from organized conflict (internal)	5	IISS, Armed Conflict Database
Level of organized conflict (internal)	5	Economist Intelligence Unit
Relations with neighbouring countries	5	Economist Intelligence Unit

IISS = International Institute for Strategic Studies; PRIO = International Peace Research Institute, Oslo; UCDP = Uppsala Conflict Data Program.

Table 2B.4. Measures of societal safety and security

Indicator	Weight	Source
Perceptions of criminality in society	4	Economist Intelligence Unit
Number of displaced people as a percentage of the population	4	UNHCR Statistical Yearbook and IDMC
Political instability	4	Economist Intelligence Unit
Level of respect for human rights	4	Mark Gibney and Matthew Dalton, University of North Carolina/Amnesty International
Potential for terrorist acts	1	Economist Intelligence Unit
Number of homicides per 100 000 people	4	CTS
Level of violent crime	4	Economist Intelligence Unit
Likelihood of violent demonstrations	3	Economist Intelligence Unit
Number jailed per 100 000 people	3	International Centre for Prison Studies, King's College London, World Prison Population List
Number of internal security officers and police per 100 000 people	3	CTS

CTS = UN Office of Drugs and Crime, United Nations Surveys on Crime Trends and the Operations of Criminal Justice System; IDMC = Internal Displacement Monitoring Centre; UNHCR = UN High Commissioner for Refugees.

2. *Measures of societal safety and security.* Ten indicators assess the levels of safety and security in a country, ranging from perceptions of criminality in society to the level of respect for human rights and the rate of murders and violent crimes (see table 2B.4). The panel considered the difficulties of comparing international crime statistics. Five of these indicators have been scored by the EIU's team of country analysts. For the 2010 GPI, the measure of displaced people was revised to include the number of internally displaced people as a percentage of the population in addition to the number of refugees.

3. *Measures of militarization.* Eight of the indicators are related to a country's military build-up, reflecting the assertion that the level of militarization and

Table 2B.5. Measures of militarization

Indicator	Weight	Source
Military expenditure as a percentage of GDP	2	IISS, <i>The Military Balance</i>
Number of armed services personnel per 100 000 people	2	IISS, <i>The Military Balance</i>
Volume of transfers of major conventional weapons (imports) per 100 000 people	2	SIPRI Arms Transfers Database
Volume of transfers of major conventional weapons (exports) per 100 000 people	3	SIPRI Arms Transfers Database
Funding for UN peacekeeping missions	2	Institute for Economic and Peace
Aggregate weighted number of heavy weapons per 100 000 people	3	Institute for Economic and Peace
Ease of access to small arms and light weapons	3	Economist Intelligence Unit
Military capability/sophistication	2	Economist Intelligence Unit

IISS = International Institute for Strategic Studies.

access to weapons is directly linked to how at peace a country feels internationally (see table 2B.5). For the 2010 GPI, the measure of the aggregate number of heavy weapons, based on data from the Bonn International Center for Conversion (BICC), was replaced with a weighted rating of the destructive capability of heavy weapons.⁶ In conjunction with SIPRI, data was sourced from the UN Register of Conventional Arms and *The Military Balance*.

All of the indicators are assigned a score ('banded') on a scale of 1–5. EIU country analysts score the qualitative indicators, and gaps in the quantitative data are filled by estimates.

Weighting the index

The advisory panel apportioned scores based on the relative importance of each of the indicators on a 1–5 scale. The consensus scores for each indicator are given in tables 2B.3–2B.5. Two sub-component weighted indices were then calculated from the GPI group of indicators: one that measures a country's level of internal peace and one that measures a country's level of external peace (its state of peace beyond its borders). The overall composite score and index were then calculated by applying a weight of 60 per cent to the measure of internal peace and 40 per cent for external peace. The advisory panel agreed to apply a heavier weight to internal peace on the assumption that a greater level of internal peace is likely to correlate with a lower level of external conflict.

IV. Investigating the set of potential determinants

The Global Peace Index can be used as a foundation on which to establish a measure of the incidence of peace. However, it cannot on its own explain why

⁶ For the precise weighting categories see Global Peace Index (note 4)

the absence of violence occurs and whether groups of countries exhibit sufficient similar deficiencies that result in an absence of peace.

In addition to the 23 indicators listed above, the GPI has identified a number of secondary indicators that measure: democracy, including government competence and efficacy; the strength of institutions and the political process; international openness; demographics; regional integration; religion and culture; education; and material well-being.⁷ This list of potential drivers of peace is by no means exhaustive: it is limited to indicators for which data is both available from credible sources for all 149 countries and comparable and consistent in its measurement. Table 2B.6 lists each of these secondary indicators and the 23 primary GPI indicators. The correlation coefficients of the GPI scores and ranks and of the scores for the internal and external measures of peace are given for each indicator. The correlation coefficients are calculated across the 149 countries in the GPI.

Of the listed variables, the overall index continues to be strongly determined by the internal measure of peace, with a correlation coefficient of 0.96. The structural drivers of peace include good relations with neighbouring states, low levels of corruption, well functioning government, high levels of per capita income, a high rate of participation in primary and secondary education, freedom of the press, and a high degree of regional integration.

In addition, the social values and beliefs that are associated with peace have been analysed through correlating GPI results against global polling data.⁸ The analysis provides insights into the social environment of peace. The most striking finding is the extremely high correlation (0.88) between a country's ranking in the Global Peace Index and how positively it is perceived by other countries. This implies that if a country wishes to improve its international standing, then a good way of doing it is to increase its peacefulness as measured by the GPI. Other societal attitudes that correlate with peace are tolerance, belief in the importance of freedom of expression, respect for human rights, not believing that one's own country is superior to others, and believing that the use of the military should be limited and internationally sanctioned. Such attitudinal differences between peaceful and less peaceful countries can help clarify the cultural mechanisms that may underpin the institutions and actions of countries that make them more or less peaceful.

When peace is viewed as consisting of the characteristics and attributes described above, the word 'peace' can be seen as a proxy for describing an interrelated set of structures. These structures create an environment where many activities can flourish, such as enhanced development, improved security, lower business risk, higher per capita income and improved human happiness. Additionally, peace creates resilience; it creates the ability for societies to absorb shocks more easily. Peace, when viewed through this lens, is a collection of activities that creates an optimal environment for human potential to flourish.

⁷ For the sources and definitions of these secondary indicators see Global Peace Index (note 4).

⁸ The analysis was conducted by the Institute for Economics and Peace in collaboration with the University of Maryland Program on International Policy Attitudes (PIPA), <<http://www.pipa.org/>>.

Table 2B.6. Correlation between the Global Peace Index 2010 and the indicators of peace and its possible determinants

Figures are correlation coefficients. Figures in bold are correlation coefficients greater than 0.5 or less than -0.5. Significance levels, which will be different for each indicator, have not been calculated.

	GPI score	GPI rank	Internal peace	External peace
Global Peace Index 2010 score	1.00	0.96	0.96	0.59
Global Peace Index 2010 rank	0.96	1.00	0.94	0.50
Internal peace	0.96	0.94	1.00	0.32
External peace	0.59	0.50	0.32	1.00
<i>Global Peace Index indicators</i>				
Number of external and internal conflicts fought	0.27	0.23	0.11	0.57
Estimated number of deaths from organized conflict (external)	0.17	0.12	0.05	0.40
Number of deaths from organized conflict (internal)	0.66	0.56	0.63	0.40
Level of organized conflict (internal)	0.84	0.81	0.83	0.43
Relations with neighbouring countries	0.68	0.66	0.54	0.70
Perceptions of criminality in society	0.73	0.73	0.78	0.22
Number of displaced people as a percentage of the population	0.47	0.35	0.37	0.47
Political instability	0.73	0.76	0.75	0.28
Level of respect for human rights	0.85	0.83	0.84	0.41
Potential for terrorist acts	0.61	0.58	0.59	0.35
Number of homicides per 100 000 people	0.62	0.64	0.74	-0.03
Level of violent crime	0.63	0.67	0.76	-0.04
Likelihood of violent demonstrations	0.65	0.67	0.72	0.13
Number jailed per 100 000 people	0.12	0.13	0.06	0.21
Number of internal security officers and police per 100 000 people	0.07	0.08	0.06	0.08
Military expenditure as a percentage of GDP	0.41	0.34	0.29	0.51
Number of armed services personnel per 100 000 people	0.25	0.20	0.10	0.51
Volume of transfers of major conventional weapons, (imports) per 100 000 people	-0.07	-0.12	-0.16	0.21
Volume of transfers of major conventional weapons (exports) per 100 000 people	-0.05	-0.09	-0.17	0.29
Funding for UN peacekeeping missions	0.20	0.22	0.22	0.04
Aggregate weighted number of heavy weapons per 100 000 people	-0.04	-0.05	-0.21	0.44
Ease of access to small arms and light weapons	0.73	0.73	0.80	0.17
Military capability/sophistication	-0.05	-0.06	-0.21	0.42
<i>Potential determinants of peace</i>				
Political Democracy Index	-0.56	-0.56	-0.57	-0.23
Electoral process	-0.38	-0.38	-0.38	-0.16
Functioning of government	-0.64	-0.63	-0.64	-0.29
Political participation	-0.46	-0.47	-0.50	-0.12
Political culture	-0.63	-0.63	-0.67	-0.19
Civil liberties	-0.49	-0.49	-0.48	-0.26
Corruption perceptions	-0.70	-0.75	-0.78	-0.12

	GPI score	GPI rank	Internal peace	External peace
Women in parliament (% of lower house)	-0.27	-0.29	-0.25	-0.17
Freedom of the press	0.52	0.52	0.51	0.27
Exports plus imports as % of GDP	-0.08	-0.10	-0.09	-0.01
Foreign direct investment (flow) as % of GDP	-0.13	-0.14	-0.11	-0.13
Number of visitors as % of domestic population	-0.43	-0.45	-0.48	-0.05
Net migration (% of total population)	-0.25	-0.32	-0.29	-0.01
15-34-year-old males as % of adult population	0.42	0.45	0.53	-0.09
Gender ratio of population: women : men	-0.10	-0.11	-0.10	-0.05
Gender inequality	-0.41	-0.41	-0.39	-0.21
Extent of regional integration	0.62	0.62	0.62	0.29
Current education spending (% of GDP)	-0.33	-0.34	-0.33	-0.16
Primary school enrolment ratio (% net)	-0.48	-0.43	-0.53	-0.10
Secondary school enrolment ratio (% net)	-0.50	-0.50	-0.63	0.10
Higher education enrolment (% gross)	-0.46	-0.48	-0.57	0.09
Mean years of schooling	-0.58	-0.57	-0.66	-0.04
Adult literacy rate (% of population over 15 years old)	-0.45	-0.41	-0.51	-0.04
Hostility to foreigners and private property	0.59	0.58	0.61	0.20
Importance of religion in national life	0.48	0.49	0.51	0.15
Willingness to fight	0.40	0.41	0.30	0.47
Nominal GDP (\$ b., purchasing power parities)	-0.05	-0.04	-0.11	0.15
Nominal GDP (\$ b., market exchange rates)	-0.11	-0.10	-0.17	0.13
GDP per capita	-0.57	-0.61	-0.64	-0.06
Gini index	0.32	0.36	0.45	-0.19
Economic Freedom of the World Index (Fraser Institute)	-0.58	-0.59	-0.61	-0.15
World Bank Ease of Doing Business Index	0.52	0.54	0.62	-0.07
WEF Global Competitiveness Index	-0.59	-0.62	-0.72	0.08
Unemployment (%)	0.18	0.15	0.18	0.10
Life expectancy	-0.52	-0.52	-0.62	0.04
Infant mortality per 1000 live births	0.53	0.51	0.62	0.02
Human Rights Index (HRIN)	0.76	0.72	0.70	0.50
Yale Environmental Performance Index	-0.48	-0.49	-0.54	-0.06
World Bank Worldwide Governance Indicators (WGI):				
WGI Voice and Accountability	-0.61	-0.62	-0.62	-0.25
WGI Political Stability and Absence of Violence	-0.87	-0.85	-0.88	-0.38
WGI Government Effectiveness	-0.70	-0.73	-0.78	-0.11'
WGI Regulatory Quality	-0.66	-0.69	-0.72	-0.16
WGI Rule of Law	-0.76	-0.79	-0.84	-0.13
WGI Control of Corruption	-0.72	-0.76	-0.79	-0.16
Cingranelli-Richards (CIRI) Human Rights Data Project:				
CIRI Physical Integrity Rights	-0.77	-0.78	-0.74	-0.40
CIRI Empowerment Rights	-0.52	-0.51	-0.48	-0.36

