SUSTAINABLE GROWTH.

INTEGRATED GROWTH.

the global

Sustainable Competitiveness Index

2015

About this Report

The Sustainable Competitiveness Report, 3rd edition

September 2015

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About SolAbility

SolAbility is an independent sustainability think-tank and advisory, with presence in Korea and Switzerland.

SolAbility is the maker of 3 DJSI Super-Sector Leaders - designed and implemented the sustainable management for GS Engineering & Construction (Industry leader 2012), Korea Telecom (Industry Leader 2011-2013, 2015), and Lotte Shopping (Industry Leader 2011-2015).

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Global
Sustainable
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Index

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The Global Sustainable Competitiveness Index

4th Edition, 2015

Foreword

Just as VW was about to climb the throne of car-making – selling more cars than other carmakers – the scandal came out. Even if – as is not unlikely – it will turn out that other carmakers are using similar tricks, the scandal will always be remembered as the VW scandal. In order not to affect short-term sales numbers, or in order to save short-term R&D cost, VW manipulated test results of their cars on a grand scale. The result: a fine in the range of a double-digit billion sum, and a shattered company image.

But what would have been the alternative?

Well, maybe invest a bit more in developing engines that fulfil requirements. What that would have cost? Some higher upfront R&D costs, and possible slightly lower sales-number. The benefit? Higher sales with a better product, no fine, no image damage, no scandal.

In the ideal case, VW would have paid a bit closer attention to external developments: the regulation was years in the making, allowing more than enough time to prepare. VW didn't pay attention or considered R&D investment too high. Whatever the reason – they fucked up. Bad management. Classical wealth destruction.

What do we learn? Saving on short-term goals targets is often more expensive than investing for the long term.

The Sustainable Competitiveness Index is based on a competitiveness model that tries to evaluate exactly this – the ability to sustain wealth creation by incorporating all relevant pillars of sustained growth and wealth creation: natural capital availability, resource efficiency, social cohesion, innovation and business capabilities, and government-led development direction. The Sustainable Competitiveness Index also integrates data trends over time to allow for a better expression of future development potential.

The results aim at serving as an alternative to the GDP, for academic, policy or investment decisions, based on current and future development prospects and risks of nations.

We hope you find this information useful.

Mi Hyang Lee & Andy Gebhardt

SolAbility Sustainable Intelligence

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1   Executive Summary

1.1   Measuring development, wealth, and prosperity

What makes a country successful? What is it that allows some countries to provide more wealth for their residents than other?

Conventional country comparisons are based on economic and or financial indicators. Most commonly used is the GDP, and other indicators of calculated monetary value of economic and government activities. However, purely economic and financial indicators, at best, reflect current economic success without taking into account what makes this economic success possible, and do not take into account developments that shape future potential or decline.

Economic and financial indicators, standing on their own, are insufficient measurements for risk and investment analysis – or credit ratings.

In addition, economic activities can have certain adverse side-effects on the environment and societies: pollution and depletion of natural resources, health impacts, inequality and impacts on the socio-cultural fabric of a country. Neglect of these factors can diminish the very basis of current economic output and success measured in the GDP.

The Sustainable Competitiveness Index is based on a model that integrates economic and financial indicators with the pillars that make the business success possible in the first place. It is based purely on comparable and measurable performance data collected by recognised international agencies, therefore excluding all subjectivity.
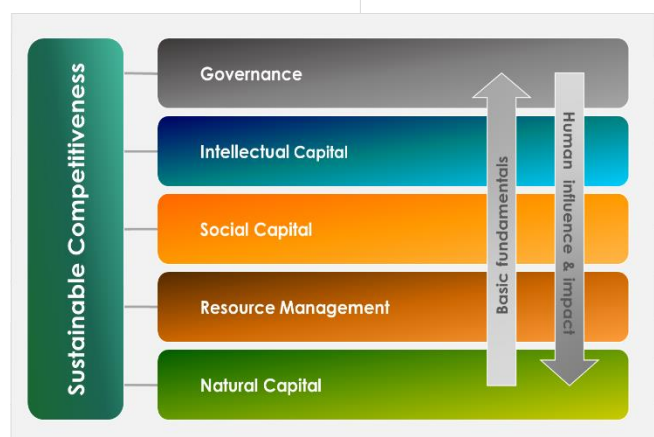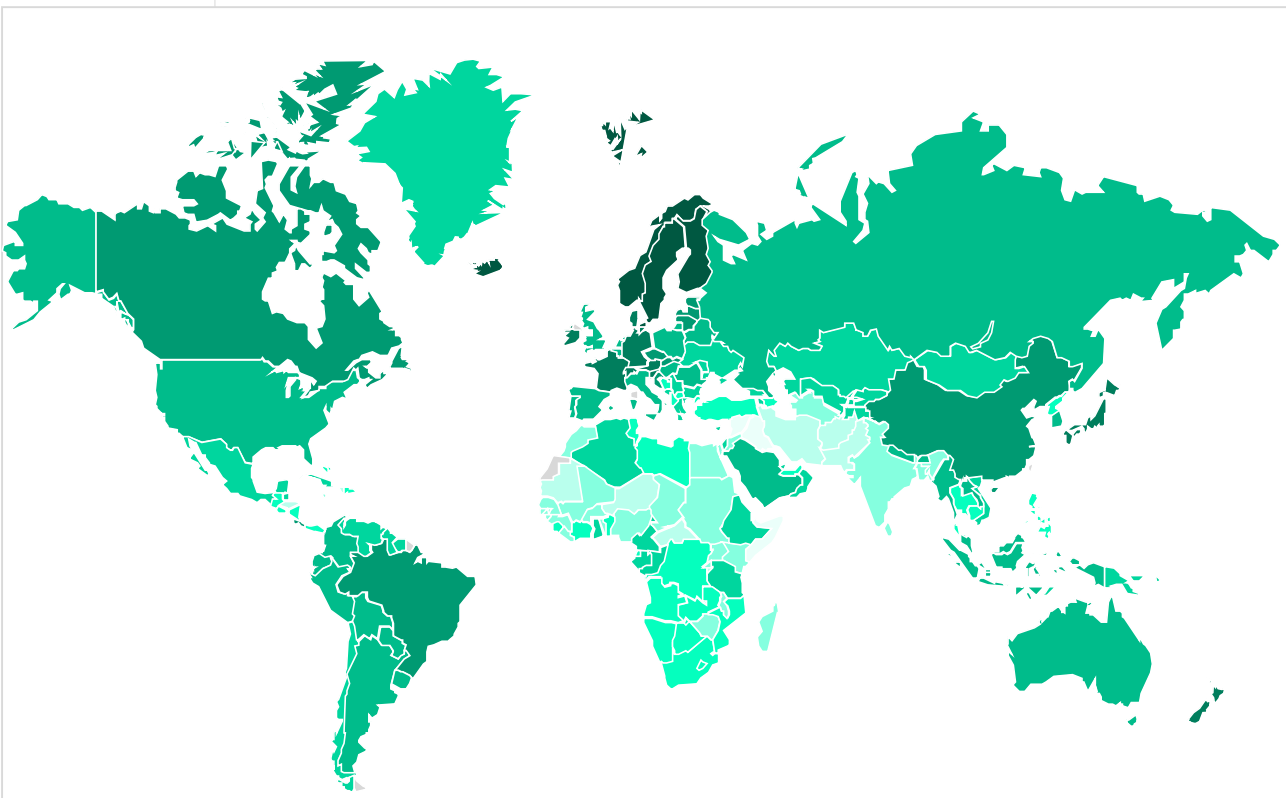
Sustainable competitiveness is the ability to generate and sustain inclusive wealth without diminishing future capability of achieving and sustaining current wealth levels.

The Sustainable Competitiveness Model

The Sustainable Competitiveness model has been developed based on an integrated view of what characterises the current and the future state (i.e. competitiveness) of a nation-economy. It is based on a competitiveness model that incorporates all relevant pillars of sustained growth and wealth creation of a nation – natural capital availability, resource efficiency, social cohesion, government-led development direction, and innovation and business capabilities. The Sustainable Competitiveness Index also integrates data trends over time to allow for a better expression of future development potential.

Sustainable competitiveness is the ability to generate and sustain inclusive wealth without diminishing future capability of sustaining or increasing current wealth levels.

That means that current wealth levels are not in danger of being reduced or diminished through over-exploitation of resources (i.e. natural and human resources), the lack of innovative edge required to compete in the globalised markets (i.e. education), or the discrimination, marginalisation or exploitation of segments of a society.

1.2   Index 2015: Key Takeaways

The Sustainable Competiveness Ranking 2015 reveals some surprising, and other not-so-surprising results:

- Iceland is leading the Sustainable Competitiveness Index for a second year - the country that refused to bail out its banks in the aftermath of the financial crisis 2007/2008.

- The Sustainable Competitiveness Index is topped by Scandinavian nations four the 4th consecutive year. The leaders are followed by other North-Western European Nations.

- The only non-European countries in the top 20 are Japan (11), New Zealand (12) and Canada (16)

- The World's largest economy, the US, is ranked 41, the UK is ranked 48. Russia is above both on 33.

- Of the booming emerging economies, Brazil is ranked 24, China 25, South Korea 40, and India 131.

- The Natural Capital sub-rankings are topped by countries with a rich biodiversity, favourable climate and sufficient water resources. Distinctions are also visible between the more industrialised countries, indicating that some countries will face lower obstacles with the coming raw material and energy scarcity

- Asian nations (Singapore, South Korea, Japan, and China) lead the Sustainable Innovation Competitiveness ranking. However, achieving sustained prosperity in these countries might be compromised by Natural Capital constraints and current high resource intensity/low resource efficiency

- The Social Cohesion ranking is headed by Northern European (Scandinavian) countries, indicating that Social Cohesion is the result of economic growth combined with some sort of social consensus

The Sustainable Competitiveness World Map. Dark areas indicate high competitiveness, light areas low competitiveness

The Pillars of Sustainable Competitiveness

The main pillars of the Sustainable Competitiveness Model are:

- **Natural Capital**: the given natural environment within the frontiers of a country, including availability of resources, and the level of the depletion of those resources.
- **Social Capital**: health, equality, security, freedom and life satisfaction within a country
- **Resource Management**: the efficiency of using available resources (human, technology, natural and financial resources), both domestic and imported) as a measurement of operational competitiveness in a resource-constraint World.
- **Sustainable Innovation**: the capability of a country to generate wealth and jobs through innovation and value-added industries in the globalised markets
- **Governance Capability**: the ability of governing bodies and authorities to provide a framework for sustained and sustainable wealth generation

Calculating Sustainable Competitiveness Scores

The Sustainable Competitiveness Index is based on 106 quantitative indicators, grouped in 5 pillars. All 106 indicators are based on pure performance data derived from recognised global agencies (World Bank, UN agencies). The Index does not contain qualitative indicators, therefore excluding all subjectivity.

The quantitative data indicators have been linearly computed to scores in order to compare countries in different indicators. Linear scoring means that the best performing country in a single indicator achieves the highest score – scores are not calculated against a theoretical best practice. A high ranking therefore does not necessarily mean a country really is sustainable – it only means it is more sustainable competitive than others.

To reflect recent developments, a trend analysis of performance data of the named indicators over the latest 5 years has been computed to a second score, allowing for a result that reflects both current state and future outlook of the sustainable competitiveness of a country.

The Sustainable Competitiveness score is based on scoring current performance data as well as the trends (increase/decrease) over the past 5 years. The combination of current and trend comparison reflects a momentary picture as well as indicating the future potential of a country.

1.3 Higher sustainability equals higher wealth

The leading nations in the Sustainable Competitiveness ranking are mostly high-income countries, suggesting a certain correlation between Sustainable Competitiveness score and GDP per capita or income levels (high income = high sustainability). The same is true when visualizing average deviations of GDP per capita and the sustainable competitiveness score.

Sustainability Score and GDP

GDP/capita and sustainable competitiveness

While a certain similarity between GDP rankings and sustainability levels seems to be visible, the correlation is superficial and refuted by too many exceptions to the rule. This indicates that the correlation is not from GDP to sustainable competitiveness, but rather from sustainable competitiveness to income levels. In other words: higher sustainable competitiveness can be associated with higher income levels.

However, the correlation or the influence of the sustainable competitiveness on GDP or income level is not immediate; it is time-deferred. Like every endeavour or project, an upfront investment is required to achieve desired results at a later stage. The seeds have to be planted, the plants need to be cared for before the harvest can be collected. In addition, the presence of large natural resources allows for exploitation of the natural capital (e.g. the oil-rich countries of the Middle East). However, such wealth is highly unsustainable and the wealth generated will diminish with depletion of resources in the absence of an adequate alternative sustainable economy and the underlying fundament requirements to achieve sustainable wealth that does not depend on the exploitation of non-renewable resources.
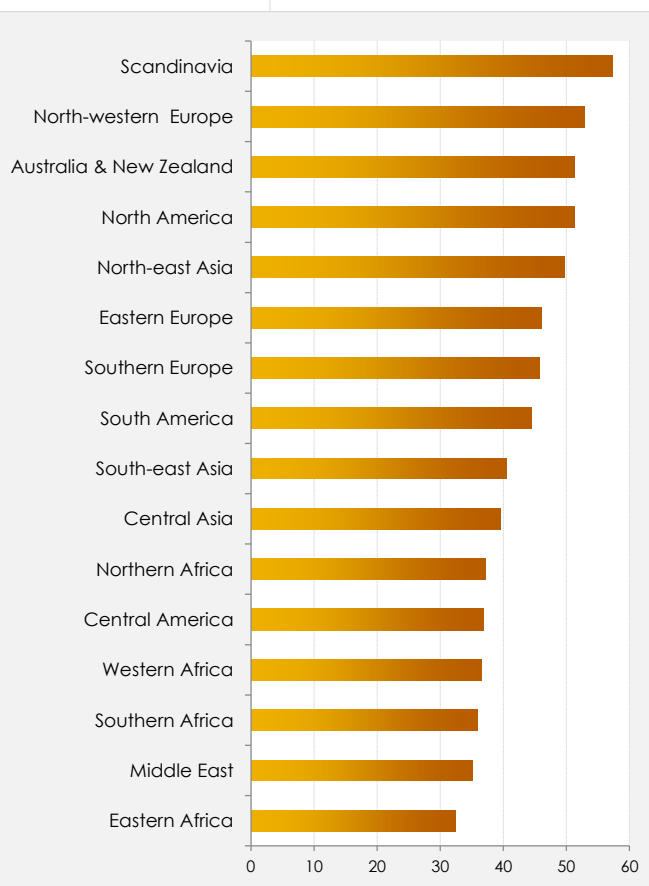
Regional spread

Scandinavia as a region achieves the highest Sustainable Competitiveness score, followed by other regions in the Northern hemisphere. Central Asia is the only region that doesn't fit into the North-South divide. From a European perspective, it is interesting to note that Eastern Europe achieves a higher score than Sothern Europe (which has nominally higher income levels). All African Regions are in the bottom half. The high-income countries of the Middle East have sustained their economic success with the exploitation of their mineral resources. The low Sustainable Competitiveness of the region raises concerns on whether those countries will be able to maintain or sustain their development level once there fossil fuel wealth diminishes.

Regional spread of sustainable competitiveness scores

Sustainable Competiveness – The 2015 Global Index

Due to changes in methodology, the results of the 2014 Index cannot be directly compared to 2013 results. 2013 ranking comparison therefor heave been omitted for the purpose of this report. Interested stakeholder can download the 2012, 2013 and Indexes *here*.

Country	Rank	Score	Country	Rank	Score	Country	Rank	Score	Country	Rank	Score
Iceland	1	56.1	Argentina	46	45.1	Vietnam	91	41.2	Rwanda	136	37.3
Sweden	2	55.5	Hungary	47	45.0	Cuba	92	41.2	Togo	137	37.1
Norway	3	54.6	United Kingdom	48	44.9	Timor-Leste	93	41.1	Jordan	138	37.1
Finland	4	54.4	Romania	49	44.8	Nicaragua	94	40.9	Sri Lanka	139	37.0
Switzerland	5	53.0	Nepal	50	44.7	Brunei	95	40.9	Jamaica	140	36.8
Liechtenstein	6	52.9	Malaysia	51	44.6	Panama	96	40.8	Nigeria	141	36.8
Luxembourg	7	52.8	Laos	52	44.6	Turkey	97	40.8	Zimbabwe	142	36.7
Germany	8	52.8	Ecuador	53	44.4	Democratic Republic o	98	40.6	Senegal	143	36.6
Denmark	9	52.7	Paraguay	54	44.4	Cambodia	99	40.5	Guinea	144	36.3
Austria	10	52.5	Bolivia	55	44.0	Mozambique	100	40.5	Trinidad and Tobago	145	36.2
Japan	11	52.1	Georgia	56	44.0	Sierra Leone	101	40.2	Comoros	146	36.2
New Zealand	12	50.9	Bulgaria	57	43.8	Bosnia and Herzegovin	102	40.1	Swaziland	147	36.1
Ireland	13	50.8	Suriname	58	43.8	Libya	103	40.0	Malawi	148	36.1
Slovenia	14	50.8	Mongolia	59	43.7	Thailand	104	40.0	Burkina Faso	149	36.0
France	15	50.4	Venezuela	60	43.6	Zambia	105	40.0	Barbados	150	35.9
Canada	16	49.9	Oman	61	43.5	Guatemala	106	40.0	Guinea-Bissau	151	35.9
Estonia	17	49.7	Israel	62	43.5	Albania	107	39.9	Mali	152	35.6
Slovakia	18	49.3	Montenegro	63	43.4	Kuwait	108	39.7	Gambia	153	35.5
Lithuania	19	49.3	Armenia	64	43.2	Cote d'Ivoire	109	39.6	Madagascar	154	35.5
Czech Republic	20	48.6	Kazakhstan	65	43.1	Lebanon	110	39.6	Chad	155	35.4
Latvia	21	48.5	Uzbekistan	66	43.0	Botswana	111	39.5	Sudan	156	35.4
Croatia	22	47.9	Qatar	67	42.9	Namibia	112	39.2	Vanuatu	157	34.9
Costa Rica	23	47.3	Kyrgistan	68	42.9	Bahamas	113	39.1	West Bank and Gaza	158	34.7
Brazil	24	47.3	Serbia	69	42.8	El Salvador	114	39.1	Central African Republ	159	34.7
China	25	47.2	Ghana	70	42.5	Philippines	115	39.0	Iran	160	34.6
Poland	26	46.8	Greece	71	42.4	Angola	116	39.0	Solomon Islands	161	34.5
Belarus	27	46.8	Belize	72	42.3	Benin	117	38.9	Niger	162	34.5
Netherlands	28	46.7	Guyana	73	42.3	Azerbaijan	118	38.7	Afghanistan	163	34.5
Bhutan	29	46.6	Algeria	74	42.2	Macedonia	119	38.7	Honduras	164	34.1
Uruguay	30	46.5	Chile	75	42.1	United Arab Emirates	120	38.7	Bahrain	165	33.9
Australia	31	46.4	Cyprus	76	42.0	Fiji	121	38.3	Djibouti	166	33.9
Spain	32	46.4	Dominica	77	42.0	Tunisia	122	38.3	Burundi	167	33.7
Russia	33	46.3	Tajikistan	78	42.0	Equatorial Guinea	123	38.3	Mauritania	168	33.2
Singapore	34	46.0	Papua New Guinea	79	42.0	South Africa	124	38.2	Hong Kong	169	33.1
Italy	35	45.9	Gabon	80	41.8	Lesotho	125	38.2	Eritrea	170	33.0
Saudi Arabia	36	45.9	Ethiopia	81	41.8	Dominican Republic	126	38.2	Haiti	171	32.5
Belgium	37	45.9	Tanzania	82	41.7	Egypt	127	37.9	Pakistan	172	31.8
Peru	38	45.9	Seychelles	83	41.7	Turkmenistan	128	37.9	Grenada	173	31.5
Portugal	39	45.8	Moldova	84	41.6	Kenya	129	37.9	Iraq	174	31.4
South Korea	40	45.7	Mexico	85	41.4	Liberia	130	37.7	St. Lucia	175	31.2
USA	41	45.5	Ukraine	86	41.4	India	131	37.7	St. Vincent and the Gre	176	30.8
Burma	42	45.3	Mauritius	87	41.3	Samoa	132	37.4	Sao Tome and Principe	177	30.5
Indonesia	43	45.2	Cameroon	88	41.3	Morocco	133	37.4	Antigua and Barbuda	178	30.0
Malta	44	45.2	Republic of Congo	89	41.2	Bangladesh	134	37.4	Syria	179	29.7
Colombia	45	45.2	Maldives	90	41.2	Uganda	135	37.3	Yemen	180	27.8

1.4 Do credit ratings fully reflect country risks?

Sovereign risk ratings –commonly referred to as credit rating - determines the level of interest a country has to pay for loans and credits. It is therefore a very important parameter for every economy – it defines the level of capital cost for new investments, whatever the nature of those investment may be. The credit rating also affects the risks an investor is willing to take in overseas investments. Sovereign risk ratings are calculated by a number of rating agencies, most notable (and defining) by the "three sisters": Moody's S&P, and Fitch. The publications and ratings of these three companies therefore have a significant impact on the cost of capital of a specific country. In addition, it seems that credit ratings are not impartial - and therefore not subjective - as the immediate downgrade of Greece after the election victory of a new left government has shown.

Sovereign risks are calculated based on a mix of economic, political and financial risks – i.e. all current risks that, like GDP calculations, do not take into account the framework that enables and defines the current situation. They do not look at or consider the wider environment – the ability and motivation of the workforce, the health and well-being, the physical environment (natural and man-made) that have caused the current situation. Credit ratings describe symptoms, they do not look at the root causes. It is therefore questionable whether credit ratings truly reflect investor risks of investing in a specific country.

So what if sovereign bonds were rated against sustainability?

Sustainable competitiveness vs. credit ratings

$R^2 = 0.1217$
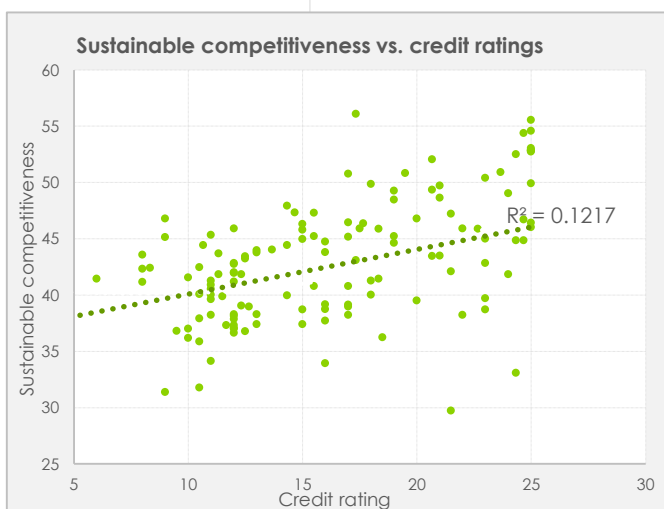
Sustainable competitiveness scores plotted against sovereign credit ratings (average of Moody's, S&P, Fitch) show no correlation, indicating insufficient coverage of sustainability risks in current risk calculation methodologies

In order to test the current applied credit ratings, the scores of the Sustainable Competitiveness Index have been converted to ratings equivalent to credit ratings - a sustainable credit rating. The generated grades are compared to the average credit rating of Moody's, S&P, and Fitch:

While there seems to be a slight initial correlation (higher sustainability equals positive credit rating) on first sights, there are too many exceptions to the rules to be considered correlating. For too many economies, in particular of developed countries, high credit rating is not reflected in high sustainable competitiveness score.

In the asset management world, it now has become near-standard to integrate some form of "ESG" into investment risk/opportunity evaluation. However, it seems the credit rating agencies are lagging behind the financial industry in this particular aspect: current credit ratings do not cover all investor risks. It is high time that credit rating agencies take into account "intangibles" in their credit risk calculation. Current practices and methodologies applied in sovereign credit rating calculation – and therefore do not fully reflect investor risks. It is high time that generally applied credit ratings do include the underlying factors that define the future development and capability of a country to generate and sustain wealth. It is high time that credit ratings include sustainability in their risk calculations.
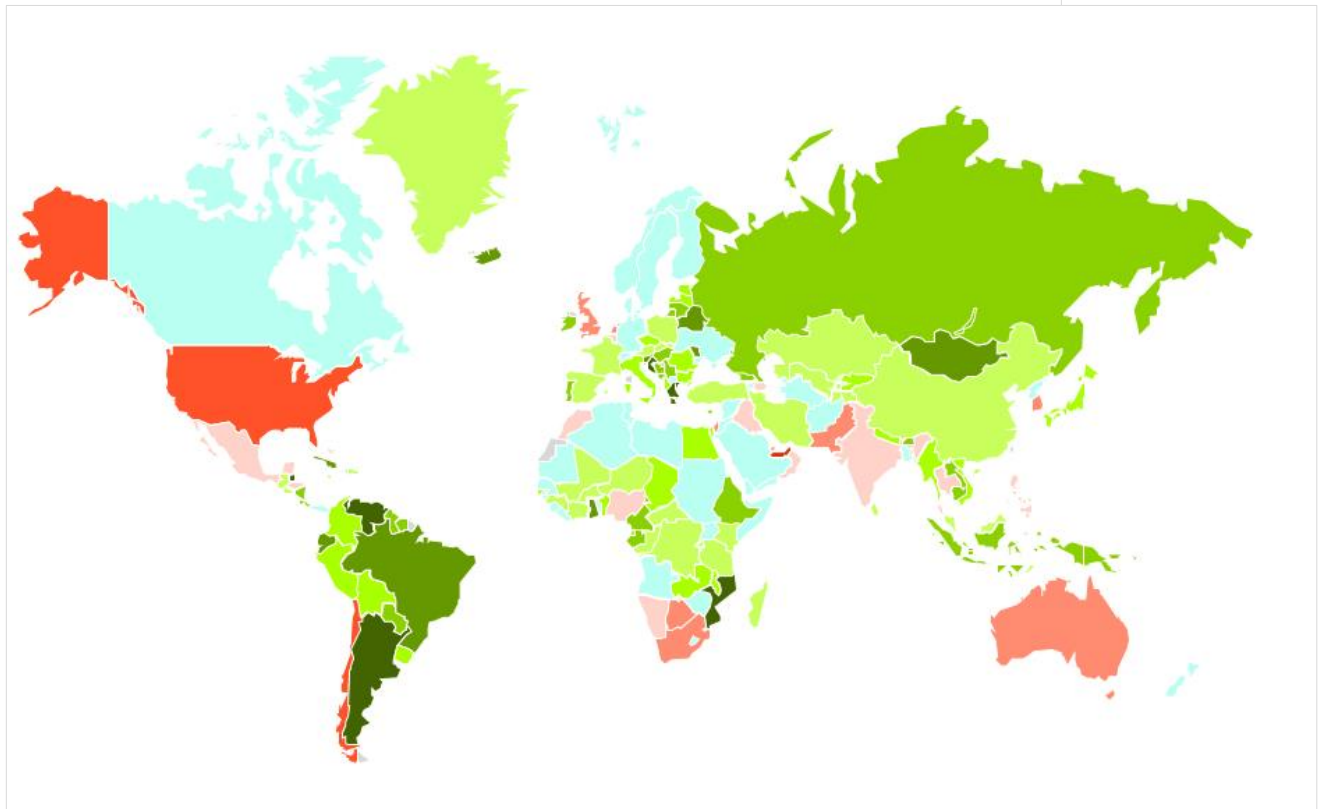
Sustainability-adjusted credit ratings

Some countries would see significant credit ratings upgrades, other downgrades when comparing the current credit rating with a fictional credit rating based on sustainable competitiveness. Based on this comparison, we have calculated a fictional sustainability-adjusted credit rating. The US, the UK and Australia would be significantly downgraded, while countries that have low credit ratings mostly due to political reasons (Greece, Argentina), would receive more favourable ratings (see table for comparison of selected countries).

However, what is most interesting is the World map of upgrades and downgrades of individual countries based on a fictional sustainability-adjusted credit rating (see World map below): the USA, UK and Australia all would be downgraded several levels, while in South America, Eastern Europe and Central Africa most nations receive a credit rating upgrade.

Country	Credit rating (average of Moody's, S&P; Fitch)	GSCI rating	Rating difference	Sustainability-adjusted rating	RatingI difference
Argentina	CCC+	A	11	BB+	6
Australia	AAA	A+	-4	AA	-2
Austria	AA+	AAA	1	AAA	1
Bolivia	BB	A−	5	BBB−	2
Brazil	BBB−	AA−	7	A−	4
Cambodia	B	BBB−	5	BB	3
Canada	AAA	AAA	0	AAA	0
Chile	AA−	BBB	-5	A−	-3
China	AA−	AA−	1	AA−	1
Denmark	AAA	AAA	0	AAA	0
Germany	AAA	AAA	0	AAA	0
Greece	CCC	BBB	9	BB−	5
Iceland	BBB	AAA	8	A+	4
India	BBB−	BB−	-3	BB+	-1
Indonesia	BBB−	A	5	BBB+	3
Italy	BBB+	A+	4	A−	2
Japan	A+	AAA	4	AA	2
Kuwait	AA	BB+	-8	A−	-4
Mexico	BBB+	BBB−	-2	BBB	-1
Netherlands	AAA	AA−	-3	AA	-2
Norway	AAA	AAA	0	AAA	0
Pakistan	B	CCC−	-4	CCC+	-2
Portugal	BB+	A+	6	BBB+	3
Russia	BB+	A+	6	BBB+	3
Saudi Arabia	AA−	A+	-1	AA−	0
Sweden	AAA	AAA	0	AAA	0
Switzerland	AAA	AAA	0	AAA	0
United Kingdom	AA+	A	-4	AA−	-2
United States	AAA	A	-5	AA−	-3

Current, sustainability and sustainability-adjusted ratings of selected countries

Sustainability-adjusted credit ratings vs. current credit ratings:

Sustainability-adjusted credit ratings: green indicates upgrade, blue neutral, and red downgraded credit ratings compare to current credit rating

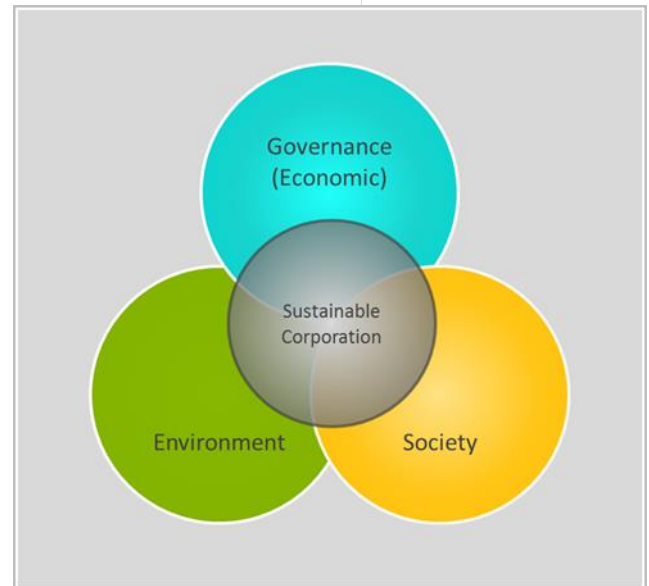sustainable competitiveness –

the model

2 Sustainable Competitiveness

2.1 The Sustainable Competitiveness Model

The three-dimensional sustainability model of reconciling the economy, the environment and the society is often used and applied in the corporate world to evaluate and manage sustainability issues and performance.

However, corporations are entities that operate in very different boundaries and with different goals than states and nation-economies. The elements of the model therefore have to be adapted to the characteristics of nations and their fundament of sustained prosperity.

While corporate or economic entities (depending on the nature of their business) are working with natural capital, they do not depend on the location of the capital (natural, human, financial) they utilize, and therefore can move their operations to where the external conditions are most favourable, both in terms of physical location (offices/factories) and markets, as well as in terms of business fields. Transport and international trade have made countries and people less dependent on their immediate environment through international trade of resources, including water. However, countries and population cannot simply move should fundamental resources (water, agricultural output) become scarce or the country inhabitable due to climate change. At the end of the day people rely on, and life off, the natural capital of their environment for better or worse.

Model of sustainable development often applied in ESG research

The Sustainable Competitiveness Pyramid

Sustainable competitiveness - they ability to generate and sustain inclusive wealth and dignifying standard of life for all citizens in a globalised world of competing economies, consists of 5 key elements that interact and influence each other: natural capital (the given natural environment and climate, minus human induced degradation and pollution), social capital, intellectual capital (the ability to compete in a globalised market through sustained innovation), resource management (the ability to extract the highest possible value from existing resources (natural, human, financial), and governance (the framework given, normally by government policies & investments, in which a national economy operates).
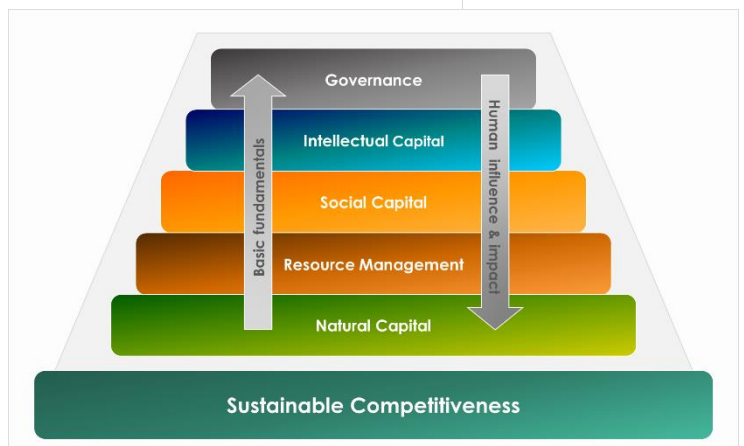
The Sustainable Competitiveness Pyramid

It is now widely accepted that economic activities have adverse impacts or side-effects on the non-financial assets of a country. The negative impacts of economic activities - including negative impacts on the social fabric and cohabitation within a society - can undermine or even reverse future growth and wealth creation. Due to the omission of key non-financial indicators and performance that are fundamental to sustain economic activities, conventionally used measurements to measure wealth of nations such as the GDP have limited informative value for the future development of a country.

Sustainable competitiveness means the ability of a country to meet the needs and basic requirements of current generations while sustaining or growing the national and individual wealth into the future without depleting natural and social capital.

The Sustainable Competitiveness Index is built and calculated based on the sustainable competitiveness model that covers 106 data indicators grouped in5 pillars:

Sustainable Competitiveness

Natural Capital Depletion	Resource Intensity	Social Capital	Intellectual Capital	Governance
Food resources / Water & biosphere / Pollution / Forests	Energy efficiency / GHG intensity / Material intensity / Water Intensity	Health & health care / …Public services / Crime / Freedom	Education / R&D performance / Innovation / …	Investments / Corruption / Bubble exposure / …Balanced economy

Social Cohesion is the fundamental stability required to maintain interruption-free economic activities: the health of populations, equality, security and freedom within a country

- Natural Capital is the based to sustain a society and economic activities: the given natural environment within the frontiers of a country, including availability of resources, and the level of the depletion of those resources.
- Resource Intensity is a measurement of efficiency, and thus an element of competitiveness: the efficiency of using available resources (domestic or imported) as a measurement of operational competitiveness in a resource-constraint World.
- Social Cohesion is the fundamental stability required to maintain interruption-free economic activities: the health of populations, equality, security and freedom within a country
- Sustainable Innovation is key to sustain economic development in the globalised market: the capability of a country to generate wealth and jobs through innovation and value-added industries in the globalised markets
- The Governance framework is the environment businesses and a national economy are operating in. It is key to future development, not only for software, but also hardware.

Methodology Development

The competitiveness of a nation is influenced by a wide range of factors, i.e. is a complex matter. We are striving to develop a model that can reflect all aspects that define the level of competitiveness. The methodology for the Sustainable Competitiveness is therefore constantly reviewed and has evolved over time. For the 2014 Index, the methodology has been overhauled significantly with a redesign of the Sustainable Competitiveness model and additional indicators added (71 in 2013, 104 in 2014). The changes to the Sustainable Competitiveness Model and indicators have been undertaken based on past experiences, new research, data availability, and back-track analysis.

Due to the changes in the methodology, rankings of the current rankings prior to 2014 are not fully compatible with current rankings. While vast majority of countries remain in the same bracket of ranking despite the changes methodology, direct comparison of rankings have a limited informative value. From an index point of view, it might be preferable to base rankings on the same methodology and data. However, we believe that delivering the most accurate result possible is more important than direct of year-on-year rankings comparison. The main changes that have been implemented as a result of the methodology review include changes to the model of competitiveness on which the calculation is based, and further adaptation to availability of congruent data series.

Changes to the sustainable competitiveness model

The sustainable competitiveness model has been adapted based on review of the elements that characterise and influence sustainable competitiveness of nation-economy, and how those elements influence and impact each other. The model used for the 2012/2013 Index consisted of 4 key elements – Natural Capital, Resource Intensity, Sustainable Innovation, and Social Cohesion. Since 2014, the Sustainable Competitiveness model is based on a pyramid with 5 levels. The basic conditions form the basis of the pyramid, on which the next level is built. Vice-versa, the higher levels of the pyramid are influencing the performance of the levels below.

- The base level of the Pyramid is the **Natural Capital** (the given physical environment and resources) – the resources that feed the population, provide energy, and materials
- The second level is **Resource Management** – the ability to use available resources at the highest possible efficiency - natural resources, human resources, intellectual resources, financial resources.
- The third level is the **Social Capital** of a country, the cohesion between generations, genders, income groups and other society groups. Social cohesion is required for the prosperous development of human capital, i.e. Social Capital is the provision of a framework that facilitates the third level of the pyramid
- The fourth level is the **Intellectual Capital**, the fundament for the ability to compete and generate wealth in a globalised competitive market through design and manufacturing of value-adding products and service. It is the basis for management capabilities
- The fifth and highest level is **Governance** – the direction and framework provided by government interventions, expenditure, and investments. Government policies (or the absence of such policies) have strong influence and or impact on all lower levels of the Sustainable Competitiveness Pyramid.

2.2 Competitiveness Indicators

The sustainable competitiveness model is based on a pyramid, where each level is required to support the next higher level. In the top-down direction, the different levels of the pyramid have influence the state of the lower levels.

Natural capital
Fossil energy prevalence (% of total)
Ecological consumption footprint
Renewable freshwater availability/capita
Electricity from hydropower (%)
Forest area (% of total)
Arable land (ha/capita)
Potential arable land (ha/capita)
Land degradation (% of total)
Land at risk of desertification
Extreme weather incidents
Mineral reserves (per GNI and capita)
Population density
Cereal yield (kg per hectare)
Natural resource depletion
Endangered species
Energy self-sufficiency
Land area below 5 m (% of total)
Population living below 5m (% of total)
Average rainfall (mm)
SO2 emissions per capita
Biodiversity Benefit Index (GEF)
Fertilizer consumption/ha
Tourist attractiveness
Ocean Health Index
Population exposed to climate risks
Primary education completion

Natural Capital

The natural capital is the base of the pyramid, and is defined by the characteristics of the given physical environment of a country. The natural capital consists of a mixture of size, population, geography, climate, biodiversity and availability of natural resources (renewable and non-renewable), as well as the level of depletion/degradation of the available resources. The combination of these factors and the level of depletion of the non-renewable resources due to human activity and climate change represents the potential for sustaining a prosperous livelihood for the population and the economy of a nation into the future.

Indicators used encompass water, forest and biodiversity indicators, agricultural indicators, land degradation and desertification, minerals and energy resources, pollution indicators and depletion indicators.

Resource Management

The more efficient a nation is using resources (natural, human, financial), the more wealth the country is able to generate. In addition, higher efficiency means smaller negative impacts of potential supply scarcity of resources (food, energy, water, minerals). Higher efficiency is also equal to lower cost per production unit throughout all sectors, private and public. Efficient use of resources and energy is an indicator for a nation's ability

Resource Management
NOx emissions per GDP
NOx emissions per capita
Energy per GDP
Energy per capita
CO2 emissions / GDP
CO2 emissions /capita
Freshwater withdrawal rate
Electricity consumption per capita
Electricity from coal (%)
Electricity from oil (%)
Renewable electricity excluding hydro (%)
Water productivity
Steel usage efficiency per capita (T/CAPITA)
Air pollution - death due to respiratory infections
Urban air pollution
Hazardous waste per GDP
Obesity rate
GNI per capita
Electricity consumption / GDP

to maintain or improve living standard levels both under a future business-as-usual Indicators used cover water usage and intensity, energy usage, intensity and energy sources, climate change emissions and intensity as well as certain raw material usage. However, global data availability for raw materials consumption other than steel is limited and therefore could not be included.

Indicators used cover water usage and intensity, energy usage, intensity and energy sources, climate change emissions and intensity as well as certain raw material usage. However, global data availability for raw materials consumption other than steel is limited and therefore could not be included.

Social Capital

The economy requires stability to run free of interruptions. Nations and societies therefore need a minimum level of social cohesion, coherence, and solidarity between different regions, between authorities and the people, between different interest groups, between income levels, between generations, and between individuals. A lack of social cohesion in any of the above aspects leads to social gaps that eventually lead to increased crime, violence and insecurity that can seriously undermine the stability the economy requires as a basis to thrive in the long run.

Indictors used cover health performance indicators, birth statistics, income differences, equal opportunities (gender, economic), freedom of press, human rights considerations, the level of crime against both possession and humans, and perceived levels of well-being and happiness.

Intellectual Capital

The backbone of sustained economic success is the ability to continuously improve and innovate on all levels and throughout all institutions (not limited to the private sector). Sustaining competitiveness also requires a long-term view beyond momentary political interests or opinions, and long-term investments in crucial areas (education, infrastructure). Economies that are being deprived from investments sooner or later face decline, as some nations of the formerly "leading" West are currently learning the hard way. Indicators used for the innovation capability sub-index cover education levels, R&D performance indicators, infrastructure investment levels, employment indexes, and the balance of the agricultural-industrial-service sectors.

Governance

With the given physical environment and conditions in place, the sustained competitiveness of a country is determined by what the society and the economy is able to extract from available resources. This, in turn, is characterized by the framework provided by authorities. The framework of a country provides the basis for businesses and the social consensus. Governance indicator consist of both physical indicators (infrastructure) as well as non-physical attributes (business legislation, level of corruption, government investments, exposure to business and volatility risks, exposure to financial risks, etc.)

Data sources

Over 90% of the sustainable competitiveness indicators are purely quantitative performance indicators. Data sources were chosen according to reliability and availability of global data. The largest percentage of indicators was derived from the World Bank's indicator database, followed by data sets and indicators provided by various UN agencies.

Social Capital
Doctors per 1000 people
Hospital bed availability
Nurses per 1000 people
Child mortality rate
Birth per woman
Teen moms
Overweight
Life satisfaction index
Press Freedom Index
Peace Index
People reported to the police (%)
Theft
Homicide rate
Prison population rate (per 100'000 people)
Aging society
Suicide rate
Public health spending (% of total health)
Women in parliament (% of MPs)
Human rights index

Intellectual Capital
Primary education completion
Primary student repetitions
Secondary education enrolment
Tertiary education enrolment
Mean school years
R&D FTEs per million people
R&D spending
High tech exports
Patent applications per 1 million people
Patent applications (per GDP)
New business registrations per 1 million people
Trademark applications
Manufacturing value added
Education spending (% of government budget)
Pupil-teacher ratio
Pupil gender ratio

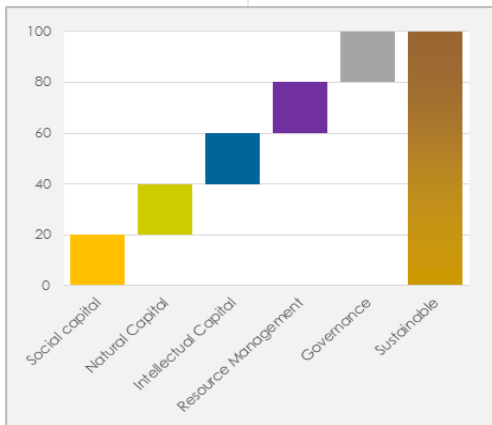| Governance |
| --- |
| Mobile communication availability |
| Transmission losses |
| Internet availability |
| TI CPI Index |
| Bribery payments - % of businesses |
| Employment in the service sector |
| Employment in the manufacturing sector |
| Unemployment |
| Investments |
| Austerity Index |
| GINI coefficient (income distribution inequality) |
| Income quintile ratio |
| Quality of public services |
| Poverty development |
| Military spending (% of total government spending) |
| Rail network per area & population |
| Government debt |
| Access to electricity |
| Bank capital-asset ratio |
| Market fluctuation exposure: stock trading volume (% of GDP) |
| Market fluctuation exposure: company value (% of GDP) |
| Imports (% of GDP) |
| Population (total) |
| GNI (total) |
| Ease of doing business |

2.3   Index calculation

Calculating scores from raw data
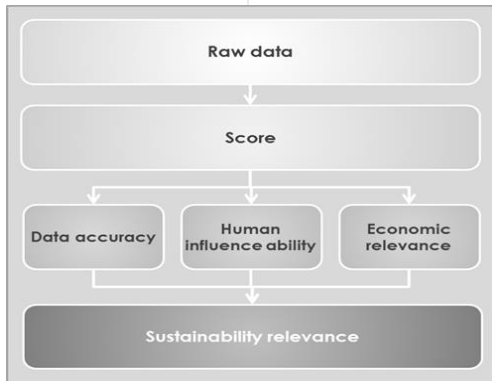
Calculating scores from raw data

The raw data consist of numerical values. While values can be ranked against each other, they cannot be compared or added to other values (two apples plus three oranges are not equal to five pineapples). It is therefore necessary to extract a scalable and comparable score from the raw data as a first step.

When comparing raw data of variables of different countries, an "absolute best" cannot be defined. Scores therefore cannot be calculated against a real or calculated best score. For the purpose of this index, the raw data was analysed and ranked for each indicator individually. Trough calculation of the average deviation, the best performing 5% receive the highest score (100), and the lowest 5% receive the lowest possible score (0). Scores between the highest and the lowest 5% are linearly assigned relative to the best 5% and the worst 5%.

Each level of the Sustainable Competitiveness Pyramid is equally important and therefore equally weighted

In a second step, the relative importance (weight) of the indicator is assessed against other indicators to calculate scores for the 5 sub-indexes. The Sustainable Competitiveness Index is calculated based on the sub-indexes, each weighted equally.

Data in perspective

Raw data has to be analysed in perspective: 5000 ha of forest might be a large area for a country like Andorra, but it is a small area in China. Depending on the indicator, the denominator might be the land area, the size of the population, or intensity measurements, e.g. GDP. For certain indicators, (e.g. energy efficiency, but also innovation indicators), the performance is evaluated against two denominators (normally population size and GDP) in order to gain a more altruistic picture of the national sustainability performance that incorporates economic and human efficiency.

Trend analysis: Integrating recent developments

In order to reflect a dynamic performance picture, performance trends are analysed, scored and integrated in the Sustainable Competitiveness Index
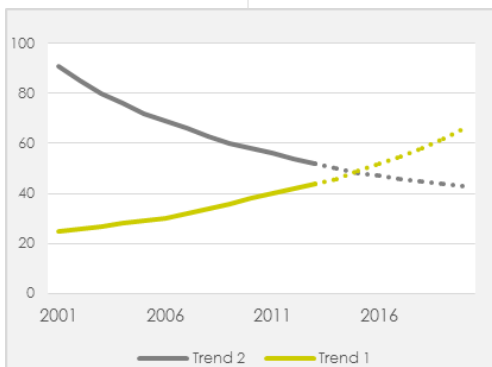
Current data limits the perspective to a momentary picture in time. However, the momentary status is not sufficient to gain a true picture of the sustainable competitiveness, which is, by definition, forward-looking. Of equal importance are therefore the trend developments. Analysing trends and developments allows for understanding of where a country is coming from – and, more importantly - indicates the direction of future developments. Increasing agricultural efficiency, for example, indicates a country's capability to feed an increasing population in the future, or the opposite if the trends are decreasing. Where sufficient data series are available, the trend was calculated for the latest 5 years available and scored to evaluate the current level as well as the future outlook and sustainability potential of a country based on recent developments.

Methodology Details

Data Sources

Only data from reliable sources was included in the index. Most data points and data series were extracted from the World Banks statistical database as well as from the combined UN database that contains statistical data across several UN agencies.

Data reliability & accuracy

The accuracy of the index relies on the accuracy of the underlying data. Given the many individual and agencies involved in data collected around the World, it cannot be excluded that some of the data is not completely accurate. Data sources chosen for this Index (World Bank, UN agencies) are considered reasonably reliable. Raw data from the various databases was used as a basis for calculation as-is, i.e. without verifying the actual data.

Limitations of quantitative analysis

In order to exclude subjectivity, only quantitative data has been taken into account. However, quantitative indicators sometimes are not able to differentiate or express real and actual levels of quality. High spending on health care for example does not necessarily guarantee high quality health care system available for the average citizen. Equally, the percentage of school enrolment (on all levels, form primary levels to college and universities) is not necessarily an expression of the quality of the education. However, for some indicators, quality is equally important to quantity from a sustainability viewpoint. For such indicators, quantitative indicators have limited informative value and serve as a proxy.

While explanatory power of quantitative indicators is limited, conducting a qualitative evaluation of the 73 indicators used on the global level would go far beyond the limitations of this index. For indicators with a potentially low correlation between quantity and quality, the weighting has been adjusted accordingly. In order to integrate some qualitative aspects, results of global surveys have been included, e.g. for the quality of public services, or perceived life satisfaction.

Time frame of data used

The Sustainable Competitiveness Index 2015 is based on the latest available data. For most data series, the latest data available (March 2013) is 2013 or 2014 data. Where 2014 data was available, 2014 data has been used. Where 2014 or 2013 data was not available, 2012 data was used, and in a few cases 2011 data has been used.

Availability of data

For some indicators data is not available for all countries (in particular for the less or least developed economies). If non-available data points would be converted to a 0 (zero) score, the rankings would be distorted. In order to present a balanced overall picture, the missing data points from those countries have been replaced with calculated values, extrapolated based on regional averages, income and development levels, as well as geographical features and climatic averages.
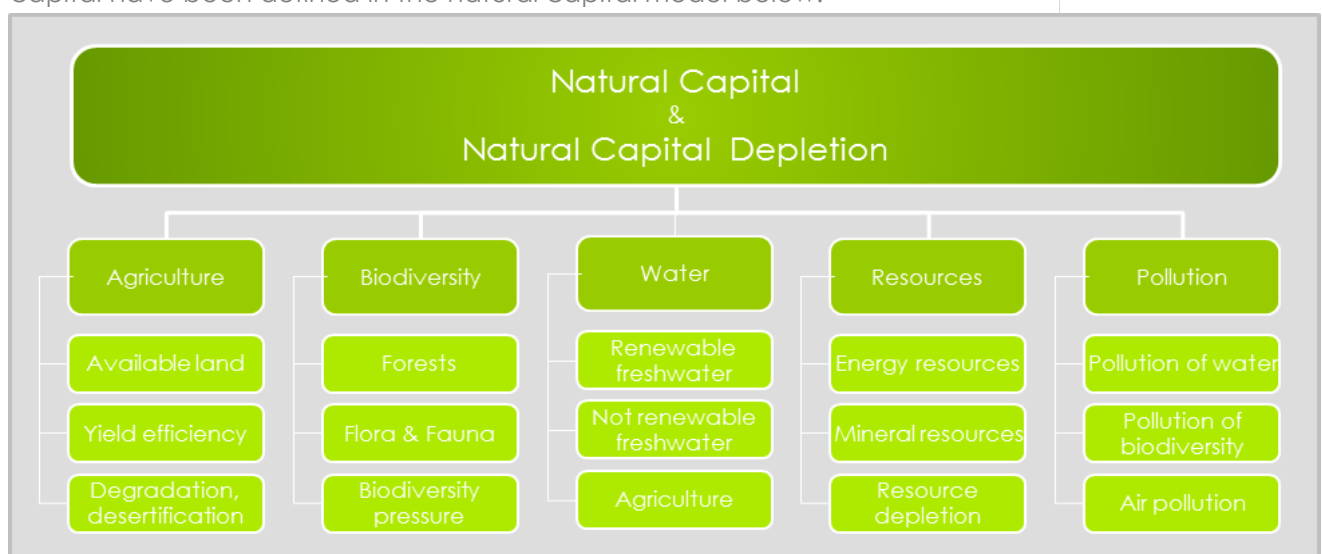
natural capital

3 Natural Capital

The Natural Capital of a country is defined by the natural physical environment. The Natural Capital model incorporates the essence of resources available that allow a country to be completely self-sustaining: land, water, climate, biodiversity, food production and capacity, and energy and mineral resources. In addition, the level of depletion or degradation of those resources that could endanger future self-sufficiency are taken into account to reflect the full picture of the available natural capital.

The number of data points related to natural capital available from a variety of sources is nearly endless. The main challenge is to select the most relevant and meaningful indicators amongst the wealth of available data. In order to define meaningful and relevant, the core issues affecting the sustainable use of natural capital have been defined in the natural capital model below:

Key elements of competitiveness drivers in the Natural Capital Sub-Index

Natural capital indicators

Based on the definition of the key natural capital areas, data series are chosen as indicators that reflect the sustainable competitiveness of a country based on its natural resources (natural capital).

The indicators have been analysed for the latest data point available as well as their development over time, reflecting the current status and the future outlook of Natural Capital availability (environmental sustainability) in relation to the size and population of a country. In addition, indictors that measure the depletion or degradation of the natural resources have been taken into account. The combination of these indicators reflect the current status as well as the ability to sustain the population and the national economy.

As some of the above key areas are difficult to express in numerical values, some quantitative scores compiled by UN agencies have been used for certain indicators, such as biodiversity potential, resource depletion, and the ecological footprint.

For the full list of indicators used, please refer to the methodology section.

Natural Capital - the neglected fundament

Natural capital is the very basis on which a country is built: its physical environment and conditions. The ability to sustain the existing natural capital is composed of two main factors: the characteristics of the given geography and climate, combined with the extent of human activities that have or will affect the ability of natural capital to sustain the population and the economy.

A nation's natural capital is a given value – it is as it is – i.e. there are limitations to human ability to improve or change the available natural capital. While it takes little to impair or exploit the natural capital, rebuilding or improving natural capital factors is difficult, and requires significant time and resources.

Natural Capital Ranking Observations

High-ranking countries are characterised by the availability of abundant water combined with tropical climate, rich biodiversity and availability of other natural resources. The highest scoring countries are mostly located in tropical areas, underscoring the overarching importance of the availability of sufficient water. While these countries currently may lack social, intellectual and governance capital, their Natural Capital would allow them to develop sustainable competitiveness over time. A certain correlation with the level of human activities and population density can also be observed: large countries with a comparably small population density and rich biodiversity are on top of the Natural Capital ranking (North America, Scandinavia, Brazil).
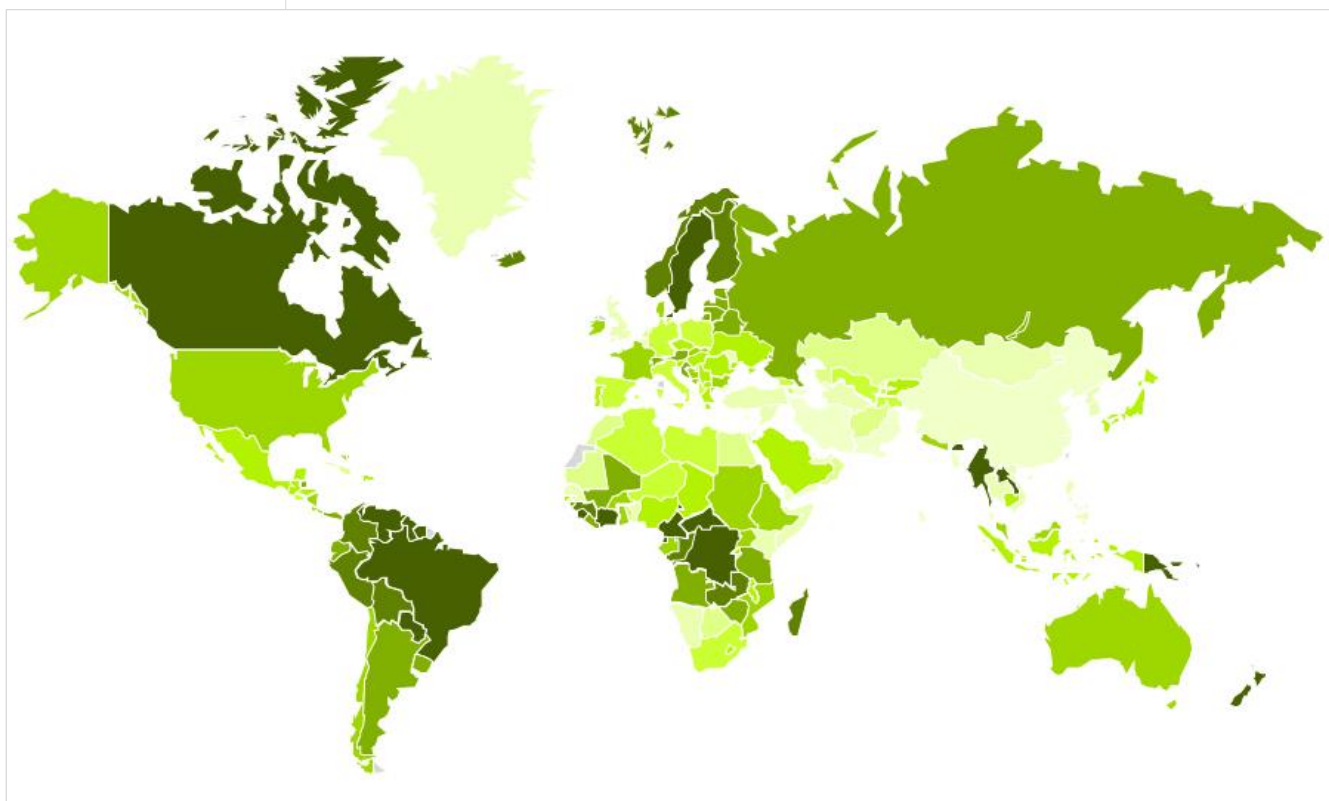
The Natural Capital World Map. Dark areas indicate high, light areas low levels of natural capital

The top ten of the natural capital ranking sees some surprising and less well known countries like Congo, Bhutan, Cameroon, Suriname, Guyana, and Laos, whereas the OECD's representation in the top twenty is limited to Sweden, Canada New Zealand and Iceland. The rankings of India (175) and China (171)

are affected by a combination of arid climate, high population density and depletion levels, raising concerns over those countries' ability to self-sustain their large populations in the absence of well-planned counter-measurements.

Global Natural Capital Rankings

Scores and rankings of the level of Natural Capital by country:

Country	Rank	Score	Country	Rank	Score	Country	Rank	Score	Country	Rank	Score
Democratic Republic of C	1	71.6	Croatia	46	53.5	Ukraine	91	46.2	St. Vincent and the Grena	136	38.9
Suriname	2	70.0	Ecuador	47	53.4	Malawi	92	46.2	Turkey	137	38.6
Bhutan	3	69.5	Zimbabwe	48	53.3	Guatemala	93	46.2	Benin	138	38.3
Guyana	4	68.0	Liechtenstein	49	53.1	Dominican Republic	94	46.0	Moldova	139	38.3
Paraguay	5	65.7	USA	50	52.9	Nigeria	95	45.9	Turkmenistan	140	37.9
Central African Republic	6	65.2	Gabon	51	52.6	Macedonia	96	45.7	Namibia	141	37.8
Canada	7	65.0	Mozambique	52	52.4	Rwanda	97	45.7	Kuwait	142	37.3
Sweden	8	64.8	Sudan	53	52.4	Saudi Arabia	98	45.6	Grenada	143	37.2
Laos	9	64.6	France	54	52.2	Brunei	99	45.4	United Kingdom	144	36.8
Cameroon	10	64.6	Bulgaria	55	51.8	Honduras	100	45.0	Senegal	145	36.8
Cote d'Ivoire	11	64.2	Chile	56	51.2	Libya	101	44.8	Mongolia	146	36.7
Burma	12	64.2	Ireland	57	51.0	Seychelles	102	44.8	Philippines	147	36.7
Papua New Guinea	13	64.0	Bahamas	58	50.8	Luxembourg	103	44.7	Djibouti	148	36.2
New Zealand	14	62.8	Costa Rica	59	50.7	Italy	104	44.7	Kenya	149	35.8
Equatorial Guinea	15	62.0	Nicaragua	60	50.6	Tajikistan	105	44.7	United Arab Emirates	150	35.8
Venezuela	16	61.2	Slovakia	61	50.5	South Africa	106	44.7	Belgium	151	35.7
Brazil	17	61.1	Uganda	62	50.5	Niger	107	44.2	Malta	152	35.6
Sierra Leone	18	61.0	Denmark	63	50.4	Uzbekistan	108	44.0	Syria	153	35.5
Iceland	19	60.8	Bosnia and Herzegovina	64	50.3	Togo	109	43.8	Vanuatu	154	35.5
Bolivia	20	60.7	Malaysia	65	50.1	Georgia	110	43.7	Eritrea	155	35.3
Norway	21	60.6	Ghana	66	50.1	Samoa	111	43.6	Thailand	156	35.2
Zambia	22	60.5	Mauritius	67	49.8	Algeria	112	43.4	Qatar	157	34.8
Finland	23	59.9	Montenegro	68	49.8	Armenia	113	43.3	South Korea	158	34.5
Republic of Congo	24	59.8	Ethiopia	69	49.7	Trinidad and Tobago	114	43.3	Antigua and Barbuda	159	34.3
Peru	25	58.9	Fiji	70	49.4	Poland	115	43.0	Sao Tome and Principe	160	33.8
Madagascar	26	58.8	Nepal	71	49.4	Germany	116	42.7	Sri Lanka	161	33.7
Guinea	27	58.8	Burkina Faso	72	49.4	Albania	117	42.5	Lebanon	162	32.4
Colombia	28	57.5	Australia	73	49.1	Barbados	118	42.1	Yemen	163	32.0
Tanzania	29	56.7	Slovenia	74	48.5	Timor-Leste	119	41.9	Bangladesh	164	31.2
Estonia	30	56.5	Hungary	75	48.5	Spain	120	41.5	Israel	165	31.2
Russia	31	56.5	Chad	76	48.1	Maldives	121	41.4	Singapore	166	30.8
Latvia	32	56.3	Greece	77	48.0	St. Lucia	122	41.1	Pakistan	167	30.6
Belize	33	56.0	Cambodia	78	47.9	El Salvador	123	41.0	Iran	168	30.1
Angola	34	56.0	Serbia	79	47.8	Netherlands	124	40.5	Azerbaijan	169	30.0
Austria	35	55.7	Portugal	80	47.7	Botswana	125	40.5	Cyprus	170	29.6
Uruguay	36	55.6	Kyrgistan	81	47.7	Afghanistan	126	40.4	China	171	29.4
Argentina	37	55.5	Gambia	82	47.7	Comoros	127	40.4	Haiti	172	29.4
Lithuania	38	54.9	Lesotho	83	47.6	Egypt	128	40.4	Tunisia	173	28.9
Liberia	39	54.7	Swaziland	84	47.6	Mauritania	129	40.2	Iraq	174	28.8
Belarus	40	54.5	Dominica	85	47.5	Burundi	130	40.0	India	175	28.8
Mali	41	54.5	Indonesia	86	47.1	Morocco	131	39.9	Jamaica	176	28.6
Solomon Islands	42	54.4	Czech Republic	87	47.1	Kazakhstan	132	39.8	Jordan	177	24.5
Guinea-Bissau	43	54.3	Mexico	88	47.0	Cuba	133	39.3	Hong Kong	178	23.0
Panama	44	54.0	Japan	89	46.6	Oman	134	39.2	Bahrain	179	20.0
Switzerland	45	53.5	Romania	90	46.6	Vietnam	135	38.9	West Bank and Gaza	180	19.2

resource intensity

4 Resource Management

The second level of the sustainable competitiveness pyramid is the ability to manage available resource (natural capital, human capital, financial capital) efficiently – regardless of whether the capital is scarce or abundant. Whether a country does or does not possess resources within its boundaries (natural and other resources), efficiency in using resources – whether domestic or imported - is a cost factor, affecting the competitiveness and thus wealth of nations. Over-exploitation of existing natural resources also affects the natural capital of the country, i.e. the ability of a country to support its population and economy with the required resources into the future.

In addition, non-renewable resources that are used today might be scarce and expensive tomorrow, affecting competitiveness, wealth and the quality of life in the future. A number of factors are pointing to rising cost for resources in the future, in particular natural resources: scarcity and depletion of energy, water, and mineral resources, increasing consumption (particular in non-OECD countries), financial speculation on raw materials, and possibly geo-political influences. The key objective of the resource management category is therefore to evaluate a country's ability to deal with rising cost and sustain economic growth in the face of rising prices in the global commodity markets.

Key elements of competitiveness drivers in the Resource Management Sub-Index

Vital natural resources include water, energy, and raw materials. Most of the resources used today are non-renewable, or only partly renewable: fossil-based energy, and minerals. Water aquifers and other natural products (e.g. wood) are renewable, as long as their capacity is not overused and the replacement patterns are not drastically altered, e.g. trough depletion, biodiversity loss, pollution, or climate change.

Resource efficiency indicators are evaluated both in terms of intensity (per capita) and efficiency (relative GDP). The availability of accurate global data is not as wide as in other criteria, particularly in terms of usage of raw materials. Other than steel & minerals usage, reliable raw material usage statistics are not available on a global level. The focus is therefore on energy, energy sources, water, steel usage, as well as GHG emission intensity and productivity. For the full list of indicators, refer to the methodology section.

Resource Management World Map

The resource intensity ranking is topped by less developed countries, with no OECD nation or developed economy in the top 10. Ireland and Iceland, the highest ranking of the developed economies, are placed 17 & 18, followed by Finland (31), Luxembourg (36) and Denmark (38). The World's economic powerhouses score comparable low – UK is ranked 69 thanks to the near-complete de-industrialisation, Germany is ranked 94, Japan 157, and the USA at 159. Brazil is positioned the highest among the large emerging economies (Rank 58), while India (124), China (160) and Russia (163) have a distinctive potential for improving their sustainable competitiveness through improving resource intensity and resource management.

The Resource Management Sub-Index is composed of indicators scored relative to population (e.g. GHG per capita) as well as relative to economic output (e.g. energy consumption per GDP). Indicators measured against population (per capita) clearly favour countries with low resource and raw material consumption (i.e. less developed countries), while indicators scored relative to GDP measure economic efficiency.

The resource intensity map shows that the resource intensity of less developed countries seems to be lower than that of higher developed countries - despite the weighting (as calculated by relevance) for scores measured against economic output (GDP) being significantly higher than for absolute intensity scores (measured against capita).

The main implications of higher or lower resource management capabilities are related to stability and sustained economic growth: should global prices for raw materials and energy rise significantly in the future (as trends and the majority of available research suggests), the countries in the lower ranks will face substantial higher costs and challenges to maintain their growth compared to countries with higher efficiency and intensity scores.
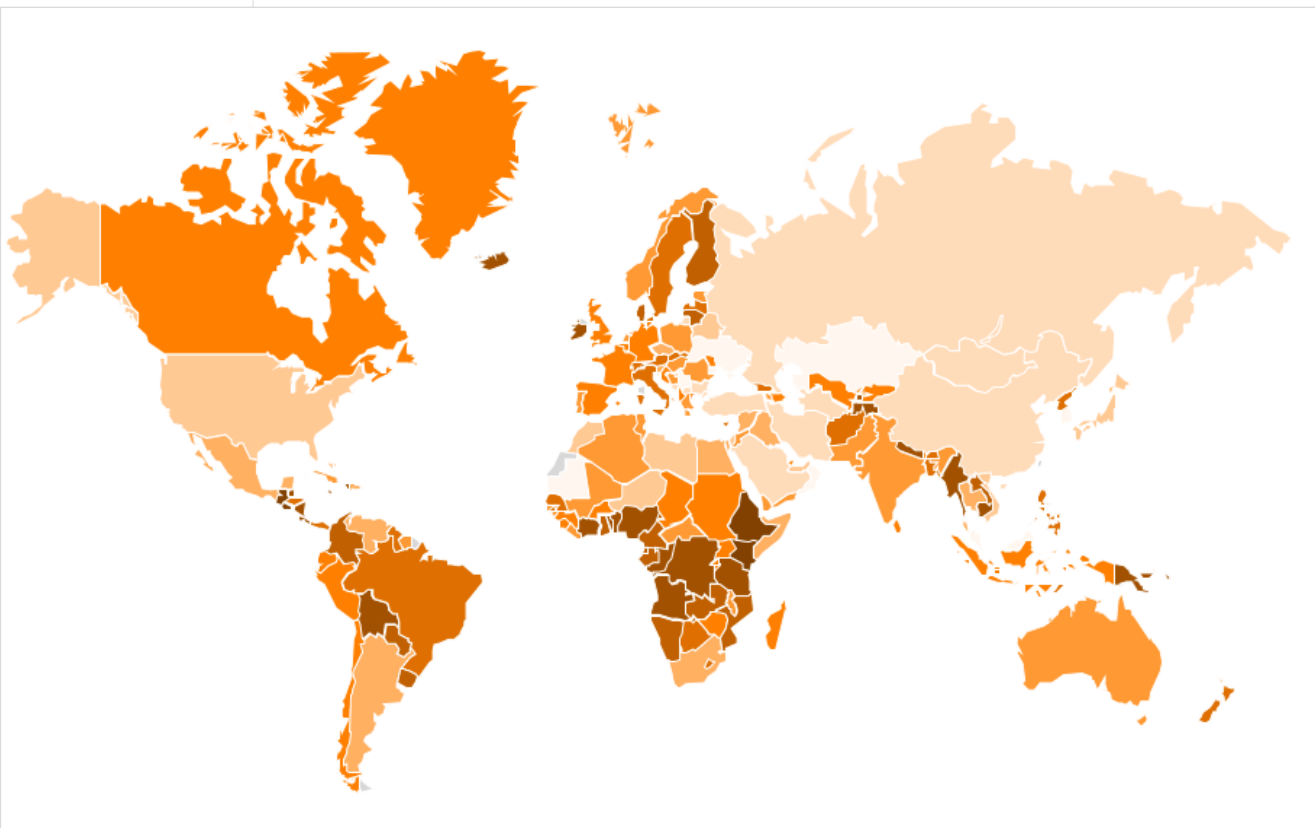
The Resource Intensity World Map. Dark areas indicate low, light areas indicate high resource Intensity.

Resource Management Rankings

Scores and rankings of the level of Resource Management Sub-Index by country:

| Country	Rank	Score	Country	Rank	Score	Country	Rank	Score	Country	Rank	Score
Guatemala	1	55.9	Honduras	46	40.3	Fiji	91	36.4	Maldives	136	32.4
Kenya	2	51.5	Bangladesh	47	40.2	Canada	92	36.4	Slovenia	137	32.3
El Salvador	3	51.3	Sweden	48	40.0	Qatar	93	36.3	St. Lucia	138	32.2
Ethiopia	4	50.5	Philippines	49	39.8	Germany	94	36.3	Thailand	139	32.0
Belize	5	49.6	Liechtenstein	50	39.7	Sudan	95	36.0	Iraq	140	31.9
Costa Rica	6	49.6	New Zealand	51	39.7	Central African Republ	96	36.0	Syria	141	31.8
Cambodia	7	49.3	Slovakia	52	39.1	Norway	97	35.9	South Africa	142	31.8
Haiti	8	48.7	Guyana	53	39.1	Greece	98	35.8	Czech Republic	143	31.5
Nicaragua	9	48.1	Georgia	54	39.0	Guinea-Bissau	99	35.8	Argentina	144	31.4
Bolivia	10	47.3	Panama	55	38.8	Seychelles	100	35.8	Mexico	145	31.1
Republic of Congo	11	47.2	Austria	56	38.7	Suriname	101	35.7	Israel	146	30.8
Nepal	12	47.1	Botswana	57	38.7	Gambia	102	35.6	United Arab Emirates	147	30.6
Nigeria	13	47.1	Brazil	58	38.6	Sao Tome and Principe	103	35.6	Bahamas	148	30.4
Togo	14	47.0	Timor-Leste	59	38.6	Malawi	104	35.3	Niger	149	30.4
Jamaica	15	46.3	Afghanistan	60	38.5	Singapore	105	35.3	Grenada	150	30.4
Tajikistan	16	46.2	Lesotho	61	38.5	Solomon Islands	106	35.2	Libya	151	30.3
Ireland	17	46.1	Italy	62	38.5	Romania	107	35.1	Belarus	152	30.2
Iceland	18	46.0	Latvia	63	38.3	Pakistan	108	35.1	Vietnam	153	30.2
Papua New Guinea	19	45.8	Senegal	64	38.1	Australia	109	35.0	Lebanon	154	30.1
Tanzania	20	45.7	Cyprus	65	38.0	Liberia	110	35.0	Barbados	155	30.0
Benin	21	45.5	Belgium	66	38.0	Mauritius	111	35.0	Hong Kong	156	29.9
Angola	22	45.3	Croatia	67	37.9	Trinidad and Tobago	112	34.9	Japan	157	29.7
Democratic Republic o	23	45.3	Albania	68	37.6	Portugal	113	34.9	Morocco	158	29.5
Burma	24	45.0	United Kingdom	69	37.6	Samoa	114	34.9	USA	159	29.3
Cote d'Ivoire	25	45.0	Ecuador	70	37.6	Djibouti	115	34.8	China	160	28.9
Equatorial Guinea	26	44.7	Indonesia	71	37.6	Hungary	116	34.5	Turkmenistan	161	28.7
Laos	27	44.3	Burundi	72	37.5	Cuba	117	34.4	St. Vincent and the Gre	162	28.5
Mozambique	28	44.3	Chile	73	37.4	Yemen	118	34.3	Russia	163	28.4
Zambia	29	44.2	Burkina Faso	74	37.4	Algeria	119	34.3	Bahrain	164	27.8
Eritrea	30	44.2	Kyrgistan	75	37.4	Swaziland	120	34.2	Turkey	165	27.7
Finland	31	44.2	Zimbabwe	76	37.4	West Bank and Gaza	121	34.1	Macedonia	166	27.4
Namibia	32	43.6	Spain	77	37.3	Mali	122	34.0	Mongolia	167	27.2
Gabon	33	43.1	Azerbaijan	78	37.1	Tunisia	123	33.9	Antigua and Barbuda	168	27.1
Uruguay	34	43.0	Sierra Leone	79	37.0	India	124	33.7	Saudi Arabia	169	26.9
Colombia	35	42.6	Uganda	80	36.9	Jordan	125	33.6	Bulgaria	170	26.6
Luxembourg	36	42.3	Chad	81	36.9	Estonia	126	33.6	Montenegro	171	26.5
Denmark	37	42.1	Guinea	82	36.9	Netherlands	127	33.6	Iran	172	26.2
Dominica	38	41.8	France	83	36.9	Armenia	128	33.6	Mauritania	173	25.7
Comoros	39	41.7	Peru	84	36.8	Bosnia and Herzegovin	129	33.4	Malaysia	174	25.6
Paraguay	40	41.7	Sri Lanka	85	36.8	Poland	130	33.2	Ukraine	175	25.0
Ghana	41	41.5	Malta	86	36.7	Dominican Republic	131	32.9	Serbia	176	24.0
Lithuania	42	41.4	Moldova	87	36.7	Egypt	132	32.7	Oman	177	23.2
Cameroon	43	41.2	Madagascar	88	36.4	Venezuela	133	32.5	Kazakhstan	178	22.8
Bhutan	44	40.9	Uzbekistan	89	36.4	Brunei	134	32.5	Kuwait	179	21.6
Switzerland	45	40.7	Rwanda	90	36.4	Vanuatu	135	32.4	South Korea	180	20.7

social capital

5 Social Capital

The Social Capital of a nation is the sum of social stability and the well-being (perceived or real) of the entire population. Social Capital generates social cohesion and a certain level of consensus, which in turn delivers a stable environment for the economy, and prevents natural resources from being over-exploited. Social Capital is not a tangible value and therefore hard to measure and evaluate in numeric values. In addition to local historical and cultural influences, the social consensus in a society is affected by several factors: health care systems and their universal availability/affordability (measuring physical health); income and asset equality, which are correlated to crime levels; demographic structure (to assess the future generational balance within a society); and freedom of expression, freedom from fear and the absence of violent conflicts that are required for businesses to be able to generate value.

While a direct connection of social cohesion to creating wealth and sustain economic development might be difficult to establish scientifically, a certain degree of equality, adequate health systems, freedom from fear and equal opportunities (without which no American Dream ever would have been possible) are pre-requisites to achieve the same. The absence or deterioration of social cohesion in turn leads to lower productivity (health), rising crime rates, and potentially social unrest, paralysing economic development and growth.

Key elements of competitiveness drivers in the Social Capital Sub-Index
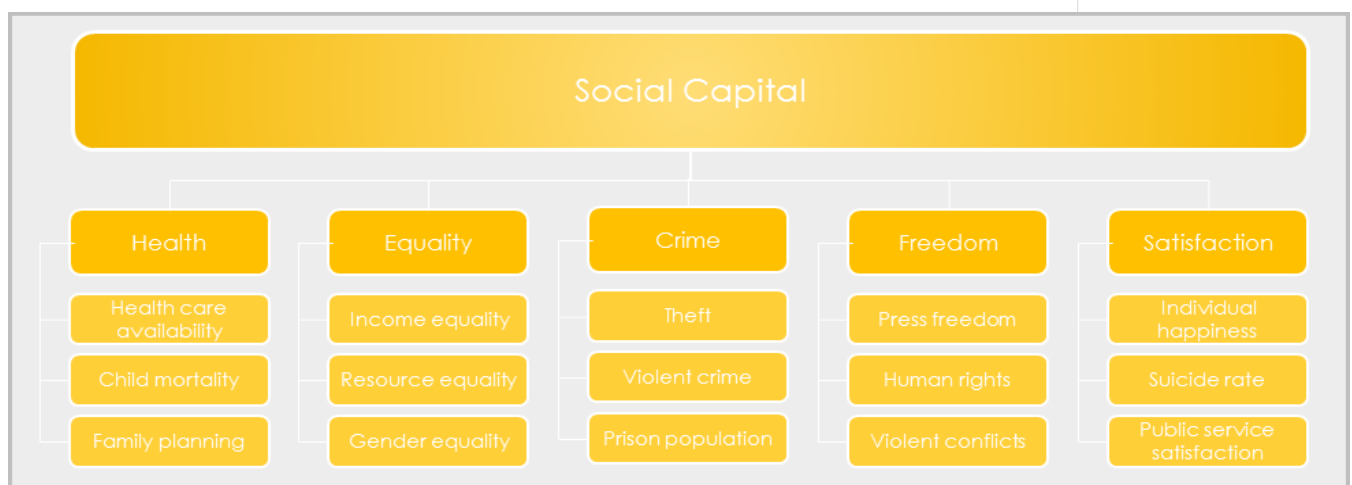
Social Capital Indicators

The indicators selected to measure social cohesion have been selected from the 5 themes above (health, equality, crime, freedom and age structure). Some of these indicators (e.g. "happiness") are qualitative, i.e. not based on performance data that can be measured. Instead, qualitative indicators from surveys and other sources compiled by recognised organisations were used to measure the qualitative aspects of social cohesion, including single indicators from the Happy Planet Index (New Economics Foundation), the Press Freedom Index (Reporters Without Borders), and the Global Peace Index (Institute for Economics and Peace).

For the full list of used indicators, please refer to the methodology section.

Social Capital World Map

A certain level of social balance or social consensus is required to maintain a stable environment in which economic activities can take place. The higher the social capital of a country, the better the economy can flourish. The higher the social consensus, the higher the motivation of individuals to contribute to the wider good, i.e. the sustainable development of the nation – and the less likely they are to fall off the track into illegal paths of wealth generation that eventually hurt the legal economy. The indicators used to calculate the Social Capital score of countries is composed of health and health care factors (availability and affordability), the quantitative equality within societies (income, assets, and gender equality), freedom indicators (political freedom, freedom from fear, individual happiness), crime levels, and demographic indicators.

The top-ten in the Social Capital sub-index is dominated by European countries from the North – all 5 Nordic countries, plus Luxembourg, Netherlands, and Germany. Interestingly (and despite gender deficits), Kuwait (14th) Qatar (19th) make the top 20 thanks to health services available to all, low crime rates, and good public services. Japan (15th) is the only other non-European country in the Top-20. The USA, due to comparable high crime rates and low availability of health services, is ranked 113, just below Afghanistan and before the Dominican Republic, while the UK is ranked 55, with both countries sliding down the ladder in recent years. China is ranked 54, India 90, and Brazil 97. The highest ranked South American country is Argentina (60).

Most African nations, particular within and south of the Sahel zone, are at the bottom of this list, due to a combination of low availability of health care services and child mortality, limited freedom of expression and unstable human rights situation.
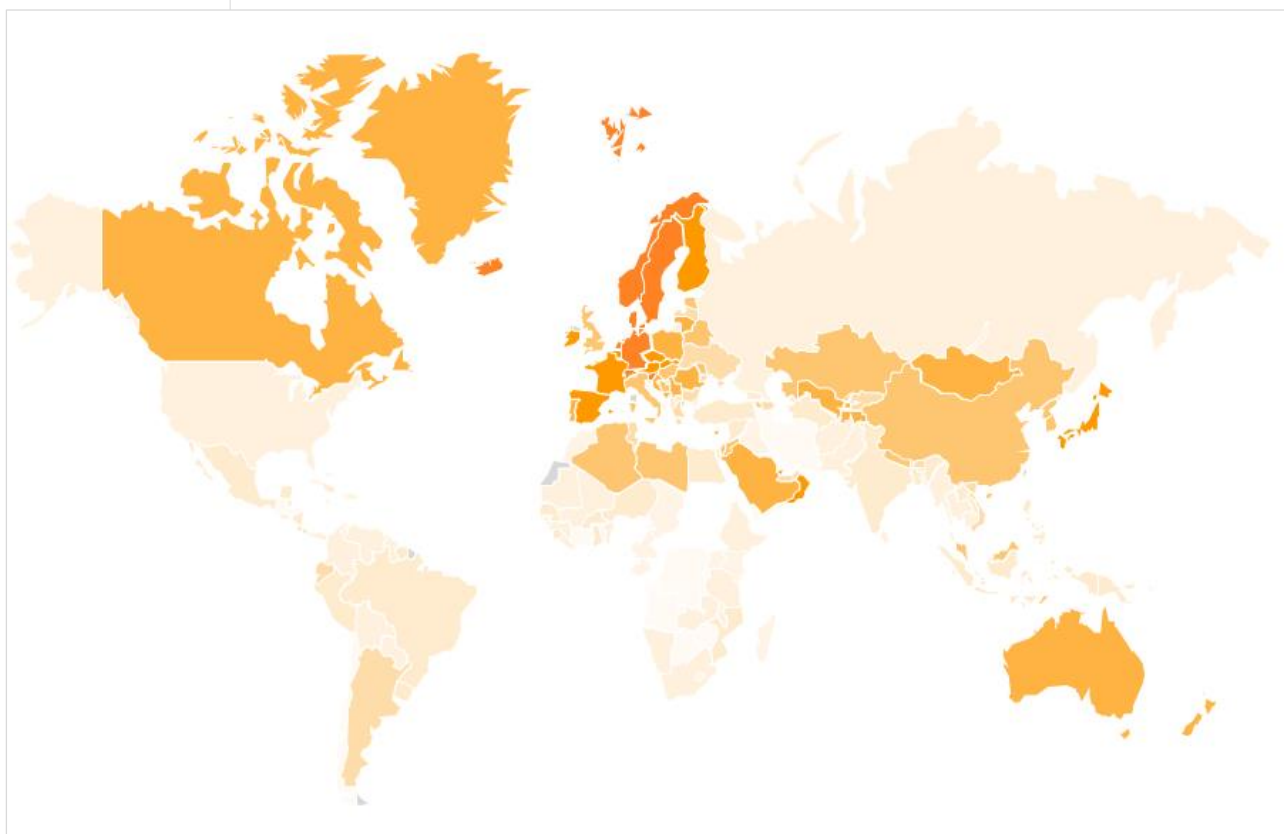
The Social Capital World Map. Dark areas indicate high, light areas low maturity of Social Capital

Global Social Capital Rankings

Scores and rankings of the level of Social Capital Sub-Index by country:

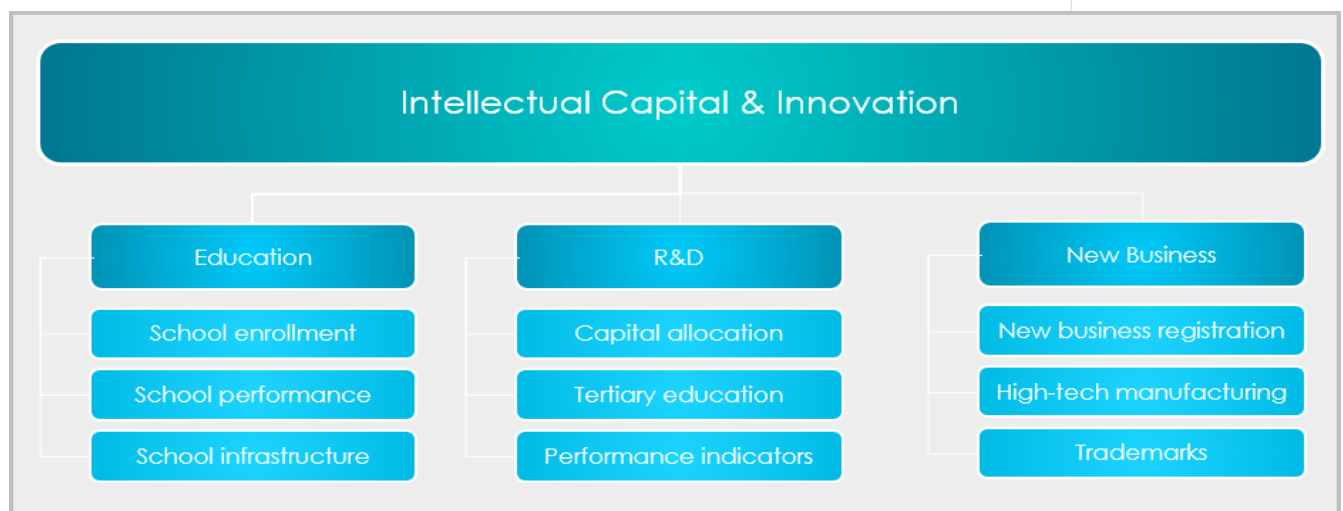| Country	Rank	Score	Country	Rank	Score	Country	Rank	Score	Country	Rank	Score
Denmark	1	63.3	South Korea	46	46.3	Georgia	91	39.2	Cambodia	136	34.4
Luxembourg	2	62.3	Kazakhstan	47	46.2	Sierra Leone	92	39.1	Guyana	137	34.0
Norway	3	61.5	Israel	48	46.1	Seychelles	93	39.0	Cameroon	138	34.0
Iceland	4	61.2	Libya	49	46.0	Peru	94	38.9	Madagascar	139	33.9
Slovenia	5	60.8	Algeria	50	46.0	Philippines	95	38.6	Chad	140	33.8
Switzerland	6	60.6	Moldova	51	46.0	Ghana	96	38.4	Morocco	141	33.6
Sweden	7	59.7	Belarus	52	45.9	Brazil	97	38.4	Comoros	142	33.5
Germany	8	59.1	Hungary	53	45.6	Mozambique	98	38.4	Uganda	143	33.0
Netherlands	9	58.8	China	54	45.6	Cuba	99	38.3	Solomon Islands	144	32.7
Finland	10	58.4	United Kingdom	55	45.5	Suriname	100	38.3	Iraq	145	32.6
Austria	11	58.3	Nepal	56	45.2	Turkey	101	38.2	Lesotho	146	32.6
Belgium	12	58.2	Timor-Leste	57	45.2	Niger	102	38.1	Gabon	147	32.5
Spain	13	58.1	Malaysia	58	45.0	Burkina Faso	103	38.0	Kenya	148	32.3
Kuwait	14	57.5	Bulgaria	59	45.0	Thailand	104	37.7	Burundi	149	32.3
Japan	15	56.8	Argentina	60	45.0	Burma	105	37.6	Togo	150	32.1
Ireland	16	56.2	Malta	61	44.7	Paraguay	106	37.6	Haiti	151	32.1
Slovakia	17	55.3	United Arab Emirates	62	44.0	Malawi	107	37.6	Guatemala	152	31.9
Czech Republic	18	54.8	Latvia	63	43.8	Liberia	108	37.5	Cote d'Ivoire	153	31.9
Qatar	19	54.6	Tunisia	64	43.7	Sri Lanka	109	37.4	Djibouti	154	31.7
France	20	53.8	Kyrgistan	65	43.5	Bahamas	110	37.3	Chile	155	31.6
Liechtenstein	21	53.7	Ecuador	66	43.4	Pakistan	111	37.3	Sao Tome and Principe	156	31.6
Oman	22	53.3	Vietnam	67	43.4	Afghanistan	112	36.9	Zimbabwe	157	31.5
Mongolia	23	53.0	Brunei	68	43.1	USA	113	36.8	Rwanda	158	31.3
Saudi Arabia	24	52.8	Bhutan	69	43.1	Panama	114	36.7	Angola	159	31.0
Croatia	25	52.1	Azerbaijan	70	43.0	Dominican Republic	115	36.6	Gambia	160	30.9
Poland	26	51.3	Costa Rica	71	42.8	Ethiopia	116	36.6	Botswana	161	30.5
Singapore	27	50.9	Ukraine	72	42.6	Venezuela	117	36.5	Iran	162	29.8
Cyprus	28	50.9	Dominica	73	42.2	Mauritania	118	36.5	Yemen	163	29.5
Australia	29	50.8	Greece	74	42.0	Mauritius	119	36.3	Honduras	164	28.8
Canada	30	50.6	Macedonia	75	41.3	Benin	120	36.2	Grenada	165	28.5
Maldives	31	50.2	Uruguay	76	41.0	South Africa	121	35.9	Democratic Republic o	166	28.4
Tajikistan	32	50.1	Laos	77	40.9	West Bank and Gaza	122	35.9	Eritrea	167	28.3
Serbia	33	50.1	Bangladesh	78	40.8	Belize	123	35.8	Vanuatu	168	27.6
Romania	34	50.0	Jamaica	79	40.6	Namibia	124	35.8	Samoa	169	27.3
Portugal	35	50.0	Turkmenistan	80	40.6	Zambia	125	35.5	Sudan	170	27.2
Uzbekistan	36	49.7	Albania	81	40.4	Tanzania	126	35.5	Antigua and Barbuda	171	26.8
Lithuania	37	49.4	Mexico	82	40.4	Bolivia	127	35.5	Republic of Congo	172	26.8
Montenegro	38	49.2	Egypt	83	40.1	Guinea-Bissau	128	35.4	Central African Republ	173	26.2
New Zealand	39	49.1	Senegal	84	39.9	El Salvador	129	35.1	Nigeria	174	26.1
Estonia	40	48.5	Syria	85	39.9	Guinea	130	35.1	Equatorial Guinea	175	25.9
Italy	41	48.3	Papua New Guinea	86	39.7	Bahrain	131	35.0	St. Vincent and the Gr	176	24.9
Lebanon	42	48.0	Nicaragua	87	39.6	Colombia	132	34.7	Fiji	177	24.3
Armenia	43	47.5	Barbados	88	39.6	Trinidad and Tobago	133	34.6	Swaziland	178	24.3
Jordan	44	47.4	Indonesia	89	39.4	Mali	134	34.6	Hong Kong	179	22.9
Bosnia and Herzegovin	45	46.9	India	90	39.3	Russia	135	34.4	St. Lucia	180	18.5

intellectual capital

6 Intellectual capital

Intellectual Capital is the fourth level of the Sustainable Competitiveness Pyramid. In order to create and sustain wealth, jobs and income for the population are required. Providing jobs requires producing goods and providing services that people or businesses, domestically or abroad, are willing to buy. This in turn requires products and services to be competitive in the global market in terms of quality and price. To maximise the domestic benefits, the value chain is ideally covered within the boundaries of a national economy - the largest share of adding value is contained in processing raw materials and/or parts to finished products.

Sustainable competitiveness therefore requires high R&D capabilities (based on solid education), and business entrepreneurship. In addition, sustained economic success requires a healthy balance between service and manufacturing sectors. Over-reliance on the service sector sooner or later leads to diminishing growth potential and loss of knowledge.

Intellectual Capital & Innovation

Education	R&D	New Business
School enrollment	Capital allocation	New business registration
School performance	Tertiary education	High-tech manufacturing
School infrastructure	Performance indicators	Trademarks

Key elements of competitiveness drivers in the Intellectual Capital (innovation capabilities) Sub-Index

Measuring innovation

Quality and availability of education in the past are an indication for today's R&D and innovation capabilities, and today's education performance reflect future innovation capabilities. Strength and depth of R&D activities is the basis for the development of value-added technologies and services. Educational performance indicators are therefore highly important to estimate the ability for sustained innovation and competitiveness.

Additional indicators include performance data on R&D activities and new business development indicators.

Further indicators relate to the actual business entrepreneurship – new business registration, trademark applications, and the health of the balance between agricultural, industrial and service sectors of an economy.

For the full list of indicators used, please refer to the methodology section.

The Intellectual Capital World Map

Intellectual Capital is the basis for innovation capability and sustainable economic competitiveness. The indicators used for assessing these criteria are composed of data points relating to education, innovation capabilities, and entrepreneurship. Countries with a high score in this ranking are more likely than others to develop (or sustain) successful economies through research and knowledge driven industries, i.e. high-value added industries, and therefore achieve higher growth rates. All indicators used to assess the innovation capability and sustainable competitiveness have been scored against size of the population or against GDP in order to gain a full picture of the competitiveness, independent of the size of a country. In addition, developments (trends) of performance indicators have also been taken into account. Key observations of the Intellectual Capital ranking include:

- The innovation and competitiveness ranking is dominated by the North-Eastern Asian nations and OECD countries from the Northern hemisphere.
- The innovation and competitiveness ranking is topped by Asian countries: South Korea, China, Japan, Singapore
- All other Top-20 places are occupied by European economies (Germany, Slovenia, Luxembourg, all Nordic countries) except for Israel (14). Eastern European countries and Former Soviet Republics also fare well.
- Malaysia (26), Costa Rica (46) and Cuba (47) are the highest ranked countries of the Southern hemisphere.
- Russia is ranked 25, Brazil 61, and India 105.
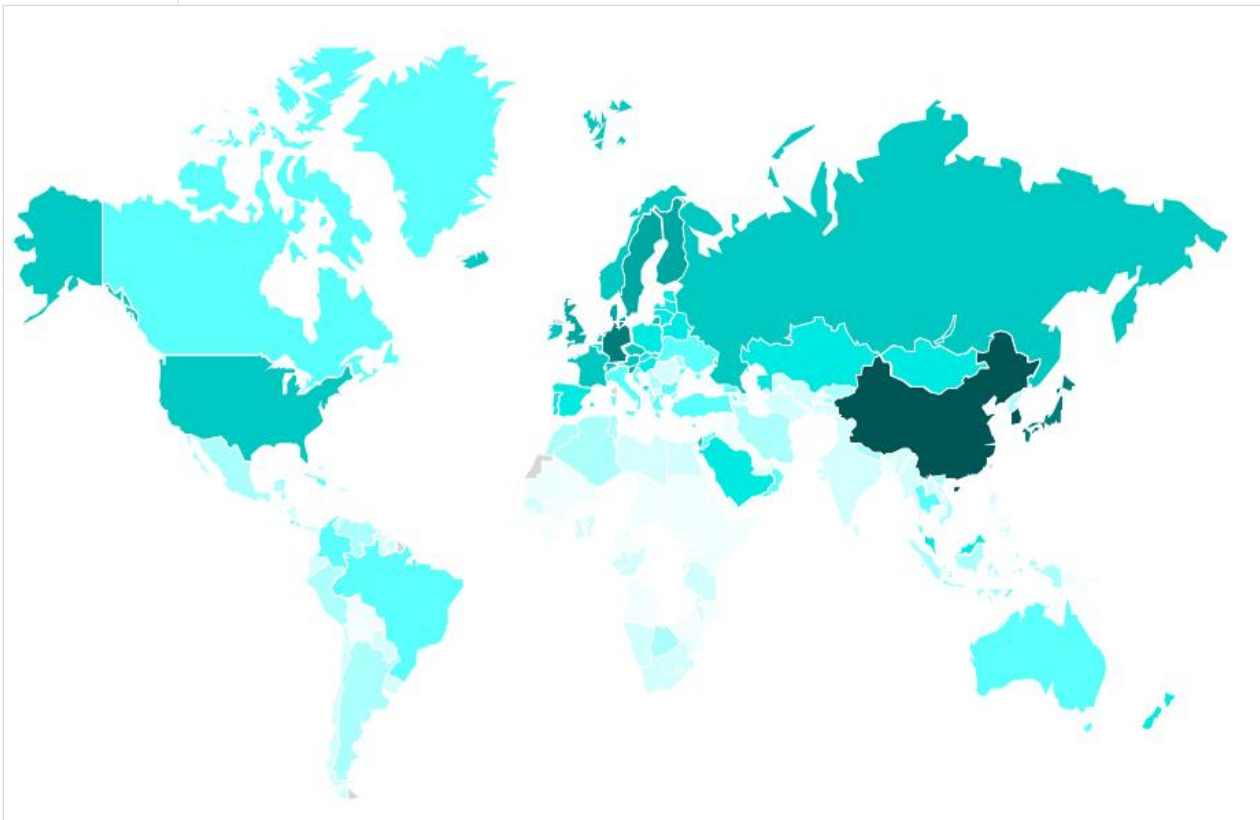
The Intellectual Capital World Map. Dark areas indicate high, light areas low availability of Intellectual Capital

Global Innovation Rankings

Scores and rankings of Intellectual Capital Sub-Index by country:

| Country	Rank	Score	Country	Rank	Score	Country	Rank	Score	Country	Rank	Score
South Korea	1	71.8	Costa Rica	46	44.5	United Arab Emirates	91	34.8	Trinidad and Tobago	136	27.1
China	2	64.9	Cuba	47	44.2	Ecuador	92	34.7	Djibouti	137	27.0
Liechtenstein	3	62.2	Ukraine	48	44.0	Macedonia	93	34.5	Kenya	138	26.8
Germany	4	61.8	Turkey	49	43.8	Kuwait	94	34.3	Solomon Islands	139	26.7
Japan	5	61.6	Canada	50	43.5	Dominica	95	34.1	Togo	140	25.8
Slovenia	6	59.9	Bulgaria	51	43.5	Chile	96	34.0	Cambodia	141	25.7
Malta	7	59.5	Oman	52	43.5	St. Lucia	97	33.5	Mauritania	142	25.6
Luxembourg	8	59.3	Cyprus	53	43.2	Uruguay	98	33.3	El Salvador	143	25.0
Singapore	9	58.1	Greece	54	43.0	Turkmenistan	99	33.1	Gambia	144	24.9
Sweden	10	57.9	Thailand	55	42.6	Qatar	100	32.6	Cameroon	145	24.8
Finland	11	56.9	West Bank and Gaza	56	42.0	South Africa	101	32.6	Bosnia and Herzegovin	146	24.7
United Kingdom	12	56.4	Samoa	57	41.9	St. Vincent and the Gre	102	32.4	Bolivia	147	24.7
Denmark	13	55.2	Armenia	58	41.8	Ghana	103	32.3	Honduras	148	24.3
Israel	14	54.6	Georgia	59	41.5	Mauritius	104	32.1	Ethiopia	149	24.2
Czech Republic	15	54.6	Brunei	60	41.4	India	105	32.1	Uganda	150	24.1
France	16	54.5	Brazil	61	41.3	Nicaragua	106	32.1	Iraq	151	23.7
Switzerland	17	54.3	Australia	62	41.3	Benin	107	31.7	Mozambique	152	23.7
Netherlands	18	54.0	Jordan	63	41.2	Swaziland	108	31.3	Bangladesh	153	23.5
Norway	19	53.2	Maldives	64	40.9	Grenada	109	31.2	Haiti	154	23.5
Austria	20	53.2	Colombia	65	40.2	Comoros	110	31.2	Angola	155	23.1
Iceland	21	51.8	Peru	66	39.9	Rwanda	111	31.2	Burundi	156	22.8
USA	22	51.8	Tunisia	67	39.5	Dominican Republic	112	31.1	Mali	157	22.7
Ireland	23	50.9	Iran	68	39.4	Burma	113	31.0	Sierra Leone	158	22.5
Hong Kong	24	50.7	Serbia	69	39.1	Republic of Congo	114	30.8	Liberia	159	22.1
Russia	25	50.1	Fiji	70	39.1	Namibia	115	30.7	Eritrea	160	22.0
Malaysia	26	49.2	Botswana	71	38.3	Paraguay	116	30.5	Zimbabwe	161	21.9
Portugal	27	48.8	Kyrgistan	72	38.3	Gabon	117	30.4	Papua New Guinea	162	21.4
Poland	28	48.5	Bahrain	73	38.3	Laos	118	30.3	Guinea-Bissau	163	21.4
Estonia	29	48.2	Vietnam	74	38.2	Bhutan	119	30.2	Chad	164	21.4
Belgium	30	48.1	Moldova	75	38.2	Lesotho	120	29.9	Sudan	165	21.1
Mongolia	31	47.8	Bahamas	76	38.1	Sri Lanka	121	29.8	Yemen	166	20.0
Saudi Arabia	32	47.4	Vanuatu	77	37.8	Malawi	122	29.7	Zambia	167	19.7
Lithuania	33	47.1	Venezuela	78	37.8	Tajikistan	123	29.5	Nigeria	168	19.3
Slovakia	34	47.0	Morocco	79	37.1	Azerbaijan	124	29.5	Niger	169	19.1
Latvia	35	46.3	Indonesia	80	36.5	Senegal	125	29.3	Afghanistan	170	19.0
Kazakhstan	36	46.2	Mexico	81	36.4	Libya	126	29.3	Equatorial Guinea	171	19.0
Belarus	37	45.9	Seychelles	82	36.3	Suriname	127	29.2	Central African Republ	172	18.3
Spain	38	45.7	Argentina	83	36.0	Philippines	128	29.2	Democratic Republic c	173	17.9
Montenegro	39	45.6	Belize	84	35.7	Antigua and Barbuda	129	29.2	Guatemala	174	17.8
New Zealand	40	45.3	Barbados	85	35.1	Guyana	130	29.2	Cote d'Ivoire	175	17.6
Hungary	41	45.1	Albania	86	35.0	Jamaica	131	29.1	Madagascar	176	17.2
Timor-Leste	42	45.0	Algeria	87	35.0	Sao Tome and Principe	132	28.9	Guinea	177	16.9
Lebanon	43	44.9	Nepal	88	35.0	Panama	133	28.4	Burkina Faso	178	16.8
Italy	44	44.8	Romania	89	34.9	Egypt	134	28.0	Syria	179	14.2
Croatia	45	44.8	Uzbekistan	90	34.9	Tanzania	135	27.7	Pakistan	180	9.2

governance

7 Governance

Governing National Development: Shaping Social and Economic Capital

The base of the Sustainable Competitiveness Pyramid – the Natural Capital of a country, is given. Everything else – the society, the economy - is shaped by the legal, regulatory and physical (human built) framework. This framework – the environment in which society exists and businesses operate - is developed, maintained and updated by authorities and institutions, most often government bodies. The Governance Sub-Index therefor encompasses all aspects that shape the framework of society (the Social Capital), and in which the economy (Intellectual Capital, Resource Management) operates. Key aspects of the Governance aspects include:

- Strategic direction of government-led development (the balance between the key elements of government spending: health, education, infrastructure, security).
- The built physical environment (infrastructure) required for smooth operation of the society and businesses, the availability and quality of public services,
- The framework provided to businesses (formal in terms of business regulations, and informal in terms of red tape and corruption negatively affecting businesses),
- Exposure to volatility in terms of government balance sheets, and exposure to volatility shocks as posed by financial market fluctuations.

Key elements of competitiveness drivers in the Governance Sub-Index
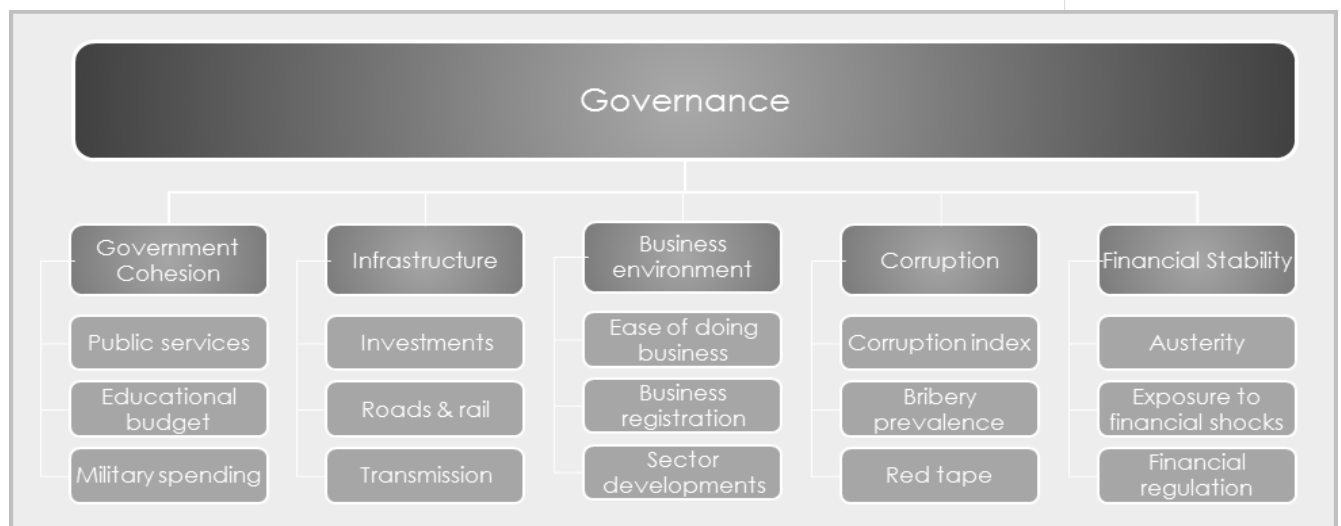
Measuring Governance

The result of qualitative governance quality & strategy evaluation depends very much on the evaluator. The Sustainable Competitiveness Index therefore relies on purely quantitative data series to exclude all subjectivity in evaluating and calculating the Governance Sub-Index. In addition, some qualitative indicators (perceived quality of public services and perceived levels of corruption determined through reliable and international surveys) have been incorporated.

For the full list of indicators used, please refer to the methodology section.

The Governance World Map

The Governance Sub-Index of the Sustainable Competitiveness Index is based on quantitative data series – i.e. *not* qualitative evaluation of government systems. In addition, some aspects of government direction implications (such as human rights, freedom of press, etc.) are assigned to the Social Capital Index. The Governance Sub-Index aims at evaluating the suitability of a country's regulatory framework and infrastructure environment to facilitate sustainable competitiveness. The regulatory and infrastructure framework should enable a framework in which the country's natural, social and intellectual capital can flourish to generate new and sustain existing wealth.

Observations on the Governance ranking include:

- The Governance Ranking is topped by China, followed by Japan.
- Interestingly, all BRIC countries score high in this ranking: China (1), Russia (5), Brazil (7), and India (36); South Africa is further down at 99.
- The highest ranked European country is Germany (4), followed by Estonia (6), Norway (7), and Iceland (8).
- The USA is ranked 19, while the UK is somewhat left behind at 88.
- Most African nations are also ranked low
- South America scores above average in this on this Sustainable Competitiveness Sub-Index

The Governance World Map. Dark areas indicate high, light areas low levels of Governance quality

Global Governance Rankings

Scores and rankings of Governance Sub-Index by country:

Country	Rank	Score	Country	Rank	Score	Country	Rank	Score	Country	Rank	Score
China	1	67.3	Mauritius	46	53.1	Portugal	91	47.6	Sudan	136	40.1
Indonesia	2	65.6	Ecuador	47	53.1	Sri Lanka	92	47.5	Democratic Republic o	137	40.0
Japan	3	65.5	Serbia	48	52.8	Kyrgistan	93	47.2	Iraq	138	39.8
Germany	4	64.2	Thailand	49	52.7	Morocco	94	47.0	Equatorial Guinea	139	39.7
Russia	5	62.2	Finland	50	52.6	Pakistan	95	46.7	Tajikistan	140	39.6
Estonia	6	61.7	Denmark	51	52.6	Nepal	96	46.6	Samoa	141	39.6
Norway	7	61.6	Seychelles	52	52.5	Netherlands	97	46.6	Cote d'Ivoire	142	39.5
Iceland	8	60.6	Mexico	53	52.4	Paraguay	98	46.5	Liberia	143	39.5
Kazakhstan	9	60.4	Slovenia	54	52.4	South Africa	99	46.3	Angola	144	39.5
Uruguay	10	59.4	Bolivia	55	52.2	Montenegro	100	46.2	Jamaica	145	39.4
Oman	11	58.4	Bulgaria	56	52.1	Panama	101	46.2	Zimbabwe	146	39.2
Poland	12	58.0	Algeria	57	52.1	Suriname	102	45.6	Bahamas	147	39.1
New Zealand	13	57.8	Croatia	58	51.3	Cambodia	103	45.5	Senegal	148	39.0
Argentina	14	57.8	Bangladesh	59	51.3	Nigeria	104	45.5	Hong Kong	149	38.9
Latvia	15	57.7	Hungary	60	51.2	Tunisia	105	45.4	Papua New Guinea	150	38.8
Belarus	16	57.4	Colombia	61	50.9	Bosnia and Herzegovin	106	45.1	Jordan	151	38.6
Romania	17	57.1	Philippines	62	50.7	Macedonia	107	44.7	Burkina Faso	152	38.5
Brazil	18	57.0	Gabon	63	50.6	Dominica	108	44.6	Gambia	153	38.5
USA	19	57.0	Ghana	64	50.0	Dominican Republic	109	44.2	Mauritania	154	38.2
Saudi Arabia	20	56.9	Armenia	65	50.0	Albania	110	43.9	Afghanistan	155	37.7
Austria	21	56.7	Libya	66	49.9	Mozambique	111	43.7	Togo	156	36.8
Georgia	22	56.6	Venezuela	67	49.9	Swaziland	112	43.2	Chad	157	36.7
Chile	23	56.3	Ireland	68	49.8	Greece	113	43.2	Burundi	158	36.0
Switzerland	24	56.1	Uzbekistan	69	49.8	El Salvador	114	42.9	Eritrea	159	35.0
Australia	25	55.9	Malta	70	49.6	Kenya	115	42.9	Timor-Leste	160	35.0
Qatar	26	55.9	Belgium	71	49.5	Tanzania	116	42.9	Belize	161	34.6
Liechtenstein	27	55.8	Cuba	72	49.5	Benin	117	42.7	Nicaragua	162	34.2
Turkey	28	55.6	Bhutan	73	49.5	Lebanon	118	42.7	Comoros	163	34.2
Luxembourg	29	55.6	Botswana	74	49.5	Laos	119	42.7	Guinea	164	33.9
Sweden	30	55.4	Ukraine	75	49.4	Lesotho	120	42.5	Barbados	165	32.7
Czech Republic	31	55.3	Spain	76	49.3	West Bank and Gaza	121	42.3	Antigua and Barbuda	166	32.5
Vietnam	32	55.3	Turkmenistan	77	49.2	Fiji	122	42.3	Guinea-Bissau	167	32.4
South Korea	33	55.2	Costa Rica	78	49.2	Uganda	123	42.1	Honduras	168	32.2
Singapore	34	55.0	Burma	79	48.9	Brunei	124	42.0	Mali	169	32.2
Peru	35	54.9	Moldova	80	48.7	Rwanda	125	42.0	Malawi	170	31.7
India	36	54.8	Bahrain	81	48.7	Cameroon	126	41.7	Madagascar	171	31.0
Slovakia	37	54.7	Egypt	82	48.4	Republic of Congo	127	41.4	St. Lucia	172	30.9
Israel	38	54.6	United Arab Emirates	83	48.3	Guyana	128	41.4	Grenada	173	30.3
France	39	54.6	Cyprus	84	48.3	Trinidad and Tobago	129	41.3	St. Vincent and the Gre	174	29.2
Canada	40	54.2	Ethiopia	85	48.3	Maldives	130	41.2	Haiti	175	29.1
Azerbaijan	41	54.1	Guatemala	86	48.0	Sierra Leone	131	41.2	Central African Republ	176	27.7
Mongolia	42	53.7	Namibia	87	48.0	Vanuatu	132	41.0	Syria	177	27.3
Lithuania	43	53.5	United Kingdom	88	48.0	Niger	133	40.8	Solomon Islands	178	23.9
Italy	44	53.3	Kuwait	89	47.8	Zambia	134	40.2	Yemen	179	23.2
Malaysia	45	53.2	Iran	90	47.6	Djibouti	135	40.1	Sao Tome and Principe	180	22.8

Spotlight:

after the crisis

8 Spotlight: After the financial crisis

The financial crises 2007/2008 translated into a global economic crises and caught many countries unprepared. Different countries have used different measurements to deal with the fall-out, declining economy, and increasing debt. We have therefore chosen countries that have adopted different answers to those challenges. The research of the Sustainable Competitiveness Index is used to investigate whether sustainable competitiveness research can provide and insight as to why some countries have or are recovering better than others since the crisis.

Sustainable Competitiveness scores of the benchmark group

Benchmarking countries

Three countries (UK, Iceland, and Korea) have been chosen due to their very different approach after the crisis: saving at any cost to reduce deficits (UK), state-led investment program (Korea), and letting the banks into bankruptcy (Iceland), with the US, Germany, Japan, China and Greece serving as references.

The UK was set on a strict austerity course (i.e. supporting the financial market and cutting tax for the well-off in the hope that this would lead to increasing investments and jobs while cutting all other cost in the hope to reduce budget deficits). Greece was forced on an ultra-austerity course by its European debtor countries - who want to recoup the money they gave Greece to bail out high-risk Greek investments of non-Greek European banks. South Korea and China both put forward significant investment packages in the face of economic crisis; while Iceland's population refused to bail out the banks. The US, Germany and Japan used a set of policies trying to reignite their economies. All of the selected countries score above the average in the Competitiveness Index, but some countries – particular the US and the UK, are ranked considerably lower than in other competitiveness comparisons.

Historic development of GNI per capita of the benchmark group

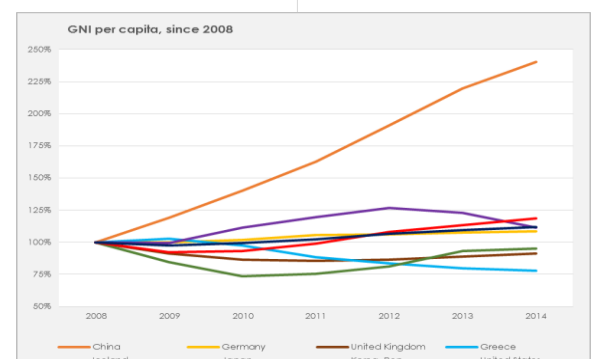**Economic output development**

All of these countries have a considerable per-capita economic output and have more or less developed in parallel over the past 50 years. Of particular interest is Iceland's spike after 2002 when the GNI output per capita doubled within a few year following the country's metamorphosis into a single big investment bank and the steep decline when the bubble of trash-paper trading burst in 2007/2008. China is still only waking up to its ancient grandeur, and is likely to continue its growth into the future with improving infrastructure and education. However, in this particular context recent developments since the financial crisis are of more interest than the long-term developments.
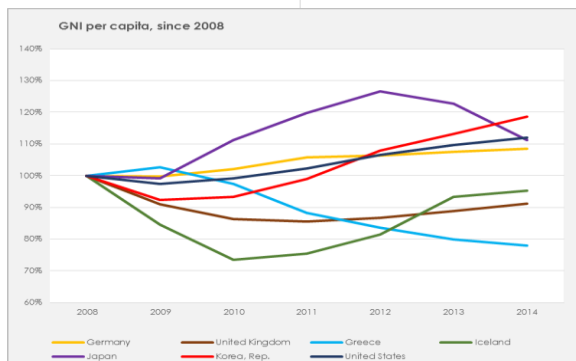

GNI development since the financial crisis (2008) – China more than doubled, the more developed countries only grew modestly or lost

GNI per capita, since 2008

UK & Iceland have not yet recovered to pre-crisis levels, Greece is in free-fall decline, while Korea seems to be on an upward path

China has continued its growth since 2008 uninterrupted, more than doubling the per-capita GNI (albeit starting at a low level compared to the other selected countries). Iceland, Greece and the UK have not yet recovered the pre-crisis levels, with Greece seeming to be on a continuous decline. Germany and the US have registered small growth, whereas Korea seems to be on a growth path after a short slump with GNI at 120% of pre-crises levels. Japan did not seem to be affected initially, but the combination of the global crisis, the outfall of Fukushima disaster and currency fluctuations seem to have affected Japan's development since 2012. The question is – what are the reasons for these developments? According the 5 levels of the Sustainable Competitiveness Model, these developments have been scrutinised.

Natural capital

GNI changes vs. Natural Capital
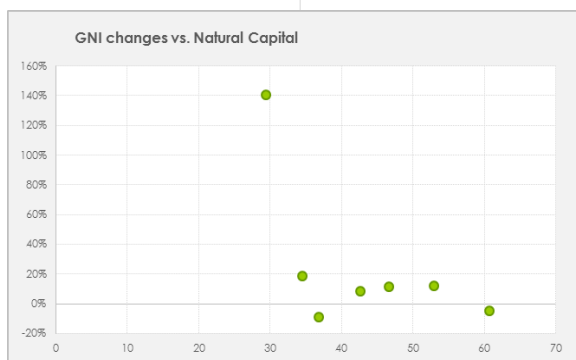
Not surprisingly, there is no visible correlation between Natural Capital availability and short-term economic output changes

Natural Capital, the first level of the competitiveness pyramid, does not change in the short-term due to an outer economic crisis such as the financial crisis. Natural Capital is influencing a countries' prosperity on the long-term. However, abundance of Natural Capital does not guarantee development (on the contrary, is the impression, see the resource curse). However, overexploitation or degradation of Natural Capital will affect the ability to maintain development standards. Not surprisingly, there is no correlation between Natural Capital and short-term changes to overall economic output.

Resource intensity

Energy usage per GDP output
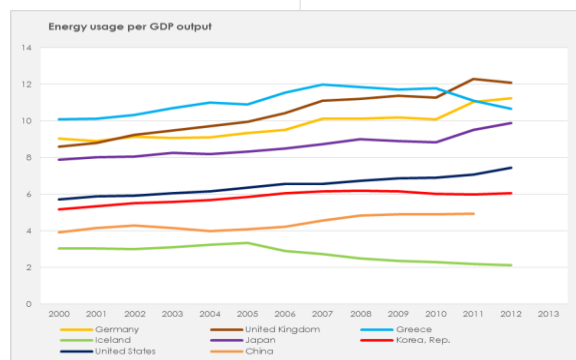
Energy intensity – economic decline results in lower energy consumption (Greece)

Resource Intensity, as Natural Capital, does not change short-term. However, outer economic influences can have an impact on certain elements. The a significant decline of economic activities as a result of budget reduction measurements imposed after the crisis in Greece are reflected in decreased energy usage per GDP (however, the Greece economy was previously rather un-efficient in terms of resource usage). In Korea, state-led investment programs were partly directed at efficiency increase, reflected in the country's stabilising energy intensity.

Social capital

GNI changes vs. changes in suicide rates, 2008-2014

R² = 0.4097
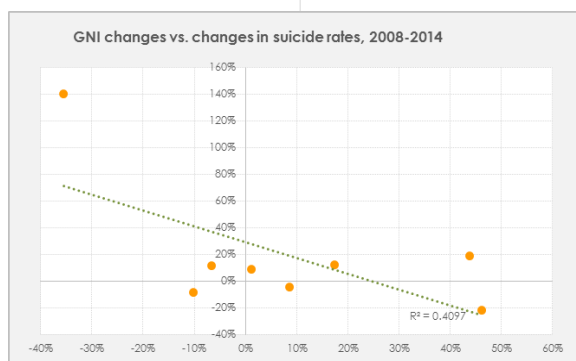
Suicide rate is highly sensitive to economic development – lower output equals higher suicide rate and vice-versa

A negative correlation can be observed in the Social capital score of the Sustainable Competitiveness Index – decreasing economic output is linked to loss of social capital. The correlation is not equally strong or time-delayed for some indicators. Health systems for example are adjusted downwards after a certain time of negative economic development, and vice-versa. However, in other aspects the impact is almost immediately visible, e.g. suicide rates.
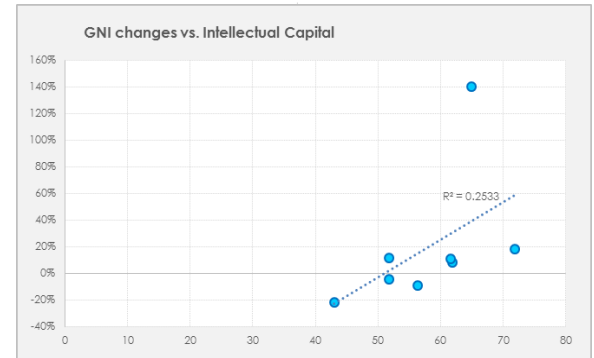
Intellectual capital

The Intellectual capital performance of the benchmarking countries seems to indicate a fairly strong link to recent economic developments – high intellectual capital score correlates to positive growth developments since the financial crisis in 2008. Digging deeper reveals that certain indicators seems closely related to GNI/GDP growth and output – in particular investments in value-adding sectors. All countries in the benchmarking that have increased their R&D investments since the crisis have been less affected and/or have recovered better since the financial crisis. The Korean economy has steadily increased R&D (already prior to the crisis) and is now the World leading economy in terms of R&D investments, Korea has also recovered better from the crisis and has increased per-capita GNI/GDP by nearly 20% compared to pre-crisis levels. China's investments show a similar pattern (albeit on a lower starting level) and has now overcome the UK in R&D investments. It is also interesting to observe that countries with high pre-crisis R&D investment levels (Japan, Germany, US, Korea) seems to have been less affected by the fall-out of the financial crisis than economies with lower R&D investments – the UK, in particular. The UK's R&D investments have dropped to under 1.6% of GDP – that is below the global average.

The results of high educational and R&D spending are visible in the number of patent applications: since the 1990s, patent applications in Korea have skyrocketed, leaving both Germany and the UK behind. However, while Germany's patent applications are slowly rising, patent applications in the UK have declined since the 1990, and are now pretty much in line with the global average. The number of patent application translates into the size of the high-tech sector: while Korea has a well-developed and globally present high-tech industry, the manufacturing high-tech industry in the UK – the motherland of modern industrialisation – has become marginal.

Governance

Like Intellectual Capital, Governance Competitiveness of the benchmarking countries shows significant statistical correlation to the growth rates achieved since 2008. The countries that have achieved a higher Governance Competitiveness score have been less affected by the crisis and/or have recovered faster than countries with a lower score.

"Governance" is the highest level of the Sustainable Competitiveness Pyramid, encompassing indicators covering governance and economic balance, i.e. the balance between different sectors of the economy, and government support to facilitate value-added balanced economic development.


GNI changes vs. Intellectual Capital

R² = 0.2533

Significant correlation between intellectual capital competitiveness and growth since the financial crisis

R&D spending (% of GDP)

China, Germany, United Kingdom, Iceland, Japan, Korea, Rep., United States
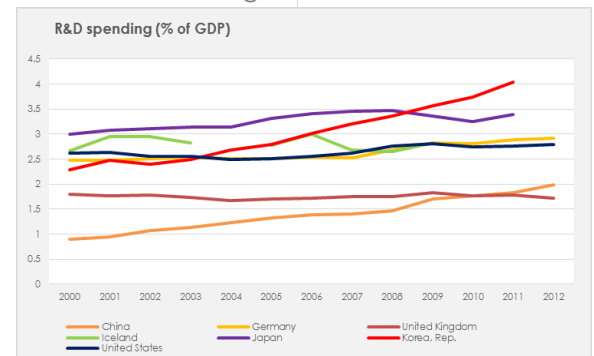
Countries with a high and rising R&D investments have been less affected by the financial crisis
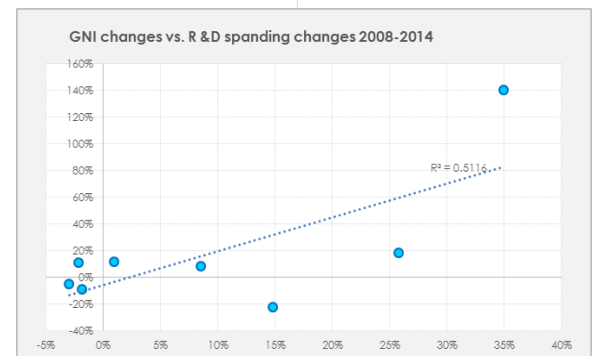
GNI changes vs. R &D spanding changes 2008-2014
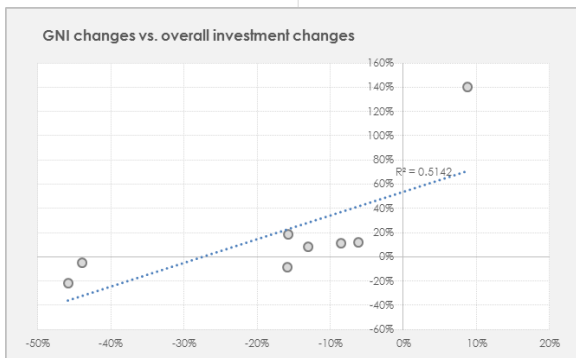
R² = 0.5116

Increasing R&D investments (investment in value-added services & technologies) shows high statistical correlation to growth since the financial crisis

GNI changes vs. Governance

R² = 0.3657

Increasing R&D investments (investment in value-added services & technologies) shows high statistical correlation to growth since the financial crisis
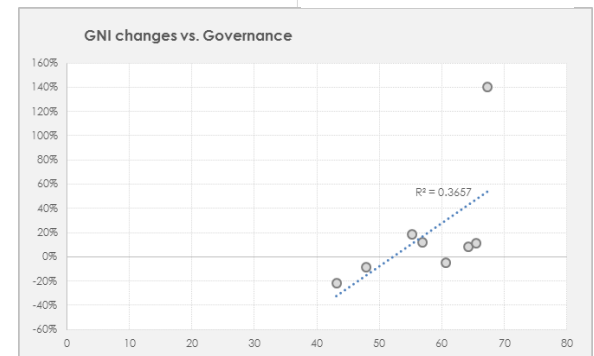
Manufacturing -% of GDP
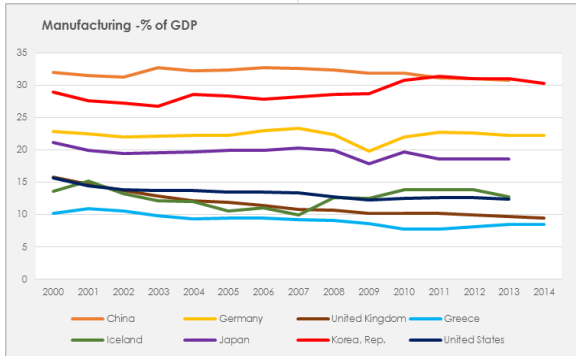
Countries with higher contribution by the manufacturing sector have been less affected by the financial crisis

The internal balance of an economy, i.e. the contributions of the agricultural, manufacturing and service sectors, expressed as percentage of the manufacturing sector contribution to the national GDP is an example of an indicator that seems to indicate a clear link to growth rates since the financial crisis. It seems that countries with a more balanced economy (i.e. a higher contribution o the overall national output by the manufacturing sector compared to the service sector) were less affected by the financial crisis, and have recovered from the fall-out of the crisis. The UK in particular – the birthplace of industrialisation – is now a nearly de-industrialised country (most remaining manufacturing is in the food/beverage sector), with manufacturing providing less than 10% to the national GDP. The UK was hard hit by the crisis and has not yet recovered to pre-crisis levels to this day, whereas countries with a strong manufacturing base prior to the crisis (China, Korea) have been less affected and/or have recovered quicker. In fact, the manufacturing ranking mirrors the growth rates achieved since the 2008 crisis. The lack of a high-tech industry is also reflected in the employment figures of the different economic sectors. Less than 20% of the work-force in the UK are now employed in the manufacturing sector – a loss of nearly 50% since 1980.

A similar picture is visible when looking at overall investment levels of all benchmarking countries. Countries that have increased their investment since the crisis have not been affected and/or have recovered quicker than other economies. Countries that have reduced overall investments to reduce real or perceived deficits have been affected heavier, and have recovered significantly slower.

GNI changes vs. overall investment changes

$R^2 = 0.5142$

The level of post-crisis investments seems to be directly related to economic decline and growth since 2008

Value of stocks traded (% of GDP)
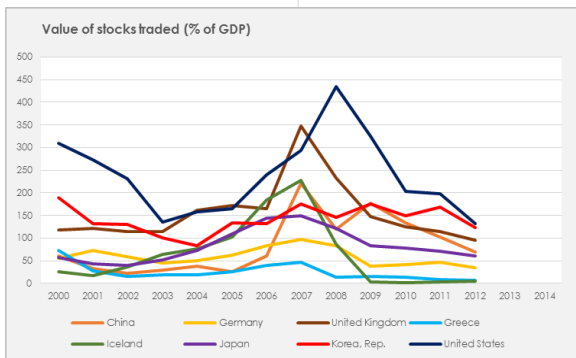
Trading volume reached more than 350% of GDP in the UK before the crisis, returned to healthier levels after, Korea is still above 150%; Germany remains below 50% Steep and short increase of trading volumes and market capitalisation indicate an imminent burst of a bubble, as is nicely visible here

Stock market developments seem to indicate individual correlations to post-crisis economic development. The UK and Iceland with a strong exposure and focus on the financial industry before the crisis show increased stock trading (up to 350% of GDP) prior to the crisis, and were hit harder than any other country. However, the US, where pre-crisis stock trading reached a volume of more than 400% of GDP was not affected that dramatically. The same is true for China.

The stock market value of traded companies in the UK was 150% of the national GDP just before the financial crisis. During the crisis, the market capitalisation of listed companies dropped to roughly 75% of GDP – i.e. the financial crisis destroyed wealth in the amount of 75% of the annual GDP. The equivalent value in Korea is nearly 100%, while in Germany the market value of listed companies is below 50%. Much of loss of the financial value has been recovered in the meantime, thanks to massive interventions on part of the central banks through quantitative easing and record-low interest levels. However, many critics argue that the recovery on the financial markets is fragile at best, i.e. still represents an incalculable and considerable risks to the real (i.e. producing & manufacturing) economy

Governance
scores show a c
rates in difficult

Economic recovery and sustainable competitiveness: recap

- The availability and state of **natural capital** does not affect short-term economic development

- **Resource intensity** is not directly linked to short-term economic development. While resource usage is increasing with initial development, efficiency tends to increase with higher development and investments. However, economic decline (as has occurred in Greece since 2010, leads to lower resource consumption)

- **Social capital** is negatively affected by economic decline, while the correlation of development and increasing social capital is less straight-forward. A declining economy leads to fewer financial resources available for social capital aspects (health, community development, integration), and leads to higher criminality as well as individual despair.

- There seems to be a fairly direct connection of **Intellectual capital** availability and positive/negative economic development. All countries that have cut investments (including, but not restricted to, innovation, R&D and education), have seen a slower recovery or even further decline since the financial crisis – and vice versa. While it may look sensible at first glance to cut expenditure to reduce deficits, this strategy obviously does not work, because it also cuts the required base to kick-start growth. It is unsustainable competitive, i.e. not sustainable competitive. It also goes to show what sustainable competitiveness means: analysing the likely outcome of measurements before they are implemented – i.e. calculating not only the cuts, but also the cost of cuts. A majority of policy makers these days seem to be blind to the long-term cost of cuts. Unbelievable as that sounds – they do not look ahead.

- The analysis of individual indicators suggests a fairly straightforward connection between the **Governance framework** provided to the economy: countries who cut investments (infrastructure, general investments), countries with a large (uncontrolled) domestic financial investment markets, and a low industrial base have all declined more and recovered slower than countries with higher investments, smaller domestic financial markets and a better industrial base. It also seems straightforward that a steep increase of financial market size in short term seems to be the indication of an imminent burst of a bubble.

To have a plan or not to have a plan: country-level observations

The different answers to the financial crises – investments (Korea, China) vs. financial market support with limited or no investments in other parts of the economy (UK) - also characterises the main differences between different approaches to national development strategy that have evolved since the 1980s.

While Western-based countries – in particular the UK, to a lesser extend the US and Germany - seem to have put the main emphasises on market forces and hoping on the financial markets (i.e. forgoing, whether wilfully or not, a clear national economic development strategy), Korea and China have a tradition of setting national development strategies.

In the case of Korea, this is manifested in a co-operation between government and the economy, whereby target industries, technology and service clusters are identified as priorities. The government sets the framework supporting the national development plan through provision of infrastructure, educational

policy setting, and supporting trade regulations, while the industry is developing the technology.

Icleand –the population of Iceland, or more precicely it spopulation who chased out the governemnt and voted for not bailing out the banks– has a simple plan: not to bail out the banks and make private debt a public debt. Despite the steep initial fall, Icleand has recoverd way faster than most commentators expected back when the decision was announced – and has recovered faster than the UK, not depending on rising stock markets, i.e. Icelands recovery is also far more stable.

The main difference between the different answers to te financial crisis therefore is – having a national development strategy and plan (in the case of Korea and China) vs. *not* having a national development plan (UK), i.e. leaving national development in the hands to the private sector, i.e. the markets. Data evidence says that having a plan is a much more promising approach.

Implications

According to the Sustainable Competitiveness Pyramid, the base levels are required to support the higher levels, while the higher levels have a larger impact on the level below. This notion seems to be supported by the UK case – the lack of a coherent national development strategy and implementation roadmap other than leaving the financial markets a free hand has left the UK behind other European nations (the fact that the UK recently has had marginally higher quarterly growth numbers than other European has to be viewed in the light that the UK has lost significantly more than other countries in North-western Europe, and is still far below when comparing output number before and post-crisis). The de-industrialisation and overreliance on financial markets leaves the country the mercy of the financial market – which in turn supports the building a new bubble. at the In the absence of an alternative approach – away from the financial markets and back towards a healthier balance between the different sectors of the economy - a true, sustainable recovery (other than short-term recovery of the financial markets thanks to massive central bank intervention and support) is not foreseeable in the near future, and remain at the mercy of financial market performance. The simultaneous and continuing de-industrialisation will make the shock-waves of the next bursting bubble even worse.

Korea, on the other hand, has seen successful development over recent decades based on national development priority plans tailor-made to the current development stage. It looks as if Korea has fairly well managed the transition from a low-skill, low-paid OEM manufacturing market (OEM textile manufacturing was a key element of the economy as short back as the 1970s) to an innovation-based technology exporting economy, competitive in the global markets. However, while Korea scores highest in the Intellectual Capital, the country also is ranked lowest of the 180 countries in Resource Management. Korea needs to balance its resource intensity in order to maintain current wealth generating levels in the long term, i.e. needs to deeper integrate resource management into its development priorities.

Comparing the UK and Korea, with very different approaches to national economic development, seems to suggest that setting and implementing integrated national development plans is significantly more sustainable (and successful) than letting the financial markets leading the way.

Why are ideologies still dictating policy making?

We are living 26 years after the fall of the Berlin Wall and the dissolution of the communist bloc - famously declared the end of history by Fukuyama in 1992, meaning the end of ideological controversies.

Strangely, decision-making based on the theory of ideologies has not subsided since. On the contrary - controversial political debates nowadays seem to be even more based on ideologies and/or theories, rather than experiences: ideological thinking seems to be even more rigid these days. The debates and discussion on how to deal with the fall-out (let alone the cause) of the financial crises is marred by ideologically driven assumptions - in some circles, questioning the wisdom of the markets or asking the long-term cost of investment & spending cuts is akin to being a deep-red socialist, whereas the other side is also seem to be lacking a coherent recipe to really manage the changing realities with an over-focus on corporate bashing and the super-rich, relying on calls for solidarity to deal with the complexity of today's World. Regardless of what side of the argument the policy is coming from – what is astonishing is the fact that in this modern world, policy decisions are based on ideologies rather than analytics that take into account the wider horizon and past experiences, both successful and unsuccessfully, to find workable efficient solution to whatever the challenge may be.

The sustainable competitiveness research shows

- Unbelievable as it is, not a single lesson of 2007/2008 has been implemented. De-regulated financial markets where capital flows in and out, always to the promise of the highest possible short-term return, are a recipe for instability, ceaselessly absorbing huge resources to manage (let alone repair) the damage of bursting small and bigger bubbles caused by over-expectations and over-investments, constantly and negatively affecting all other markets (i.e. economic activities). A complete decoupling of financial markets and the productive economy is therefore required. Gambling is okay, as long as the bet is not the real economy. The financial markets in their current form are a threat to wealth creation.
- A sound industrial (productive and/or manufacturing) base is required for long-term development and sustainable wealth creation. This in term requires investments – in infrastructure, technology, R&D, innovation, efficiency, education. Of course, throwing money at something per se will not do. Investments have to be conducted and managed wisely, based on proper analysis that foresees all possible implications and side-effects. Sustainable competitiveness analysis.

Sometimes it is market tools that are most efficient, sometimes it's incentives, sometimes regulations. Whatever works best – in most cases a combination of the above – should be applied. What we need is less ideology, and more pragmatism. We don't need theories, we definitely need less ideologies - we need solutions that work. Analysis, scenario planning and experiences from the past, both successful and unsuccessful, should guide policy making, and not economic theories and ideologies.

sustainable competitiveness

ranking tables

9 Rankings at a glance

The Global Sustainable Competitiveness Index

Country	Rank	Score	Country	Rank	Score	Country	Rank	Score	Country	Rank	Score
Iceland	1	56.1	Argentina	46	45.1	Vietnam	91	41.2	Rwanda	136	37.3
Sweden	2	55.5	Hungary	47	45.0	Cuba	92	41.2	Togo	137	37.1
Norway	3	54.6	United Kingdom	48	44.9	Timor-Leste	93	41.1	Jordan	138	37.1
Finland	4	54.4	Romania	49	44.8	Nicaragua	94	40.9	Sri Lanka	139	37.0
Switzerland	5	53.0	Nepal	50	44.7	Brunei	95	40.9	Jamaica	140	36.8
Liechtenstein	6	52.9	Malaysia	51	44.6	Panama	96	40.8	Nigeria	141	36.8
Luxembourg	7	52.8	Laos	52	44.6	Turkey	97	40.8	Zimbabwe	142	36.7
Germany	8	52.8	Ecuador	53	44.4	Democratic Republic o	98	40.6	Senegal	143	36.6
Denmark	9	52.7	Paraguay	54	44.4	Cambodia	99	40.5	Guinea	144	36.3
Austria	10	52.5	Bolivia	55	44.0	Mozambique	100	40.5	Trinidad and Tobago	145	36.2
Japan	11	52.1	Georgia	56	44.0	Sierra Leone	101	40.2	Comoros	146	36.2
New Zealand	12	50.9	Bulgaria	57	43.8	Bosnia and Herzegovin	102	40.1	Swaziland	147	36.1
Ireland	13	50.8	Suriname	58	43.8	Libya	103	40.0	Malawi	148	36.1
Slovenia	14	50.8	Mongolia	59	43.7	Thailand	104	40.0	Burkina Faso	149	36.0
France	15	50.4	Venezuela	60	43.6	Zambia	105	40.0	Barbados	150	35.9
Canada	16	49.9	Oman	61	43.5	Guatemala	106	40.0	Guinea-Bissau	151	35.9
Estonia	17	49.7	Israel	62	43.5	Albania	107	39.9	Mali	152	35.6
Slovakia	18	49.3	Montenegro	63	43.4	Kuwait	108	39.7	Gambia	153	35.5
Lithuania	19	49.3	Armenia	64	43.2	Cote d'Ivoire	109	39.6	Madagascar	154	35.5
Czech Republic	20	48.6	Kazakhstan	65	43.1	Lebanon	110	39.6	Chad	155	35.4
Latvia	21	48.5	Uzbekistan	66	43.0	Botswana	111	39.5	Sudan	156	35.4
Croatia	22	47.9	Qatar	67	42.9	Namibia	112	39.2	Vanuatu	157	34.9
Costa Rica	23	47.3	Kyrgistan	68	42.9	Bahamas	113	39.1	West Bank and Gaza	158	34.7
Brazil	24	47.3	Serbia	69	42.8	El Salvador	114	39.1	Central African Republ	159	34.7
China	25	47.2	Ghana	70	42.5	Philippines	115	39.0	Iran	160	34.6
Poland	26	46.8	Greece	71	42.4	Angola	116	39.0	Solomon Islands	161	34.5
Belarus	27	46.8	Belize	72	42.3	Benin	117	38.9	Niger	162	34.5
Netherlands	28	46.7	Guyana	73	42.3	Azerbaijan	118	38.7	Afghanistan	163	34.5
Bhutan	29	46.6	Algeria	74	42.2	Macedonia	119	38.7	Honduras	164	34.1
Uruguay	30	46.5	Chile	75	42.1	United Arab Emirates	120	38.7	Bahrain	165	33.9
Australia	31	46.4	Cyprus	76	42.0	Fiji	121	38.3	Djibouti	166	33.9
Spain	32	46.4	Dominica	77	42.0	Tunisia	122	38.3	Burundi	167	33.7
Russia	33	46.3	Tajikistan	78	42.0	Equatorial Guinea	123	38.3	Mauritania	168	33.2
Singapore	34	46.0	Papua New Guinea	79	42.0	South Africa	124	38.2	Hong Kong	169	33.1
Italy	35	45.9	Gabon	80	41.8	Lesotho	125	38.2	Eritrea	170	33.0
Saudi Arabia	36	45.9	Ethiopia	81	41.8	Dominican Republic	126	38.2	Haiti	171	32.5
Belgium	37	45.9	Tanzania	82	41.7	Egypt	127	37.9	Pakistan	172	31.8
Peru	38	45.9	Seychelles	83	41.7	Turkmenistan	128	37.9	Grenada	173	31.5
Portugal	39	45.8	Moldova	84	41.6	Kenya	129	37.9	Iraq	174	31.4
South Korea	40	45.7	Mexico	85	41.4	Liberia	130	37.7	St. Lucia	175	31.2
USA	41	45.5	Ukraine	86	41.4	India	131	37.7	St. Vincent and the Gre	176	30.8
Burma	42	45.3	Mauritius	87	41.3	Samoa	132	37.4	Sao Tome and Principe	177	30.5
Indonesia	43	45.2	Cameroon	88	41.3	Morocco	133	37.4	Antigua and Barbuda	178	30.0
Malta	44	45.2	Republic of Congo	89	41.2	Bangladesh	134	37.4	Syria	179	29.7
Colombia	45	45.2	Maldives	90	41.2	Uganda	135	37.3	Yemen	180	27.8

Natural Capital Sub-Index

Country	Rank	Score	Country	Rank	Score	Country	Rank	Score	Country	Rank	Score
Democratic Republic of C	1	71.6	Croatia	46	53.5	Ukraine	91	46.2	St. Vincent and the Gren	136	38.9
Suriname	2	70.0	Ecuador	47	53.4	Malawi	92	46.2	Turkey	137	38.6
Bhutan	3	69.5	Zimbabwe	48	53.3	Guatemala	93	46.2	Benin	138	38.3
Guyana	4	68.0	Liechtenstein	49	53.1	Dominican Republic	94	46.0	Moldova	139	38.3
Paraguay	5	65.7	USA	50	52.9	Nigeria	95	45.9	Turkmenistan	140	37.9
Central African Republic	6	65.2	Gabon	51	52.6	Macedonia	96	45.7	Namibia	141	37.8
Canada	7	65.0	Mozambique	52	52.4	Rwanda	97	45.7	Kuwait	142	37.3
Sweden	8	64.8	Sudan	53	52.4	Saudi Arabia	98	45.6	Grenada	143	37.2
Laos	9	64.6	France	54	52.2	Brunei	99	45.4	United Kingdom	144	36.8
Cameroon	10	64.6	Bulgaria	55	51.8	Honduras	100	45.0	Senegal	145	36.8
Cote d'Ivoire	11	64.2	Chile	56	51.2	Libya	101	44.8	Mongolia	146	36.7
Burma	12	64.2	Ireland	57	51.0	Seychelles	102	44.8	Philippines	147	36.7
Papua New Guinea	13	64.0	Bahamas	58	50.8	Luxembourg	103	44.7	Djibouti	148	36.2
New Zealand	14	62.8	Costa Rica	59	50.7	Italy	104	44.7	Kenya	149	35.8
Equatorial Guinea	15	62.0	Nicaragua	60	50.6	Tajikistan	105	44.7	United Arab Emirates	150	35.8
Venezuela	16	61.2	Slovakia	61	50.5	South Africa	106	44.7	Belgium	151	35.7
Brazil	17	61.1	Uganda	62	50.5	Niger	107	44.2	Malta	152	35.6
Sierra Leone	18	61.0	Denmark	63	50.4	Uzbekistan	108	44.0	Syria	153	35.5
Iceland	19	60.8	Bosnia and Herzegovina	64	50.3	Togo	109	43.8	Vanuatu	154	35.5
Bolivia	20	60.7	Malaysia	65	50.1	Georgia	110	43.7	Eritrea	155	35.3
Norway	21	60.6	Ghana	66	50.1	Samoa	111	43.6	Thailand	156	35.2
Zambia	22	60.5	Mauritius	67	49.8	Algeria	112	43.4	Qatar	157	34.8
Finland	23	59.9	Montenegro	68	49.8	Armenia	113	43.3	South Korea	158	34.5
Republic of Congo	24	59.8	Ethiopia	69	49.7	Trinidad and Tobago	114	43.3	Antigua and Barbuda	159	34.3
Peru	25	58.9	Fiji	70	49.4	Poland	115	43.0	Sao Tome and Principe	160	33.8
Madagascar	26	58.8	Nepal	71	49.4	Germany	116	42.7	Sri Lanka	161	33.7
Guinea	27	58.8	Burkina Faso	72	49.4	Albania	117	42.5	Lebanon	162	32.4
Colombia	28	57.5	Australia	73	49.1	Barbados	118	42.1	Yemen	163	32.0
Tanzania	29	56.7	Slovenia	74	48.5	Timor-Leste	119	41.9	Bangladesh	164	31.2
Estonia	30	56.5	Hungary	75	48.5	Spain	120	41.5	Israel	165	31.2
Russia	31	56.5	Chad	76	48.1	Maldives	121	41.4	Singapore	166	30.8
Latvia	32	56.3	Greece	77	48.0	St. Lucia	122	41.1	Pakistan	167	30.6
Belize	33	56.0	Cambodia	78	47.9	El Salvador	123	41.0	Iran	168	30.1
Angola	34	56.0	Serbia	79	47.8	Netherlands	124	40.5	Azerbaijan	169	30.0
Austria	35	55.7	Portugal	80	47.7	Botswana	125	40.5	Cyprus	170	29.6
Uruguay	36	55.6	Kyrgistan	81	47.7	Afghanistan	126	40.4	China	171	29.4
Argentina	37	55.5	Gambia	82	47.7	Comoros	127	40.4	Haiti	172	29.4
Lithuania	38	54.9	Lesotho	83	47.6	Egypt	128	40.4	Tunisia	173	28.9
Liberia	39	54.7	Swaziland	84	47.6	Mauritania	129	40.2	Iraq	174	28.8
Belarus	40	54.5	Dominica	85	47.5	Burundi	130	40.0	India	175	28.8
Mali	41	54.5	Indonesia	86	47.1	Morocco	131	39.9	Jamaica	176	28.6
Solomon Islands	42	54.4	Czech Republic	87	47.1	Kazakhstan	132	39.8	Jordan	177	24.5
Guinea-Bissau	43	54.3	Mexico	88	47.0	Cuba	133	39.3	Hong Kong	178	23.0
Panama	44	54.0	Japan	89	46.6	Oman	134	39.2	Bahrain	179	20.0
Switzerland	45	53.5	Romania	90	46.6	Vietnam	135	38.9	West Bank and Gaza	180	19.2

Resource Intensity Sub-Index

Country	Rank	Score	Country	Rank	Score	Country	Rank	Score	Country	Rank	Score
Guatemala	1	55.9	Honduras	46	40.3	Fiji	91	36.4	Maldives	136	32.4
Kenya	2	51.5	Bangladesh	47	40.2	Canada	92	36.4	Slovenia	137	32.3
El Salvador	3	51.3	Sweden	48	40.0	Qatar	93	36.3	St. Lucia	138	32.2
Ethiopia	4	50.5	Philippines	49	39.8	Germany	94	36.3	Thailand	139	32.0
Belize	5	49.6	Liechtenstein	50	39.7	Sudan	95	36.0	Iraq	140	31.9
Costa Rica	6	49.6	New Zealand	51	39.7	Central African Republi	96	36.0	Syria	141	31.8
Cambodia	7	49.3	Slovakia	52	39.1	Norway	97	35.9	South Africa	142	31.8
Haiti	8	48.7	Guyana	53	39.1	Greece	98	35.8	Czech Republic	143	31.5
Nicaragua	9	48.1	Georgia	54	39.0	Guinea-Bissau	99	35.8	Argentina	144	31.4
Bolivia	10	47.3	Panama	55	38.8	Seychelles	100	35.8	Mexico	145	31.1
Republic of Congo	11	47.2	Austria	56	38.7	Suriname	101	35.7	Israel	146	30.8
Nepal	12	47.1	Botswana	57	38.7	Gambia	102	35.6	United Arab Emirates	147	30.6
Nigeria	13	47.1	Brazil	58	38.6	Sao Tome and Principe	103	35.6	Bahamas	148	30.4
Togo	14	47.0	Timor-Leste	59	38.6	Malawi	104	35.3	Niger	149	30.4
Jamaica	15	46.3	Afghanistan	60	38.5	Singapore	105	35.3	Grenada	150	30.4
Tajikistan	16	46.2	Lesotho	61	38.5	Solomon Islands	106	35.2	Libya	151	30.3
Ireland	17	46.1	Italy	62	38.5	Romania	107	35.1	Belarus	152	30.2
Iceland	18	46.0	Latvia	63	38.3	Pakistan	108	35.1	Vietnam	153	30.2
Papua New Guinea	19	45.8	Senegal	64	38.1	Australia	109	35.0	Lebanon	154	30.1
Tanzania	20	45.7	Cyprus	65	38.0	Liberia	110	35.0	Barbados	155	30.0
Benin	21	45.5	Belgium	66	38.0	Mauritius	111	35.0	Hong Kong	156	29.9
Angola	22	45.3	Croatia	67	37.9	Trinidad and Tobago	112	34.9	Japan	157	29.7
Democratic Republic o	23	45.3	Albania	68	37.6	Portugal	113	34.9	Morocco	158	29.5
Burma	24	45.0	United Kingdom	69	37.6	Samoa	114	34.9	USA	159	29.3
Cote d'Ivoire	25	45.0	Ecuador	70	37.6	Djibouti	115	34.8	China	160	28.9
Equatorial Guinea	26	44.7	Indonesia	71	37.6	Hungary	116	34.5	Turkmenistan	161	28.7
Laos	27	44.3	Burundi	72	37.5	Cuba	117	34.4	St. Vincent and the Gre	162	28.5
Mozambique	28	44.3	Chile	73	37.4	Yemen	118	34.3	Russia	163	28.4
Zambia	29	44.2	Burkina Faso	74	37.4	Algeria	119	34.3	Bahrain	164	27.8
Eritrea	30	44.2	Kyrgistan	75	37.4	Swaziland	120	34.2	Turkey	165	27.7
Finland	31	44.2	Zimbabwe	76	37.4	West Bank and Gaza	121	34.1	Macedonia	166	27.4
Namibia	32	43.6	Spain	77	37.3	Mali	122	34.0	Mongolia	167	27.2
Gabon	33	43.1	Azerbaijan	78	37.1	Tunisia	123	33.9	Antigua and Barbuda	168	27.1
Uruguay	34	43.0	Sierra Leone	79	37.0	India	124	33.7	Saudi Arabia	169	26.9
Colombia	35	42.6	Uganda	80	36.9	Jordan	125	33.6	Bulgaria	170	26.6
Luxembourg	36	42.3	Chad	81	36.9	Estonia	126	33.6	Montenegro	171	26.5
Denmark	37	42.1	Guinea	82	36.9	Netherlands	127	33.6	Iran	172	26.2
Dominica	38	41.8	France	83	36.9	Armenia	128	33.6	Mauritania	173	25.7
Comoros	39	41.7	Peru	84	36.8	Bosnia and Herzegovin	129	33.4	Malaysia	174	25.6
Paraguay	40	41.7	Sri Lanka	85	36.8	Poland	130	33.2	Ukraine	175	25.0
Ghana	41	41.5	Malta	86	36.7	Dominican Republic	131	32.9	Serbia	176	24.0
Lithuania	42	41.4	Moldova	87	36.7	Egypt	132	32.7	Oman	177	23.2
Cameroon	43	41.2	Madagascar	88	36.4	Venezuela	133	32.5	Kazakhstan	178	22.8
Bhutan	44	40.9	Uzbekistan	89	36.4	Brunei	134	32.5	Kuwait	179	21.6
Switzerland	45	40.7	Rwanda	90	36.4	Vanuatu	135	32.4	South Korea	180	20.7

Social Capital Sub-Index

Country	Rank	Score	Country	Rank	Score	Country	Rank	Score	Country	Rank	Score
Denmark	1	63.3	South Korea	46	46.3	Georgia	91	39.2	Cambodia	136	34.4
Luxembourg	2	62.3	Kazakhstan	47	46.2	Sierra Leone	92	39.1	Guyana	137	34.0
Norway	3	61.5	Israel	48	46.1	Seychelles	93	39.0	Cameroon	138	34.0
Iceland	4	61.2	Libya	49	46.0	Peru	94	38.9	Madagascar	139	33.9
Slovenia	5	60.8	Algeria	50	46.0	Philippines	95	38.6	Chad	140	33.8
Switzerland	6	60.6	Moldova	51	46.0	Ghana	96	38.4	Morocco	141	33.6
Sweden	7	59.7	Belarus	52	45.9	Brazil	97	38.4	Comoros	142	33.5
Germany	8	59.1	Hungary	53	45.6	Mozambique	98	38.4	Uganda	143	33.0
Netherlands	9	58.8	China	54	45.6	Cuba	99	38.3	Solomon Islands	144	32.7
Finland	10	58.4	United Kingdom	55	45.5	Suriname	100	38.3	Iraq	145	32.6
Austria	11	58.3	Nepal	56	45.2	Turkey	101	38.2	Lesotho	146	32.6
Belgium	12	58.2	Timor-Leste	57	45.2	Niger	102	38.1	Gabon	147	32.5
Spain	13	58.1	Malaysia	58	45.0	Burkina Faso	103	38.0	Kenya	148	32.3
Kuwait	14	57.5	Bulgaria	59	45.0	Thailand	104	37.7	Burundi	149	32.3
Japan	15	56.8	Argentina	60	45.0	Burma	105	37.6	Togo	150	32.1
Ireland	16	56.2	Malta	61	44.7	Paraguay	106	37.6	Haiti	151	32.1
Slovakia	17	55.3	United Arab Emirates	62	44.0	Malawi	107	37.6	Guatemala	152	31.9
Czech Republic	18	54.8	Latvia	63	43.8	Liberia	108	37.5	Cote d'Ivoire	153	31.9
Qatar	19	54.6	Tunisia	64	43.7	Sri Lanka	109	37.4	Djibouti	154	31.7
France	20	53.8	Kyrgistan	65	43.5	Bahamas	110	37.3	Chile	155	31.6
Liechtenstein	21	53.7	Ecuador	66	43.4	Pakistan	111	37.3	Sao Tome and Principe	156	31.6
Oman	22	53.3	Vietnam	67	43.4	Afghanistan	112	36.9	Zimbabwe	157	31.5
Mongolia	23	53.0	Brunei	68	43.1	USA	113	36.8	Rwanda	158	31.3
Saudi Arabia	24	52.8	Bhutan	69	43.1	Panama	114	36.7	Angola	159	31.0
Croatia	25	52.1	Azerbaijan	70	43.0	Dominican Republic	115	36.6	Gambia	160	30.9
Poland	26	51.3	Costa Rica	71	42.8	Ethiopia	116	36.6	Botswana	161	30.5
Singapore	27	50.9	Ukraine	72	42.6	Venezuela	117	36.5	Iran	162	29.8
Cyprus	28	50.9	Dominica	73	42.2	Mauritania	118	36.5	Yemen	163	29.5
Australia	29	50.8	Greece	74	42.0	Mauritius	119	36.3	Honduras	164	28.8
Canada	30	50.6	Macedonia	75	41.3	Benin	120	36.2	Grenada	165	28.5
Maldives	31	50.2	Uruguay	76	41.0	South Africa	121	35.9	Democratic Republic o	166	28.4
Tajikistan	32	50.1	Laos	77	40.9	West Bank and Gaza	122	35.9	Eritrea	167	28.3
Serbia	33	50.1	Bangladesh	78	40.8	Belize	123	35.8	Vanuatu	168	27.6
Romania	34	50.0	Jamaica	79	40.6	Namibia	124	35.8	Samoa	169	27.3
Portugal	35	50.0	Turkmenistan	80	40.6	Zambia	125	35.5	Sudan	170	27.2
Uzbekistan	36	49.7	Albania	81	40.4	Tanzania	126	35.5	Antigua and Barbuda	171	26.8
Lithuania	37	49.4	Mexico	82	40.4	Bolivia	127	35.5	Republic of Congo	172	26.8
Montenegro	38	49.2	Egypt	83	40.1	Guinea-Bissau	128	35.4	Central African Republ	173	26.2
New Zealand	39	49.1	Senegal	84	39.9	El Salvador	129	35.1	Nigeria	174	26.1
Estonia	40	48.5	Syria	85	39.9	Guinea	130	35.1	Equatorial Guinea	175	25.9
Italy	41	48.3	Papua New Guinea	86	39.7	Bahrain	131	35.0	St. Vincent and the Gre	176	24.9
Lebanon	42	48.0	Nicaragua	87	39.6	Colombia	132	34.7	Fiji	177	24.3
Armenia	43	47.5	Barbados	88	39.6	Trinidad and Tobago	133	34.6	Swaziland	178	24.3
Jordan	44	47.4	Indonesia	89	39.4	Mali	134	34.6	Hong Kong	179	22.9
Bosnia and Herzegovir	45	46.9	India	90	39.3	Russia	135	34.4	St. Lucia	180	18.5

Resource Management Sub-Index

Country	Rank	Score	Country	Rank	Score	Country	Rank	Score	Country	Rank	Score
South Korea	1	71.8	Costa Rica	46	44.5	United Arab Emirates	91	34.8	Trinidad and Tobago	136	27.1
China	2	64.9	Cuba	47	44.2	Ecuador	92	34.7	Djibouti	137	27.0
Liechtenstein	3	62.2	Ukraine	48	44.0	Macedonia	93	34.5	Kenya	138	26.8
Germany	4	61.8	Turkey	49	43.8	Kuwait	94	34.3	Solomon Islands	139	26.7
Japan	5	61.6	Canada	50	43.5	Dominica	95	34.1	Togo	140	25.8
Slovenia	6	59.9	Bulgaria	51	43.5	Chile	96	34.0	Cambodia	141	25.7
Malta	7	59.5	Oman	52	43.5	St. Lucia	97	33.5	Mauritania	142	25.6
Luxembourg	8	59.3	Cyprus	53	43.2	Uruguay	98	33.3	El Salvador	143	25.0
Singapore	9	58.1	Greece	54	43.0	Turkmenistan	99	33.1	Gambia	144	24.9
Sweden	10	57.9	Thailand	55	42.6	Qatar	100	32.6	Cameroon	145	24.8
Finland	11	56.9	West Bank and Gaza	56	42.0	South Africa	101	32.6	Bosnia and Herzegovin	146	24.7
United Kingdom	12	56.4	Samoa	57	41.9	St. Vincent and the Gre	102	32.4	Bolivia	147	24.7
Denmark	13	55.2	Armenia	58	41.8	Ghana	103	32.3	Honduras	148	24.3
Israel	14	54.6	Georgia	59	41.5	Mauritius	104	32.1	Ethiopia	149	24.2
Czech Republic	15	54.6	Brunei	60	41.4	India	105	32.1	Uganda	150	24.1
France	16	54.5	Brazil	61	41.3	Nicaragua	106	32.1	Iraq	151	23.7
Switzerland	17	54.3	Australia	62	41.3	Benin	107	31.7	Mozambique	152	23.7
Netherlands	18	54.0	Jordan	63	41.2	Swaziland	108	31.3	Bangladesh	153	23.5
Norway	19	53.2	Maldives	64	40.9	Grenada	109	31.2	Haiti	154	23.5
Austria	20	53.2	Colombia	65	40.2	Comoros	110	31.2	Angola	155	23.1
Iceland	21	51.8	Peru	66	39.9	Rwanda	111	31.2	Burundi	156	22.8
USA	22	51.8	Tunisia	67	39.5	Dominican Republic	112	31.1	Mali	157	22.7
Ireland	23	50.9	Iran	68	39.4	Burma	113	31.0	Sierra Leone	158	22.5
Hong Kong	24	50.7	Serbia	69	39.1	Republic of Congo	114	30.8	Liberia	159	22.1
Russia	25	50.1	Fiji	70	39.1	Namibia	115	30.7	Eritrea	160	22.0
Malaysia	26	49.2	Botswana	71	38.3	Paraguay	116	30.5	Zimbabwe	161	21.9
Portugal	27	48.8	Kyrgistan	72	38.3	Gabon	117	30.4	Papua New Guinea	162	21.4
Poland	28	48.5	Bahrain	73	38.3	Laos	118	30.3	Guinea-Bissau	163	21.4
Estonia	29	48.2	Vietnam	74	38.2	Bhutan	119	30.2	Chad	164	21.4
Belgium	30	48.1	Moldova	75	38.2	Lesotho	120	29.9	Sudan	165	21.1
Mongolia	31	47.8	Bahamas	76	38.1	Sri Lanka	121	29.8	Yemen	166	20.0
Saudi Arabia	32	47.4	Vanuatu	77	37.8	Malawi	122	29.7	Zambia	167	19.7
Lithuania	33	47.1	Venezuela	78	37.8	Tajikistan	123	29.5	Nigeria	168	19.3
Slovakia	34	47.0	Morocco	79	37.1	Azerbaijan	124	29.5	Niger	169	19.1
Latvia	35	46.3	Indonesia	80	36.5	Senegal	125	29.3	Afghanistan	170	19.0
Kazakhstan	36	46.2	Mexico	81	36.4	Libya	126	29.3	Equatorial Guinea	171	19.0
Belarus	37	45.9	Seychelles	82	36.3	Suriname	127	29.2	Central African Republ	172	18.3
Spain	38	45.7	Argentina	83	36.0	Philippines	128	29.2	Democratic Republic o	173	17.9
Montenegro	39	45.6	Belize	84	35.7	Antigua and Barbuda	129	29.2	Guatemala	174	17.8
New Zealand	40	45.3	Barbados	85	35.1	Guyana	130	29.2	Cote d'Ivoire	175	17.6
Hungary	41	45.1	Albania	86	35.0	Jamaica	131	29.1	Madagascar	176	17.2
Timor-Leste	42	45.0	Algeria	87	35.0	Sao Tome and Principe	132	28.9	Guinea	177	16.9
Lebanon	43	44.9	Nepal	88	35.0	Panama	133	28.4	Burkina Faso	178	16.8
Italy	44	44.8	Romania	89	34.9	Egypt	134	28.0	Syria	179	14.2
Croatia	45	44.8	Uzbekistan	90	34.9	Tanzania	135	27.7	Pakistan	180	9.2

Governance Sub-Index

Country	Rank	Score	Country	Rank	Score	Country	Rank	Score	Country	Rank	Score
China	1	67.3	Mauritius	46	53.1	Portugal	91	47.6	Sudan	136	40.1
Indonesia	2	65.6	Ecuador	47	53.1	Sri Lanka	92	47.5	Democratic Republic o	137	40.0
Japan	3	65.5	Serbia	48	52.8	Kyrgistan	93	47.2	Iraq	138	39.8
Germany	4	64.2	Thailand	49	52.7	Morocco	94	47.0	Equatorial Guinea	139	39.7
Russia	5	62.2	Finland	50	52.6	Pakistan	95	46.7	Tajikistan	140	39.6
Estonia	6	61.7	Denmark	51	52.6	Nepal	96	46.6	Samoa	141	39.6
Norway	7	61.6	Seychelles	52	52.5	Netherlands	97	46.6	Cote d'Iv oire	142	39.5
Iceland	8	60.6	Mexico	53	52.4	Paraguay	98	46.5	Liberia	143	39.5
Kazakhstan	9	60.4	Slov enia	54	52.4	South Africa	99	46.3	Angola	144	39.5
Uruguay	10	59.4	Boliv ia	55	52.2	Montenegro	100	46.2	Jamaica	145	39.4
Oman	11	58.4	Bulgaria	56	52.1	Panama	101	46.2	Zimbabwe	146	39.2
Poland	12	58.0	Algeria	57	52.1	Suriname	102	45.6	Bahamas	147	39.1
New Zealand	13	57.8	Croatia	58	51.3	Cambodia	103	45.5	Senegal	148	39.0
Argentina	14	57.8	Bangladesh	59	51.3	Nigeria	104	45.5	Hong Kong	149	38.9
Latv ia	15	57.7	Hungary	60	51.2	Tunisia	105	45.4	Papua New Guinea	150	38.8
Belarus	16	57.4	Colombia	61	50.9	Bosnia and Herzegov in	106	45.1	Jordan	151	38.6
Romania	17	57.1	Philippines	62	50.7	Macedonia	107	44.7	Burkina Faso	152	38.5
Brazil	18	57.0	Gabon	63	50.6	Dominica	108	44.6	Gambia	153	38.5
USA	19	57.0	Ghana	64	50.0	Dominican Republic	109	44.2	Mauritania	154	38.2
Saudi Arabia	20	56.9	Armenia	65	50.0	Albania	110	43.9	Afghanistan	155	37.7
Austria	21	56.7	Libya	66	49.9	Mozambique	111	43.7	Togo	156	36.8
Georgia	22	56.6	Venezuela	67	49.9	Swaziland	112	43.2	Chad	157	36.7
Chile	23	56.3	Ireland	68	49.8	Greece	113	43.2	Burundi	158	36.0
Switzerland	24	56.1	Uzbekistan	69	49.8	El Salv ador	114	42.9	Eritrea	159	35.0
Australia	25	55.9	Malta	70	49.6	Kenya	115	42.9	Timor-Leste	160	35.0
Qatar	26	55.9	Belgium	71	49.5	Tanzania	116	42.9	Belize	161	34.6
Liechtenstein	27	55.8	Cuba	72	49.5	Benin	117	42.7	Nicaragua	162	34.2
Turkey	28	55.6	Bhutan	73	49.5	Lebanon	118	42.7	Comoros	163	34.2
Luxembourg	29	55.6	Botswana	74	49.5	Laos	119	42.7	Guinea	164	33.9
Sweden	30	55.4	Ukraine	75	49.4	Lesotho	120	42.5	Barbados	165	32.7
Czech Republic	31	55.3	Spain	76	49.3	West Bank and Gaza	121	42.3	Antigua and Barbuda	166	32.5
Vietnam	32	55.3	Turkmenistan	77	49.2	Fiji	122	42.3	Guinea-Bissau	167	32.4
South Korea	33	55.2	Costa Rica	78	49.2	Uganda	123	42.1	Honduras	168	32.2
Singapore	34	55.0	Burma	79	48.9	Brunei	124	42.0	Mali	169	32.2
Peru	35	54.9	Moldov a	80	48.7	Rwanda	125	42.0	Malawi	170	31.7
India	36	54.8	Bahrain	81	48.7	Cameroon	126	41.7	Madagascar	171	31.0
Slov akia	37	54.7	Egypt	82	48.4	Republic of Congo	127	41.4	St. Lucia	172	30.9
Israel	38	54.6	United Arab Emirates	83	48.3	Guyana	128	41.4	Grenada	173	30.3
France	39	54.6	Cyprus	84	48.3	Trinidad and Tobago	129	41.3	St. Vincent and the Gr	174	29.2
Canada	40	54.2	Ethiopia	85	48.3	Maldiv es	130	41.2	Haiti	175	29.1
Azerbaijan	41	54.1	Guatemala	86	48.0	Sierra Leone	131	41.2	Central African Republ	176	27.7
Mongolia	42	53.7	Namibia	87	48.0	Vanuatu	132	41.0	Syria	177	27.3
Lithuania	43	53.5	United Kingdom	88	48.0	Niger	133	40.8	Solomon Islands	178	23.9
Italy	44	53.3	Kuwait	89	47.8	Zambia	134	40.2	Yemen	179	23.2
Malaysia	45	53.2	Iran	90	47.6	Djibouti	135	40.1	Sao Tome and Principe	180	22.8

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