

4 Global peace index

2011 Methodology, results and findings

Institute for Economics and Peace

The results of the Global Peace Index (GPI) for 2011 suggest that the world has become slightly less peaceful in the past year. The deterioration is smaller than that which occurred between the 2009 and 2010 editions of the GPI, when some nations experienced an intensification of conflicts and growing instability linked to rapid rises in food, fuel and commodity prices and the global economic downturn. The 2011 GPI, which gauges ongoing domestic and international conflict, safety and security in society and militarisation in 153 countries, registered overall score increases for several indicators, the largest of which were in the potential for terrorist acts and the likelihood of violent demonstrations. The indicator showing the most substantial year-on-year score decline (improvement) was military expenditure as a percentage of GDP, reflecting the impact of the global financial and economic crisis on defence budgets. While several countries experienced improved levels of peacefulness that appear to be linked with their economic recoveries, others, notably those in North Africa and the Middle East that have been swept up in the political turmoil of the "Arab Spring", have experienced sharp falls in their peacefulness.

This is the fifth edition of the Global Peace Index (GPI). It has been expanded to rank 153 independent states and updated with the latest-available figures and information. The index is composed of 23 qualitative and quantitative indicators from respected sources, which combine internal and external factors ranging from a nation's level of military expenditure to its relations with neighbouring countries and the level of respect for human rights. These indicators were selected by an international panel of academics, business people, philanthropists and members of peace institutions. As before, we have explored the possibility of correlations between the GPI and other economic and societal indicators - including measures of democracy and transparency, education and material wellbeing. The GPI brings a snapshot of relative peacefulness among nations while continuing to contribute to an understanding of what factors help create or sustain more peaceful societies. The GPI was founded by Steve Killelea, an Australian international technology entrepreneur and philanthropist. It forms part of the Institute for Economics and Peace, a global think tank dedicated to the research and education of the relationship between economic development, business and peace. The GPI is collated and calculated by the Economist Intelligence Unit, with whom this report is written in co-operation.

Highlights

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. Small, stable and

democratic countries are consistently ranked highest; 14 of the top 20 countries are western or central European nations. This is, however, a reduction from 15 last year, and reflects both an improvement in Malaysia's score and a deterioration in Slovakia's, which lifts the South-East Asian nation into the top 20 for the first time. Qatar rises two places to 12th position and remains the highest-ranked Middle-eastern country by some margin (Kuwait is the next highest in 29th place). The recent waves of uprisings and revolutions in the Middle East have been reflected in sharply deteriorating GPI scores across the region, notably in Bahrain, Egypt, Libya and Tunisia, which were previously ranked in the top half of the GPI. Island nations generally fare well – most are in the top half of the GPI, with Sri Lanka a notable exception, although its score has improved since the defeat of the Tamil Tigers in May 2009 and it rose by 11 places in the 2011 index. Madagascar and Jamaica are accorded relatively low ranks (105th and 106th respectively), with the former experiencing a sharp deterioration in its score for the second successive year amid an ongoing political and economic crisis. War-torn Somalia drops one place to replace Iraq as the country ranked least at peace, although its score improved slightly. This is chiefly because of a more substantial improvement in Iraq's GPI score compared with last year, lifting the country from the foot of the index for the first time since 2007. Sudan and Afghanistan follow. The average score for the 153 states surveyed in the 2011 GPI is 2.05 (based on a 1–5 scale), a slight rise (reduction in peacefulness) compared with last year, when the average reached 2.02, up from 1.96 in 2009. The more substantial deterioration between 2009 and 2010 appears to have reflected rising conflict in several countries, triggered by rapidly increasing 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 last year. The 20 lowest-ranked countries exhibit a far greater spread of 0.821 (from 2.558 for Georgia to 3.379 for Somalia), a drop from 0.832 last year.

Changes to the methodology for 2011

The international panel of experts that oversees the compilation of the Global Peace Index chose to include five additional countries in the 2011 edition: Eritrea, Guinea, Kyrgyz Republic, Niger and Tajikistan. Subsequent editions of the GPI will include other nations, 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 sq km, which means that Luxembourg is no longer ranked. This brings the total number of countries covered in the 2011 GPI to 153, encompassing around 99% of the world's population and over 87% of the planet's land mass.

The dramatic events unfolding in the Middle East in 2010–11 prompted discussion about whether the eight qualitative indicators scored by Economist Intelligence Unit 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 on March 15th. Thus the eight qualitative indicators for the 2011 GPI relate to the period of 15th March 2010 to 15th March 2011.

Defining peace

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 nations, this

would suggest that those not involved in violent conflicts with neighbouring states or suffering internal wars would have achieved a state of peace. This is what Johan Galtung¹ defined as a "negative peace" – an absence of violence. 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 first step in this direction; a measurement of peace as the "absence of violence" that seeks to determine what cultural attributes and institutions are associated with states of peace. In 1999 the UN General Assembly launched a programme of action to build a "culture of peace" for the world's children, which envisaged working towards a positive peace of justice, tolerance and plenty. The UN defined a culture of peace as involving values, attitudes and behaviours that:

- Reject violence
- Endeavour to prevent conflicts by addressing root causes
- Aim at solving problems through dialogue and negotiation

It proposed that such a culture of peace would be furthered by actions promoting education for peace and sustainable development, which it suggested was based on human rights, gender equality, democratic participation, tolerant solidarity, open communication and international security. However, these links between the concept of peace and the causes of them were presumed rather than systematically measured. For example, while Doyle² and advocates of his liberal peace theory have held that democratic states rarely attack each other, the ongoing war in Iraq demonstrates how some democratic countries can be militant or belligerent – the justification for war often being that peace is ultimately secured through violence or the threat of violence.

Measuring states of peace

The difficulties in defining the concept of peace may partly explain why there have been so few attempts to measure states of peace across nations. This project has approached the task on two fronts – the first aim is to produce a scoring model and Global Peace Index that ranks 153 nations by their relative states of peace using 23 indicators. The indicators have been selected as being the best available datasets that reflect the incidence or absence of peace, and contain both quantitative data and qualitative scores from a range of trusted sources. The second aim is to use the underlying data and results from the Global Peace Index to undertake investigations into the relative importance of a range of potential determinants or "drivers" that may influence the creation and nurturance of peaceful societies, both internally and externally.

Methodology and data sources

The indicators

Twenty-three indicators of the existence or absence of peace were chosen by the panel, which are divided into three broad categories:

- Ongoing domestic and international conflict;
- Safety and security in society;
- Militarisation.

All scores for each indicator are “banded”, either on a scale of 1–5 (for qualitative indicators) or 1–10 (for quantitative data, such as military expenditure or the jailed population, which have then been converted to a 1–5 scale for comparability when compiling the final index). Qualitative indicators in the index have been scored by the Economist Intelligence Unit’s extensive team of country analysts, and gaps in the quantitative data have been filled by estimates by the same team. Indicators consisting of quantitative data such as military expenditure or jailed population have been measured on the basis of the distribution of values across all countries between the maximum and minimum values (we assume that the 153 countries measured for the Global Peace Index (GPI) are a representative sample of all countries). Since the 2008 GPI the data for each indicator has been divided into ten bands based on the full range of the data set and a country’s corresponding score results in its ranking position.

Measures of ongoing domestic and international conflict

The Global Peace Index is intended as a review of the state of peace in nations over the previous calendar year, although several indicators are based on data covering the previous two years (2009–10 in the case of the 2011 GPI). The advisory panel decided against including data reflecting a country’s longer-term historical experience of domestic and international conflict on the grounds that the GPI uses authoritative statistics on ongoing civil and transnational wars collated by the Uppsala Conflict Data Program and the International Peace Research Institute, Oslo. These, combined with two indicators scored by the Economist Intelligence Unit’s analysts, comprise five of the 23 indicators:

- Number of external and internal conflicts fought: 2004–09
- Estimated number of deaths from organised conflict (external)
- Number of deaths from organised conflict (internal)
- Level of organised conflict (internal)
- Relations with neighbouring countries

Measures of societal safety and security

Ten of the indicators assess the levels of safety and security in a society (country), ranging from the perception of criminality in society, to the level of respect for human rights and the rate of homicides and violent crimes. Crime data is from the UN Office of Drugs and Crime. The difficulties of comparing international crime statistics are discussed in detail in Annex A. Five of these indicators have been scored by the Economist Intelligence Unit’s team of country analysts:

- Perceptions of criminality in society
- Number of refugees and displaced people as a percentage of the population
- Political instability
- Political Terror Scale
- Potential for terrorist acts
- Number of homicides per 100,000 people
- Level of violent crime
- Likelihood of violent demonstrations
- Number of jailed population per 100,000 people

- Number of internal security officers and police
- per 100,000 people

Measures of militarisation

Eight of the indicators are related to a country's military build-up – reflecting the assertion that the level of militarisation and access to weapons is directly linked to how at peace a country feels internationally. Comparable data are readily available from sources such as the International Institute of Strategic Studies (IISS):

- Military expenditure as a percentage of GDP
- Number of armed services personnel per 100,000 people
- Volume of transfers (imports) of major conventional weapons per 100,000 people
- Volume of transfers (exports) of major conventional weapons per 100,000 people
- Budgetary support for UN peacekeeping missions: percentage of outstanding payments versus annual assessment to the budget of the current peacekeeping missions
- Aggregate number of heavy weapons per 100,000 people
- Ease of access to small arms and light weapons
- Military capability/sophistication

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 Table 1. Two sub-component weighted indices were then calculated from the GPI group of indicators:

- 1) a measure of how at peace internally a country is;
- 2) a measure of how at peace externally a country is (its state of peace beyond its borders).

The overall composite score and index was then formulated by applying a weight of 60% to the measure of internal peace and 40% for external peace. The heavier weight applied to internal peace was agreed within the advisory panel, following robust debate. The decision was based on the innovative notion that a greater level of internal peace is likely to lead to, or at least correlate with, lower external conflict.

GPI 2011 discussion paper: new dimensions of peace – society, economy, and the media

Executive Summary

Since the first release of the Global Peace Index in 2007 the Institute for Economics and Peace (IEP) has been consistently improving our shared knowledge of peace and of the economic benefits that flow from improvements in peace. During the last twelve months the Institute has produced a number of reports and white papers. This year's Discussion Paper focuses on three of them: the United States Peace Index, the Peace & the Media report and a white paper on the relationship between social sustainability and peace. IEP recently released the United States Peace Index (USPI), the first in a series of national peace indices, which

Table 1

<i>Indicator (1 to 5)</i>	<i>Weight</i>
<i>Internal Peace 60%</i>	<i>External Peace 40%</i>
Perceptions of criminality in society	4
Number of internal security officers and police per 100,000 people	3
Number of homicides per 100,000 people	4
Number of jailed population per 100,000 people	3
Ease of access to weapons of minor destruction	3
Level of organised conflict (internal)	5
Likelihood of violent demonstrations	3
Level of violent crime	4
Political instability	4
Level of disrespect for human rights (Political Terror Scale)	4
Volume of transfers of major conventional weapons, as recipient (Imports) per 100,000 people	2
Potential for terrorist acts	1
Number of deaths from organised conflict (internal)	5
Military expenditure as a percentage of GDP	2
Number of armed services personnel per 100,000 people	2
Funding for UN peacekeeping missions	2
Aggregate number of heavy weapons per 100,000 people	3
Volume of transfers of major conventional weapons as supplier (exports) per 100,000 people	3
Military capability/sophistication	2
Number of displaced people as a percentage of the population	4
Relations with neighbouring countries	5
Number of external and internal conflicts fought: 2003-08	5
Estimated number of deaths from organised conflict (external)	5

Table 2

<i>Rank</i>	<i>Country</i>	<i>Score</i>
1	Iceland	1.148
2	New Zealand	1.279
3	Japan	1.287
4	Denmark	1.289
5	Czech Republic	1.320
6	Austria	1.337
7	Finland	1.352
8	Canada	1.355
9	Norway	1.356
10	Slovenia	1.358
11	Ireland	1.370
12	Qatar	1.398
13	Sweden	1.401
14	Belgium	1.413
15	Germany	1.416
16	Switzerland	1.421
17	Portugal	1.453
18	Australia	1.455
19	Malaysia	1.467
20	Hungary	1.495
21	Uruguay	1.521
22	Poland	1.545

Table 2 *Continued*

23	Slovakia	1.576
24	Singapore	1.585
25	Netherlands	1.628
26	United Kingdom	1.631
27	Taiwan	1.638
28	Spain	1.641
29	Kuwait	1.667
30	Vietnam	1.670
31	Costa Rica	1.681
32	Laos	1.687
33	United Arab Emirates	1.690
34	Bhutan	1.693
35	Botswana	1.695
36	France	1.697
37	Croatia	1.699
38	Chile	1.710
39	Malawi	1.740
40	Romania	1.742
41	Oman	1.743
42	Ghana	1.752
43	Lithuania	1.760
44	Tunisia	1.765
45	Italy	1.775
46	Latvia	1.793
47	Estonia	1.798
48	Mozambique	1.809
49	Panama	1.812
50	South Korea	1.829
51	Burkina Faso	1.832
52	Zambia	1.833
53	Bulgaria	1.845
54	Namibia	1.850
55	Argentina	1.852
56	Tanzania	1.858
57	Mongolia	1.880
58	Morocco	1.887
59	Moldova	1.892
60	Bosnia and Herzegovina	1.893
61	Sierra Leone	1.904
62	The Gambia	1.910
63	Albania	1.912
64	Jordan	1.918
65	Greece	1.947
66	Paraguay	1.954
67	Cuba	1.964
68	Indonesia	1.979
69	Ukraine	1.995
69	Swaziland	1.995
71	Cyprus	2.013
72	Nicaragua	2.021
73	Egypt	2.023
74	Brazil	2.040
75	Equatorial Guinea	2.041
76	Bolivia	2.045
77	Senegal	2.047

Table 2 Continued

78	Macedonia	2.048
79	Trinidad and Tobago	2.051
80	China	2.054
81	Gabon	2.059
82	United States of America	2.063
83	Bangladesh	2.070
84	Serbia	2.071
85	Peru	2.077
86	Cameroon	2.104
87	Angola	2.109
88	Guyana	2.112
89	Montenegro	2.113
90	Ecuador	2.116
91	Dominican Republic	2.125
92	Guinea	2.126
93	Kazakhstan	2.137
94	Papua New Guinea	2.139
95	Nepal	2.152
96	Liberia	2.159
96	Uganda	2.159
98	Congo (Brazzaville)	2.165
99	Rwanda	2.185
100	Mali	2.188
101	Saudi Arabia	2.192
102	El Salvador	2.215
103	Tajikistan	2.225
104	Eritrea	2.227
105	Madagascar	2.239
106	Jamaica	2.244
107	Thailand	2.247
108	Turkmenistan	2.248
109	Armenia	2.260
109	Uzbekistan	2.260
111	Kenya	2.276
112	Belarus	2.283
113	Haiti	2.288
114	Kyrgyz Republic	2.296
115	Cambodia	2.301
116	Syria	2.322
117	Honduras	2.327
119	Iran	2.356
119	Niger	2.356
121	Mexico	2.362
122	Azerbaijan	2.379
123	Bahrain	2.398
124	Venezuela	2.403
125	Guatemala	2.405
126	Sri Lanka	2.407
127	Turkey	2.411
128	Cote d'Ivoire	2.417
129	Algeria	2.423
130	Mauritania	2.425
131	Ethiopia	2.468
132	Burundi	2.532
133	Myanmar	2.538

Table 2 Continued

134	Georgia	2.558
135	India	2.570
136	Philippines	2.574
137	Lebanon	2.597
138	Yemen	2.670
139	Colombia	2.700
140	Zimbabwe	2.722
141	Chad	2.740
142	Nigeria	2.743
143	Libya	2.816
144	Central African Republic	2.869
145	Israel	2.901
146	Pakistan	2.905
147	Russia	2.966
148	Democratic Republic of Congo	3.016
149	North Korea	3.092
150	Afghanistan	3.212
151	Sudan	3.223
152	Iraq	3.296
153	Somalia	3.379

ranks the states of the U.S. by their peacefulness. The study made two unique contributions to the public debate on crime. The first was estimating of the additional economic activity and the number of jobs that would be created through improvements in peace. These estimates include the direct costs associated with policing, justice, incarceration and crime. The study also conservatively estimated the flow-on effects to the overall economy if the U.S. could achieve the same level of peacefulness as Canada.

The other unique contribution of the U.S. Peace Index was the statistical analysis between a number of socioeconomic indicators and the index to derive the types of environments that are associated with peace within the U.S. Fifteen data sets were correlated and the significant factors could be grouped by three categories: economic opportunity, education, and health.

Peace & the Media is a study jointly conducted by the IEP and Media Tenor which is a leading organisation on analysing global media coverage. The report, which was used to form the central part of the book "2010 Peace Report", analyses the media coverage from news and current affairs programs for 37 television networks from four continents on their coverage of peace. It also analyses the global media coverage of the "Structures of Peace". These structures have been derived through statistical analysis and describe the environment that creates a peaceful society. There is a important section that analyses what is missing in the media coverage of Afghanistan when compared to the Structures of Peace. It provides a useful insight into some of the reasons why peace in Afghanistan has been elusive as it appears that little attention has been paid to some of the key structures of peaceful societies.

The social sustainability and peace white paper focuses on the new and emerging area of social sustainability. The concept of social sustainability has increasingly become the focus of intergovernmental organizations, academics, global think tanks, and policymakers within government. While sustainability has for some time been a prominent concept in environmental currents, the social dimension of sustainability has previously been overshadowed by economic and environmental aspects. The recent shift of focus to social sustainability is recognition of the interdependent nature of social, economic and environmental factors in

determining progress and the importance of social institutions in helping to shape economic, political and environmental outcomes. This is also true for peace.

This section of the 2011 GPI Discussion Paper sets out to explain how the environments that shape peace are also the same environments that create the appropriate conditions for social sustainability. This study draws on recently published research from the Indices for Social Development (ISD) to correlate their measures of social sustainability with the GPI.

Peace is one of the most used and esteemed words in the human vocabulary. Yet if we wish to create peace then we must first pose the question: "what do we know about peace?" Although great strides have been made in improving our common understanding of peace and its causes, with many universities now having peace and conflict centres, peace is still not common to the major academic disciplines. There are no courses on the literature of peace in the literature departments of the major universities in the world yet most people know profound works on peace. Nor is there a chair in Peace Economics in any major university. However, surveys conducted by the United Nations Global Compact found that 80% of business leaders believe that the size of their markets expands with peace and 79% believe that their costs decrease with improvements in peace. Knowledge is the key to creating the correct sets of initiatives to solve any problem: if we live in a world that desires peace then *how can the optimum level of peace be created if we do not fully understand it?* We live in an age that is different to any other epoch in human history. We are more interconnected than ever before yet finding finite constraints on many of the basic resources needed to sustain life. These challenges are occurring globally and are multi-faceted: encompassing economic management, environmental sustainability and a wide variety of social ills. Global challenges do call for global actions but compounding these challenges is the inability of our institutions to adequately address their causes and to then create the remedies. This has been demonstrated by the inability to find global solutions to many pressing problems as is exemplified by the breakdown of the Copenhagen Climate Change talks, burgeoning government and private sector debt, lack of regulation of the speculative aspects of the financial system or indeed our inability to even articulate good capitalist models that aren't totally based on consumption.

Yet such imminent and urgent challenges do provide a unique opportunity for us to reconsider and redefine our institutions, relationships and values so that we can create a viable future in which humanity can meet its shared challenges and continue to prosper. Peace is one of these essential elements. One of the more remarkable findings from the Global Peace Index in 2010 was that societies that are highly peaceful also perform exceptionally well in many other ways. The most peaceful societies also have higher per capita income, higher levels of well-being, more freedom, perform better at sustainability, and appear to have a more equitable distribution of social spending. What is important is not whether peace creates these abundances, rather the realization that what creates a peaceful society also allows for a fuller expression of human potential, and in many diverse forms. The Structures of Peace describe this environment and therefore create much more than peace.

The United States Peace Index is the first in a series of national peace indices that will build on the work of the Institute for Economics and Peace in measuring and understanding the fabric of peace. It is envisaged that by producing a series of national peace indices using the same methodology across many nations the patterns that are associated with peace will emerge. This will enable politicians and policy makers to consult and legislate in areas that will lead to more stable, affluent and peaceful societies.

The U.S. Peace Index consists of a composite set of five indicators. These indicators were chosen because they can be measured across many countries with a methodology that would allow for the data to be consistently collected by state, district or region. The definition of

peace that was chosen for these studies is the "absence of violence". This is a simple definition, intuitive to most people and is the same definition used for the GPI. The indicators that have been selected relate to violent crime, homicides, incarceration rates, policing and availability of small arms.

In the U.S. there are many benefits that would flow from improvements in peace, either physically, emotionally or socially, but one of the key benefits that is often overlooked is the substantial positive economic impact that even small improvements in peace can have. Violence creates costs for both business and government. It also reduces productivity, which if unleashed will create substantial additional economic growth.

This study estimates that if the U.S. had similar levels of peacefulness to Canada, the conservative economic benefit on the U.S. economy would be \$361 billion per annum. This would consist of \$89 billion in direct savings and \$272 billion from additional economic activity. This additional economic activity, if recouped, would have a stimulatory effect capable of generating approximately 2.7 million additional jobs. States that rank higher on the social and economic factors that significantly correlated with the USPI tend to have higher scores in peace, indicating that having access to basic services, having an education, being in good health and ultimately being given the opportunity to succeed, are linked to peace. Improving these factors would also create additional economic activity. Contrary to popular belief peace in the U.S. has been on the increase, recording an 8% improvement since 1991. The improvement in peacefulness has been driven by a substantial decrease in homicides and violent crime. This however, has been somewhat offset by large and progressive increases in the incarceration rate from 1991 onwards.

Media is one of the most influential aspects in any society yet using deep multi-national datasets to analyse global media patterns on societal issues is relatively new. Therefore the combination of the Media Tenor datasets and the Global Peace Index made for an original study in analysing the different patterns of coverage between continents, countries and networks with the emphasis on highlighting the accuracy of coverage, the tenor of the coverage as well as breadth of coverage. Media accuracy is a much debated subject but how accurate is the media on reporting peace and conflict and is it more accurate than people would commonly believe?

The starting point for the analysis was to determine how closely the global media coverage of violence matched the measured levels of violence within each country. To accomplish this, the percentage of "violence" stories was tallied for all television programs by country, other than for the country in which the television network was domiciled. This dataset was then statistically analysed against the GPI to determine its alignment. It was striking how aligned the data sets were. However, there were some notable exceptions with over reporting of violence for Austria, Ireland, Portugal and Finland. Despite their high levels of peacefulness, over half of all TV reports on these countries focused on violence issues. Russia, Israel and Sudan are identified as another set of outliers. These countries are ranked at 143, 144 and 146 (out of 149) respectively on the 2010 Global Peace Index. Yet, they had lower levels of violence reporting than would be expected.

Executive summary

By categorising topics according to the Structures that build peace it was possible to further analyse media coverage of these crucial areas. In order to help facilitate an increase in peacefulness, coverage of these topics is essential as it would encourage a more informed global debate on matters of key strategic significance. It is encouraging to find that there are 20%

more stories covering topics related to the Structures of Peace than stories that focused on conflict. The analysis was not concerned with whether the reports were positive or negative; rather the emphasis is on the subject matter as that is what will create awareness.

When analysing the least peaceful countries, a different picture emerges. As would be expected there is a higher percentage of reporting on Violence related topics, at 75%. Defence and Crime had by far the largest levels of coverage. The distribution of stories across the Violence topics was well spread while the distribution of stories across the Peace topics had a wide variance. For the 10 least peaceful countries, reports on topics relating to the Structures of Peace are roughly a third of the reports on conflict. However, there is a relative paucity of reports on 'education', 'equitable distribution of resources', the 'free flow of information' and 'corruption'. Other than Israel, all the countries in the group of the 10 least peaceful countries have high levels of corruption. Without an adequate focus on these topics building a sustainable society will be difficult because the citizens of many of the least peaceful countries do not have the knowledge to know what is needed.

This paper also shows for the first time that measures of social sustainability are linked to indicators of peacefulness as measured by the GPI. The research demonstrates measures of civic activism, inter-group social cohesion and interpersonal safety and trust as measured by ISD are highly correlated with the GPI. The paper also fits these informal institutions into the Structures of Peace and discusses their interaction within such a model.

The approach adopted by the IEP is not to aim at isolating single causal factors that drive peace, but rather, via statistical means, to holistically describe the environments that are associated with peace. Through focusing on all of these factors as being interdependent a holistic approach can be used to define the optimum conditions that create peace. Additionally, the environment that is optimal for creating peace is also optimal for many other desirable aspects of human activity to flourish, such as the arts or business. In summary our knowledge of peace is improving and one of the most important contributions that the IEP has made to it is to statistically determine what structures build a peaceful society. The U.S. Peace Index has confirmed that the same aspects identified globally, also play a key role in the U.S. The Peace and the Media report further builds on this theme by analysing the global coverage of these structures and then compares them to the media coverage of Afghanistan where there is little to no coverage of some of these essential structures. Social sustainability is also analysed to determine how it statistically relates to peace and where it is included within the Structures of Peace.

The United States peace index

The U.S. Peace Index is the first in a series of national peace indices that will be produced by the Institute for Economics and Peace (IEP). These studies will analyse the level and composition of peace within selected nations by state, district or region.

The aim of the research will be to further our understanding of what types of environments are associated with peace sub-nationally and to further define the positive economic impact of peace. Since producing the first Global Peace Index in 2007, the Institute for Economics and Peace has been asked to develop a number of national peace indices. As the empirical basis for the GPI has progressively developed, research by the IEP has found that many large nations have substantial internal variances in their levels of peacefulness. This is especially true for nations with marked social and cultural diversity combined with variable economic conditions. It is predominantly for this reason that the IEP has decided to produce national peace indices, with the U.S. Peace Index being the first in the series.

Through analysing national peace indices a better understanding of the fabric of peace is possible. If trends and statistical relations can be found between the level of internal peacefulness of different nations, then new approaches to creating peace may emerge. In order to undertake comparable national peace studies, it was decided to adopt a minimal number of indicators and to develop a methodology that could be applied to all future studies. This will provide a comparable framework for cross country analysis. It was also important to adopt a measurement framework underpinned by a proven and familiar philosophical foundation.

Why select the U.S. for the first national peace index?

The United States makes an ideal case study for the first national peace index principally due to the high quality of state-level data dating back to the early 1980s and the existence of a large literature of related studies which estimate the various costs of violence as well as the costs associated with the containment of violence. Compared to other nations on the Global Peace Index, the U.S. is a middle ranking nation with a peace measure of 2.06 very close to the global average of 2.05.¹ The combination of economic size, the substantial capabilities and resources of government, and the middle level ranking, means trapped economic potential and productivity within the country is greater and has more opportunity of being realised than in any other region or nation in the world.

The U.S. was also attractive because it is commonly characterized as having a higher rate of violence than many other developed economies and also because trends in crime over the past twenty years have been the subject of much debate and curiosity. It is interesting to note that at the beginning of the 1980s the U.S.'s crime rate was comparable to that of other developed nations and violence steadily increased to a peak in the mid-1990s and has since been falling. However, this fall has been accompanied by a steadily increasing incarceration rate which has significant economic consequences associated with it.

The excellent availability of time series data allows these correlation trends to be compared with the U.S. Peace Index so changes in correlations can be seen over time. Additionally, the large pool of available literature on the cost of the items associated with this study meant that reasonably good estimates could be made on the savings or costs from either improvements in peace or losses in peacefulness. Estimated savings have been broken down by state. It is acknowledged that with better data and more time the estimates could be refined even further. Furthermore, the U.S., being the largest economy in the world and having a relatively lower level of peacefulness than other developed economies means the potential economic gains are of a much higher magnitude than in other nations. In the context of the lingering effects of the Global Financial Crisis this is especially pertinent, because the additional economic activity that would be created through improvements in peace can provide a powerful economic stimulus to aid economic recovery.

The opportunity to move expenditure from violence-containment industries to more economically productive industries is significant. This can be exemplified by the opportunity to build a highway instead of a jail, or the expansion of employment in teachers rather than prison guards. While such efforts would not necessarily generate additional economic activity in themselves, they would create the foundation for a more productive economy. The realisation of additional economic activity is defined as the 'dynamic peace dividend' and can result in a substantial lift in GDP and employment. The concept is further explained in the economic analysis section.

Definition of peace

For the purpose of this study, peace has been defined as "the absence of violence". This definition is easily understood while also being relatively open to empirical quantification. The methodological framework was based on envisaging a society that is perfectly at peace; a society where there is no violence, no police and no one in jail. Evidently, this does not exist in any modern developed nation. Without police crime would be rampant, while violence can be reduced by increasing the number of police and/or jailing large numbers of individuals. This study does not seek to make any moral or value judgments about the appropriate levels of policing or incarcerations. It is acknowledged that without police higher levels of crime would exist and that it is necessary to incarcerate individuals who pose a danger to society.

The indicators are interdependent, well-recorded, and measurable across states and provide a solid foundation from which to develop measures of peace.

Identifying the potential determinants of peace

To further the understanding of the economic and social factors associated with peace, the IEP compiled a secondary dataset composed of 37 secondary factors grouped into four categories of education, health, economic conditions, politics and demographics. The composite USPI score was correlated with each factor to determine statistical significance. The correlation coefficients are calculated across the 50 states plus Washington D.C. and values where $r > 0.5$ and $r < -0.5$ were considered to be statistically significant. A high positive correlation suggests a factor is associated with violence, while a high negative correlation suggests that the factor is associated with increasing peacefulness.

Economic measurements and benefits of peace

To understand the economic impact of peace the economic costs associated with homicides, violent crime, policing, judicial services and incarceration have been estimated. The figures chosen were based on a review of the existing literature and the sources used are mentioned in the study in the relevant commentary. The estimated costs are considered to be conservative as there are many additional costs associated with violence that have not been included due to the difficulty in finding accurate statistics. These include: higher insurance premiums, lost management time dealing with defensive measures against crime, additional security costs, and the productivity loss from investing in less productive assets.

Two of the main economic losses caused by violence are the value lost of life-time employment of homicide victims and the lost value of employment when an employed person is imprisoned. It is estimated that 70% of people imprisoned had full-time employment for a year prior to their incarceration.

In order to realise the peace dividend investments will need to be made, but some actions can have quick returns. As an illustrative example let's consider incarceration as it has significant economic effects. Lowering the rates of incarceration of low risk nonviolent offenders who are employed in full-time work would have an immediate economic benefit to both state government budgets and the economy. For each person imprisoned tax receipts are lost while the state also has to fund their imprisonment. Additionally, the value of their wage is lost to the economy. This also has flow on effects as their spending employs others. Management programs would be self-funding through reductions in state expenditure on

incarceration and increased tax receipts. Estimating the costs or recommending the programs is beyond the scope of this study but lessening new incarcerations of non-violent offenders who are currently employed would have immediate benefits to state government budgets as well the economy.

Methodology and data sources

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 nations.

In addition, data for these five indicators was readily available in the U.S. without the need to make qualitative assessments. Owing to the purely quantitative nature of these measurements, it has been possible to collect data from 1991 onwards, and construct U.S. peace indices for almost 20 consecutive years. This has allowed for the development of a detailed trend analysis which is included in this report and will hopefully serve as a useful resource for academics interested in further research.

The indicators

Each of the five indicators is a quantitative measure. The five indicators are:

- Number of homicides per 100,000 people

Source: FBI Uniform Crime Reports, 1991–2009

The USPI uses the same definition of homicide as the U.S. Bureau of Justice Statistics, wherein homicide is defined as “murder or non-negligent manslaughter”.

- Number of violent crimes per 100,000 people

Source: FBI Uniform Crime Reports, 1991–2009

The U.S. Peace Index measure uses the Bureau of Justice Statistics definition of violent crime and the associated quantitative measures. In the U.S., the measure of violent crime includes homicide, forcible rape, robbery, and aggravated assault. The USPI measure of violent crime excludes homicide from this group, as it is already included in the first indicator.

- Number of jailed population per 100,000 people

Source: U.S. Bureau of Justice Statistics, 1991–2009

In order to allow for meaningful comparisons across states, the USPI only includes prisoners under state jurisdiction who have been sentenced to more than one year in prison. This means that both federal prisoners and prisoners in jail are excluded from this indicator.

- Number of police officers per 100,000 people

Source: FBI Uniform Crime Reports, 1991–2009

This number includes both sworn officers and civilian employees. The USPI uses the census population estimates for all states and indicators for the sake of consistency.

- Availability of small arms

Source: Centre for Disease Control and Prevention, National Centre for Injury Prevention and Control, Fatal Injury Reports, 1991–2007

Although the U.S. has excellent data for many statistics, there is no reliable data on small arms availability, small arms ownership, or small arms sales within the U.S. or within the states of the U.S.. An accurate measure of gun prevalence cannot be calculated from administrative records alone. For this reason many studies on gun prevalence use a quantitative proxy. The proxy used in the USPI is: firearm suicides as a percentage of total suicides (FS/S). As this indicator varied significantly from year to year for some states, a five year moving average was used in order to smooth out the variance. For example, the figure used for Alabama for 2008 was an average of FS/S for 2003–2007.

All indicators are scored between 1 and 5, with 1 being the most peaceful possible score, and 5 being the least peaceful. Scores are calculated to two decimal places.

Weighting the index

In order to maintain consistency, the weights assigned to each indicator mirror those used in the GPI for the equivalent measures. GPI indicators weights were agreed upon by an international panel of experts based on a consensus view of their relative importance. The weights assigned to the 5 indicators are presented in Table 3.

Key findings

1. From 1995 to 2009, the United States has become more peaceful

Peace improved by 8% from 1995 to 2009, driven by a substantial decrease in the rates of homicide and violent crime. However, these improvements have been largely offset by large and progressive increases in the incarceration rate, which has seen a slight decline only in the last two years.

There have been three trends; the first was from 1997 to 2000 when there was dramatic decrease in homicides and violent crime. This was followed by a plateau effect with no change in homicides and violent crime from 2000 to 2007, and finally the improving trend resumed from 2008 onwards.

From 1991 to 2009, 28 states improved their peacefulness while 10 of these states experienced an increase in peacefulness beyond 15%. Overall, the average USPI score moved from an average of 2.74 in 1991, to 2.62 in 2009, with most of the improvement coming from the bottom 30 ranked states.

Table 3 The indicators and their scores

<i>Indicator</i>	<i>Weight</i>
Number of homicides per 100,000 people	4
Number of violent crimes per 100,000 people	4
Number of jailed population per 100,000 people	3
Number of police officers per 100,000 people	3
Availability of small arms	1

Note: As incarceration data is not available post 2002 for Washington D.C., it has been excluded from the USPI.

2. The five most peaceful states are Maine, New Hampshire, Vermont, Minnesota and North Dakota

The Northeast is the most peaceful region in the U.S., with all of its states ranking in the top half of the U.S. Peace Index, including the heavily populated states of New York, Pennsylvania, and New Jersey. The least peaceful states are Louisiana, Tennessee, Nevada, Florida and Alabama.

3. Peace is linked to opportunity, health, education and the economy

Statistically significant correlations were found with fifteen different social and economic factors. These related to health, education, demographics and economic opportunity, but not to political affiliation. The key correlants were:

- % With at least high school diploma (2009)
- High school graduation rate (2007)
- PEW State of the States -- Educational Opportunities
- % Without health insurance (2008–2009)
- % With diabetes (2008)
- Life expectancy at birth (2007)
- Teenage pregnancy rate (2008)
- Infant mortality rate (2007)
- Teenage death rate (2007)
- Household income Gini coefficient (2009)
- % Households in poverty (2009)
- Gallup State of the States (2009) Basic Access
- Labor force participation rate (2009)
- % Children in single parent families (2009)
- % Females in Labor force (2009)

Many of these factors can be seen as measures of opportunity. States that ranked higher on these social and economic factors tended to have higher scores in peace – indicating access to basic services, having an education, good health, and ultimately the opportunity to succeed. are key pre-requisites to a more peaceful society.

4. Peace is not linked to political affiliation

Neither the groupings of Republican nor Democratic states had a discernible advantage in peace. Although the top five states are predominantly Democratic and the bottom five states are predominantly Republican, once the other states were included in the analysis they neutralised out any effect.

5. The potential economic gains from improvements in peace are significant

Improvements in peace would result in the realisation of substantial savings for both governments and society. If the U.S. reduced its violence to the same levels as Canada then the general community and state governments would collectively save in the region of \$89 billion while the same reductions in the level of violence would provide an economic stimulus of approximately \$272 billion. The release of trapped productivity through the abatement of violence would create a stimulus that could generate an additional 2.7 million new jobs, effectively lowering the U.S. unemployment rate by 20% from 8.9% to 7.1%.

6. On a per capita basis, the top five states with the most to gain from reductions in violence are Louisiana, Florida, Nevada, Alaska and New Mexico

The total economic effect of violence tends to be greatest in the most violent states; however several states have a structurally higher cost of violence because of the composition of their violence. For instance, lost productivity from assault and lost productivity from incarceration are the largest shares of the total cost of violence, so states with high levels of incarceration and assault tend to have a higher per capita cost. In outright dollar terms, the large populous states with high levels of incarceration have the most to gain, such as California, Florida and Texas.

7. Growing incarceration is a drag on the economy and in recent years has not had a significant effect on violent crime

While homicide and violent crime rates have fallen, the economic benefits to flow from these decreases have been largely offset by the costs associated with the increase in the incarceration rate. In recent years there has been no statistically meaningful relationship between increases in incarceration rates and decreases in violent crime. While from 1991 to 1999 increases in incarceration were met with falls in violent crime, from 2000 to 2007 increases in the incarceration rate had no impact on the level of violent crime. Furthermore for 2008 and 2009 both the violent crime and incarceration rates dropped.

8. The Gallup Basic Access sub-index is the strongest correlating qualitative measure, linking the perception of how satisfied people are with their access to basic services to peace

The Gallup Basic Access sub-index has a correlation of $r = -.75$. This sub-index is based on 13 questions gauging access to basic needs for a healthy life – specifically, access to clean water, medicine, a safe place to exercise, and affordable fruits and vegetables; enough money for food, shelter, and healthcare; having health insurance, having a doctor, having visited a dentist recently, satisfaction with the community, the community getting better as a place to live, and feeling safe walking alone at night. This strong correlation shows further research into qualitative attitudinal factors such as feeling comfortable in a community and feeling optimistic about the community one lives in are also important factors not necessarily captured in quantitative studies.

9. Six of the top ten most populous states were also in the top ten percentage improvers of peace

These states included New York, California, Texas, Georgia, Illinois and Michigan. This is an interesting finding which requires further qualitative research and potentially provides a novel insight into why Pennsylvania as the sixth most populous state, also ranked in the bottom ten for declines in peace. Further research could perhaps better reveal common demographic, economic and governance related trends in these populous states.

10. The three Midwestern states, North Dakota, South Dakota and Montana, all experienced the three most significant declines in peacefulness

This result stands out as the three Midwestern states all declined in peacefulness by over 40%. However, these states are still relatively peaceful states and in the top half of the USPI. Understanding commonalities between them may improve understanding as to why these states have declined in peacefulness and what they can do to improve.

Table 1 U.S. vs. global average, internal indicators

<i>Internal Indicators Average</i>	<i>USA</i>	<i>Difference</i>	
OVERALL SCORE 2.05	2.06	-0.01	
Internal Indicators	Average	USA	Difference
Perceptions of criminality in society	3.1	2	1.1
Number of internal security officers and police per 100,000 people	2.3	2	0.3
Number of homicides per 100,000 people	2.6	2	0.6
Number of jailed population per 100,000 people	1.5	5	-3.5
Ease of access to small arms and light weapons	3.1	3	0.1
Level of organised conflict (internal)	2.4	1	1.4
Likelihood of violent demonstrations	2.9	2	0.9
Level of violent crime	2.7	1	1.7
Political instability	2.5	1	1.5
Respect for human rights	2.7	3	-0.3
Potential for terrorist acts	2.3	3	-0.7
Number of deaths from organised conflict (internal)	1.4	1	0.4

The U.S. and the global average

The peacefulness of the U.S. can be further analysed by comparing the internal U.S. 'peace score' from the Global Peace Index with the average GPI score for each of the categories measured. Indicators that are not shaded are those where the U.S. performed better than the global average while indicators shaded red are those where the U.S. scored below the global average.

It is interesting to note how relatively well the U.S. performs on the majority of the internal indicators when compared to the rest of the world. The U.S. performs particularly well on measures of internal cohesion with low levels of organised internal conflict and a high level of political stability. The country also performs well on the perception of crime within the country and the likelihood of violent demonstrations.