Online Appendix
"Economic Institutions and Social Progress"

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This online appendix provides further clarification on the construction of the social progress index and presents further results regarding the overall relationship between SPI, GDP and economic institutions.

I.   Further details on the Measurement of Social Progress

SPI aims to incorporate a broad array of dimensions of societal performance not directly captured by traditional economic metrics such as GDP. Figure A1 summarizes the dimensions and components used to construct the SPI. A major objective is first to offer insights into differences in non-economic societal performance across countries and over time, as well as examine differences within countries in performance across dimensions and components of social progress. In addition to the broad differences across dimensions discussed in the main text, it is useful to emphasize that dimension-level differences can be attributed to differences in the underlying components. For example, whereas the United States and Northern European countries score quite similarly in terms of Water and Sanitation, the Nordic countries tend to realize a high level in terms of measure of health and wellness. As well, it is possible to begin examining changes within country over time (subject to the timeliness of new data releases); for example, whereas overall SPI has been increasing on a global basis, key aspects of Opportunity –

most notably, Inclusion, have experienced an absolute decline over the past three years (Porter, Stern, and Green, 2017). The ability to benchmark social performance across and within countries and over time is a major motivation for constructing the SPI.

II. Social Progress, GDP and Varying Measures of Economic Institutions

Beyond these relative comparisons, SPI also offers a novel tool to assessing the interplay between social indicators, traditional economic metrics such as GDP per capita, and measures of economic institutions. Figure 1 shows a clear cross-sectional relationship between SPI, Rule of Law and binned levels of logged GDP per capita (High, medium, and Low). This cross-sectional observation motivated further examination of the relationship over time between GDP growth, changes in economic institutions and improvements in SPI.

While the main body of our text focuses on the Rule of Law as one key index of economic institutions, Economic institutions can vary in different ways across countries that are not fully captured by any one index. Indeed, there are a wide variety of institutional indices that emphasize a wide variety of different aspects of a country's economic institutions. On the one hand, there are indices like regulatory quality that capture many of the aspects of the Rule of Law (e.g. protection of property rights) while excluding others like freedom from violence. Other indices, however, are more conceptually focused in what they measure such as the ease of doing business index which attempts to measure the burdens placed on new firms entering a country's markets measured in number of active days dealing with bureaucracy. In a series of tables, we perform a parallel analysis as that displayed in Table 1 for a range of other indices that measure different aspects of a country's economic institutions.

Table A1 reports the relationship between changes in regulatory quality and the log of GDP per capita on subsequent changes in SPI and its dimensions. Similar to the analysis in Table 1, it finds that growth in logged GDP per Capita has a positive and statistically significant relationship with increases in SPI overall and on BHN. Interestingly, increases in logged GDP per Capita do not have a statistically significant relationship with increases in FOW, unlike the results in Table 1. Parallel to the main analysis, though, improvements in Regulatory Quality are associated with improvements in FOW. Similar to Rule of Law, there are no statistically significant relationships between either economic growth or changes in Regulatory Quality on changes in the OPP dimension of SPI.

Table A2 explores the relationship between changes in the Ease of Doing Business Index, changes in logged GDP per capita, and changes in SPI and its dimensions. Here, Ease of Doing Business is measured as "distance to the frontier" meaning how far away any country is from the easiest country in the world for starting a business. Model A2-1 shows that changes in logged GDP per capita is positively and statistically significantly associated with increases in SPI overall while increases in Ease of Doing Business is not associated with improvements in SPI overall. Model A2-2, however, shows that the positive relationship overall for logged GDP per capita persists in the BHN dimension, but there is a negative and statistically significant relationship between improvements in Ease of Doing Business and improvements in BHN. This relationship suggests for countries that are capable of larger changes in their Ease of Doing Business score (i.e. are further from the frontier), improvements in their business environment might induce shifts in economic activity that might serve as substitutes for investments into the BHN dimension.

Table A3 explores the relationship between changes in a country's non-military government spending as a share of GDP (Government Share) and changes in logged GDP per capita, and changes in SPI and its dimensions. Models A3-1 through A3-3 show a robust and statistically significant relationship between growth in logged GDP per capita and improvements in SPI, BHN, and FOW, but no role for increases in Government Share in the economy. In Model A3-4, however, there is a negative and statistically significant relationship between increases in Government share of an economy and improvements in the OPP dimension. Broadly, it seems that increases in the government's role in a country's economy is associated with decreases in personal freedoms or tolerance and inclusion (the key components of the OPP dimension which vary over time).

Appendix Figures and Tables

Figure A1
Social Progress Index Framework

Social Progress Index		
Basic Human Needs	**Foundations of Wellbeing**	**Opportunity**
Nutrition and Basic Medical Care	Access to Basic Knowledge	Personal Rights
Water and Sanitation	Access to Information and Communications	Personal Freedom and Choice
Shelter	Health and Wellness	Tolerance and Inclusion
Personal Safety	Environmental Quality	Access to Advanced Education

Table A1
Relationship between Changes in SPI, Its Components, Log GDP per Capita and Regulatory Quality

| | (1) | (2) | (3) | (4) |
	Δ SPI	Δ BHN	Δ FOW	Δ OPP
Δ Regulatory Quality, 2005-2014	0.077	-0.162	0.519[*]	-0.219
	(0.188)	(0.352)	(0.313)	(0.490)
Δ Log GDP, 2005-2014	0.588[**]	1.130[***]	0.738	0.321
	(0.233)	(0.328)	(0.458)	(0.499)
SPI, 2014	-0.000			
	(0.013)			
Log GDP per Capita, 2005	-0.038	0.030	0.092	0.113
	(0.122)	(0.155)	(0.199)	(0.185)
Regulatory Quality, 2005	-0.189	0.149	-0.575[**]	-0.247
	(0.158)	(0.173)	(0.274)	(0.359)
BHN, 2014		-0.054[***]		
		(0.011)		
FOW, 2014			0.012	
			(0.016)	
OPP, 2014				0.020
				(0.022)
Constant	1.282	4.354[***]	-0.015	-1.483
	(0.807)	(0.997)	(1.313)	(1.574)
Observations	144	144	144	144

Standard errors in parentheses
[*] $p < 0.1$, [**] $p < 0.05$, [***] $p < 0.01$

Table A2

Relationship between Changes in SPI, Its Components, Log GDP per Capita and Ease of Doing Business

	(1) Δ SPI	(2) Δ BHN	(3) Δ FWB	(4) Δ OPP
Δ Ease of Doing Business, 2005-2014	-0.017 (0.012)	-0.028[*] (0.015)	0.009 (0.014)	-0.013 (0.020)
Δ Log GDP, 2005-2014	0.495[*] (0.254)	1.350[***] (0.370)	0.599 (0.490)	-0.025 (0.577)
SPI, 2014	0.002 (0.014)			
Ease of Doing Business, 2005	-0.004 (0.008)	-0.011 (0.011)	0.014 (0.010)	0.004 (0.015)
Log GDP per Capita, 2005	-0.195 (0.140)	0.155 (0.160)	-0.243 (0.179)	-0.109 (0.163)
BHN, 2014		-0.050[***] (0.012)		
FOW, 2014			0.003 (0.016)	
OPP, 2014				0.015 (0.020)
Constant	2.943[***] (0.675)	4.098[***] (0.945)	2.322[**] (1.126)	0.747 (1.374)
Observations	119	119	119	119

Standard errors in parentheses
[*] $p < 0.1$, [**] $p < 0.05$, [***] $p < 0.01$

Table A3
Relationship between Changes in SPI, Its Components, Log GDP per Capita and Government Share

	(1) Δ SPI	(2) Δ BHN	(3) Δ FWB	(4) Δ OPP
Δ Gov. Share, 2005-2014	-0.038 (0.025)	-0.010 (0.032)	0.010 (0.038)	-0.121*** (0.043)
Δ Log GDP, 2005-2014	0.464** (0.215)	1.002*** (0.357)	0.986** (0.412)	-0.229 (0.484)
SPI, 2014	-0.017* (0.009)			
Log GDP per Capita, 2005	0.022 (0.108)	0.155 (0.148)	0.038 (0.193)	0.081 (0.192)
Gov Share, 2005	-0.015 (0.018)	-0.039* (0.023)	0.028 (0.024)	-0.027 (0.036)
BHN, 2014		-0.056*** (0.012)		
FOW, 2014			-0.014 (0.017)	
OPP, 2014				0.004 (0.016)
Constant	2.238*** (0.559)	4.232*** (0.817)	1.569 (0.962)	0.500 (1.192)
Observations	134	134	134	134

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$