

Appendix 2B. The Global Peace Index 2011

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I. Introduction

Now in its fifth year, the Global Peace Index (GPI), produced by the Institute for Economics and Peace (IEP), is a measurement of the peacefulness of countries based on a scoring model that uses 23 indicators to rank 153 countries by their relative states of peace. 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 between GPI scores and a range of other indexes and databases that measure key social, economic, education, health, governance and political factors. Investigating the statistical relevance of these factors allows the identification of a range of potential determinants or 'drivers' that may influence the creation and nurturing of a peaceful society.

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, a think tank dedicated to research and education on the relationship between economic development, business and peace.¹ The GPI is developed by the IEP, guided by an international expert panel and supported by the Economist Intelligence Unit (EIU), which collates and calculates the data and rankings.²

Starting in 2011, the IEP will develop a series of national peace indices with the aim to further the understanding of the types of environments that are associated with peace and to help quantify the economic benefits that could result from increases in peace. These national peace indices will be produced using the same methodology and indicators for many countries in an effort to identify the patterns that are associated with peace. The first national peace index developed by the IEP is the United States Peace Index (USPI), which was released in April 2011. The USPI reinforces several of the general country-level correlations between peacefulness and levels of education, health and economic opportunity also found in the GPI.

¹ More information on the IEP is available at <<http://www.economicsandpeace.org/>>.

² The choices of indicators and the weights assigned to them were agreed after extensive consultation with the GPI Expert Panel, which included the following experts in 2010–11: 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), Manuela Mesa (Centro de Educación e Investigación para la Paz, Madrid), and Ekaterina Stepanova (IMEMO, Moscow).

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Table 2B.1. The Global Peace Index 2011

Rank	Country	Score	Rank	Country	Score
1	Iceland	1.148	50	South Korea	1.829
2	New Zealand	1.279	51	Burkina Faso	1.832
3	Japan	1.287	52	Zambia	1.833
4	Denmark	1.289	53	Bulgaria	1.845
5	Czech Republic	1.320	54	Namibia	1.850
6	Austria	1.337	55	Argentina	1.852
7	Finland	1.352	56	Tanzania	1.858
8	Canada	1.355	57	Mongolia	1.880
9	Norway	1.356	58	Morocco	1.887
10	Slovenia	1.358	59	Moldova	1.892
11	Ireland	1.370	60	Bosnia and Herzegovina	1.893
12	Qatar	1.398	61	Sierra Leone	1.904
13	Sweden	1.401	62	Gambia	1.910
14	Belgium	1.413	63	Albania	1.912
15	Germany	1.416	64	Jordan	1.918
16	Switzerland	1.421	65	Greece	1.947
17	Portugal	1.453	66	Paraguay	1.954
18	Australia	1.455	67	Cuba	1.964
19	Malaysia	1.467	68	Indonesia	1.979
20	Hungary	1.495	69	Swaziland	1.995
21	Uruguay	1.521	69	Ukraine	1.995
22	Poland	1.545	71	Cyprus	2.013
23	Slovakia	1.576	72	Nicaragua	2.021
24	Singapore	1.585	73	Egypt	2.023
25	Netherlands	1.628	74	Brazil	2.040
26	United Kingdom	1.631	75	Equatorial Guinea	2.041
27	Taiwan	1.638	76	Bolivia	2.045
28	Spain	1.641	77	Senegal	2.047
29	Kuwait	1.667	78	Macedonia	2.048
30	Viet Nam	1.670	79	Trinidad and Tobago	2.051
31	Costa Rica	1.681	80	China	2.054
32	Laos	1.687	81	Gabon	2.059
33	United Arab Emirates	1.690	82	United States	2.063
34	Bhutan	1.693	83	Bangladesh	2.070
35	Botswana	1.695	84	Serbia	2.071
36	France	1.697	85	Peru	2.077
37	Croatia	1.699	86	Cameroon	2.104
38	Chile	1.710	87	Angola	2.109
39	Malawi	1.740	88	Guyana	2.112
40	Romania	1.742	89	Montenegro	2.113
41	Oman	1.743	90	Ecuador	2.116
42	Ghana	1.752	91	Dominican Republic	2.125
43	Lithuania	1.760	92	Guinea	2.126
44	Tunisia	1.765	93	Kazakhstan	2.137
45	Italy	1.775	94	Papua New Guinea	2.139
46	Latvia	1.793	95	Nepal	2.152
47	Estonia	1.798	96	Liberia	2.159
48	Mozambique	1.809	96	Uganda	2.159
49	Panama	1.812	98	Republic of the Congo	2.165

Rank	Country	Score	Rank	Country	Score
99	Rwanda	2.185	127	Turkey	2.411
100	Mali	2.188	128	Côte d'Ivoire	2.417
101	Saudi Arabia	2.192	129	Algeria	2.423
102	El Salvador	2.215	130	Mauritania	2.425
103	Tajikistan	2.225	131	Ethiopia	2.468
104	Eritrea	2.227	132	Burundi	2.532
105	Madagascar	2.239	133	Myanmar	2.538
106	Jamaica	2.244	134	Georgia	2.558
107	Thailand	2.247	135	India	2.57
108	Turkmenistan	2.248	136	Philippines	2.574
109	Armenia	2.260	137	Lebanon	2.597
109	Uzbekistan	2.260	138	Yemen	2.670
111	Kenya	2.276	139	Colombia	2.700
112	Belarus	2.283	140	Zimbabwe	2.722
113	Haiti	2.288	141	Chad	2.74
114	Kyrgyzstan	2.296	142	Nigeria	2.743
115	Cambodia	2.301	143	Libya	2.816
116	Syria	2.322	144	Central African Republic	2.869
117	Honduras	2.327	145	Israel	2.901
118	South Africa	2.353	146	Pakistan	2.905
119	Iran	2.356	147	Russia	2.966
119	Niger	2.356	148	Democratic Republic of the Congo	3.016
121	Mexico	2.362	149	North Korea	3.092
122	Azerbaijan	2.379	150	Afghanistan	3.212
123	Bahrain	2.398	151	Sudan	3.223
124	Venezuela	2.403	152	Iraq	3.296
125	Guatemala	2.405	153	Somalia	3.379
126	Sri Lanka	2.407			

The Global Peace Index 2011 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. Section IV provides an overview of national peace indices and the key findings of the US Peace Index.

II. Highlights and changes

In the Global Peace Index 2011 Iceland is ranked as the country most at peace, replacing New Zealand. Iceland topped the GPI in 2008, but dropped to fourth place in 2009 amid the country's unprecedented economic collapse and political crisis, which saw an increase in the number of police and security officers and an increase in the incarceration rate. This year Iceland has regained first place due to restored stability in the country's political scene and a drop in its level of military capability and sophistication, as austerity measures led to reductions in the already small military budget. Small, stable and democratic countries are consistently ranked highest; 14 of the top 20 countries are in Western or Central Europe. This is, however, a reduction from 15 in 2010, and

Table 2B.2. Countries with the greatest change in Global Peace Index scores, 2010–11

Country	Score, 2011	Change in score, 2010–11	Rank, 2011	Change in rank, 2010–11 ^a
<i>Top 5 risers</i>				
Georgia	2.558	-0.412	134	+12
Chad	2.740	-0.224	141	+4
Mongolia	1.880	-0.221	57	+36
Sri Lanka	2.407	-0.215	126	+11
Thailand	2.247	-0.147	107	+19
<i>Top 5 fallers</i>				
Libya	2.816	+0.977	143	-83
Bahrain	2.398	+0.429	123	-47
Egypt	2.023	+0.239	73	-25
North Korea	3.092	+0.236	149	-6
Madagascar	2.239	+0.220	105	-26

^a The Global Peace Index (GPI) 2010 included only 149 countries while the 2011 GPI includes 153 countries, which affects changes in ranking between 2010 and 2011.

is due to both a deterioration in Slovakia's score and an improvement in Malaysia's, which is in the top 20 for the first time.

Qatar rises two places to 12th place and remains the highest-ranked Middle Eastern country by some margin (Kuwait is the next highest in 29th place). The recent wave of uprisings and revolutions in the Middle East have been reflected in sharply deteriorating GPI scores across the region, notably in Bahrain, Egypt and Libya.

Island nations generally fare well and most are in the top half of the GPI. Sri Lanka is a notable exception, although its score has improved since the defeat of the Liberation Tigers of Tamil Eelam (LTTE or Tamil Tigers) rebel group in May 2009. It has risen by 11 places in the 2011 index. Madagascar and Jamaica are accorded relatively low ranks (105th and 106th, respectively), with the former's score deteriorating sharply for the second successive year amid a political and economic crisis.

The countries whose score has changed the most compared to the GPI for 2010 are listed in table 2B.2.³ Somalia, the site of a protracted major armed conflict, drops one place to replace Iraq as the country ranked least at peace, although its score improved slightly. This is chiefly because Iraq's GPI improved more substantially compared with 2010, which lifted the country from the foot of the index for the first time since 2007. Sudan and Afghanistan are the two next lowest ranked countries.

The average score for the 153 countries surveyed in the 2011 GPI is 2.05 (based on a 1–5 scale), a slight rise (indicating a reduction in peacefulness) compared with 2010, when the average reached 2.02, up from 1.96 in 2009. The

³ For further analysis of why each of these countries has moved see Global Peace Index, 2011 *Methodology, Results and Findings* (Institute for Economics and Peace: Sydney, 2011).

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.

more substantial deterioration between 2009 and 2010 appears to have reflected increasing violence in several countries, triggered by rapidly rising food and fuel prices in 2008 and the subsequent dramatic global economic downturn.

There is little variance (0.347) between the overall scores of the top 20 countries (from 1.148 for Iceland to 1.495 for Hungary), although slightly more than in 2010. The 20 lowest-ranked countries exhibit a far greater spread of 0.821 (from 2.558 for Georgia to 3.379 for Somalia), although this spread is smaller than it was in 2010, when the variance was 0.832.

III. Methodology and data sources

The indicators

The GPI expert panel chose 23 indicators of the existence or absence of peace, divided into three thematic categories.⁴

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 expert 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).

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.

⁴ For the precise definition of each indicator see Global Peace Index (note 3)

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

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.

3. *Measures of militarization.* Seven of the indicators are related to a country's military build-up, reflecting the assertion that the level of militarization and access to weapons is directly linked to how at peace a country feels internationally (see table 2B.5). Financial support to UN peacekeeping operations is considered a contribution to increasing peace.

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

Weighting the index

The expert panel that oversees the compilation of the Global Peace Index 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 was then calculated by applying a weight of 60 per cent to the measure of internal peace and 40 per cent for external peace. The expert 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.

Changes to the methodology for 2011

The expert panel chose to include five additional countries in the 2011 edition: Eritrea, Guinea, Kyrgyzstan, Niger and Tajikistan. Subsequent editions of the GPI will include other countries, but not micro-states: the panel decided that countries in the GPI must either have a population of more than 1 million or a land area greater than 20 000 square kilometres, which results in Luxembourg no longer being included in the index. This brings the total number of countries covered in the 2011 GPI to 153, encompassing around 99 per cent of the world's population and over 87 per cent of its land mass.

The dramatic events unfolding in the Middle East prompted discussion about whether the eight qualitative indicators scored by EIU analysts could be undertaken at a slightly later stage. In previous editions the scoring had been carried out in January, referring to the previous calendar year. The panel decided it was both beneficial and practicable to update the period of analysis, and it will henceforth start and end in mid-March. Thus, the eight qualitative indicators for the 2011 GPI relate to the period 16 March 2010 to 15 March 2011.

IV. Investigating peace at the subnational level

As the empirical basis for the GPI has developed, research by the IEP has found that many large countries have substantial internal variances in their levels of peacefulness. This is especially true of countries with marked social and cultural diversity combined with variable economic conditions. Analysing national peace indices provides a better understanding of the fabric of peace. If trends and statistical relations can be found between the levels of internal peacefulness of different countries, then new approaches to creating peace may emerge.

Table 2B.6. The indicators for national peace indices

Indicator	Weight	Source used for US Peace Index
Number of homicides per 100 000 people	4	FBI Uniform Crime Reports, 1991–2009
Number of violent crimes per 100 000 people	4	FBI Uniform Crime Reports, 1991–2009
Number of prisoners per 100 000 people	3	US Bureau of Justice Statistics, 1991–2009
Number of police officers per 100 000 people	3	FBI Uniform Crime Reports, 1991–2009
Availability of small arms	1	Centers for Disease Control and Prevention, 1991–2007

FBI = Federal Bureau of Investigation.

In order to undertake comparable national peace studies, the IEP adopted a minimal number of indicators and developed a methodology that could be applied to all future studies.

The United States Peace Index

The United States Peace Index is the first national peace index produced by the IEP. Similar in concept to the Global Peace Index, it uses ‘the absence of violence’ as the definition of peace. Five indicators reflecting the absence of peace have been selected to construct the index because of the ability to scale these indicators in a consistent way across many countries (see table 2B.6). In order to maintain consistency, the weights assigned to each indicator mirror those used in the GPI for the equivalent measures.⁵ Owing to the purely quantitative nature of the measurements, the IEP collected data from 1991 onwards and was able to construct USPIs for almost 20 consecutive years.

The USPI shows that from 1991 to 2009 the USA became more peaceful, with lower rates of violent crime and homicide and a decline in the availability of small arms. While violence has dropped to levels not seen since the late 1960s and early 1970s, international comparisons show that, in almost all of the indicator categories measured, the USA lags behind most other developed countries. Notably, although the peace trend was driven by falling violent crime and homicide rates, this was significantly offset by increases in the rate of incarceration.

The five most peaceful states in 2011—Maine, New Hampshire, Vermont, Minnesota and North Dakota—are all in the north of the country. The bottom five are Louisiana, Tennessee, Nevada, Florida and Alabama. Since 1991, the rankings have been relatively clustered, with only 16 states ever appearing in the top 10 and 18 appearing in the bottom 10. Only Maine and North Dakota have held the number one spot since 1991.

⁵ An exception is the indicator for availability of small arms, due to data availability limitations.

Table 2B.7. The US Peace Index 2011

Rank	State	Score	Rank	State	Score
1	Maine	1.34	26	New Jersey	2.61
2	New Hampshire	1.50	27	Kansas	2.63
3	Vermont	1.54	28	Colorado	2.66
4	Minnesota	1.62	29	New York	2.69
5	North Dakota	1.71	30	Alaska	2.70
6	Utah	1.75	31	Michigan	2.79
7	Massachusetts	1.80	32	North Carolina	2.79
8	Rhode Island	1.83	33	California	2.89
9	Iowa	1.85	34	Mississippi	2.97
10	Washington	1.87	35	Illinois	2.98
11	Nebraska	1.88	36	Delaware	3.14
12	Hawaii	1.91	37	Arizona	3.14
13	Oregon	2.08	38	New Mexico	3.16
14	South Dakota	2.17	39	Georgia	3.18
15	Connecticut	2.21	40	Missouri	3.21
16	Idaho	2.24	41	Maryland	3.24
17	Montana	2.28	42	South Carolina	3.26
18	West Virginia	2.28	43	Oklahoma	3.27
19	Wisconsin	2.30	44	Arkansas	3.30
20	Kentucky	2.39	45	Texas	3.30
21	Pennsylvania	2.42	46	Alabama	3.42
22	Ohio	2.43	47	Florida	3.50
23	Wyoming	2.49	48	Nevada	3.50
24	Indiana	2.50	49	Tennessee	3.61
25	Virginia	2.52	50	Louisiana	3.97

The difference in scores between states highlights the large divergences between regions in terms of their relative levels of peacefulness. For example, the state with the highest rate of homicide, Louisiana, has 11.8 homicides per 100 000 people, whereas the state with the lowest, New Hampshire, has a rate more than 15 times less, at 0.75 homicides per 100 000. The divergences are similar with violent crime, with Nevada's rate of 696 incidents per 100 000 six times higher than the lowest, Maine, which has a rate of 117 incidents per 100 000. These divergences in violent crime and homicide are reflected in stark differences in social and economic outcomes.

To further the understanding of the potential determinants of peace, the USPI looked at how each state performed in over 37 key socio-economic indicators. The results of the analysis indicate that access to health care, education and economic opportunity is closely linked to a more peaceful society.⁶ The better the outcomes in education and health, the lower the rate of poverty and income inequality, and the greater the access to basic services, the more peaceful a state tends to be. Political affiliation did not correlate with levels of violence at the state level.

⁶ Institute for Economics and Peace (IEP), *United States Peace Index: 2011* (IEP: Sydney, 2011).