



APPENDIX

THE SOCIAL PROGRESS INDEX METHODOLOGY

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1 / INTRODUCTION AND OVERVIEW

THE OBJECTIVE OF THIS PAPER is to describe the methodology utilized in calculating the Social Progress Index. The overarching purpose of the Social Progress Index is to improve the lives of people around the world, particularly the least well off, by helping decision-makers in government, the private sector and nonprofits to provide useful, timely information that will allow better use of available resources to solve pressing social and environmental problems. Covering 50 countries, the Social Progress Index is the first comprehensive analysis of the social, political, and environmental landscape of individual countries.

The Social Progress Index can be used to compare countries on different facets of social progress, as well as aggregating a variety of social outcome measures in a transparent way. The Social Progress Index allows individual countries to identify specific areas of strength or weakness in terms of social progress, and also allows countries to benchmark themselves against peer countries both at the level of individual indicators as well as in terms of an aggregate measure of social progress.

This Appendix describes the methodology used to calculate the Social Progress Index. Section 2 describes briefly the distinction between input and outcome indices, and describes the conceptual architecture of the index. We also introduce the terminology and logic behind the underlying components of the index. Section 3 describes the data used for the construction of the Social Progress Index and provides summary statistics. Section 4 provides more detail on the construction of the index and the calculations undertaken to compute each element. For further detail, the underlying data and program documentation are maintained at <http://www.socialprogressimperative.org>. Section 5 compares the Social Progress Index to other indices.

2 / METHODOLOGY

Social progress is defined as the capacity of a society to meet the basic human needs of its citizens, establish the building blocks that allow citizens and communities to enhance and sustain the quality of their lives, and create the conditions for all individuals to reach their full potential. To create an index measuring social progress, one must first develop a conceptual framework that captures the key elements of social progress as well as a methodology to allow its measurement for specific countries (or other geographic units such as regions or cities).

The Social Progress Index framework is composed of three main dimensions: Basic Human Needs, Foundations of Wellbeing, and Opportunity. In this inaugural version of the index, each of these dimensions is further broken down into four underlying components (see Figure 1). Together, this framework summarizes an interrelated set of factors that capture the primary dimensions upon which a society can achieve a given level of social progress. Overall, the Social Progress Index framework aims to capture the level of social, political, and civil development within a given society.

The Social Progress Index is explicitly focused on non-economic dimensions of national performance, and so can be contrasted with traditional economic measures such as GDP per capita or the level of competitiveness. As well, the Social Progress Index framework is holistic; while the Human Development Index focuses sharp attention on longevity, educational achievement, and income, the Social Progress Index includes a wider range of factors that impact overall social progress, ranging from the level of personal safety (in the Basic Human Needs dimension) to Access to Information and Communications (in the Foundations of Wellbeing dimension) to the level of Equity and Inclusion (in the Opportunity dimension). The Social Progress Index complements a range of recent initiatives that have sought to move “beyond GDP,” including psychographic measurement associated with the Gross National Happiness Index as well as the recent Legatum Prosperity Index, which shares some features with the Social Progress Index methodology but which also includes a range of economic indicators. Our objective is to build on this work through a clear yet rigorous methodology that isolates the non-economic dimensions of social performance.

The Social Progress Index methodology allows measurement of each component and each dimension, and yields an overall score and ranking. The approach builds on a long line of work in developing country-level globally comparable indices to measure and assess various facets of economic and social performance,⁽¹⁾ and reflects a number of core methodological choices:

- A focus on outcome indicators, rather than input measures;
- A framework consisting of three broad dimensions of social progress;
- Measurement of each dimension based on the sum of four equally weighted components; and,
- Calculation of each component as the weighted sum of a series of measures, with the weights determined through principal component factor analysis.

2.1 / OUTCOME INDICES VERSUS INPUT INDICES

There are two broad categories of conceptually coherent methodologies for index construction: input indices and outcome indices. Both can help countries to benchmark their progress, but in very different ways. Input indices measure a country's investment in activities believed or known to lead to an important outcome. In competitiveness, for example, an input index might measure investments in human capital or basic research. Outcome indices directly measure the outcomes of investments. For competitiveness, for example, this might include productivity per working-age citizen.

Whether to utilize an input index or an outcome index depends on the specific problem to be addressed and the data available. On the one hand, a well-constructed, input-driven index can provide direct guidance to policy-makers about specific policy choices and investments. Creating an input index, however, requires some degree of consensus about how inputs lead to outcomes, as well as a process to calibrate the relative importance of different input factors against outcome measures. For example, Delgado, et al (2012) focuses on the input factors shaping the degree of national competitiveness, which is measured as the PPP-adjusted GDP per working age population.

In contrast, when there are multiple "output" measures, lack of consensus on all the inputs that matter, and/or data related to inputs is highly incomplete, an outcome-oriented index may be more appropriate. Precisely because of these reasons, the Social Progress Index has been designed as an outcome index. Given current data and the fact that there are multiple distinct aspects of social progress with different measures, the Social Progress Index has been designed to aggregate and synthesize these multiple outcome measures in a conceptually consistent and transparent way that will also be salient to decision-makers. Over time, the Social Progress Index effort will explore the role of input measures and policies in determining a country's performance.

⁽¹⁾ For a helpful overview of the full range of issues associated with index construction, see the *OECD Handbook on Constructing Composite Indicators* (OECD, 2008). We also build on prior efforts in benchmarking across countries, including work on national innovative capacity (Furman, et al, 2002), and recent efforts focused on competitiveness (Porter, 2008; Delgado, et al, 2011).

2.2 / OVERVIEW

The Social Progress Index methodology incorporates three architectural elements: dimensions, components, and indicators. Dimensions represent the broad conceptual categories with which social progress is defined. The Index is calculated as the equal weighted average of a country's score on each dimension. Within each dimension are components: four related concepts together spanning each dimension. A country's dimension score is calculated as the equal weighted average of its components in that dimension. Each component is composed of indicators which measure as many valid aspects of the component as possible. These indicators are aggregated using a weighted average, where the weights are determined by factor analysis.

2.3 / THREE DIMENSIONS OF THE SOCIAL PROGRESS INDEX

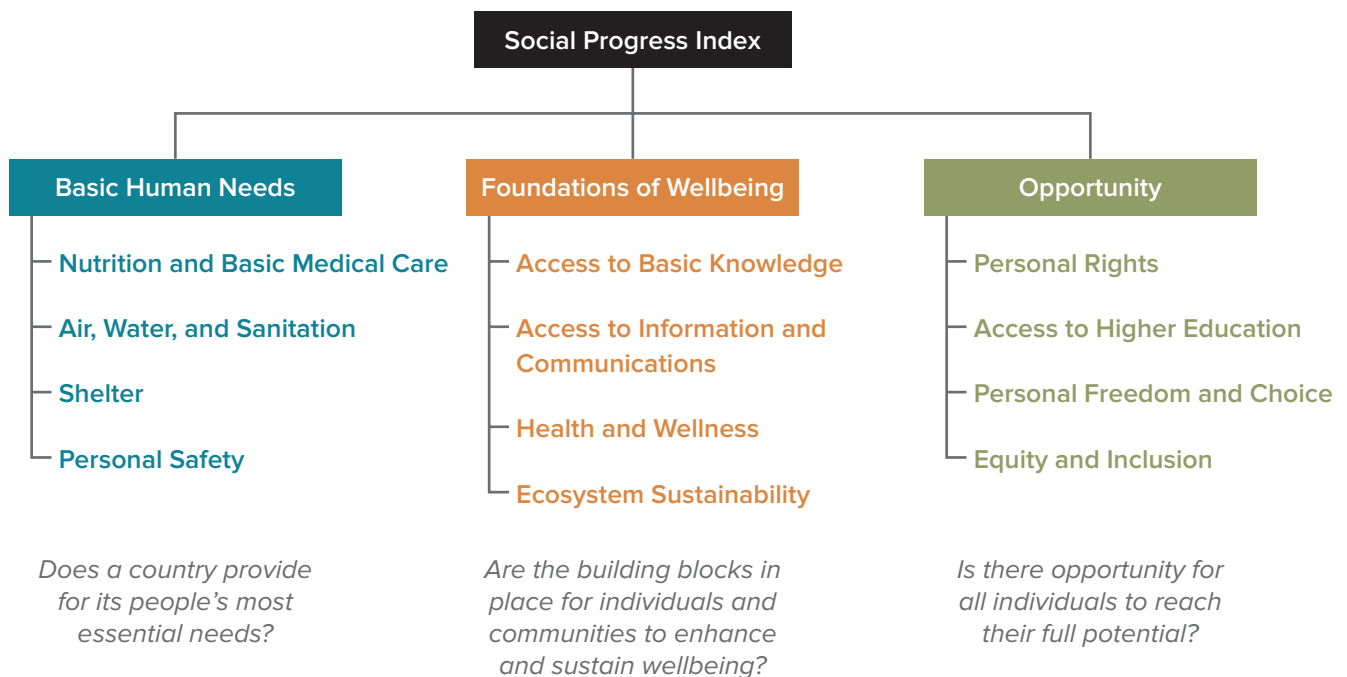
In concert with a group of academic and policy experts, the Social Progress Index framework synthesizes a large body of research emphasizing the importance of moving “beyond GDP,” and confronting the social, political and civil elements of societal performance. While a complete literature review is beyond the scope of this short note, our framework draws on a wide range of sources in economics, sociology, political science, and history. Among many others, we draw on the seminal work of Amartya Sen focusing on the role of capabilities (Sen, 1985) and a range of more contemporary research emphasizing the role of institutions in shaping economic and social performance (North, 1990; Acemoglu and Robinson, 2012). Looking over a wide body of disparate analysis, we were able to synthesize three distinct though related questions that, taken together, offer insight into the level of social progress:

- 1 / Does a country provide for its people's most essential needs?**
- 2 / Are the building blocks in place for individuals and communities to enhance and sustain wellbeing?**
- 3 / Is there opportunity for all individuals to reach their full potential?**

Particularly for countries with a low level of economic development, any assessment of social progress must address whether that society is able and willing to provide the bulk of its citizens with basic human needs, including adequate nourishment and basic medical care, sanitation, basic shelter, and personal safety needs. While these basic human needs have been the predominant focus of research in development economics, a second dimension of social progress captures whether a society offers building blocks for citizens to improve their lives. Are citizens able to gain a basic education, obtain information and communications technology, access and benefit from a modern healthcare system, and, at the same time, accomplish these objectives in a way that is environmentally sustainable? Finally, any discussion of social progress must include not simply whether citizens are able to improve their own lives but whether they have the opportunity and freedom to make their own choices. Personal rights, access to higher education, personal freedom and choice, and an environment of equity and inclusion all contribute to the level of opportunity within a given society.

The Social Progress Index framework in Figure 1 reflects these three distinct but interrelated dimensions. As an empirical matter, we do not judge any one of the dimensions to have an a priori higher weighting than any other; as such, the Index is a simple sum of the three social progress dimensions.

Figure 1 / The Social Progress Index



2.4 / COMPONENTS OF EACH DIMENSION

For each of the three dimensions of social progress, there are four components. Components, like dimensions, are categories of outcomes rather than specific outcomes. Every component within a dimension is designed to highlight a separate element of the overall set of outcomes which make up a dimension, building on both the academic and policy literature.

For example, the Opportunity dimension includes Personal Rights, Access to Higher Education, Personal Freedom and Choice, and Equity and Inclusion. Each of these components describes a related but distinct aspect of what it means for a society to provide opportunity to all of its citizens. Personal rights and access to higher education describe different aspects of the extent to which individuals are able to pursue their own objectives to the best of their ability. Personal Freedom and Equity and Inclusion describe different aspects of the extent of limits on individuals. Together these components offer a conceptually coherent way of capturing how societies can empower (or limit) an individual's autonomy, freedom, and ability to progress.

The selection of the dimensions and the elaboration of the components within each dimension occurred through an iterative process involving review of the literature and input from the Social Progress Index Advisory Board. The components are the most granular outcome elements available given our current understanding from diverse literatures in economics, sociology, history, political science, and social psychology.

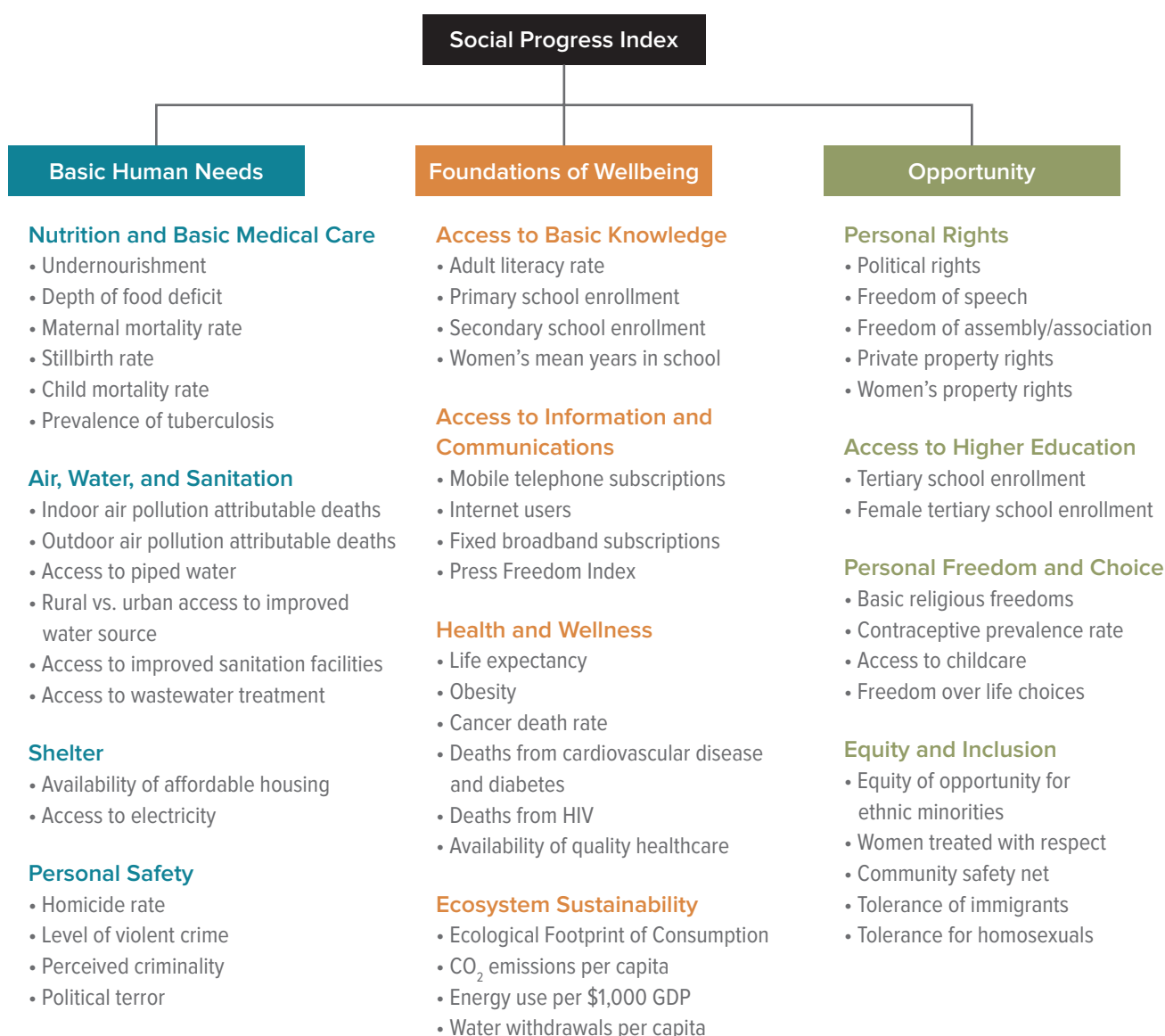
As in weighting across dimension, the Social Progress Index architecture is agnostic as to the weights across components for constructing a dimension level score because there is no clear theoretical or empirical reason to weight any of the components more highly. For this reason, each dimension score is composed of the simple average across the four components.

2.5 / MEASURING INDIVIDUAL COMPONENTS

Once the dimensions and components were determined, the Social Progress Index team sought multiple independent outcome measures related to each component. Each measure had to meet two criteria: internal validity and geographic availability. Each indicator was evaluated to ensure that the procedures used to produce the measure were sound and captured what it purported to measure (hence internally valid). Each measure also needed to be available for most if not all of the countries in our sample. We only included indicators that were measured well, with consistent methodology, by the same organization, and across all (or essentially all) of the countries in our sample. Figure 2 lists each of the outcome measures by component.

As can be seen in Figure 2, there is conceptual overlap between different measures that are included to capture different aspects of the same component. For instance, in the Equity and Inclusion component, two separate overlapping measures are included: “equity of opportunity for ethnic minorities” and “tolerance of immigrants.” To account for the overlap between these elements, the score for each component is calculated using a standard technique, principal component factor analysis.

Figure 2 / The individual indicators within the Social Progress Index Framework



Factor analysis uses the shared covariance across all of the indicators within each component to calculate a set of weights to enable creating one aggregate score out of many different indicators (Manly, 2004). This aggregate variable is called a factor. If indicators are chosen well to reflect a component, this factor will extract a score which can be used as a valid synthetic measure of the component across countries. FA analysis provides a set of weights for the underlying variables within each component to account for the fact that these variables are themselves sometimes correlated with each other.

Tables 1 and 2 provide the summary statistics for the dataset. We discuss the measures in more detail in Section 3. From a methodological perspective, it is useful to note here that two common measures of the validity of factor analysis—the KMO and Cronbach scores—are well within ranges considered acceptable within the statistical literature (Manly, 2004).

Table 1 / Data Sources

DIMENSION	COMPONENT	VARIABLE NAME	PRIMARY SOURCE
Basic Human Needs	Nutrition and Basic Medical Care	Undernourishment	Food and Agriculture Organization of the U.N.
		Depth of food deficit	Food and Agriculture Organization of the U.N.
		Maternal mortality rate	World Health Organization
		Stillbirth rate	World Health Organization
		Child mortality rate	World Health Organization
		Prevalence of tuberculosis	World Health Organization
	Air, Water, and Sanitation	Indoor air pollution attributable deaths	World Health Organization
		Outdoor air pollution attributable deaths	World Health Organization
		Access to piped water	WHO/UNICEF Joint Monitoring Prog.: Water Supply and Sanitation
		Rural vs. urban access to improved water source	WHO/UNICEF Joint Monitoring Prog.: Water Supply and Sanitation
		Access to improved sanitation facilities	WHO/UNICEF Joint Monitoring Prog.: Water Supply and Sanitation
	Shelter	Access to wastewater treatment	Economist Intelligence Unit
		Availability of affordable housing	Gallup World Poll
	Personal Safety	Access to electricity	International Energy Agency
		Homicide rate	Vision of Humanity Global Peace Index
		Level of violent crime	Vision of Humanity Global Peace Index
Perceived criminality		Vision of Humanity Global Peace Index	
Foundations of Wellbeing	Access to Basic Knowledge	Political terror	Vision of Humanity Global Peace Index
		Adult literacy rate	UN Educational, Scientific, and Cultural Organization Institute
		Primary school enrollment	UN Educational, Scientific, and Cultural Organization Institute
		Secondary school enrollment	UN Educational, Scientific, and Cultural Organization Institute
	Access to Information and Communications	Women's mean years in school	Institute for Health Metrics and Evaluation
		Mobile telephone subscriptions	International Telecommunications Union
		Internet users	International Telecommunications Union
		Fixed broadband subscriptions	International Telecommunications Union
	Health and Wellness	Press Freedom Index	Reporters Without Borders
		Life expectancy	World Development Indicators
		Obesity	World Health Organization
		Cancer death rate	World Health Organization
		Deaths from cardiovascular disease and diabetes	World Health Organization
		Deaths from HIV	World Health Organization
	Ecosystem Sustainability	Availability of quality healthcare	Gallup World Poll
		Ecological Footprint of Consumption	Global Footprint Network
CO ₂ emissions per capita		Carbon Dioxide Information Analysis Center	
Energy use per \$1,000 GDP		Economist Intelligence Unit	
Opportunity	Personal Rights	Water withdrawals per capita	Economist Intelligence Unit
		Political rights	Freedom House
		Freedom of speech	Cingranelli-Richards Human Rights Data Project
		Freedom of assembly/association	Cingranelli-Richards Human Rights Data Project
		Private property rights	Heritage Foundation
	Access to Higher Education	Women's property rights	Economist Intelligence Unit
		Tertiary school enrollment	UN Educational, Scientific, and Cultural Organization Institute
	Personal Freedom and Choice	Female tertiary enrollment	UN Educational, Scientific, and Cultural Organization Institute
		Basic religious freedoms	Economist Intelligence Unit
		Contraceptive prevalence rate	World Development Indicators
		Access to childcare	Economist Intelligence Unit
	Equity and Inclusion	Freedom over life choices	Gallup World Poll
		Equity of opportunity for ethnic minorities	Economist Intelligence Unit
		Women treated with respect	Gallup World Poll
		Community safety net	Gallup World Poll
		Tolerance of immigrants	Gallup World Poll
		Tolerance for homosexuals	Gallup World Poll

Table 2 / Mean Kaiser Meyer Olkin Measure of Sampling Adequacy and Cronbach’s Alpha for Each Component

PILLAR	COMPONENT	MEAN KMO	CRONBACH ALPHA
Basic Human Needs	Nutrition and Basic Medical Care	0.77	0.92
	Air, Water, and Sanitation	0.80	0.87
	Shelter	0.50	0.24
	Personal Safety	0.79	0.82
Foundations of Wellbeing	Access to Basic Knowledge	0.74	0.89
	Access to Information and Communications	0.63	0.83
	Health and Wellness	0.60	0.53
	Ecosystem Sustainability	0.65	0.83
Opportunity	Personal Rights	0.82	0.86
	Access to Higher Education	0.50	0.99
	Personal Freedom and Choice	0.51	0.49
	Equity and Inclusion	0.61	0.66

3 / DATA

The Social Progress Index is an aggregate measure derived from numerous indicators drawn from many different organizations, ranging from very large institutions like the United Nations, to NGOs like Freedom House and firms such as The Economist Intelligence Unit (the sources are summarized in Table 1). In some cases, there are tradeoffs between the quality and precision of a social indicator and its broad coverage of countries and continents. The architecture of the index affects the screening criteria for data sources. For a factor analysis based on principal components to be valid, each of the indicators used to calculate the factor has to be relatively free of measurement error (Dunteman 1989). Thus, it should precisely measure what it was intended to measure and do so consistently across countries.

Our choice of factor analysis as the basis for aggregating at the component level was affected by the quality and quantity of data available on social progress. Similar to the state of affairs in measuring economic variables in the mid-20th century, social scientists have only just begun to build the complicated infrastructure required to successfully mount the large-scale surveys and measurements required to provide effective measurements of social issues across countries. Not surprisingly, the United Nations and its various entities have taken the lead, and we include a range of United Nations data ranging from the percent of a population with piped water to the extent of outdoor air pollution drawn from efforts like the Joint Monitoring Program for Water Supply and Sanitation and the Global Health Observatory. Data providers such as the Economist Intelligence Unit provide broad reporting on a number of areas such as access to housing, access to electricity, and the homicide rate across countries. For other metrics, we rely on specialist organizations such as Reporters without Borders who supply the Press Freedom Index. One of our objectives is to stimulate improvement in data sources over time.

For some indicators, such as the Press Freedom Index, there were other data providers that provided similar indicators. We evaluated alternatives based on internal validity, geographic coverage, and theoretical attractiveness based on the methodology used to gather data. Geographic coverage was often a key limitation. We sought indicators that were measured by the same organization for all of the countries in our initial sample. This meant that many high quality indicators were excluded from consideration because they only covered a subset of countries (e.g., just Latin America or Europe).

If no indicators in a given conceptual area had sufficient geographic range and met a minimum standard for data quality, we excluded that type of indicator from this initial index. At the component level, this meant a number of indicators which would have usefully contributed to the component score had to be excluded. For instance, in the “Access to Basic Knowledge” component one could imagine a number of interesting indicators like the availability of public libraries. While there is data available on this metric for a number of countries, there was no good metric covering a broad country sample.

The Social Progress Index includes all the valid and available indicators that were conceptually linked to the components. We relied upon factor analysis to draw out the common signal amongst the set of indicators in each area. Tables 3 through Table 5 provide summary statistics for each outcome indicator included. Figure 1 provides a mapping of the connection between components and dimensions. Most indicators either range from scores of 1–5 or from 0–100. Such indicators are constructed to have clear upper and lower bounds. Other indicators, like “Water Withdrawals Per Capita” (in the Foundations of Wellbeing dimension), are variables which have no ex ante upper bound. The summary statistics in these tables are displayed in raw data form, but each of the variables was standardized before factor analysis.

Table 3 / Summary Statistics for Indicators in the Basic Human Needs Dimension

VARIABLES	MEAN	STANDARD DEVIATION	MIN	MAX
Undernourishment	11.57	10.11	5	40.2
Depth of Food Deficit	72.10	85.90	1	344
Maternal Mortality Rate	117.04	146.09	4	630
Stillbirth Rate	12.44	9.81	2	42
Child Mortality Rate	27.14	28.60	3	124
Prevalence of Tuberculosis	129.96	157.97	4.7	768
Indoor Air Pollution Attributable Deaths	17.34	29.26	0	142
Outdoor Air Pollution Attributable Deaths	16.34	11.91	2	56
Access to Piped Water	66.16	33.59	3	100
Rural vs. Urban Access to Improved Water Source	12.26	14.20	0	63
Access to Improved Sanitation Facilities	77.58	25.48	14	100
Access to Wastewater Treatment	36.12	36.27	0	100
Availability of Affordable Housing	47.76	14.97	17	85
Access to Electricity	81.78	27.35	8.5	100
Homicide Rate	2.36	1.37	1	5
Level of Violent Crime	2.69	1.13	1	5
Perceived Criminality	3.03	0.85	2	5
Political Terror	2.73	1.16	1	4.5

Table 4 / Summary Statistics for Indicators in the Foundations of Wellbeing Dimension

VARIABLES	MEAN	STANDARD DEVIATION	MIN	MAX
Adult Literacy Rate	87.20	15.72	39	99.7
Primary School Enrollment	92.61	7.60	57.6	100
Secondary School Enrollment	68.52	24.42	10	99.5
Women's Mean Years in School	9.96	3.41	2.1	15
Mobile Telephone Subscriptions	102.58	32.72	17	179
Internet Users	43.26	25.96	1	91
Fixed Broadband Subscriptions	11.22	12.22	0	40
Press Freedom Index	2.94	1.13	1	5
Life Expectancy	71.56	9.27	50	83
Obesity	17.20	10.54	1.1	34.6
Cancer Death Rate	225.88	47.66	123	350
Deaths from Cardiovascular Disease and Diabetes	597.36	290.42	183	1405
Deaths from HIV	5.4	1.78	1	7
Availability of Quality Healthcare	59.04	18.99	21	94
Ecological Footprint of Consumption	2.96	1.89	0.7	8.9
CO ₂ Emissions Per Capita	4.938	5.29	0.1	22.6
Energy Use Per \$1,000 GDP	159.72	97.71	18	474
Water Withdrawals Per Capita	547.04	452.44	12	2319

Table 5 / Summary Statistics for Indicators in the Opportunity Dimension

VARIABLES	MEAN	STANDARD DEVIATION	MIN	MAX
Political Rights	2.94	1.91	1	7
Freedom of Speech	0.9	0.74	0	2
Freedom of Assembly/Association	1.14	0.86	0	2
Private Property Rights	50.3	23.18	15	90
Women's Property Rights	3.86	1.161	1	5
Tertiary School Enrollment	39.72	25.73	4	103.1
Female Tertiary Enrollment	42.92	29.24	3.3	111.3
Basic Religious Freedoms	2.34	1.30	0	4
Contraceptive Prevalence Rate	61.35	19.56	11.8	84.6
Access to Childcare	3.22	0.79	2	5
Freedom over Life Choices	72.8	12.48	44	94
Equity of Opportunity for Ethnic Minorities	1.8	0.857	0	3
Women Treated with Respect	61.9	18.85	19	96
Community Safety Net	81.58	11.41	52	97
Tolerance of Immigrants	58.14	18.52	22	93
Tolerance for Homosexuals	31.14	25.65	2	81

We transformed the magnitude of indicators so that in each case a greater value meant more social progress. A higher score on the indicator "Tolerance of Immigrants" corresponds to better social progress. Conversely, a higher score on discrimination against women reflected lesser social progress. For clarity

and ease of interpretation, we transformed the latter measures such that in all cases a higher score on the indicator corresponded to a higher overall Social Progress Index score.

To evaluate the “fit between” the individual indicators within a component, we first calculated Cronbach’s alpha for the indicators in each component. Cronbach’s alpha provides a measure of internal consistency across indicators. An applied practitioner’s rule of thumb is that the alpha value should be above 0.7 for any valid grouping of variables (Bland and Altman 1997). Table 1 shows alpha values well above 0.7 for all but four of our components (Shelter, Health and Wellness, Personal Freedom and Choice, and Equity and Inclusion). While Cronbach’s alpha is a good screen for conceptual fit, it does not provide a direct measure of the goodness of fit of a factor analysis (Manly, 2004). After performing the factor analysis in each component, we assessed this goodness of fit using the Kaiser Meyer Olkin measure of sampling adequacy. The results of this analysis are provided in the first column of Table 2. In general, KMO scores should be above 0.5. In our data, the mean KMO Score is at or above 0.5 for each of the components. Hence, the grouping of indicators chosen for the components of the Social Progress Index seem to provide a good measure of the underlying construct, especially for exploratory rather than confirmatory factor analysis.

The final step in calculating each component is aimed at providing transparency and comparability across the different scores. Our goal was to transform the scores so that each component score could be easily interpreted, both relative to other components and across different countries. To do so, we apply a simple linear transformation so that the mean of each component would be equal to 50, with a standard deviation of 12.5:

Formula 3.1
$$Component = \frac{100}{8} \left(\left[\sum w_i * indicator_i \right] + 4 \right)$$

Where the weights (*w* in the equation) are determined through factor analysis.

Under this transformation, no component will be less than zero, and no component will be greater than 100. The summary statistics after this final transformation of the data are provided in Table 6. Though the mean and standard deviation are equal across all components, there are important differences across the components in terms of their overall variation. For example, while some components have a high overall range (such as Access to Higher Education), others have a much smaller range.

Table 6 / Summary Statistics for Each Component by Dimension

PILLAR	COMPONENT	MEAN	STANDARD DEVIATION	MIN	MAX
Basic Human Needs	Nutrition and Basic Medical Care	50	12.5	15.00	61.95
	Air, Water, and Sanitation	50	12.5	17.07	64.47
	Shelter	50	12.5	19.44	72.80
	Personal Safety	50	12.5	22.23	70.28
Foundations of Wellbeing	Access to Basic Knowledge	50	12.5	19.25	65.03
	Access to Information and Communications	50	12.5	28.76	76.06
	Health and Wellness	50	12.5	23.03	68.10
	Ecosystem Sustainability	50	12.5	9.89	67.60
Opportunity	Personal Rights	50	12.5	27.97	69.13
	Access to Higher Education	50	12.5	32.77	78.13
	Personal Freedom and Choice	50	12.5	22.57	72.78
	Equity and Inclusion	50	12.5	26.52	74.11

Table 7 provides summary statistics for each dimension, where each dimension is simply the unweighted average of the four components that make up that dimension. Interestingly, the standard deviation of Foundations of Wellbeing is smaller (7.1) than the other two dimensions (each of which have a standard deviation of 10.5).

Table 7 / Summary Statistics for Each Dimension

DIMENSION	MEAN	STANDARD DEVIATION	MIN	MAX
Basic Human Needs	50	10.50	26.69	66.04
Foundations of Wellbeing	50	7.11	34.66	62.58
Opportunity	50	10.47	35.04	69.92

4 / CALCULATING THE INDEX

The overall index is calculated as the unweighted sum of the three dimensions. As such, the overall index is calculated as:

Formula 4.1
$$Social\ Progress\ Index = \frac{1}{3} \sum_{Dimensions} \left(\frac{1}{4} \sum_{k \in Dim.} Component_k \right)$$

The Social Progress Index has the potential to range between zero and 100. In our initial sample of 50 countries, the lowest observed score was 32.13 and the highest 64.81.

5 / COMPARISON TO OTHER INDICES

The overall Social Progress Index rankings are presented in Table 8. As discussed in more detail in the main report, the Index provides a useful benchmark by which countries can compare themselves with other nations, and identify specific areas of current strength or weakness. As we expected, the Social Progress Index is quite correlated with economic measures such as GDP per capita, as well as other benchmarks such as the Human Development Index and the World Economic Forum Global Competitiveness Report. However, there are meaningful and important differences. The Social Progress Index accounts for the non-economic condition of a country, and is broader-gauge than earlier indices such as the HDI.

Table 8 / Social Progress Index Score and Dimension Level Scores for Each Country

RANK	COUNTRY NAME	BASIC HUMAN NEEDS	FOUNDATIONS OF WELLBEING	OPPORTUNITY	SOCIAL PROGRESS INDEX	PPP GDP PER CAPITA (2011)
1	Sweden	63.61	61.73	69.09	64.81	41,467.00
2	United Kingdom	62.76	62.57	64.91	63.41	35,657.00
3	Switzerland	63.83	62.58	63.43	63.28	44,452.00
4	Canada	63.85	55.74	68.30	62.63	40,370.00
5	Germany	64.76	61.42	61.24	62.47	39,491.00
6	United States	62.26	52.49	69.92	61.56	48,112.00
7	Australia	60.67	54.44	68.67	61.26	42,400.00
8	Japan	66.04	59.51	57.49	61.01	34,748.00
9	France	61.04	59.97	61.08	60.70	35,246.00
10	Spain	58.98	57.97	64.34	60.43	30,400.00
11	Korea, Rep.	62.16	58.84	58.57	59.86	31,220.00
12	Costa Rica	54.75	54.90	62.43	57.36	12,600.00
13	Poland	56.58	56.55	57.63	56.92	21,000.00
14	Chile	56.61	54.89	58.31	56.60	17,310.00
15	Argentina	51.84	55.70	61.41	56.32	17,660.00
16	Israel	54.19	59.16	51.03	54.79	27,825.00
17	Bulgaria	58.40	51.93	51.90	54.08	14,825.00
18	Brazil	48.24	51.60	56.95	52.27	12,000.00
19	United Arab Emirates	60.12	45.38	47.16	50.89	47,893.00
20	Turkey	57.80	51.54	42.75	50.69	15,000.00
21	Colombia	45.43	50.51	55.63	50.52	10,247.00
22	Dominican Republic	48.20	49.80	53.55	50.52	9,600.00
23	Thailand	54.99	46.92	48.93	50.28	9,398.00
24	Peru	46.59	51.89	51.53	50.00	10,062.00
25	Mexico	49.33	50.79	49.08	49.73	14,653.00
26	Philippines	45.75	50.76	51.72	49.41	4,080.00
27	Paraguay	46.97	47.49	53.25	49.24	5,501.00
28	Tunisia	50.09	50.81	44.91	48.61	9,351.00
29	Georgia	53.00	52.09	40.58	48.56	5,465.00
30	Vietnam	55.16	48.31	40.50	47.99	3,412.00
31	Jordan	52.12	50.76	41.04	47.97	5,907.00
32	China	52.95	48.21	42.59	47.92	8,400.00
33	Russian Federation	46.12	46.61	47.94	46.89	17,700.00
34	Kazakhstan	50.76	42.55	47.23	46.85	13,099.00
35	Botswana	44.14	44.93	47.76	45.61	16,800.00
36	Sri Lanka	46.31	50.65	39.46	45.47	6,100.00
37	Morocco	49.96	45.58	40.27	45.27	5,080.00
38	Indonesia	45.52	49.30	40.89	45.24	4,636.00
39	South Africa	40.02	43.86	50.12	44.67	10,970.00
40	Egypt, Arab Rep.	49.88	46.86	35.09	43.94	6,600.00
41	Ghana	40.83	43.88	43.36	42.69	1,871.00
42	Bangladesh	39.60	43.32	35.84	39.59	2,000.00
43	India	40.24	41.60	36.67	39.51	3,627.00
44	Senegal	39.15	39.04	39.72	39.30	1,967.00
45	Kenya	32.91	45.32	38.72	38.98	1,710.00
46	Rwanda	29.76	41.30	37.82	36.29	1,282.00
47	Mozambique	30.46	35.52	42.62	36.20	1,090.00
48	Uganda	30.63	40.72	36.38	35.91	1,345.00
49	Nigeria	27.96	37.04	35.19	33.39	2,700.00
50	Ethiopia	26.69	34.66	35.04	32.13	1,100.00

While there is significant overlap across Social Progress Index, HDI, and GDP (PPP) per capita in the top 10 and bottom 10 countries, the middle tier of the Social Progress Index shows some high human capital countries (e.g., Israel) and some wealthy countries (e.g., United Arab Emirates) performing substantially worse than Costa Rica on the Social Progress Index.⁽²⁾ Other countries, like Vietnam, have even larger deviations in ranking from their position in the HDI league table.

The Social Progress Index measures something substantially different and broader than previous economic and non-economic indicators. For example, the relative performance of countries like Costa Rica and Vietnam are achieved through different channels, which the Social Progress Index helps reveal. Costa Rica performs highly on the Opportunity dimension while Vietnam outperforms relative to countries at similar income levels on the Basic Human Needs dimension. The Social Progress Index also points to regional level similarities in performance on different types of social outcomes. For example, South and Central American countries outperform on the Opportunity dimension. The Social Progress Index not only allows policy-makers to compare performance on the aggregate index but also to find similarities and differences across countries on specific dimensions and components.

The 2013 Social Progress Index is but a first step towards a more rigorous and comprehensive approach to international measurement and benchmarking of social progress. Overall, the objective of the Social Progress Index is to offer a comprehensive analysis of the social, political, and environmental landscape of individual countries. While the recognition of the importance of non-economic dimensions of societal performance is growing rapidly, the lack of an integrated measurement system that nonetheless is distinct from core economic dimensions such as GDP per capita has hampered the ability to undertake rigorous benchmarking or use measurement as a tool to drive social progress in individual countries. As we gather feedback on the 2013 Index and expand the range of data and countries, we hope the Social Progress Index can become a catalyst for social improvement as well as the developing of better outcome data and a richer overall social progress framework.

⁽²⁾ HDI data obtained at: http://hdr.undp.org/en/media/HDR_2011_EN_Tables.pdf. GDP (PPP) estimates were obtained at: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2004rank.html>.