

# Reaching Beyond the New Normal: Findings from the Global Competitiveness Index 2015–2016

**XAVIER SALA-I-MARTÍN**

Columbia University

**ROBERTO CROTTI**

**ATTILIO DI BATTISTA**

**MARGARETA DRZENIEK HANOZ**

**CAROLINE GALVAN**

**THIERRY GEIGER**

**GAËLLE MARTI**

World Economic Forum

Seven years after the global financial crisis, the world economy is evolving against the background of the “new normal” of lower economic growth, lower productivity growth, and high unemployment. Although overall prospects remain positive, growth is expected to remain below the levels recorded in previous decades in most developed economies and in many emerging markets.<sup>1</sup> Growth prospects could still be derailed by the uncertainty fueled by a slowdown in emerging markets, geopolitical tensions and conflicts around the world, as well as by the unfolding humanitarian crisis. At the same time, some positive developments—such as the rapid diffusion of information and communication technologies (ICTs) giving rise to new business models and revolutionizing industries—bear great promise for a future wave of innovations that could drive longer-term growth.

Geographical patterns of growth also continue to shift, with advanced economies gaining ground on emerging markets. In 2013 emerging markets grew almost four times as quickly as advanced economies (5 percent versus 1.3 percent); in 2015 they are projected to be growing less than twice as quickly (4.2 percent versus 2.1 percent).<sup>2</sup> In particular, the United States is recovering, despite moves toward the normalization of monetary policy and the strengthening of the dollar. The country’s unemployment rate is at its lowest level since 2008.<sup>3</sup> In Europe, more sluggish growth prospects are somewhat counterbalanced by lower energy prices and a weakened euro, though doubts remain about the future of the eurozone following the bailout of Greece. In Japan, monetary policy and a weaker yen are supporting growth, although it remains subdued. Among emerging markets, meanwhile, oil and commodity exporters need to adjust to lower commodity price levels. In China, the move toward a more sustainable, less investment-driven growth model is expected to result in more moderate growth (see Box 4).

Rather than adjusting to this new normal, countries must step up their efforts to re-accelerate economic growth. There is evidence that, in addition to lower capital accumulation that results from reduced investments, productivity over the past decade has been stagnating and even declining, which could have contributed to the current situation. As a growing body of empirical literature shows, differences in productivity are the main determinants of cross-country prosperity levels.<sup>4</sup> Increasing productivity therefore needs to be at the core of the policy agendas of governments and international organizations. This makes the World Economic Forum’s annual assessment of the drivers of productivity, the Global Competitiveness Index (GCI), particularly relevant for policymakers seeking to identify priority areas for reforms.

At the same time, it should be acknowledged that the economic crisis has led to growth and

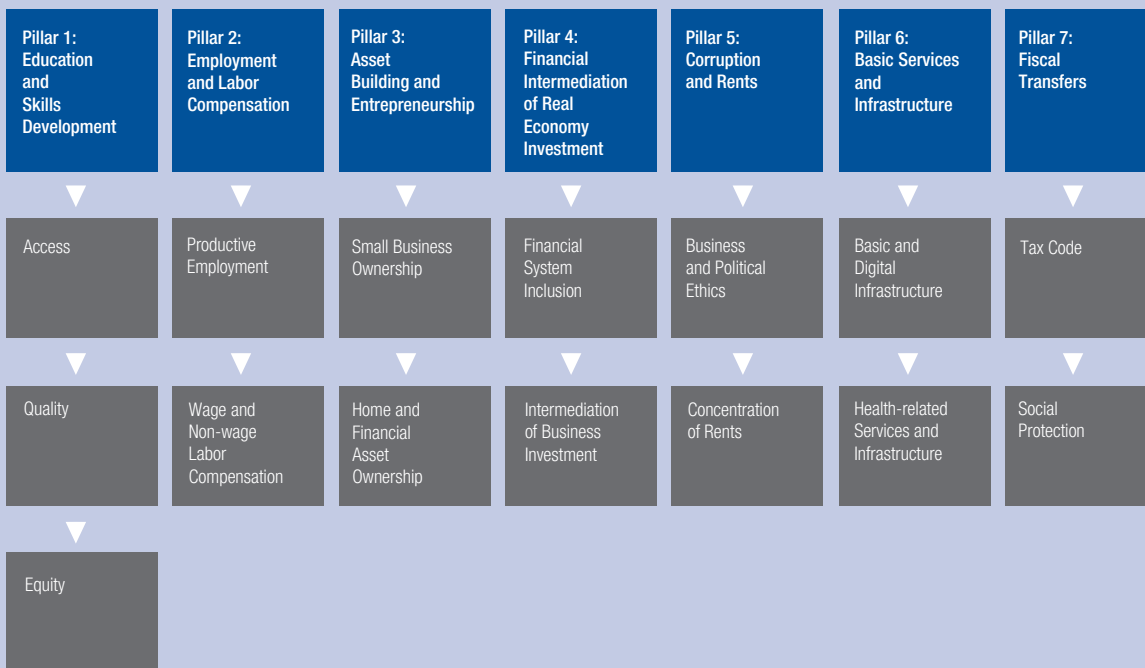
**Box 1: The Inclusive Growth and Development Report**

Many countries are facing the consequences of widening inequality, which has become particularly acute since the global financial crisis—and evidence is growing that social inclusion and growth in GDP per capita go hand in hand. There has consequently been much discussion about the need to ensure that growth translates into broad-based improvements in living standards that touch all citizens rather than a fortunate few. Yet there is little practical guidance about how countries can achieve both growth and equity.

To help fill this gap, the World Economic Forum recently released the inaugural *Inclusive Growth and Development Report*, which aims to identify countries’ structural and institutional features that influence the extent to which growth translates into broad-based progress in living standards. It presents a framework and a corresponding set of indicators in seven principal policy domains (pillars) and 15 subdomains (subpillars) (Figure 1).

A broad spectrum of actions can foster inclusive growth.

**Figure 1: Inclusive Growth and Development Framework**



<http://www.weforum.org/reports/inclusive-growth-and-development-report-2015>

(Cont'd.)

productivity being increasingly seen less as ultimate goals and more as contributors to a larger goal of broad-based rises in living standards. Developing and advanced economies alike are subscribing more and more to the notion of inclusive growth, and there is growing debate about the relationship between competitiveness and inclusiveness. The World Economic Forum’s first *Inclusive Growth and Development Report*, published in September 2015, further explores these issues and provides a first attempt at benchmarking the drivers of inclusive growth to complement our work on competitiveness (see Box 1).

*The Global Competitiveness Report 2015–2016*, the 36th edition in the series, presents the results of the latest iteration of the GCI. This chapter distills the key messages, analyzes the main global and regional results and recent trends, and briefly discusses the competitiveness performance of selected economies. Chapter 1.2 introduces the planned updates to the GCI, which we expect will replace the current methodology in

the next edition of the *Report*. Chapter 1.3 describes the workings of the Executive Opinion Survey, the results of which feed into the GCI and other research by the Forum and various organizations.

**METHODOLOGY**

We define *competitiveness* as the set of institutions, policies, and factors that determine the level of productivity of an economy, which in turn sets the level of prosperity that the country can earn.

Building on Klaus Schwab’s original idea from 1979, since 2005 the World Economic Forum has published the Global Competitiveness Index developed by Xavier Sala-i-Martin in collaboration with the Forum. Since an update in 2007, the methodology has remained largely unchanged. The GCI combines 114 indicators that capture concepts that matter for productivity. These indicators are grouped into 12 pillars (Figure 1): institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training,

### Box 1: *The Inclusive Growth and Development Report* (cont'd.)

Six of the seven pillars in the framework focus on how inclusive outcomes can be delivered by market activity rather than subsequent transfers, a factor that is captured by the seventh pillar. This reflects the fact that most households rely on income from wages, self-employment, or small business ownership; therefore it is necessary for an inclusive growth strategy to reinforce—or at least not undermine—incentives to work, save, and invest. Although there is a place for fiscal transfers to address inequality, the inclusiveness of a society's growth should be measured primarily by the extent to which it produces broad gains in living standards before fiscal transfers are taken into account.

*The Inclusive Growth and Development Report* presents a database of cross-country statistical indicators that inform comparative economy profiles—in effect, diagnostic scans of the institutional enabling environment as it relates to encouraging socially inclusive growth—in 112 economies. It does not provide a definitive set of policy recommendations, but rather aims to start a conversation about how individual economies could tailor their responses to their particular contexts. The assumption is that different approaches and policy mixes will be appropriate for different economies depending on their historical, cultural, and political-economy circumstances. Nonetheless, six overall conclusions emerge from the report:

- **First, all countries have room for improvement.** There is considerable diversity in performance not only across but also within countries. No country scores above average for its peer group in all 15 subpillars, and only a few come close.
- **Second, it is possible to be pro-equity and pro-growth at the same time.** This is demonstrated by the fact that several of the strongest performers in the Forum's Global Competitiveness Index (GCI) are also relatively inclusive.

- **Third, fiscal transfers can be helpful—but so can other policies.** Many economies with high levels of tax and redistribution are highly competitive. However, greater use of the policy space in other areas could reduce the need for these levers.
- **Fourth, lower-income status is no bar to success.** In many subpillars—such as Business and Political Ethics, Financial System Inclusion, and Educational Quality and Equity—some developing countries outperform others with much higher incomes.
- **Fifth, there are significant regional similarities.** This suggests the strength of the role of shared culture, historical traditions, and political-economy reflexes in areas such as tax systems in Eastern Europe and educational inequity in Latin America.
- **Finally, the current debate on inequality needs to be widened.** The debate now typically focuses on redistribution and the upskilling of labor, but these are only a minority of the policy options available to “structurally adjust” an economy for inclusive growth.

Looking ahead, the Forum intends the framework and cross-country benchmarking data presented in *The Inclusive Growth and Development Report* to stimulate discussion not only about policy options in individual countries but also about the most meaningful ways to measure the enabling environment for inclusive growth and development. Research will continue to refine conceptual links as well as methodology, and will include investigating the relative significance of and relationships between the pillars, subpillars, and individual indicators. Last but not least, identifying appropriate data to measure the concepts of inclusion and equity remains a key concern.

goods market efficiency, labor market efficiency, financial market development, technological readiness, market size, business sophistication, and innovation. These are in turn organized into three subindexes, in line with three main stages of development: basic requirements, efficiency enhancers, and innovation and sophistication factors. The three subindexes are given different weights in the calculation of the overall Index, depending on each economy's stage of development, as proxied by its GDP per capita and the share of exports represented by raw materials.

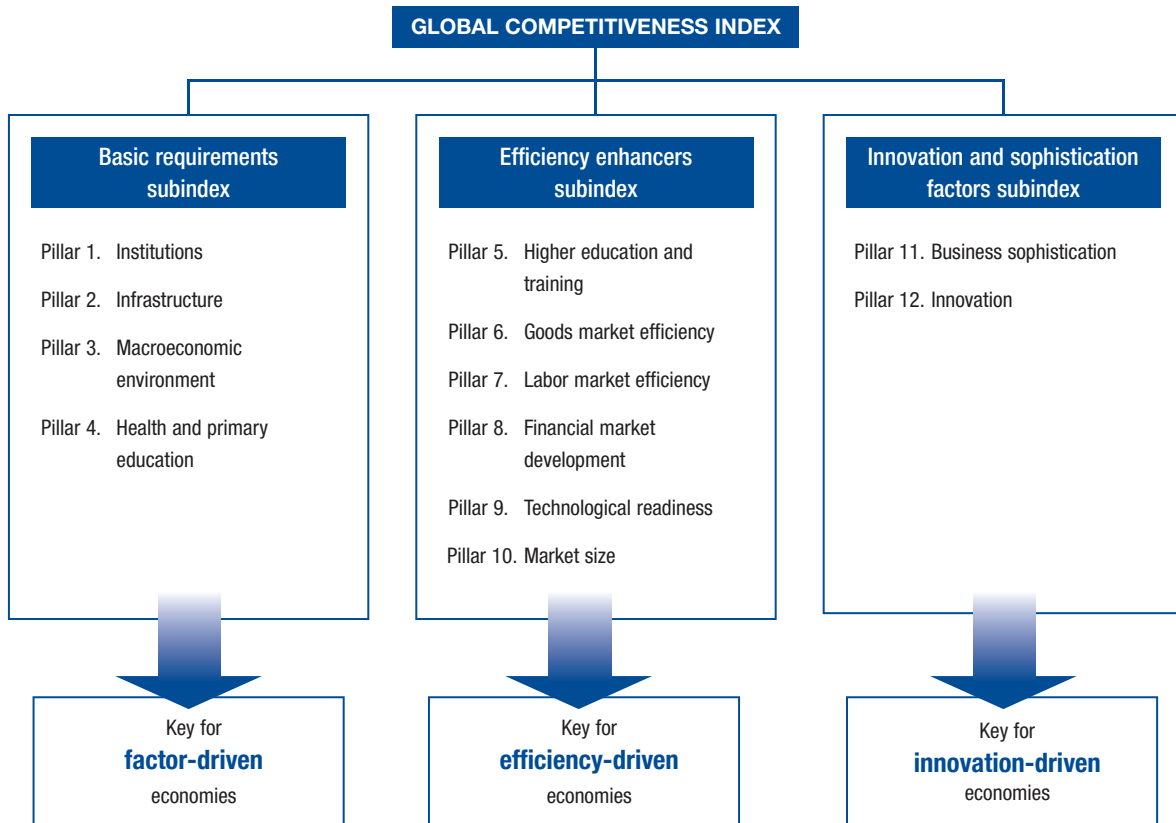
The GCI includes statistical data from internationally recognized agencies, notably the International Monetary Fund (IMF); the United Nations Educational, Scientific and Cultural Organization; and the World Health Organization. It also includes data from the World Economic Forum's annual Executive Opinion Survey to capture concepts that require a more qualitative assessment, or for which comprehensive and internationally comparable statistical data are not available.

This year the *Report* covers 140 economies. In this edition, because of absence of data, we could not include Angola, Barbados, Burkina Faso, Libya, Puerto Rico, Suriname, Timor-Leste, or Yemen. However, Benin, Bosnia and Herzegovina, Ecuador, and Liberia, which could not be included in the last edition, are reinstated this year. Altogether, the combined output of the economies covered in the GCI represents 98.3 percent of world GDP.<sup>5</sup> The appendix contains a description of each pillar. It also presents a detailed structure of the GCI with all the indicators and explains how the Index is computed.

#### THE GLOBAL COMPETITIVENESS INDEX 2015–2016

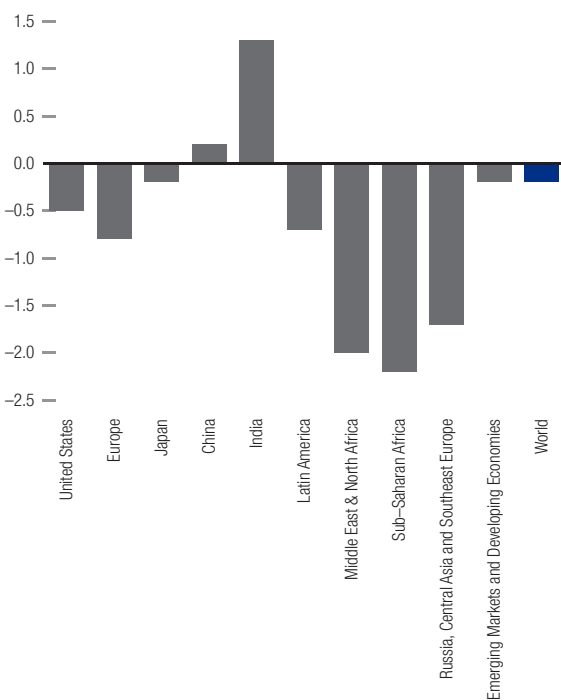
This section presents the main findings of the GCI 2015–2016, starting with an analysis of selected overarching topics and then drilling down into regions and selected countries. Tables 1–5 report the rankings for the overall GCI, the three subindexes, and their corresponding pillars. Detailed scorecards for all the economies in the sample are available in the data section of this *Report*.<sup>6</sup>

Figure 1: The Global Competitiveness Index framework



Note: See the appendix for the detailed structure of the GCI.

Figure 2: Difference in total factor productivity growth between the 1995–2004 and 2005–14 decades  
Percentage points



Source: The Conference Board, *Total Economy Database™* (May 2015).  
Notes: Estimated as a Tornqvist index, log change. See <https://www.conference-board.org/data/economydatabase/> for more information.

**Not settling for the new normal**

The collapse of Lehman Brothers in 2008 triggered a crisis of historical proportions, sending the global economy into freefall. Governments around the world resorted to short-term solutions to stabilize the economy and stimulate growth—but growth remains subdued seven years on, beyond the typical duration of a business cycle. In 2015, global growth is projected at 3.3 percent, its lowest rate since 2009—the trough of the crisis—and one of the lowest since 2000.<sup>7</sup> Unemployment, especially among youth, remains elevated. This suboptimal situation is often referred to as the *new normal*.

Although many possible explanations for this situation have been advanced—including Lawrence Summers’ “secular stagnation” argument,<sup>8</sup> the aging of populations in most advanced economies and some emerging countries, and declining capital investment—slowing productivity growth is undoubtedly part of the story, especially in emerging markets.<sup>9</sup> In the last decade, productivity in most regions has grown more slowly than in the decade before (Figure 2).

There is no general agreement on the factors driving the slowdown in productivity growth. However, commonly suggested explanations include: technological

Table 1: The Global Competitiveness Index 2015–2016 rankings and 2014–2015 comparisons

Country/Economy	GCI 2015–2016			GCI 2014–2015 rank (out of 144)	Country/Economy	GCI 2015–2016			GCI 2014–2015 rank (out of 144)
	Rank (out of 140)	Score (1–7)	Rank among 2014–2015 economies*			Rank (out of 140)	Score (1–7)	Rank among 2014–2015 economies*	
Switzerland	1	5.76	1	1	Botswana	71	4.19	71	74
Singapore	2	5.68	2	2	Morocco	72	4.17	72	72
United States	3	5.61	3	3	Uruguay	73	4.09	73	80
Germany	4	5.53	4	5	Iran, Islamic Rep.	74	4.09	74	83
Netherlands	5	5.50	5	8	Brazil	75	4.08	75	57
Japan	6	5.47	6	6	Ecuador	76	4.07	n/a	n/a
Hong Kong SAR	7	5.46	7	7	Croatia	77	4.07	76	77
Finland	8	5.45	8	4	Guatemala	78	4.05	77	78
Sweden	9	5.43	9	10	Ukraine	79	4.03	78	76
United Kingdom	10	5.43	10	9	Tajikistan	80	4.03	79	91
Norway	11	5.41	11	11	Greece	81	4.02	80	81
Denmark	12	5.33	12	13	Armenia	82	4.01	81	85
Canada	13	5.31	13	15	Lao PDR	83	4.00	82	93
Qatar	14	5.30	14	16	Moldova	84	4.00	83	82
Taiwan, China	15	5.28	15	14	Namibia	85	3.99	84	88
New Zealand	16	5.25	16	17	Jamaica	86	3.97	85	86
United Arab Emirates	17	5.24	17	12	Algeria	87	3.97	86	79
Malaysia	18	5.23	18	20	Honduras	88	3.95	87	100
Belgium	19	5.20	19	18	Trinidad and Tobago	89	3.94	88	89
Luxembourg	20	5.20	20	19	Cambodia	90	3.94	89	95
Australia	21	5.15	21	22	Côte d'Ivoire	91	3.93	90	115
France	22	5.13	22	23	Tunisia	92	3.93	91	87
Austria	23	5.12	23	21	Albania	93	3.93	92	97
Ireland	24	5.11	24	25	Serbia	94	3.89	93	94
Saudi Arabia	25	5.07	25	24	El Salvador	95	3.87	94	84
Korea, Rep.	26	4.99	26	26	Zambia	96	3.87	95	96
Israel	27	4.98	27	27	Seychelles	97	3.86	96	92
China	28	4.89	28	28	Dominican Republic	98	3.86	97	101
Iceland	29	4.83	29	30	Kenya	99	3.85	98	90
Estonia	30	4.74	30	29	Nepal	100	3.85	99	102
Czech Republic	31	4.69	31	37	Lebanon	101	3.84	100	113
Thailand	32	4.64	32	31	Kyrgyz Republic	102	3.83	101	108
Spain	33	4.59	33	35	Gabon	103	3.83	102	106
Kuwait	34	4.59	34	40	Mongolia	104	3.81	103	98
Chile	35	4.58	35	33	Bhutan	105	3.80	104	103
Lithuania	36	4.55	36	41	Argentina	106	3.79	105	104
Indonesia	37	4.52	37	34	Bangladesh	107	3.76	106	109
Portugal	38	4.52	38	36	Nicaragua	108	3.75	107	99
Bahrain	39	4.52	39	44	Ethiopia	109	3.75	108	118
Azerbaijan	40	4.50	40	38	Senegal	110	3.73	109	112
Poland	41	4.49	41	43	Bosnia and Herzegovina	111	3.71	n/a	n/a
Kazakhstan	42	4.49	42	50	Cape Verde	112	3.70	110	114
Italy	43	4.46	43	49	Lesotho	113	3.70	111	107
Latvia	44	4.45	44	42	Cameroon	114	3.69	112	116
Russian Federation	45	4.44	45	53	Uganda	115	3.66	113	122
Mauritius	46	4.43	46	39	Egypt	116	3.66	114	119
Philippines	47	4.39	47	52	Bolivia	117	3.60	115	105
Malta	48	4.39	48	47	Paraguay	118	3.60	116	120
South Africa	49	4.39	49	56	Ghana	119	3.58	117	111
Panama	50	4.38	50	48	Tanzania	120	3.57	118	121
Turkey	51	4.37	51	45	Guyana	121	3.56	119	117
Costa Rica	52	4.33	52	51	Benin	122	3.55	n/a	n/a
Romania	53	4.32	53	59	Gambia, The	123	3.48	120	125
Bulgaria	54	4.32	54	54	Nigeria	124	3.46	121	127
India	55	4.31	55	71	Zimbabwe	125	3.45	122	124
Vietnam	56	4.30	56	68	Pakistan	126	3.45	123	129
Mexico	57	4.29	57	61	Mali	127	3.44	124	128
Rwanda	58	4.29	58	62	Swaziland	128	3.40	125	123
Slovenia	59	4.28	59	70	Liberia	129	3.37	n/a	n/a
Macedonia, FYR	60	4.28	60	63	Madagascar	130	3.32	126	130
Colombia	61	4.28	61	66	Myanmar	131	3.32	127	134
Oman	62	4.25	62	46	Venezuela	132	3.30	128	131
Hungary	63	4.25	63	60	Mozambique	133	3.20	129	133
Jordan	64	4.23	64	64	Haiti	134	3.18	130	137
Cyprus	65	4.23	65	58	Malawi	135	3.15	131	132
Georgia	66	4.22	66	69	Burundi	136	3.11	132	139
Slovak Republic	67	4.22	67	75	Sierra Leone	137	3.06	133	138
Sri Lanka	68	4.21	68	73	Mauritania	138	3.03	134	141
Peru	69	4.21	69	65	Chad	139	2.96	135	143
Montenegro	70	4.20	70	67	Guinea	140	2.84	136	144

Note: The Global Competitiveness Index captures the fundamentals of an economy. Recent developments, including currency (e.g., Switzerland) and commodity price fluctuations (e.g., Azerbaijan, Qatar, Saudi Arabia), geopolitical uncertainties (e.g., Ukraine), and security issues (e.g., Turkey) must be kept in mind when interpreting the results. See "Country highlights" on pages 23–32 for a more detailed description for selected economies.

\* This column ranks all those economies for 2015–2016 that have been covered both in 2014–2015 and 2015–2016 editions, hence a constant sample of 136 economies. Benin, Bosnia and Herzegovina, Ecuador, and Liberia were not included in the analysis last year, and therefore appear as n/a.

Table 2: The Global Competitiveness Index 2015–2016

Country/Economy	OVERALL INDEX		SUBINDEXES					
	Rank	Score	Basic requirements		Efficiency enhancers		Innovation and sophistication factors	
			Rank	Score	Rank	Score	Rank	Score
Switzerland	1	5.76	2	6.26	4	5.55	1	5.78
Singapore	2	5.68	1	6.36	2	5.70	11	5.19
United States	3	5.61	30	5.27	1	5.76	4	5.59
Germany	4	5.53	8	5.95	10	5.31	3	5.61
Netherlands	5	5.50	7	6.05	9	5.31	6	5.46
Japan	6	5.47	24	5.52	8	5.33	2	5.66
Hong Kong SAR	7	5.46	3	6.20	3	5.57	23	4.80
Finland	8	5.45	11	5.95	13	5.22	5	5.50
Sweden	9	5.43	13	5.90	12	5.24	7	5.45
United Kingdom	10	5.43	25	5.52	5	5.49	9	5.28
Norway	11	5.41	6	6.06	11	5.29	13	5.16
Denmark	12	5.33	12	5.91	16	5.15	10	5.25
Canada	13	5.31	16	5.77	6	5.45	24	4.77
Qatar	14	5.30	5	6.13	21	5.05	12	5.18
Taiwan, China	15	5.28	14	5.84	15	5.19	16	5.06
New Zealand	16	5.25	9	5.95	7	5.33	25	4.66
United Arab Emirates	17	5.24	4	6.17	17	5.11	21	4.83
Malaysia	18	5.23	22	5.59	22	5.01	17	5.05
Belgium	19	5.20	23	5.56	18	5.09	15	5.14
Luxembourg	20	5.20	10	5.95	23	5.00	18	5.04
Australia	21	5.15	15	5.79	14	5.21	26	4.61
France	22	5.13	26	5.48	19	5.08	20	4.97
Austria	23	5.12	20	5.61	24	4.89	14	5.16
Ireland	24	5.11	27	5.46	20	5.06	19	4.98
Saudi Arabia	25	5.07	17	5.70	30	4.69	29	4.18
Korea, Rep.	26	4.99	18	5.66	25	4.82	22	4.82
Israel	27	4.98	38	5.10	27	4.75	8	5.29
China	28	4.89	28	5.37	32	4.66	34	4.11
Iceland	29	4.83	19	5.66	33	4.65	27	4.58
Estonia	30	4.74	21	5.60	28	4.74	31	4.15
Czech Republic	31	4.69	31	5.27	26	4.78	32	4.14
Thailand	32	4.64	42	4.94	38	4.56	48	3.88
Spain	33	4.59	40	5.04	29	4.71	35	4.09
Kuwait	34	4.59	33	5.18	72	4.03	82	3.48
Chile	35	4.58	36	5.12	31	4.67	50	3.81
Lithuania	36	4.55	35	5.14	36	4.59	37	4.02
Indonesia	37	4.52	49	4.84	46	4.34	33	4.14
Portugal	38	4.52	41	4.94	37	4.56	30	4.16
Bahrain	39	4.52	32	5.21	35	4.60	43	3.92
Azerbaijan	40	4.50	43	4.92	69	4.05	66	3.59
Poland	41	4.49	44	4.91	34	4.64	57	3.70
Kazakhstan	42	4.49	46	4.87	45	4.36	78	3.53
Italy	43	4.46	53	4.80	43	4.39	28	4.35
Latvia	44	4.45	37	5.10	39	4.56	58	3.69
Russian Federation	45	4.44	47	4.87	40	4.53	76	3.54
Mauritius	46	4.43	39	5.04	61	4.17	51	3.79
Philippines	47	4.39	66	4.60	51	4.30	47	3.88
Malta	48	4.39	34	5.17	42	4.39	49	3.86
South Africa	49	4.39	85	4.32	41	4.51	36	4.06
Panama	50	4.38	54	4.74	52	4.29	44	3.91
Turkey	51	4.37	57	4.68	48	4.33	56	3.71
Costa Rica	52	4.33	64	4.63	57	4.20	38	4.01
Romania	53	4.32	70	4.55	44	4.37	84	3.48
Bulgaria	54	4.32	68	4.57	50	4.31	94	3.37
India	55	4.31	80	4.41	58	4.19	46	3.90
Vietnam	56	4.30	72	4.54	70	4.04	88	3.44
Mexico	57	4.29	73	4.53	53	4.27	52	3.78
Rwanda	58	4.29	65	4.60	85	3.84	55	3.74
Slovenia	59	4.28	45	4.90	56	4.21	39	3.99
Macedonia, FYR	60	4.28	60	4.65	64	4.11	62	3.62
Colombia	61	4.28	77	4.46	54	4.26	61	3.65
Oman	62	4.25	29	5.33	63	4.13	85	3.45
Hungary	63	4.25	59	4.67	49	4.31	69	3.57
Jordan	64	4.23	75	4.48	67	4.09	40	3.99
Cyprus	65	4.23	50	4.83	59	4.18	45	3.91
Georgia	66	4.22	51	4.83	77	3.96	118	3.10
Slovak Republic	67	4.22	56	4.73	47	4.34	59	3.68
Sri Lanka	68	4.21	67	4.60	76	3.96	41	3.95
Peru	69	4.21	76	4.48	60	4.18	106	3.28
Montenegro	70	4.20	58	4.67	75	3.97	86	3.45

(Cont'd.)

Table 2: The Global Competitiveness Index 2015–2016 (cont'd.)

Country/Economy	SUBINDEXES							
	OVERALL INDEX		Basic requirements		Efficiency enhancers		Innovation and sophistication factors	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Botswana	71	4.19	61	4.65	91	3.77	111	3.26
Morocco	72	4.17	55	4.73	82	3.86	92	3.42
Uruguay	73	4.09	48	4.85	66	4.09	83	3.48
Iran, Islamic Rep.	74	4.09	63	4.64	90	3.77	102	3.33
Brazil	75	4.08	103	4.07	55	4.23	64	3.62
Ecuador	76	4.07	71	4.54	86	3.82	87	3.44
Croatia	77	4.07	69	4.56	68	4.05	90	3.43
Guatemala	78	4.05	91	4.23	74	3.99	60	3.67
Ukraine	79	4.03	101	4.08	65	4.09	72	3.55
Tajikistan	80	4.03	84	4.32	104	3.60	71	3.56
Greece	81	4.02	74	4.49	62	4.13	77	3.54
Armenia	82	4.01	81	4.39	84	3.84	101	3.33
Lao PDR	83	4.00	86	4.30	106	3.58	103	3.32
Moldova	84	4.00	89	4.28	94	3.76	128	2.93
Namibia	85	3.99	79	4.43	97	3.72	79	3.52
Jamaica	86	3.97	94	4.16	79	3.89	63	3.62
Algeria	87	3.97	82	4.37	117	3.44	124	3.02
Honduras	88	3.95	98	4.12	93	3.76	53	3.75
Trinidad and Tobago	89	3.94	62	4.65	78	3.93	81	3.49
Cambodia	90	3.94	93	4.19	101	3.63	121	3.05
Côte d'Ivoire	91	3.93	102	4.08	96	3.74	73	3.55
Tunisia	92	3.93	78	4.43	98	3.65	110	3.26
Albania	93	3.93	87	4.29	89	3.78	115	3.21
Serbia	94	3.89	96	4.15	83	3.85	125	3.02
El Salvador	95	3.87	88	4.28	102	3.62	80	3.51
Zambia	96	3.87	110	3.92	87	3.81	68	3.58
Seychelles	97	3.86	52	4.80	108	3.54	70	3.57
Dominican Republic	98	3.86	100	4.10	92	3.76	97	3.36
Kenya	99	3.85	116	3.76	73	3.99	42	3.93
Nepal	100	3.85	97	4.14	111	3.48	127	2.99
Lebanon	101	3.84	121	3.70	71	4.03	67	3.58
Kyrgyz Republic	102	3.83	106	4.01	99	3.65	122	3.04
Gabon	103	3.83	83	4.34	123	3.35	129	2.92
Mongolia	104	3.81	112	3.84	80	3.88	107	3.28
Bhutan	105	3.80	90	4.25	116	3.45	105	3.29
Argentina	106	3.79	104	4.07	88	3.80	99	3.36
Bangladesh	107	3.76	109	3.93	105	3.58	123	3.04
Nicaragua	108	3.75	99	4.11	124	3.28	133	2.77
Ethiopia	109	3.75	108	3.95	114	3.45	95	3.37
Senegal	110	3.73	114	3.80	103	3.61	54	3.75
Bosnia and Herzegovina	111	3.71	95	4.15	112	3.48	120	3.05
Cape Verde	112	3.70	92	4.22	122	3.37	104	3.30
Lesotho	113	3.70	105	4.02	130	3.19	91	3.43
Cameroon	114	3.69	113	3.83	113	3.48	93	3.40
Uganda	115	3.66	117	3.76	109	3.54	100	3.35
Egypt	116	3.66	115	3.79	100	3.64	113	3.23
Bolivia	117	3.60	107	3.98	121	3.39	117	3.16
Paraguay	118	3.60	111	3.84	110	3.53	131	2.90
Ghana	119	3.58	127	3.48	95	3.76	65	3.60
Tanzania	120	3.57	123	3.69	120	3.41	112	3.23
Guyana	121	3.56	122	3.69	115	3.45	74	3.54
Benin	122	3.55	118	3.73	125	3.27	96	3.37
Gambia, The	123	3.48	126	3.51	118	3.44	75	3.54
Nigeria	124	3.46	136	3.19	81	3.87	114	3.22
Zimbabwe	125	3.45	120	3.70	134	3.11	130	2.90
Pakistan	126	3.45	131	3.37	107	3.57	89	3.44
Mali	127	3.44	124	3.56	126	3.27	109	3.27
Swaziland	128	3.40	119	3.71	128	3.24	126	3.02
Liberia	129	3.37	125	3.51	133	3.12	98	3.36
Madagascar	130	3.32	130	3.40	129	3.21	116	3.20
Myanmar	131	3.32	128	3.45	131	3.17	134	2.71
Venezuela	132	3.30	133	3.28	119	3.43	135	2.71
Mozambique	133	3.20	135	3.22	132	3.16	108	3.28
Haiti	134	3.18	132	3.29	135	3.07	139	2.54
Malawi	135	3.15	138	3.11	127	3.24	119	3.05
Burundi	136	3.11	129	3.43	140	2.62	136	2.68
Sierra Leone	137	3.06	137	3.13	136	2.98	132	2.82
Mauritania	138	3.03	134	3.26	139	2.72	140	2.47
Chad	139	2.96	139	3.08	138	2.82	137	2.59
Guinea	140	2.84	140	2.84	137	2.88	138	2.55

Note: Ranks out of 140 economies and scores measured on a 1-to-7 scale.

Table 3: The Global Competitiveness Index 2015–2016: Basic requirements

Country/Economy	PILLARS									
	BASIC REQUIREMENTS		1. Institutions		2. Infrastructure		3. Macroeconomic environment		4. Health and primary education	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Albania	87	4.29	84	3.68	88	3.55	118	3.96	52	5.97
Algeria	82	4.37	99	3.49	105	3.08	38	5.35	81	5.58
Argentina	104	4.07	135	2.86	87	3.58	114	4.07	68	5.75
Armenia	81	4.39	76	3.78	82	3.72	72	4.71	95	5.35
Australia	15	5.79	19	5.31	16	5.66	28	5.62	9	6.54
Austria	20	5.61	21	5.19	15	5.71	45	5.13	19	6.41
Azerbaijan	43	4.92	64	3.94	65	4.15	10	6.35	102	5.22
Bahrain	32	5.21	26	4.92	29	5.10	82	4.60	35	6.20
Bangladesh	109	3.93	132	2.94	123	2.56	49	4.98	101	5.24
Belgium	23	5.56	22	5.17	21	5.55	65	4.79	3	6.73
Benin	118	3.73	90	3.62	130	2.26	88	4.45	117	4.58
Bhutan	90	4.25	33	4.60	92	3.41	126	3.60	89	5.39
Bolivia	107	3.98	110	3.34	107	3.07	63	4.81	109	4.71
Bosnia and Herzegovina	95	4.15	127	3.18	103	3.08	98	4.32	48	6.03
Botswana	61	4.65	37	4.43	96	3.25	9	6.46	119	4.46
Brazil	103	4.07	121	3.23	74	3.92	117	4.01	103	5.13
Bulgaria	68	4.57	107	3.39	72	4.00	53	4.94	53	5.97
Burundi	129	3.43	134	2.90	136	2.01	110	4.11	110	4.71
Cambodia	93	4.19	111	3.33	101	3.19	64	4.80	87	5.44
Cameroon	113	3.83	93	3.58	125	2.45	90	4.41	107	4.88
Canada	16	5.77	16	5.44	14	5.73	39	5.34	7	6.58
Cape Verde	92	4.22	66	3.94	94	3.33	124	3.61	51	5.99
Chad	139	3.08	137	2.80	140	1.73	113	4.07	132	3.72
Chile	36	5.12	32	4.64	45	4.60	29	5.61	74	5.64
China	28	5.37	51	4.15	39	4.73	8	6.52	44	6.09
Colombia	77	4.46	114	3.31	84	3.67	32	5.53	97	5.32
Costa Rica	64	4.63	49	4.17	71	4.03	94	4.37	55	5.94
Côte d'Ivoire	102	4.08	62	4.03	85	3.63	74	4.70	129	3.95
Croatia	69	4.56	89	3.63	46	4.59	107	4.19	63	5.85
Cyprus	51	4.83	43	4.28	50	4.46	109	4.16	17	6.42
Czech Republic	31	5.26	57	4.09	41	4.70	21	5.97	27	6.31
Denmark	12	5.91	15	5.45	22	5.54	11	6.29	21	6.36
Dominican Republic	100	4.09	118	3.27	100	3.21	57	4.85	104	5.04
Ecuador	71	4.54	105	3.42	67	4.14	75	4.70	59	5.91
Egypt	115	3.79	87	3.65	91	3.42	137	2.77	96	5.34
El Salvador	88	4.28	117	3.28	60	4.21	100	4.28	94	5.37
Estonia	21	5.60	25	5.03	33	4.87	15	6.15	22	6.34
Ethiopia	108	3.95	83	3.69	121	2.62	76	4.69	108	4.80
Finland	11	5.94	1	6.10	25	5.45	36	5.37	1	6.87
France	26	5.48	29	4.78	8	6.04	77	4.66	16	6.43
Gabon	83	4.34	78	3.76	110	2.93	18	6.01	111	4.66
Gambia, The	126	3.51	42	4.28	95	3.29	138	2.69	131	3.76
Georgia	50	4.83	40	4.38	61	4.20	51	4.95	65	5.79
Germany	8	5.95	20	5.22	7	6.12	20	5.98	13	6.48
Ghana	127	3.48	72	3.86	115	2.74	136	2.79	118	4.53
Greece	74	4.48	81	3.72	34	4.83	132	3.26	41	6.13
Guatemala	91	4.23	113	3.32	77	3.84	59	4.83	105	4.94
Guinea	140	2.84	136	2.83	139	1.79	129	3.51	138	3.26
Guyana	122	3.69	102	3.43	108	3.01	120	3.73	115	4.59
Haiti	132	3.29	138	2.80	137	1.92	102	4.22	125	4.24
Honduras	98	4.12	88	3.64	93	3.39	112	4.08	92	5.38
Hong Kong SAR	3	6.20	8	5.72	1	6.69	16	6.10	29	6.28
Hungary	59	4.67	97	3.52	48	4.51	52	4.94	72	5.71
Iceland	19	5.66	18	5.32	19	5.57	42	5.20	8	6.55
India	80	4.41	60	4.06	81	3.72	91	4.40	84	5.48
Indonesia	49	4.84	55	4.09	62	4.19	33	5.50	80	5.59
Iran, Islamic Rep.	63	4.64	94	3.58	63	4.16	66	4.78	47	6.05
Ireland	27	5.46	12	5.53	27	5.34	87	4.45	12	6.51
Israel	38	5.09	41	4.36	32	4.89	50	4.98	39	6.15
Italy	53	4.80	106	3.42	26	5.38	111	4.09	26	6.32
Jamaica	94	4.16	80	3.74	79	3.74	131	3.45	70	5.71
Japan	24	5.52	13	5.51	5	6.21	121	3.67	4	6.68
Jordan	75	4.48	36	4.45	70	4.05	130	3.45	54	5.97
Kazakhstan	46	4.87	50	4.16	58	4.25	25	5.72	93	5.37
Kenya	116	3.76	91	3.61	99	3.22	123	3.63	114	4.60
Korea, Rep.	18	5.66	69	3.90	13	5.82	5	6.58	23	6.34
Kuwait	33	5.18	56	4.09	54	4.32	3	6.72	79	5.60
Kyrgyz Republic	106	4.01	115	3.29	114	2.84	80	4.62	98	5.30
Lao PDR	86	4.30	71	3.87	98	3.23	70	4.73	90	5.39
Latvia	37	5.10	48	4.18	49	4.47	31	5.56	37	6.18

(Cont'd.)



Table 3: The Global Competitiveness Index 2015–2016: Basic requirements (cont'd.)

Country/Economy	PILLARS									
	BASIC REQUIREMENTS		1. Institutions		2. Infrastructure		3. Macroeconomic environment		4. Health and primary education	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Lebanon	121	3.70	128	3.15	116	2.73	139	2.63	30	6.28
Lesotho	105	4.02	45	4.24	113	2.86	44	5.14	130	3.85
Liberia	125	3.51	68	3.92	122	2.61	105	4.20	136	3.30
Lithuania	35	5.14	53	4.12	42	4.68	30	5.56	36	6.19
Luxembourg	9	5.95	6	5.78	17	5.66	14	6.16	34	6.20
Macedonia, FYR	60	4.65	52	4.14	78	3.77	47	5.09	76	5.61
Madagascar	130	3.40	129	3.14	138	1.88	101	4.27	123	4.31
Malawi	138	3.11	92	3.60	135	2.04	140	2.44	121	4.38
Malaysia	22	5.59	23	5.13	24	5.51	35	5.41	24	6.33
Mali	124	3.56	98	3.52	106	3.07	86	4.47	139	3.17
Malta	34	5.17	35	4.52	43	4.66	43	5.18	25	6.33
Mauritania	134	3.26	139	2.64	124	2.47	95	4.35	134	3.59
Mauritius	39	5.04	34	4.53	37	4.80	73	4.71	42	6.11
Mexico	73	4.53	109	3.34	59	4.22	56	4.85	71	5.71
Moldova	89	4.28	123	3.20	83	3.69	55	4.86	91	5.39
Mongolia	112	3.84	95	3.56	112	2.86	133	3.22	69	5.72
Montenegro	58	4.67	70	3.89	73	3.98	79	4.62	33	6.21
Morocco	55	4.73	47	4.19	55	4.30	58	4.83	77	5.61
Mozambique	135	3.22	126	3.18	126	2.43	122	3.66	133	3.60
Myanmar	128	3.45	133	2.92	134	2.09	106	4.19	113	4.61
Namibia	79	4.43	44	4.27	66	4.14	71	4.72	116	4.59
Nepal	97	4.14	103	3.43	131	2.15	37	5.35	75	5.62
Netherlands	7	6.05	10	5.60	3	6.30	26	5.70	6	6.60
New Zealand	10	5.95	3	5.99	28	5.25	22	5.93	5	6.63
Nicaragua	99	4.11	125	3.18	102	3.18	62	4.81	99	5.28
Nigeria	136	3.19	124	3.19	133	2.10	81	4.61	140	2.86
Norway	6	6.06	5	5.85	31	5.03	1	6.83	10	6.53
Oman	29	5.33	31	4.73	36	4.81	19	5.99	66	5.78
Pakistan	131	3.37	119	3.27	117	2.71	128	3.51	127	4.00
Panama	54	4.73	73	3.85	40	4.73	60	4.83	82	5.54
Paraguay	111	3.84	131	2.95	118	2.70	48	5.07	112	4.66
Peru	76	4.48	116	3.28	89	3.49	23	5.86	100	5.28
Philippines	66	4.60	77	3.78	90	3.44	24	5.74	86	5.45
Poland	44	4.91	58	4.07	56	4.30	46	5.11	40	6.15
Portugal	41	4.94	39	4.39	23	5.53	127	3.57	31	6.28
Qatar	5	6.13	4	5.86	18	5.62	2	6.72	28	6.31
Romania	70	4.55	86	3.66	86	3.61	34	5.44	83	5.49
Russian Federation	47	4.87	100	3.46	35	4.81	40	5.29	56	5.94
Rwanda	65	4.60	17	5.39	97	3.24	92	4.40	88	5.39
Saudi Arabia	17	5.70	24	5.07	30	5.09	4	6.63	49	6.01
Senegal	114	3.80	63	3.99	109	3.00	103	4.22	128	4.00
Serbia	96	4.15	120	3.24	75	3.87	125	3.60	62	5.87
Seychelles	52	4.80	61	4.04	47	4.51	61	4.82	64	5.84
Sierra Leone	137	3.13	122	3.21	132	2.11	119	3.89	137	3.29
Singapore	1	6.36	2	6.01	2	6.49	12	6.21	2	6.74
Slovak Republic	56	4.73	104	3.43	57	4.28	41	5.21	50	6.01
Slovenia	45	4.90	67	3.93	38	4.79	89	4.45	15	6.44
South Africa	85	4.32	38	4.42	68	4.12	85	4.50	126	4.22
Spain	40	5.04	65	3.94	10	5.93	116	4.03	32	6.24
Sri Lanka	67	4.60	59	4.06	64	4.16	115	4.06	43	6.10
Swaziland	119	3.71	74	3.85	104	3.08	93	4.38	135	3.52
Sweden	13	5.90	11	5.58	20	5.56	17	6.08	20	6.39
Switzerland	2	6.26	7	5.77	6	6.20	6	6.54	11	6.53
Taiwan, China	14	5.84	27	4.86	12	5.87	13	6.16	14	6.47
Tajikistan	84	4.32	54	4.10	111	2.93	78	4.64	78	5.61
Tanzania	123	3.69	96	3.54	127	2.41	84	4.53	124	4.28
Thailand	42	4.94	82	3.69	44	4.62	27	5.68	67	5.76
Trinidad and Tobago	62	4.65	108	3.37	51	4.46	54	4.87	60	5.90
Tunisia	78	4.43	79	3.76	80	3.73	97	4.33	58	5.92
Turkey	57	4.68	75	3.84	53	4.43	68	4.75	73	5.69
Uganda	117	3.76	101	3.45	128	2.37	67	4.76	120	4.46
Ukraine	101	4.08	130	3.07	69	4.07	134	3.12	45	6.06
United Arab Emirates	4	6.17	9	5.71	4	6.30	7	6.53	38	6.15
United Kingdom	25	5.52	14	5.46	9	6.03	108	4.17	18	6.41
United States	30	5.27	28	4.82	11	5.87	96	4.35	46	6.05
Uruguay	48	4.85	30	4.74	52	4.44	99	4.31	57	5.93
Venezuela	133	3.28	140	2.09	119	2.63	135	2.92	85	5.48
Vietnam	72	4.54	85	3.68	76	3.84	69	4.74	61	5.89
Zambia	110	3.92	46	4.20	120	2.63	83	4.53	122	4.33
Zimbabwe	120	3.70	112	3.32	129	2.35	104	4.20	106	4.94

Note: Ranks out of 140 economies and scores measured on a 1-to-7 scale.

Table 4: The Global Competitiveness Index 2015–2016: Efficiency enhancers

Country/Economy	PILLARS													
	EFFICIENCY ENHANCERS		5. Higher education and training		6. Goods market efficiency		7. Labor market efficiency		8. Financial market development		9. Technological readiness		10. Market size	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Albania	89	3.78	47	4.74	63	4.34	97	3.97	118	3.24	89	3.40	104	2.97
Algeria	117	3.44	99	3.75	134	3.51	135	3.23	135	2.77	126	2.63	37	4.75
Argentina	88	3.80	39	4.89	138	3.12	139	3.10	132	2.81	69	3.86	27	5.00
Armenia	84	3.84	72	4.26	50	4.46	58	4.30	94	3.53	75	3.67	116	2.81
Australia	14	5.21	8	5.84	27	4.79	36	4.51	7	5.36	21	5.65	22	5.13
Austria	24	4.89	16	5.58	24	4.89	40	4.47	47	4.21	24	5.62	42	4.59
Azerbaijan	69	4.05	89	3.90	66	4.31	30	4.57	114	3.33	57	4.26	67	3.90
Bahrain	35	4.60	44	4.82	18	5.04	24	4.73	33	4.42	34	5.29	92	3.27
Bangladesh	105	3.58	122	2.86	101	4.07	121	3.69	90	3.57	127	2.62	40	4.68
Belgium	18	5.09	5	5.94	14	5.14	54	4.35	36	4.40	14	5.91	34	4.80
Benin	125	3.27	121	2.93	122	3.83	59	4.30	103	3.43	130	2.49	122	2.62
Bhutan	116	3.45	103	3.58	107	4.02	23	4.76	86	3.62	111	2.89	136	1.83
Bolivia	121	3.39	101	3.70	132	3.51	129	3.39	104	3.43	110	2.89	84	3.41
Bosnia and Herzegovina	112	3.48	97	3.77	129	3.69	131	3.36	113	3.34	79	3.60	97	3.13
Botswana	91	3.77	100	3.73	95	4.14	39	4.49	63	3.96	91	3.34	105	2.97
Brazil	55	4.23	93	3.85	128	3.72	122	3.68	58	3.99	54	4.39	7	5.78
Bulgaria	50	4.31	64	4.48	61	4.35	68	4.23	59	3.98	38	4.87	65	3.91
Burundi	140	2.62	139	2.14	133	3.51	102	3.89	140	2.24	139	2.10	135	1.87
Cambodia	101	3.63	123	2.84	93	4.15	38	4.49	66	3.92	105	3.04	90	3.33
Cameroon	113	3.48	114	3.24	113	3.97	79	4.13	98	3.49	122	2.68	87	3.35
Canada	6	5.45	19	5.52	15	5.13	7	5.29	4	5.47	18	5.83	14	5.45
Cape Verde	122	3.37	81	4.08	99	4.07	125	3.59	111	3.37	77	3.64	138	1.50
Chad	138	2.82	138	2.19	139	3.11	106	3.82	130	2.83	140	2.05	111	2.91
Chile	31	4.67	33	5.03	40	4.62	63	4.29	21	4.65	39	4.85	44	4.56
China	32	4.66	68	4.33	58	4.37	37	4.50	54	4.08	74	3.70	1	6.98
Colombia	54	4.26	70	4.30	108	4.00	86	4.06	25	4.61	70	3.82	36	4.77
Costa Rica	57	4.20	35	4.97	67	4.31	70	4.23	85	3.65	49	4.59	83	3.43
Côte d'Ivoire	96	3.74	108	3.36	75	4.27	69	4.23	60	3.98	102	3.13	81	3.46
Croatia	68	4.05	51	4.62	105	4.05	105	3.83	88	3.59	43	4.65	79	3.59
Cyprus	59	4.18	41	4.88	28	4.76	34	4.55	108	3.41	45	4.64	112	2.87
Czech Republic	26	4.78	29	5.10	37	4.63	47	4.44	24	4.62	29	5.43	47	4.47
Denmark	16	5.15	9	5.79	20	5.01	10	5.11	22	4.64	9	6.11	55	4.26
Dominican Republic	92	3.76	96	3.80	97	4.09	108	3.81	93	3.53	84	3.52	70	3.83
Ecuador	86	3.82	67	4.33	126	3.77	112	3.76	92	3.54	83	3.54	63	4.00
Egypt	100	3.64	111	3.25	115	3.95	137	3.15	119	3.23	98	3.19	24	5.07
El Salvador	102	3.62	105	3.56	86	4.19	124	3.61	89	3.57	81	3.55	93	3.25
Estonia	28	4.74	20	5.50	22	4.93	15	5.00	23	4.63	32	5.32	98	3.09
Ethiopia	114	3.45	129	2.74	102	4.07	62	4.29	116	3.27	132	2.46	68	3.88
Finland	13	5.22	2	6.13	21	4.97	26	4.70	6	5.40	13	5.98	59	4.17
France	19	5.08	25	5.30	35	4.64	51	4.39	29	4.53	16	5.88	8	5.76
Gabon	123	3.35	125	2.78	124	3.78	71	4.22	97	3.49	112	2.88	110	2.91
Gambia, The	118	3.44	91	3.85	77	4.26	33	4.55	96	3.53	107	3.00	139	1.43
Georgia	77	3.96	87	4.00	48	4.48	32	4.56	68	3.87	72	3.81	99	3.05
Germany	10	5.31	17	5.57	23	4.92	28	4.64	18	4.71	12	6.01	5	6.02
Ghana	95	3.76	104	3.57	87	4.19	94	4.01	76	3.78	96	3.24	74	3.74
Greece	62	4.13	43	4.84	89	4.18	116	3.74	131	2.81	36	4.92	52	4.31
Guatemala	74	3.99	102	3.62	43	4.58	90	4.05	27	4.58	90	3.36	73	3.75
Guinea	137	2.88	137	2.19	135	3.49	91	4.04	137	2.75	134	2.38	128	2.42
Guyana	115	3.45	74	4.12	94	4.15	111	3.78	83	3.67	104	3.08	134	1.90
Haiti	135	3.07	107	3.39	137	3.19	76	4.16	136	2.75	136	2.34	125	2.57
Honduras	93	3.76	94	3.81	68	4.31	120	3.71	38	4.39	97	3.24	96	3.13
Hong Kong SAR	3	5.57	13	5.63	2	5.70	3	5.56	3	5.50	8	6.13	32	4.87
Hungary	49	4.31	57	4.56	72	4.29	77	4.15	65	3.93	48	4.60	51	4.32
Iceland	33	4.65	11	5.75	31	4.65	12	5.08	67	3.89	6	6.15	129	2.39
India	58	4.19	90	3.87	91	4.17	103	3.86	53	4.08	120	2.73	3	6.44
Indonesia	46	4.34	65	4.45	55	4.43	115	3.74	49	4.19	85	3.49	10	5.74
Iran, Islamic Rep.	90	3.77	69	4.31	109	3.99	138	3.15	134	2.77	99	3.17	19	5.24
Ireland	20	5.06	15	5.59	7	5.41	13	5.05	61	3.98	11	6.08	57	4.23
Israel	27	4.75	28	5.10	57	4.42	45	4.45	26	4.59	20	5.68	54	4.27
Italy	43	4.39	45	4.81	71	4.29	126	3.46	117	3.25	37	4.90	12	5.61
Jamaica	79	3.89	84	4.05	74	4.27	65	4.28	32	4.42	82	3.54	117	2.80
Japan	8	5.33	21	5.41	11	5.24	21	4.80	19	4.71	19	5.72	4	6.10
Jordan	67	4.09	50	4.70	39	4.63	93	4.03	71	3.84	76	3.65	76	3.66
Kazakhstan	45	4.36	60	4.53	49	4.48	18	4.90	91	3.56	61	4.19	46	4.51
Kenya	73	3.99	98	3.76	84	4.23	31	4.56	42	4.29	94	3.30	71	3.80
Korea, Rep.	25	4.82	23	5.36	26	4.81	83	4.08	87	3.60	27	5.50	13	5.56
Kuwait	72	4.03	85	4.01	98	4.08	117	3.73	73	3.82	56	4.33	58	4.20
Kyrgyz Republic	99	3.65	80	4.09	81	4.23	88	4.06	102	3.44	95	3.27	118	2.78
Lao PDR	106	3.58	112	3.24	76	4.27	44	4.45	74	3.81	119	2.76	109	2.92
Latvia	39	4.56	32	5.05	34	4.64	25	4.72	37	4.39	33	5.29	94	3.24

(Cont'd.)

Table 4: The Global Competitiveness Index 2015–2016: Efficiency enhancers (cont'd.)

Country/Economy	PILLARS													
	EFFICIENCY ENHANCERS		5. Higher education and training		6. Goods market efficiency		7. Labor market efficiency		8. Financial market development		9. Technological readiness		10. Market size	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Lebanon	71	4.03	58	4.55	56	4.43	109	3.80	78	3.76	66	3.99	77	3.64
Lesotho	130	3.19	116	3.18	88	4.19	75	4.16	127	2.97	123	2.67	133	1.99
Liberia	133	3.12	126	2.77	78	4.25	61	4.30	109	3.38	135	2.36	137	1.67
Lithuania	36	4.59	24	5.35	36	4.64	53	4.35	57	3.99	22	5.63	78	3.61
Luxembourg	23	5.00	40	4.89	4	5.54	16	4.93	11	5.04	1	6.42	95	3.18
Macedonia, FYR	64	4.11	46	4.79	33	4.65	84	4.07	52	4.09	63	4.15	108	2.94
Madagascar	129	3.21	131	2.64	119	3.90	42	4.46	133	2.79	129	2.52	106	2.96
Malawi	127	3.24	133	2.53	117	3.94	29	4.60	100	3.47	133	2.38	127	2.52
Malaysia	22	5.01	36	4.97	6	5.42	19	4.86	9	5.16	47	4.63	26	5.05
Mali	126	3.27	127	2.76	110	3.98	113	3.76	105	3.42	114	2.85	113	2.83
Malta	42	4.39	42	4.85	42	4.59	55	4.34	40	4.37	23	5.62	123	2.61
Mauritania	139	2.72	140	2.13	136	3.37	136	3.18	139	2.40	121	2.68	124	2.58
Mauritius	61	4.17	52	4.62	25	4.85	57	4.31	34	4.42	65	4.06	119	2.78
Mexico	53	4.27	86	4.00	82	4.23	114	3.75	46	4.24	73	3.77	11	5.65
Moldova	94	3.76	79	4.09	103	4.06	85	4.07	115	3.28	53	4.39	121	2.68
Mongolia	80	3.88	62	4.50	79	4.24	41	4.46	125	3.04	67	3.98	100	3.04
Montenegro	75	3.97	54	4.58	70	4.30	74	4.18	44	4.26	55	4.33	131	2.20
Morocco	82	3.86	106	3.42	64	4.33	123	3.62	70	3.86	78	3.62	53	4.31
Mozambique	132	3.16	136	2.35	112	3.97	98	3.96	126	2.99	124	2.66	101	3.04
Myanmar	131	3.17	134	2.49	130	3.62	73	4.19	138	2.40	138	2.16	60	4.16
Namibia	97	3.72	109	3.30	85	4.20	49	4.41	50	4.18	87	3.42	114	2.82
Nepal	111	3.48	113	3.24	114	3.96	99	3.91	72	3.83	128	2.62	88	3.34
Netherlands	9	5.31	3	6.03	10	5.34	17	4.90	31	4.43	10	6.10	23	5.07
New Zealand	7	5.33	10	5.78	8	5.39	6	5.29	1	5.73	15	5.90	66	3.91
Nicaragua	124	3.28	119	3.07	125	3.77	119	3.71	112	3.34	116	2.81	107	2.95
Nigeria	81	3.87	128	2.75	100	4.07	35	4.55	79	3.75	106	3.03	25	5.07
Norway	11	5.29	7	5.85	19	5.01	9	5.12	8	5.21	7	6.14	49	4.41
Oman	63	4.13	88	3.90	52	4.45	89	4.06	45	4.24	62	4.18	64	3.94
Pakistan	107	3.57	124	2.82	116	3.95	132	3.34	99	3.47	113	2.88	28	4.96
Panama	52	4.29	77	4.10	41	4.59	80	4.13	15	4.91	52	4.44	80	3.54
Paraguay	110	3.53	115	3.21	90	4.17	110	3.78	80	3.75	109	2.97	91	3.33
Peru	60	4.18	82	4.07	60	4.36	64	4.29	30	4.53	88	3.40	48	4.44
Philippines	51	4.30	63	4.48	80	4.24	82	4.09	48	4.21	68	3.91	30	4.89
Poland	34	4.64	31	5.05	46	4.51	81	4.11	43	4.26	41	4.78	21	5.16
Portugal	37	4.56	26	5.19	32	4.65	66	4.27	107	3.41	26	5.54	50	4.33
Qatar	21	5.05	27	5.12	5	5.52	14	5.00	13	5.02	31	5.41	56	4.25
Romania	44	4.37	59	4.55	73	4.28	78	4.13	55	4.05	46	4.63	43	4.57
Russian Federation	40	4.53	38	4.96	92	4.16	50	4.40	95	3.53	60	4.22	6	5.93
Rwanda	85	3.84	120	3.05	44	4.57	8	5.21	28	4.54	103	3.12	126	2.53
Saudi Arabia	30	4.69	49	4.73	29	4.70	60	4.30	41	4.32	42	4.70	17	5.40
Senegal	103	3.61	110	3.25	69	4.30	72	4.19	75	3.80	100	3.15	103	3.00
Serbia	83	3.85	71	4.27	127	3.74	118	3.72	120	3.23	51	4.47	75	3.70
Seychelles	108	3.54	92	3.85	65	4.33	43	4.45	106	3.41	71	3.81	140	1.40
Sierra Leone	136	2.98	132	2.54	123	3.79	104	3.84	123	3.06	137	2.34	130	2.33
Singapore	2	5.70	1	6.20	1	5.72	2	5.71	2	5.57	5	6.20	35	4.78
Slovak Republic	47	4.34	53	4.62	54	4.43	100	3.90	35	4.41	44	4.64	62	4.03
Slovenia	56	4.21	22	5.41	47	4.50	95	4.00	128	2.85	35	5.14	85	3.39
South Africa	41	4.51	83	4.07	38	4.63	107	3.82	12	5.03	50	4.56	29	4.94
Spain	29	4.71	30	5.08	62	4.35	92	4.04	77	3.78	25	5.56	15	5.42
Sri Lanka	76	3.96	66	4.38	51	4.45	130	3.37	51	4.12	93	3.31	61	4.14
Swaziland	128	3.24	118	3.11	111	3.98	101	3.90	82	3.68	125	2.64	132	2.11
Sweden	12	5.24	12	5.67	17	5.08	20	4.82	14	4.99	4	6.24	41	4.64
Switzerland	4	5.55	4	6.00	9	5.38	1	5.80	10	5.10	2	6.31	39	4.69
Taiwan, China	15	5.19	14	5.60	13	5.19	22	4.77	17	4.82	28	5.49	20	5.24
Tajikistan	104	3.60	75	4.12	96	4.12	48	4.42	110	3.38	115	2.81	120	2.72
Tanzania	120	3.41	135	2.47	121	3.89	46	4.44	101	3.45	131	2.46	72	3.76
Thailand	38	4.56	56	4.57	30	4.69	67	4.23	39	4.38	58	4.24	18	5.25
Trinidad and Tobago	78	3.93	73	4.26	104	4.05	96	3.97	56	4.04	59	4.23	102	3.03
Tunisia	98	3.65	76	4.12	118	3.92	133	3.33	122	3.11	80	3.57	69	3.87
Turkey	48	4.33	55	4.58	45	4.53	127	3.46	64	3.93	64	4.08	16	5.41
Uganda	109	3.54	130	2.71	120	3.90	27	4.65	81	3.74	117	2.80	82	3.43
Ukraine	65	4.09	34	5.03	106	4.02	56	4.33	121	3.18	86	3.45	45	4.54
United Arab Emirates	17	5.11	37	4.97	3	5.59	11	5.10	20	4.70	30	5.43	31	4.89
United Kingdom	5	5.49	18	5.56	12	5.22	5	5.31	16	4.83	3	6.30	9	5.74
United States	1	5.76	6	5.87	16	5.10	4	5.40	5	5.45	17	5.85	2	6.91
Uruguay	66	4.09	48	4.74	59	4.37	128	3.41	69	3.86	40	4.81	86	3.36
Venezuela	119	3.43	61	4.52	140	2.81	140	2.59	129	2.84	101	3.14	38	4.70
Vietnam	70	4.04	95	3.80	83	4.23	52	4.38	84	3.65	92	3.32	33	4.84
Zambia	87	3.81	78	4.09	53	4.43	87	4.06	62	3.96	108	3.00	89	3.34
Zimbabwe	134	3.11	117	3.14	131	3.54	134	3.29	124	3.06	118	2.79	115	2.81

Note: Ranks out of 140 economies and scores measured on a 1-to-7 scale.

Table 5: The Global Competitiveness Index 2015–2016: Innovation and sophistication factors

Country/Economy	PILLARS					
	INNOVATION AND SOPHISTICATION FACTORS		11. Business sophistication		12. Innovation	
	Rank	Score	Rank	Score	Rank	Score
Albania	115	3.21	95	3.65	118	2.76
Algeria	124	3.02	128	3.29	119	2.76
Argentina	99	3.36	101	3.62	93	3.11
Armenia	101	3.33	97	3.65	107	3.02
Australia	26	4.61	27	4.70	23	4.53
Austria	14	5.16	8	5.43	17	4.90
Azerbaijan	66	3.59	73	3.86	61	3.33
Bahrain	43	3.92	32	4.43	56	3.41
Bangladesh	123	3.04	117	3.43	127	2.65
Belgium	15	5.14	12	5.33	16	4.96
Benin	96	3.37	109	3.52	82	3.21
Bhutan	105	3.29	99	3.63	111	2.94
Bolivia	117	3.16	116	3.43	114	2.89
Bosnia and Herzegovina	120	3.05	125	3.31	115	2.79
Botswana	111	3.26	111	3.48	102	3.04
Brazil	64	3.62	56	4.08	84	3.16
Bulgaria	94	3.37	98	3.64	94	3.11
Burundi	136	2.68	136	2.91	133	2.46
Cambodia	121	3.05	122	3.35	122	2.74
Cameroon	93	3.40	103	3.59	79	3.22
Canada	24	4.77	22	4.94	22	4.60
Cape Verde	104	3.30	106	3.54	100	3.06
Chad	137	2.59	139	2.73	135	2.45
Chile	50	3.81	53	4.14	50	3.47
China	34	4.11	38	4.32	31	3.89
Colombia	61	3.65	59	4.06	76	3.24
Costa Rica	38	4.01	37	4.34	39	3.68
Côte d'Ivoire	73	3.55	93	3.69	53	3.41
Croatia	90	3.43	84	3.74	92	3.13
Cyprus	45	3.91	47	4.21	44	3.60
Czech Republic	32	4.14	30	4.49	35	3.79
Denmark	10	5.25	9	5.39	10	5.11
Dominican Republic	97	3.36	76	3.81	112	2.92
Ecuador	87	3.44	87	3.73	86	3.15
Egypt	113	3.23	89	3.71	120	2.75
El Salvador	80	3.51	64	3.95	99	3.06
Estonia	31	4.15	43	4.26	29	4.03
Ethiopia	95	3.37	108	3.53	81	3.21
Finland	5	5.50	14	5.28	2	5.73
France	20	4.97	20	5.06	18	4.88
Gabon	129	2.92	129	3.21	129	2.63
Gambia, The	75	3.54	67	3.94	88	3.14
Georgia	118	3.10	112	3.48	123	2.71
Germany	3	5.61	3	5.70	6	5.51
Ghana	65	3.60	70	3.90	65	3.31
Greece	77	3.54	74	3.84	77	3.23
Guatemala	60	3.67	49	4.20	91	3.13
Guinea	138	2.55	137	2.85	139	2.25
Guyana	74	3.54	75	3.81	71	3.27
Haiti	139	2.54	138	2.80	138	2.28
Honduras	53	3.75	54	4.09	55	3.41
Hong Kong SAR	23	4.80	16	5.20	27	4.40
Hungary	69	3.57	90	3.70	51	3.44
Iceland	27	4.58	28	4.69	25	4.47
India	46	3.90	52	4.15	42	3.65
Indonesia	33	4.14	36	4.35	30	3.94
Iran, Islamic Rep.	102	3.33	110	3.52	90	3.14
Ireland	19	4.98	17	5.14	21	4.81
Israel	8	5.29	23	4.93	3	5.65
Italy	28	4.35	24	4.84	32	3.86
Jamaica	63	3.62	66	3.95	67	3.29
Japan	2	5.66	2	5.77	5	5.54
Jordan	40	3.99	40	4.31	40	3.67
Kazakhstan	78	3.53	79	3.79	72	3.27
Kenya	42	3.93	48	4.21	41	3.65
Korea, Rep.	22	4.82	26	4.80	19	4.83
Kuwait	82	3.48	63	3.98	109	2.99
Kyrgyz Republic	122	3.04	118	3.41	125	2.67
Lao PDR	103	3.32	96	3.65	108	2.99
Latvia	58	3.69	60	4.06	62	3.33
Lebanon	67	3.58	61	4.05	95	3.10
Lesotho	91	3.43	105	3.58	70	3.28
Liberia	98	3.36	92	3.69	104	3.03
Lithuania	37	4.02	39	4.32	36	3.73
Luxembourg	18	5.04	19	5.10	15	4.98
Macedonia, FYR	62	3.62	72	3.87	58	3.38
Madagascar	116	3.20	119	3.37	106	3.03
Malawi	119	3.05	121	3.37	121	2.74
Malaysia	17	5.05	13	5.29	20	4.82
Mali	109	3.27	115	3.43	96	3.10
Malta	49	3.86	46	4.22	49	3.50
Mauritania	140	2.47	140	2.72	140	2.23
Mauritius	51	3.79	34	4.36	78	3.23
Mexico	52	3.78	50	4.18	59	3.38
Moldova	128	2.93	127	3.29	130	2.56
Mongolia	107	3.28	113	3.46	97	3.10
Montenegro	86	3.45	102	3.62	69	3.28
Morocco	92	3.42	82	3.77	98	3.07
Mozambique	108	3.28	120	3.37	83	3.18
Myanmar	134	2.71	135	2.94	132	2.47
Namibia	79	3.52	77	3.81	74	3.24
Nepal	127	2.99	126	3.31	126	2.66
Netherlands	6	5.46	5	5.56	8	5.37
New Zealand	25	4.66	25	4.82	24	4.51
Nicaragua	133	2.77	133	3.12	137	2.42
Nigeria	114	3.22	94	3.65	117	2.78
Norway	13	5.16	11	5.34	13	4.99
Oman	85	3.45	71	3.87	103	3.04
Pakistan	89	3.44	86	3.73	89	3.14
Panama	44	3.91	45	4.23	45	3.59
Paraguay	131	2.90	124	3.34	134	2.46
Peru	106	3.28	81	3.79	116	2.78
Philippines	47	3.88	42	4.26	48	3.50
Poland	57	3.70	55	4.09	64	3.32
Portugal	30	4.16	41	4.27	28	4.05
Qatar	12	5.18	10	5.38	14	4.98
Romania	84	3.48	88	3.71	75	3.24
Russian Federation	76	3.54	80	3.79	68	3.29
Rwanda	55	3.74	69	3.91	46	3.57
Saudi Arabia	29	4.18	29	4.54	34	3.83
Senegal	54	3.75	65	3.95	47	3.55
Serbia	125	3.02	132	3.14	113	2.90
Seychelles	70	3.57	62	3.99	87	3.15
Sierra Leone	132	2.82	131	3.14	131	2.49
Singapore	11	5.19	18	5.13	9	5.24
Slovak Republic	59	3.68	57	4.07	66	3.29
Slovenia	39	3.99	51	4.15	33	3.83
South Africa	36	4.06	33	4.42	38	3.69
Spain	35	4.09	31	4.46	37	3.72
Sri Lanka	41	3.95	44	4.25	43	3.65
Swaziland	126	3.02	123	3.34	124	2.69
Sweden	7	5.45	7	5.44	7	5.46
Switzerland	1	5.78	1	5.79	1	5.76
Taiwan, China	16	5.06	21	5.01	11	5.10
Tajikistan	71	3.56	78	3.80	63	3.32
Tanzania	112	3.23	114	3.43	105	3.03
Thailand	48	3.88	35	4.36	57	3.41
Trinidad and Tobago	81	3.49	68	3.93	101	3.05
Tunisia	110	3.26	104	3.58	110	2.94
Turkey	56	3.71	58	4.07	60	3.35
Uganda	100	3.35	107	3.54	85	3.16
Ukraine	72	3.55	91	3.70	54	3.41
United Arab Emirates	21	4.83	15	5.25	26	4.41
United Kingdom	9	5.28	6	5.54	12	5.02
United States	4	5.59	4	5.60	4	5.58
Uruguay	83	3.48	83	3.75	80	3.21
Venezuela	135	2.71	134	2.98	136	2.43
Vietnam	88	3.44	100	3.63	73	3.25
Zambia	68	3.58	85	3.74	52	3.42
Zimbabwe	130	2.90	130	3.18	128	2.63

Note: Ranks out of 140 economies and scores measured on a 1-to-7 scale.

## Box 2: The Case for Trade and Competitiveness

Trade and competitiveness are intimately connected. As demonstrated by the East Asian “miracle economies” (Hong Kong SAR, the Republic of Korea, Singapore, and Taiwan), trade and investment integration can improve competitiveness through two channels: first, by increasing the size of the market available to domestic firms; and second, by driving productivity and innovation by exposing firms to international competition, expertise, and technology. No country has developed successfully in modern times without opening its economy to international trade, investment, and the movement of people across borders.

Conversely, it is the competitiveness of economies—the level of productivity of continents, nations, subnational regions, and even cities—that determines how well they translate openness to trade and investment into opportunities for their firms, farms, and people.

Trade and competitiveness come together in global value chains (GVCs). Trade no longer means merely goods crossing borders; rather it is the international, interconnected flow of goods, services, investment, people, and ideas along a value chain. Production stages that previously took place in a single factory, or in a single country, are now dispersed across many factories in many countries. GVCs are the key drivers of employment, productivity, and growth in international trade. They create niches for developing countries to industrialize faster and better, and they enable developed countries to specialize in higher-value production in goods and services, thus improving wages and consumer choice.

Taking advantage of GVCs demands more than keeping borders open to trade and investment: a whole host of domestic non-tariff and regulatory barriers also need to be removed as well as a welcoming business climate provided. Unilateral measures can help countries take advantage of GVCs, but they work best when they are locked in by international agreements such as those negotiated by the

World Trade Organization, bilateral investment treaties, and regional trade agreements.

Openness has non-economic benefits, too. Wider and deeper cross-border economic integration has contributed greatly to overall peace and stability since World War II. It has increased individuals’ freedom to produce and consume in daily life, widening the life choices and chances of large numbers of ordinary people.

However, openness and the links between trade and competitiveness have fallen off the agenda in recent years. Since the 2008–09 crisis, policymakers have been in fire-fighting mode, focusing on fiscal and monetary macroeconomic stimulus and financial reregulation. This has arguably come at the expense of supply-side issues and structural reforms needed to address sluggish productivity growth. Supply-side constraints to growth—distortions in product and factor markets, education, skills, infrastructure—have not been sufficiently addressed; if anything, market distortions have increased since the crisis, undermining competitiveness. And although protectionism has not surged, there is evidence of creeping protectionism, especially with increasing non-tariff barriers to trade. Global trade growth is weaker than at any time in the last two decades.

Strengthening both global openness and domestic competitiveness has never been more important. To revive sluggish productivity and tap new sources of growth, innovation, job creation, and development, a trade-and-competitiveness agenda should be a priority for policymakers around the world.

### Note

This box is based on a report prepared by the Global Agenda Councils on Competitiveness and Trade and FDI. For the full report, go to <http://www.weforum.org/content/global-agenda-council-competitiveness-2014-2016-0>.

inventions of the last decade, such as social networks and the sharing economy, having a more limited effect on productivity than the Internet revolution of the previous decade (and also creating value of a kind not captured in national accounts and hence not showing up in productivity data);<sup>10</sup> barriers to knowledge diffusion that prevent smaller companies from assimilating knowledge from larger firms;<sup>11</sup> and a slowdown in the growth of global trade, which is only partly explained by the slowing growth in GDP. Other structural factors at play include a slower pace of trade liberalization or even the introduction of trade barriers, and a slower expansion of cross-border value-chain trade.<sup>12</sup> Box 2 discusses the links between trade and competitiveness. Factors that contribute to the GCI can also help to explain the slowdown in productivity growth: these include lack of infrastructure, rigid labor and goods markets, underdeveloped financial markets, inefficient use of talent, lack of access to or poor quality of education, slow adoption of technologies, and low innovation rates.

Raising productivity growth increases potential output and can contribute to boosting overall growth.

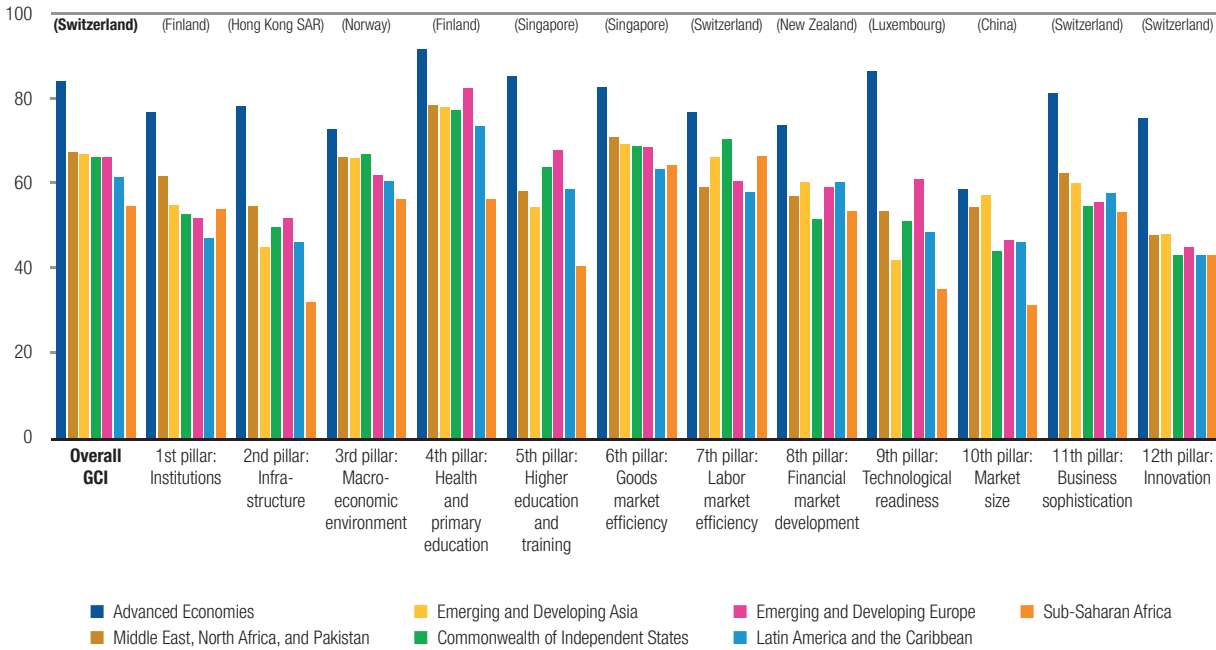
In emerging markets and developing countries in particular, there is scope for raising productivity through structural reforms. The GCI results reveal that considerable room for improvement exists in every country in all areas that drive productivity (Figure 3), and in each instance this constitutes a potential source of productivity gain.

Another explanation for low economic growth, particularly in Europe, is that lending has not yet fully recovered since the financial crisis (Figure 4). Despite very low interest rates, banks are reluctant to lend because of the uncertain environment and, arguably, also because of much stricter regulations that were implemented in the wake of the financial crisis to stabilize the banking sector. Small- and medium-sized enterprises are being particularly affected.<sup>13</sup>

### **Competitiveness improves resilience**

A number of risks, including geopolitical tensions and currency and commodity price fluctuations, could derail the still weak recovery, should they materialize. Trends since 2007 support the hypothesis that competitiveness

**Figure 3: Distance to the best-performing economy in the GCI and pillars**  
 Index value (0–100, 100 = best-performing economy listed in parentheses)



Note: The distance to the frontier is a group's average score (on a 1-to-7 scale) minus 1 divided by the score of the best-performing economy minus 1. See page xv for group composition.

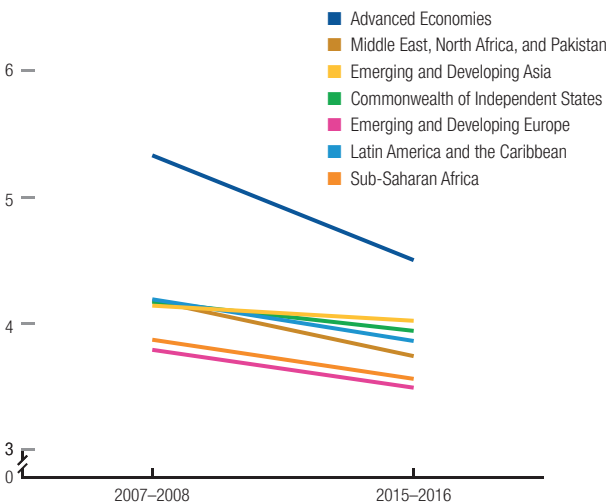
contributes to an economy's resilience, providing another reason to prioritize productivity growth now.

Countries rated as more competitive before the crisis tended either to withstand it better (e.g., Germany, Switzerland) or bounce back more quickly. For example, the United States started growing again by 2010, while Greece took until 2014 to return to positive territory, its economy having contracted by 25 percent in the meantime. Figure 5 compares the growth trajectory of the five most and five least competitive advanced economies as identified in the 2007–2008 Global Competitiveness

Index.<sup>14</sup> The growth differential between the two groups averaged around 4 percent between 2010 and 2013.

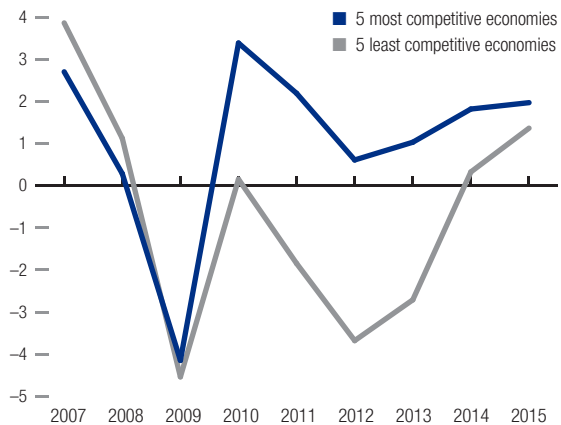
The contribution of competitiveness to resilience appears to hold for economies at most stages of development.<sup>15</sup> Figure 6 reports average growth over the period 2008–14 for the GCI 2007–2008's three most and least competitive economies in each of the five income groups. In each group, the most competitive economies have grown significantly more since the beginning of the crisis.

**Figure 4: Financial development pillar**  
 Evolution of average scores (1–7 scale), constant sample



Note: See page xv for group composition.

**Figure 5: Average GDP growth rate (%) of selected advanced economies**

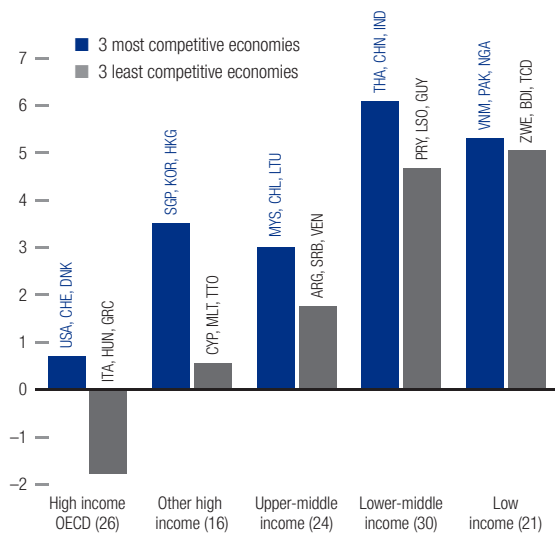


Sources: World Economic Forum; IMF 2015c.

Note: The five most competitive advanced economies in the GCI 2007–2008 were the United States, Switzerland, Denmark, Sweden, and Germany; the five least competitive were Slovenia, Portugal, Italy, Cyprus, and Greece. Data are given as the simple average of growth rates. Advanced economy status is as of April 2007.

**Figure 6: Growth rates of the most and least competitive economies, by income group**

Average annual growth rate, 2007–14



Sources: World Economic Forum; IMF 2015c.

Note: The number of economies included in each group is indicated in parentheses along the x axis. The GCI 2007–2008 rank is in parentheses in the following list: ARG = Argentina (85); BDI = Burundi (130); CHE = Switzerland (2); CHL = Chile (26); CHN = China (34); CYP = Cyprus (55); DNK = Denmark (3); GRC = Greece (65); GUY = Guyana (126); HKG = Hong Kong SAR (12); HUN = Hungary (47); IND = India (48); ITA = Italy (46); KOR = Korea, Rep. (11); LSO = Lesotho (124); LTU = Lithuania (38); MLT = Malta (56); MYS = Malaysia (21); NGA = Nigeria (95); PAK = Pakistan (92); PRY = Paraguay (121); SGP = Singapore (7); SRB = Serbia (91); TCD = Chad (131); THA = Thailand (28); TTO = Trinidad and Tobago (84); USA = United States (1); VEN = Venezuela (98); VNM = Vietnam (68); ZWE = Zimbabwe (129).

### Leveraging the human factor

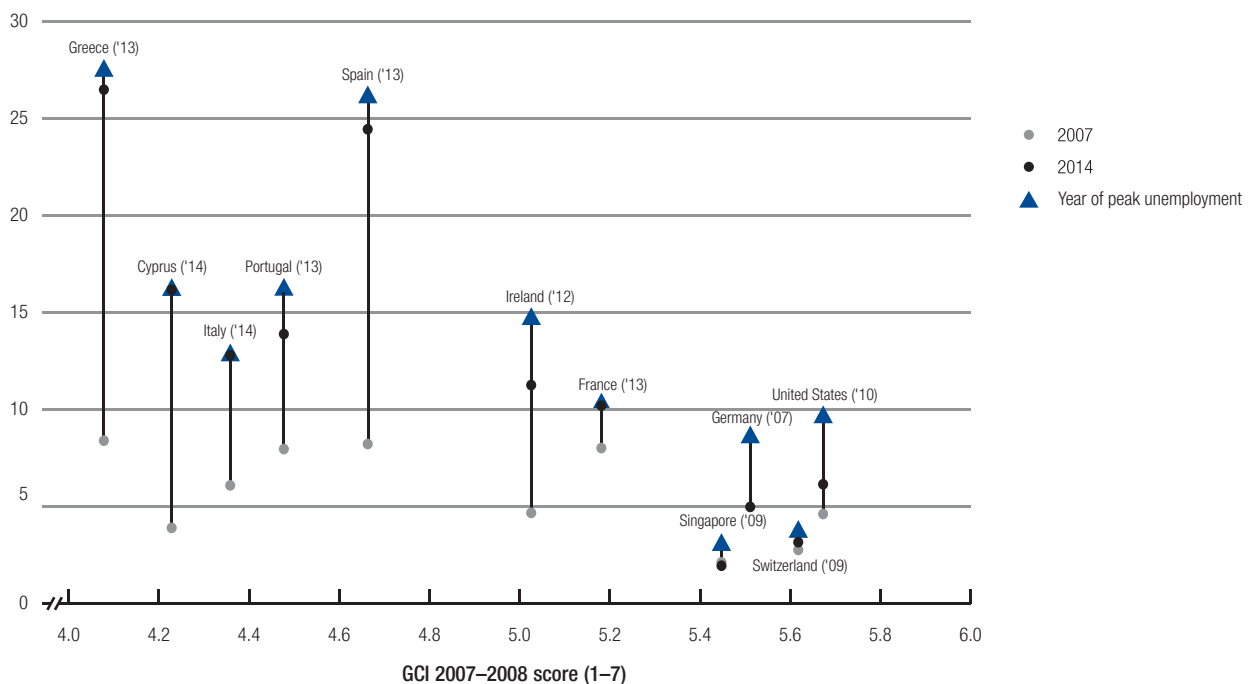
According to International Labour Organization (ILO) estimates, the global unemployment rate in 2014 was 5.9 percent—some 201 million people—with youth unemployment running at 13 percent.<sup>16</sup> Unemployment spiked in almost every country after the crisis, but individual countries have widely different trajectories. From a peak in 2010, the most competitive economies have managed to bring unemployment down toward pre-crisis levels. In less competitive countries, unemployment has remained well above pre-crisis levels.

Figure 7 depicts the evolution in unemployment rate over the period 2007–14 in selected advanced economies. At the left of the chart, for example, Greece's trajectory shows the unemployment rate soaring. In the bottom-right of the chart, by contrast, Switzerland's consistently high GCI results coincide with a relatively steady unemployment rate.

Although the relationship between unemployment and competitiveness is complex, both rely heavily on the adequacy of the education system and the efficiency of the labor market: by educating, training, and rewarding people appropriately, a country ensures that its workers have the skills to attain productive employment and that it can attract and retain talent. This is true for both advanced economies and developing ones, because talent generates ideas that in turn power innovation, and

**Figure 7: Evolution of unemployment rate in selected advanced economies, 2007–14**

Percent of total labor force



Sources: World Economic Forum; IMF 2015c.

Note: Year of peak unemployment indicated in parentheses.

**Table 6: Performance of selected advanced economies on selected human capital–related indicators**

Rank out of 140

Country/economy	Overall GCI	INDICATORS										
		5.03 Quality of the education system	5.08 Extent of staff training	5.04 Quality of math and science education	12.06 Availability of scientists and engineers	7.07 Reliance on professional management	7.06 Pay and productivity	7.03 Hiring and firing practices	7.01 Cooperation in labor-employer relations	7.02 Flexibility of wage determination	7.08 Country capacity to retain talent	7.09 Country capacity to attract talent
Switzerland	1	1	1	4	23	6	4	2	1	16	1	1
Singapore	2	3	4	1	11	5	3	4	3	6	6	2
United States	3	18	14	44	4	9	8	10	31	19	2	6
Germany	4	10	13	16	15	15	13	107	20	132	13	19
Netherlands	5	8	9	7	22	4	46	89	8	131	11	13
Japan	6	27	6	9	3	18	14	123	5	7	29	78
United Kingdom	10	21	21	46	18	12	21	11	21	15	9	4
France	22	30	28	19	19	29	59	127	116	69	63	42
Ireland	24	9	20	21	9	7	7	19	15	56	19	9
Korea, Rep.	26	66	36	30	40	37	24	115	132	66	25	35
Estonia	30	34	32	14	73	25	10	13	28	1	93	86
Spain	33	85	104	84	16	49	115	121	84	97	94	98
Italy	43	65	132	41	26	119	131	132	127	134	113	115
Greece	81	114	91	61	6	101	103	91	107	115	111	131

Note: Color is coded according to rank: ■ 1–20 ■ 21–40 ■ 41–60 ■ 61–80 ■ 81–100 ■ 101–120 ■ 121–140

because strong vocational skills remain an important source of comparative advantage.

Table 6 presents the performance of selected advanced economies on indicators of education and labor market efficiency. The world's three most competitive economies—Switzerland, Singapore, and the United States—score well in the vast majority of these indicators. Southern European countries where unemployment has spiked, such as Spain and Italy, perform poorly on most. Some countries with positive overall performance but shortcomings in at least one dimension—such as Germany, the Republic of Korea, and Japan—may still have positive unemployment trajectories, but they are also exposed to the risk of creating a two-tier labor market that discriminates between permanent employees and others.

While the shortcomings in advanced economies are most likely to center on higher education, the skills gap, as well as labor market and wage-setting rigidities, in less-developed countries the issues center on public health and basic education. Even in countries where primary and secondary education is almost universal, the quality of that education can be mediocre and curricula are not adapted to the needs of businesses. The difficulty of finding jobs in the formal sector reduces the incentives for workers to invest in their own education.

## Results overview

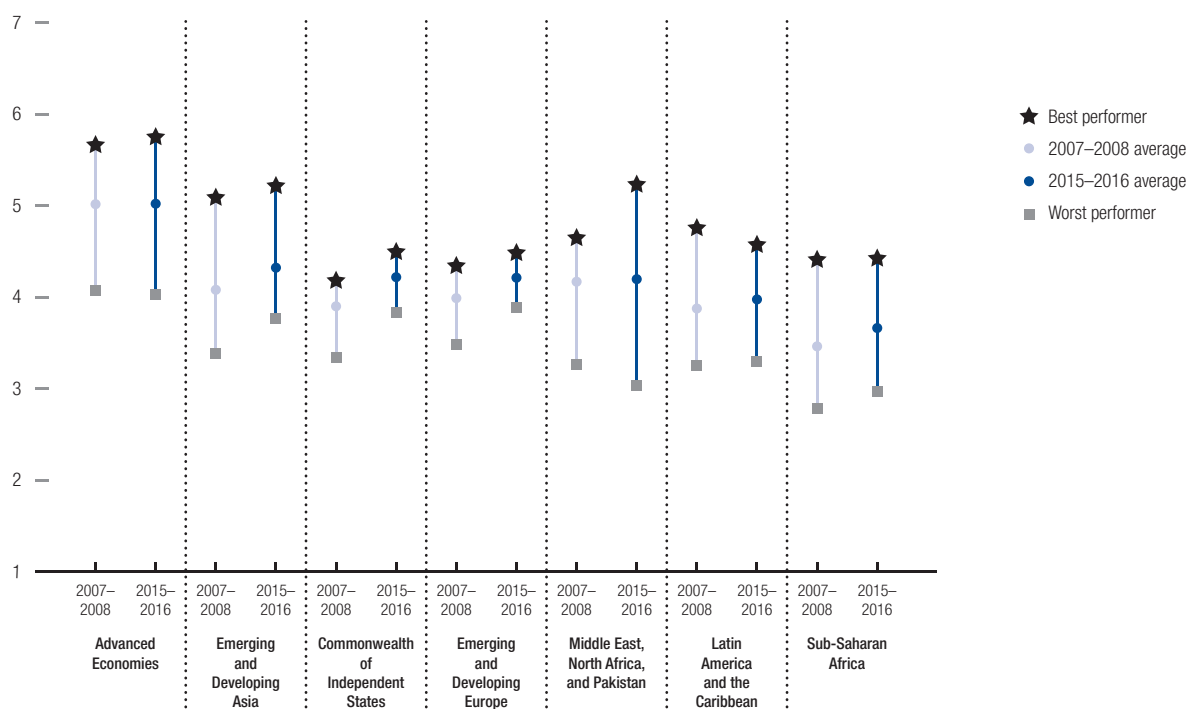
This section presents an overview of the GCI results by region, identifies patterns, and puts them in context.<sup>17</sup> Figure 8 compares the range of results between advanced economies and others in different regions between 2007 and 2008 (before the economic crisis) and the current edition of the Index. In most cases the gap is large, with sub-Saharan Africa continuing to be furthest behind despite improving on average. The figure also shows the diversity of performance within each region, with the Middle East and North Africa showing the largest disparities between best and worst performers.

Most **advanced economies** have recovered to their pre-crisis level of competitiveness. As in previous years, they fill all the top positions in the rankings. Yet some disparity remains, with some Eastern and Southern European countries occupying the lowest rankings in this group: most notable is Greece, which at 81st place is the least competitive economy of this group.

Access to finance is still the main drag on growth in most of these economies, with the United States representing a positive exception—it is now close to pre-crisis levels in terms of access to finance. At the other end of the spectrum, in the eurozone finance is much more difficult to access than it was eight years ago, underscoring one of the most important factors slowing down growth on the continent.



Figure 8: Distribution of GCI scores



Note: Groups sorted according to average GCI 2015–2016 score. See page xv for group composition.

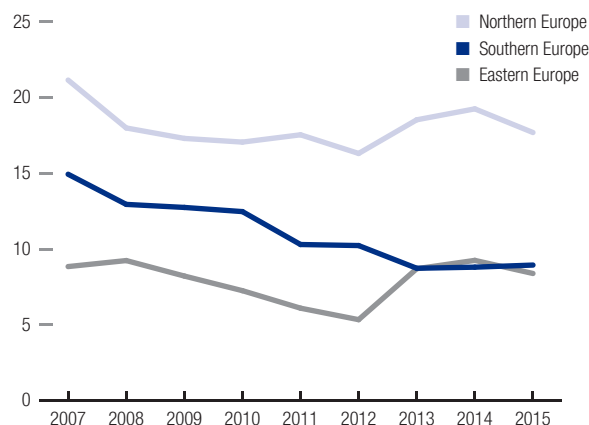
Analysis of other pillars provides a mixed picture. Almost a decade of economic instability and a double-dip recession have eroded trust in public institutions since 2007 in most advanced economies, especially in Southern Europe. At the same time, the quality of infrastructure improved in Southern Europe, with Italy showing the highest growth, especially in the railway sector, thanks to heavy investments and increased market competition. However, infrastructure quality deteriorated in the United States, Switzerland, and Northern Europe, with Germany and France displaced from top positions by Hong Kong SAR and Singapore. Firms in the eurozone responded to the sluggishness of recovery by doing the most to improve their level of innovation, with Southern European countries showing small signs of convergence with their northern counterparts.

There is further evidence of the emergence of a divide in Europe between reformist countries and the other countries. In France, Ireland, Italy, Portugal, and Spain, we observe significant improvement in the areas of market competition and labor market efficiency thanks to the reforms these countries have been implementing. By contrast, Cyprus and Greece have failed to improve in these pillars.

The analysis of the most problematic factors for doing business between 2007 and 2015 shows that the relative level of concern among firms around restrictive labor regulations has indeed progressively decreased in

Figure 9: Restrictive labor regulations as the most problematic factor for doing business

Average score\*



Source: World Economic Forum, Executive Opinion Survey.

\* See Box 3 for methodology.

Southern Europe (Figure 9). In most countries, access to finance has replaced labor regulations as the most problematic factor for doing business in those countries (Box 3 presents a trend analysis of these factors).

**Emerging and Developing Asia** has been the world's fastest-growing region since 2005 and looks set to retain this status in the medium term. The region now accounts for some 30 percent of global GDP, with China alone accounting for 16 percent.<sup>18</sup> This dynamism is reflected in the GCI results. Since the beginning of the

### Box 3: The most problematic factors for doing business: Impacts of the global crisis

Respondents to the Executive Opinion Survey are asked every year to identify and rank the five most problematic factors for doing business in their country. The scores calculated on the basis of the 2015 data are presented in the country profiles at the end of this *Report*.

A comparative analysis of the results from 2007 and 2015 can help us understand how the global financial crisis has created new obstacles for doing business across the world, highlighted previously existing weaknesses, and changed the priorities of firms in countries at all stages of development (Table 1).

The most striking change is the surge of access to finance as one of the most serious problems for business in many countries, a consequence of the global financial crisis (Figure 1).

Because of deleveraging and stricter regulations in the banking sector, uncertain economic prospects, and despite extremely low interest rates, obtaining finance is still very difficult, especially for small- and medium-sized enterprises. In advanced economies, firms surveyed in 2015 indicate this factor as the 4th most pressing concern.<sup>1</sup> This has more than doubled since 2007, when it was only 7th.<sup>2</sup> Access to finance is now almost as problematic in advanced as in developing economies, where it has risen from 3rd in 2007 to become the number 1 priority (Table 1).

**Table 1: The most problematic factors for doing business in 2007 and 2015**

ADVANCED ECONOMIES			
2007		2015	
Factor	Score*	Factor	Score*
Government bureaucracy	13.6	Government bureaucracy	14.2
Restrictive labor regulations	13.6	Tax rates	13.1
Tax rates	11.9	Restrictive labor regulations	12.8
Complexity of tax regulations	10.7	Access to finance	10.8
Inadequately educated workforce	9.0	Complexity of tax regulations	8.8

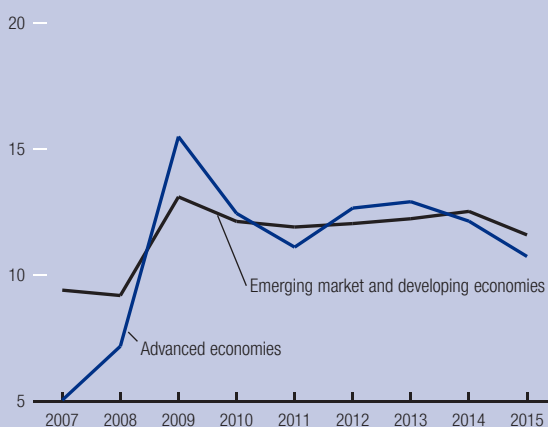
  

EMERGING MARKET AND DEVELOPING ECONOMIES			
2007		2015	
Factor	Score*	Factor	Score*
Government bureaucracy	12.3	Access to finance	11.7
Corruption	11.4	Corruption	11.4
Access to finance	9.8	Government bureaucracy	11.3
Inadequate supply of infrastructure	8.9	Tax rates	8.1
Policy instability	8.1	Inadequate supply of infrastructure	8.0

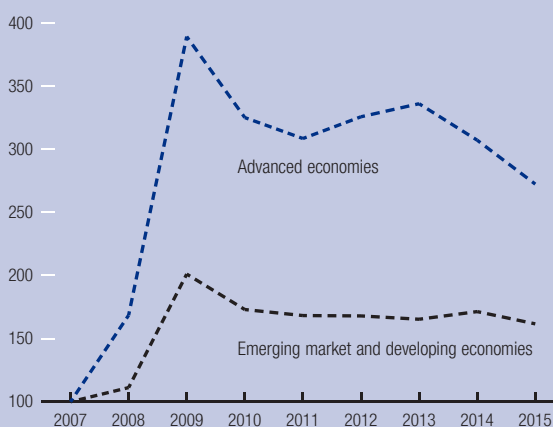
Sources: World Economic Forum, Executive Opinion Survey, 2007 and 2015 editions.  
\* See Note 2 of this box.

**Figure 1: Access to finance as the most problematic factor for doing business, 2007–15**

1a: Absolute value



1b: Index = 100 (2007)



Sources: World Economic Forum, Executive Opinion Survey, 2007 and 2015 editions.

Tax rates also climbed the priority list in both advanced and developing economies. In their quest for a reduction of debt and deficits, governments in many countries have implemented austerity measures that include new taxes that depressed business activity further.

The analysis also reveals the persistence of institutional factors as top priorities in most economies, showing how difficult it is for countries at all levels of development to improve their institutional framework. Government bureaucracy is still the top priority in advanced economies and remains one of the three most pressing issues in developing economies; corruption—another factor related to governance—ranks second on the list. Corruption has gained in prominence especially in countries where recent scandals

have exposed its economic costs, such as Brazil, Hungary, Italy, Mexico, and Spain.

#### Notes

- 1 See page xv for group composition.
- 2 Respondents to the Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The numbers presented in this box show the responses weighted according to their rankings. The historical scores have been adjusted to reflect the introduction of new factors to the list used in the Survey. For the list of problematic factors for each economy, refer to the Country/Economy Profiles at the end of the *Report*.

crisis, competitiveness trends have been mostly positive. However, regional averages conceal profound disparities across the region (Figure 10). China (28th) and most of the Southeast Asian countries are performing well, while South Asian countries and Mongolia (104th) continue to lag behind.

Behind Singapore (2nd), the five largest members of the Association of Southeast Asian Nations (ASEAN)—namely Malaysia (18th, up two), Thailand (32nd, down one), Indonesia (37th, down four), the Philippines (47, up five), and Vietnam (56th, up 12)—all rank in the top half of the overall GCI rankings. With the exception of Thailand, all five have improved their showing since 2007, most notably the Philippines, which has leapfrogged 17 places. Although ranked much lower, the three other ASEAN members—Lao PDR (83rd, up 10), Cambodia (90th, up five), and Myanmar (131st, up three)—all move up the ladder.

In contrast, no member of the South Asian Association for Regional Cooperation (SAARC) features in the top 50. India leads the way at 55th, followed by Sri Lanka (68th, up five), Nepal (100th, up two), Bhutan (105th, down two), Bangladesh (107th, up two), and Pakistan (126th, up three) all rank 100th or below. Although last year all SAARC countries except Bhutan posted small gains, since 2007 only Nepal has managed to progress significantly (14 places gained); Pakistan lost 34 places during that period and India, despite leapfrogging 16 places this year, still ranks seven notches lower than it did in 2007.

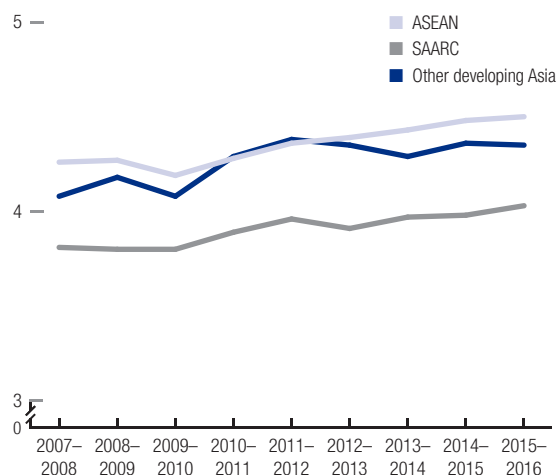
Despite the region's dynamism, it faces many challenges. Most countries have a gaping infrastructure deficit because investment has not kept up with rapid growth. The uptake of technology, in particular of ICTs, is also very low across the region. For middle-income countries, innovation capacity remains limited, which poses a risk to their growth in the long run. For instance, the results of the Executive Opinion Survey reveal that the difficulty of innovating has become the biggest concern of the business community in China (see Box 4).

Three factors had an impact on the regional economy in **Emerging Europe** in 2014–2015: some Balkan countries were hit by floods, which reduced agriculture yields, capital formation, and industry capacity; the recession in Russia reduced exports, particularly of the Baltic countries; and changes in monetary policy from both the European Central Bank and the Swiss National Bank have had double-edged effects by increasing the costs of mortgages denominated in Swiss francs on one hand and reducing interests rates on the other. Despite these difficulties, however, the region's growth is projected to remain steady, and only three countries fell in their GCI ranking.

The Baltic countries are generally doing better than those in Central and Southern Europe. Lithuania is the most competitive economy in the region (36th),

**Figure 10: Emerging and Developing Asia competitiveness trends**

Average GCI score (1–7), constant sample



Note: ASEAN = Association of Southeast Asian Nations; SAARC = South Asian Association for Cooperation.

only six positions behind Estonia.<sup>19</sup> Poland (41st) and Turkey (51st) take the second and third position in the region. Only Albania (93rd), Serbia (94th), and Bosnia and Herzegovina (111th) are outside the top 80. Gaps are particularly wide on technological readiness, with the Baltics outperforming Southern Europe. Lithuania leads the region in technological and ICT adoption and innovation, with less promising trends in countries such as Albania, Turkey, and Bosnia and Herzegovina.

All countries need to continue implementing structural reforms to achieve higher levels of competitiveness. In particular, all would benefit from improving the flexibility of their labor markets (with the possible exception of Hungary), developing the financial sector, and reducing red tape, which is reported as one of the most problematic factors for doing business in the region.

Competitiveness has been slowly improving overall in the **Commonwealth of Independent States (CIS)** in recent years, sustained by a positive macroeconomic environment, especially in energy-exporting countries, and slight progress in goods market efficiency and education. Innovation capacity has also improved, but only slightly and from a low base. However, the strong overall performance is under threat from expectations of prolonged low commodity prices and regional knock-on effects of recent geopolitical developments. Russia (45th) still faces economic sanctions, while the situation in the eastern part of Ukraine (79th) remains tense. Recession in both countries will necessarily affect the region's prospects.

The CIS region needs to diversify to become more competitive and resilient to commodity price and demand shocks, but it may be hampered by the reduced capacity of its financial sector to lend to non-oil sectors.

Efforts to shield the economy from shocks in the short term should not derail structural progress toward longer-term competitiveness. Countries must step up efforts to improve economic fundamentals such as the efficiency of the goods and labor markets, financial development, competition policy, governance, and enterprise restructuring.

Performance across countries is more homogenous than in other regions, with the best performer (Azerbaijan, 40th) losing one position this year, while the poorest performer (Kyrgyz Republic, 102nd) registers the fastest recent improvement in the region. The largest gaps between countries are in technology readiness and ICTs (where Moldova is leading the group) and infrastructure (led by Russia).

The deceleration experienced in **Latin America and the Caribbean** since 2012 continues in 2015, with the IMF projecting growth of below 1 percent—down from 1.3 percent in 2014 and 2.9 percent in 2013.<sup>20</sup> Falling commodity prices add to the persisting challenge of low levels of trade, investment, and savings, and low productivity growth. As a result, the region has seen its performance on the GCI stagnate over the past five years. On a brighter note, some countries are likely to benefit from the US recovery, given their strong trade and investment links.

The region is heterogenous and the competitiveness divide among these countries remains wide. The top Latin American performer is Chile (35th), followed by Panama (50th) and Costa Rica (52nd). Mexico and Colombia are rapidly approaching the top three after improving four and five positions, respectively. Three Latin American countries experience dramatic declines this year: Bolivia, Brazil, and El Salvador. All three countries suffer from deteriorating institutions and low macroeconomic performance stability. At the bottom of the region are Venezuela (132nd) and Haiti (134th). Most countries from the region cluster toward the middle—that is, between 50th and 100th, with Argentina slightly outside this range at 106th.

To create sustainable long-term growth, the region must build resilience against external economic shocks. Infrastructure, skills, and innovation—areas in which the region performs relatively poorly—are among the fundamentals to be strengthened. Structural reforms and measures to improve the business environment and to foster innovation, coupled with a better-educated workforce—through more on-the-job training, for example—would increase resilience by diversifying the economy away from commodity price dependence and enable production with more value-added.<sup>21</sup>

There is a sense of urgency for the region to overcome its productivity challenges to enhance competitiveness, even in an environment of slower economic growth. The region needs not only to boost

productivity but also to share the resulting prosperity, reducing and preserving social gains that might be at risk.

There are stark differences in competitiveness across the **Middle East and North Africa** region. Led by Qatar (14th), the United Arab Emirates (17th), Saudi Arabia (25th), and Bahrain (39th), many Gulf Cooperation Council (GCC) countries are already fairly competitive and can build on past progress to improve further. However, the Levant and North Africa lag significantly behind, the best performers being Jordan (64th) and Morocco (72nd).

Although most of its countries have made progress in improving competitiveness, the region is marked by fragility and vulnerability to shocks. Rising geopolitical security concerns made it impossible to cover Yemen, Syria, or Libya in this year's *Report*. Spillovers from the Syrian war have affected security elsewhere in the Levant, while in North Africa, terrorist events in the Spring of 2015 undermined recent positive developments in Tunisia (92nd).

Despite the diversity of their economies, most of the region's countries share the major—and daunting—challenge of creating sufficient employment opportunities for their youthful populations.

More jobs can be achieved only by creating the right conditions for the private sector to grow. The region is also home to some of the world's biggest energy exporters; the recent drop in energy prices further demonstrates the need for economic diversification and developing a strong and vibrant private sector. The recent agreement with Iran on its nuclear program (73rd) may provide important growth opportunities if conditions for implementation are fulfilled.

**Sub-Saharan Africa's** solid growth rates—more than 5 percent over the past 15 years—bear witness to the region's impressive economic potential.<sup>22</sup> However, Africa's levels of productivity remain low. The recent fall in resource prices has affected many countries,<sup>23</sup> and the normalization of US monetary policy may lead to increased investor scrutiny of emerging market risk, undermining growth prospects. Both these developments emphasize the region's need to prioritize competitiveness-enhancing reforms.

The region's most pressing challenges are weak institutions, poor infrastructure, and insufficient health and education sectors. Improving education and the enabling environment for employment will largely determine whether or not the region will be able to reap the unprecedented growth opportunities of its growing labor force—the number of sub-Saharan Africans reaching working age (15–64) will exceed that of the rest of the world by 2035.<sup>24</sup> The region's comparatively efficient markets demonstrate its capacity for reform, as reflected in its rapidly improving goods market efficiency.<sup>25</sup> However, reforms to improve institutions and

bridge the infrastructure and human capital gaps will take time to produce results.

There are wide regional disparities in competitiveness. The top performers are Mauritius (46th), South Africa (49th, and reversing its four-year downward trend), Rwanda (58th), and Botswana (71st). However, 15 out of the bottom 20 economies are sub-Saharan African, with Guinea propping up the list in 140th. The other two countries hardest hit by Ebola—Liberia (129th) and Sierra Leone (137th)—also rank low. Côte d'Ivoire (91st) and Ethiopia (109th) are this year's largest improvers: both have strengthened institutions, while Côte d'Ivoire has also improved its financial markets and domestic competition and Ethiopia has made progress in its goods and labor market as well as its business sophistication and innovation.

### Country highlights

This section discusses performance highlights for selected economies, including the top 10 most competitive, the best performers in each main region, and G-20 economies outside the top 10. Economies are listed in rank order (see Table 7).

**Switzerland** tops the GCI for the seventh consecutive year. Switzerland leads the innovation pillar, thanks to its world-class research institutions (1st), high spending on research and development (R&D) by companies (1st), and strong cooperation between the academic world and the private sector (3rd). But many other factors contribute to Switzerland's innovation ecosystem, including the level of business sophistication (1st) and the country's capacity to nurture and attract talent. Switzerland boasts an excellent education system at all levels and is a pioneer of the dual education system. The labor market is highly efficient (1st), with high levels of collaboration between labor and employers (1st) and balancing employee protection with flexibility and business needs. Swiss public institutions are among the most effective and transparent in the world (6th), and competitiveness is further buttressed by excellent infrastructure and connectivity (6th) and highly developed financial markets (10th). Last but not least, Switzerland's macroeconomic environment is among the most stable worldwide (6th) at a time when many developed countries continue to struggle in this area.

These very strong economic fundamentals help to explain Switzerland's resilience throughout the crisis. Yet recent developments have created a number of downside risks and leave little policy space. These include the sluggish recovery in key trading partner countries; the appreciation of the Swiss franc following the exit of the exchange rate floor; near-zero inflation; and negative real interest rates. Uncertainty about future immigration policy following the referendum against "mass immigration" could undermine Switzerland's capacity to tap into the global talent pool needed to

**Table 7: List of economies covered in this section**  
Rank out of 140

Economy	GCI rank	Page of description
Switzerland	1	23
Singapore	2	23
United States	3	24
Germany	4	24
Netherlands	5	24
Japan	6	24
Hong Kong SAR	7	24
Finland	8	25
Sweden	9	25
United Kingdom	10	25
Canada	13	25
Qatar	14	25
United Arab Emirates	17	26
Malaysia	18	26
Australia	21	26
France	22	26
Saudi Arabia	25	26
Korea, Rep.	26	27
China	28	27
Chile	35	27
Indonesia	37	27
Azerbaijan	40	27
Italy	43	27
Russian Federation	45	30
Mauritius	46	30
South Africa	49	30
Turkey	51	30
India	55	30
Mexico	57	31
Rwanda	58	31
Colombia	61	31
Brazil	75	31
Argentina	106	31
Egypt	116	32
Nigeria	124	32

power its economy. Switzerland must continue to sharpen its competitive edge to justify the high cost of doing business in the country.

**Singapore** ranks 2nd for the fifth year in a row, with one of the most consistent performances of all economies, being in the top 10 in nine out of 12 pillars. Singapore remains the best performer when it comes to the overall efficiency of markets, and one of the two economies—together with Hong Kong SAR—ranking in the top three in goods, labor, and financial market efficiency. In particular, Singapore can rely on the most flexible and the second most attractive labor market in the world, although the participation of women in the workforce remains relatively low (75th). With the best higher education and training system in the world (1st, overtaking Finland), Singapore is well placed to increase technological adoption (5th, up two), business sophistication (18th, up one), and innovation (stable at 9th). The economy can rely on top-notch infrastructure (2nd), a transparent and efficient institutional framework (2nd), and a stable macroeconomic environment (12th). In particular, the government produced a large budget

surplus equivalent to 4.2 percent of GDP in 2014 (6th largest).

The **United States** retains 3rd place. Although many risks arguably loom on the horizon, the country's recovery can build on improvements in institutions—public-sector performance is rated higher than in previous years—its macroeconomic environment, and the soundness of its financial markets. The United States' major strength is its unique combination of exceptional innovation capacity (4th), large market size (2nd), and sophisticated businesses (4th). The country's innovation capacity is driven by collaboration between firms and universities (2nd), human capital (4th on availability of scientists and engineers), and company spending on R&D (3rd). The United States also benefits from flexible labor markets (4th) and an overall well-developed financial sector (5th).

However, as accommodative monetary policy will slowly phase out and the US dollar has strengthened, the country will have to embark on a range of reforms to ensure that productivity growth picks up. These include improving the quality of education (18th), in particular at the primary level, and continuing to stabilize its macroeconomic environment (96th), which must include addressing high health and social security costs and ensuring continued strengthening of the financial system.<sup>26</sup> Last but not least, further improvements to the institutional environment (28th) would put growth on a more sustainable footing.

**Germany** climbs by one spot to 4th place this year on the back of strengthened labor and financial market efficiency (up seven places each to 28th and 18th, respectively) and a strengthened macroeconomic environment (up four places to 20th), reflecting its positive budget balance and reduction in government debt, which stands at 73 percent of GDP. Germany excels especially in the more complex areas of competitiveness: businesses are highly sophisticated (3rd), exerting a high degree of control of international distribution (3rd) and employing latest technologies in the production process (3rd). The country's innovation system (6th) is characterized by high levels of company spending on R&D (6th) and a supportive research environment, including business collaboration with universities (10th) and strong scientific research institutions (9th). This is supported by excellent on-the-job training (8th), ensuring that skills match businesses' needs; high readiness to adopt new technologies (16th); and successful use of ICTs (11th). The country uses its talent efficiently (11th), although more could be done to encourage greater participation of women in the labor force (43rd). Germany's economy could also be made more competitive by increasing flexibility in the labor market, which—despite gradual recent improvements—remains low (106th).

In 5th place, the **Netherlands** is up three and back to its highest position ever, last occupied three years ago. It experienced a small but generalized improvement and confirmed its strong performance in areas such as education (3rd), infrastructure (3rd) and institutions (10th). The Dutch economy remains one of the most sophisticated and innovative in the world (5th and 8th, respectively), with an open and efficient goods market. Although improving, the labor market is still a relative weakness (17th), especially when it comes to flexibility of wage determination (131th). Although its macroeconomic environment improved (up 13 places, at 26th),<sup>27</sup> the Netherlands has yet to recover from the bursting of its domestic real estate bubble in 2009, which left it with the highest household debt in the eurozone and GDP levels that still remain below 2008 levels. The financial market is still suffering, with the country's score in this area still one full point lower than it was in 2007.

**Japan** remains in 6th place this year, registering slight improvements in half of the pillars—most notably in the macroeconomic environment, thanks to the return of moderate inflation generated by the increase in the consumption tax. Japan benefits from excellent infrastructure and one of the world's healthiest workforces, with a life expectancy of over 80 years. The country performs well in the more complex areas of competitiveness: businesses are highly sophisticated (2nd), employing unique products and production processes (1st) with large control over international distribution (2nd) and benefitting from the world's best local suppliers (1st). Similarly, high-quality research institutions (7th) and company spending on R&D (2nd), coupled with an excellent availability of scientists and engineers (3rd), contribute to the country's overall highly innovative environment (5th). Japan's goods and financial markets have experienced a steady and gradual improvement over the past seven years, and are up to 11th and 19th place, respectively, this year, while institutions have been on a steady upward path to reach 13th this year.

In the future, it will be critical for the country to strengthen human capital (21st), where it lags behind many other advanced economies. For the first time this year, Japan is not among the top 10 in on-the-job-training. Although labor market flexibility has improved overall (15th), it could be further raised by easing hiring and firing practices (123rd), and a low share of female participation (83rd) shows that the country is failing to use its talent efficiently. Finally, the country remains an early and eager adopter of new technologies (13th) and boasts one of the highest penetration rates of smartphones (5th).

A member of the top 10 since the 2012–2013 edition, **Hong Kong SAR** has now placed 7th for three consecutive editions. Its performance—almost unchanged from last year—is remarkably consistent

across the 12 pillars. It continues to lead in infrastructure, ahead of Singapore, reflecting the outstanding quality of its facilities across all modes of transportation. Although slipping from top place, its financial sector (3rd) remains very well developed, with a high level of sophistication, trustworthiness, and stability, and relatively good availability of credit. As with Singapore, the dynamism and efficiency of Hong Kong's goods market (2nd) and labor market (3rd) contribute to its excellent overall positioning. Hong Kong is also one of the top adopters of technology, in particular ICTs (8th). The challenge for Hong Kong is to evolve from one of the world's foremost financial hubs to an innovative powerhouse. Innovation is the weakest aspect of the economy's performance (27th, with a relatively low score of 4.4), and the business community consistently cites the capacity to innovate as their biggest concern.

**Finland** continues to slide down the rankings and is now 8th. Historically characterized by relatively low diversification of economic sectors and export destinations, the Finnish economy has suffered successive shocks to its main industries (information technology and paper) and one of its largest export markets (the Russia). Its trade balance turned negative in 2011, and in 2014 its GDP was still 6 percent smaller than in 2008. Yet robust fundamentals could help Finland to overcome the current crisis. Its public institutions are transparent and efficient (1st), its higher education and training system is among the best in the world (2nd), and its business sector is one of the most innovative (2nd overall and 4th for PCT patent applications per capita). To facilitate the recovery, Finland should fix long-standing rigidities in its labor market (26th), especially the centralized wage-bargaining system (140th, the most centralized in our rankings), which contributes to unemployment (currently at 9.5 percent). Although still one of the best among advanced economies, its macroeconomic environment has also deteriorated significantly during the crisis, with public debt increasing by 20 percentage points as a proportion of GDP since 2006 and public deficit further increasing in 2014 to 2.7 percent of GDP.

**Sweden** climbs one spot to overtake the United Kingdom in 9th place. Like the other Scandinavian countries, Sweden benefits from an efficient and transparent institutional framework (11th), which, paired with an excellent education system (12th), make it one of the world's top innovators (7th) with more than 300 PCT patents filed per million people (3rd). The innovation ecosystem in Sweden benefits from high levels of technological adoption and ICT usage (11th and 4th, respectively) and a sophisticated private sector (7th). Restrictive labor regulations are still identified as the most problematic factor for doing business, although this is mitigated by very cooperative employer-worker relations (7th) and efficient use of talent (9th). Although

the total tax rate on profits decreased in 2013 to 49.4 percent, the first time below 50 percent and down from 57 percent in 2007, it remains high by international standards (112th), representing a potential source of distortion in otherwise competitive and open domestic markets.

The **United Kingdom** improves its performance across the board, but not enough to keep up with its peers, slipping down one place to 10th position. The country has created a good set of conditions for its vibrant service sector to develop and for London to become the epicenter of the European tech and start-up scene. It boasts solid public and private institutions (14th), strong property protection rights (5th), and an efficient judicial system. Thanks to its capacity to attract talent from abroad (4th) and some of the best universities in the world, the United Kingdom can count on a well-educated workforce, contributing to high levels of technological adoption (9th) and ICT penetration (2nd). Although still recovering from the global financial crisis, the UK financial market remains one of world's best developed, able to provide venture capital and equity financing to start-ups and entrepreneurs. In the long run, the country will have to continue efforts to improve its macroeconomic environment (108th); the government deficit is still very high (5.7 percent of GDP, ranked 118th) and its public debt has doubled since 2007, now accounting for almost 90 percent of GDP (123nd).

**Canada** improves from 15th to 13th position, mainly fueled by a lower budget deficit (based on 2014 data) and a more favorable assessment of its financial market development (4th). Canada's competitiveness is also built on highly efficient labor markets (7th), good outcomes in health and primary education (7th), and a solid institutional environment (16th), in particular for private institutions (8th). The country's banking system is considered sound, although exposure to a potentially overvalued housing market could become a risk in the near future.<sup>28</sup> To benefit more fully from the recovery in the United States and counter the effects of lower energy prices, Canada should continue to foster innovation at the company level. Company spending on R&D (26th) and capacity to innovate (23nd) are significantly below levels in the United States. Sophistication of businesses, which tend to be concentrated at the lower end of the value chain, will also need to be improved to maintain productivity.

**Qatar** leads the Middle East and North Africa region at 14th position. The country's main strength is its stable macroeconomic environment (2nd), which is driven by public budget surpluses and low government debt—the result of high windfall revenues from energy exports. However, the recent decline in the price of oil and gas, which is not captured in this year's edition because of the time lag in the data, may undermine the country's performance in future. Additional strengths include

high efficiency in goods and services markets (5th) and a very high level of physical security (4th). Access to finance is world class (1st on ease of access to loans) and businesses and individuals use latest technologies, including the Internet, widely. To maintain its strong position, Qatar will have to invest its exceptional wealth in the types of innovation and transfer of technology and know-how that can translate into future economic growth. Currently government procurement plays a key role in promoting innovation (1st on government procurement of advanced technology products), yet the patenting rate of Qatari nationals remains low (29th). With imports standing at 30.77 percent of GDP, promoting inward trade and investment could contribute to bringing in new technologies and know-how and enhancing a culture of innovation.

The **United Arab Emirates (UAE)** ranks 17th this year, building on the positive trend of the last five years. Its excellent macroeconomic environment, highly developed infrastructure (4th), and strong institutions (9th) provide a solid base, and the Emirati economy is significantly more diversified than other GCC countries. The UAE has benefitted from high levels of openness to trade and investment (5th on foreign competition), which ensure intense competition and high levels of innovation. Its business environment is welcoming to investment and characterized by regulations that are easy to comply with (3rd), a fairly efficient labor market (11th), and the presence of sophisticated businesses (15th). The drop in rank is a result of the new availability of an indicator on tertiary education, which led to a significant drop in the assessment of higher education and training.<sup>29</sup> The country will have to continue its gradual path of fiscal consolidation to ensure that its fiscal position remains strong despite the drop in oil prices; the recent decision to abolish energy subsidies is a step in the right direction. The UAE will also need to strengthen its capacity for innovation (26th), including by upgrading scientific research.

Up for the fourth consecutive edition, **Malaysia** (18th, up two) consolidates its position among the world's top 20 most competitive economies and remains the highest ranked among the developing Asian economies. It ranks in the top 50 of each of the 12 pillars, performing most strongly in goods market efficiency (6th) and financial market development (9th, although down five this year). The country improves in most pillars, notably by 13 places in technological readiness (47th), which nonetheless remains its weakest feature. Small gains in macroeconomic stability (35th, up nine) are mainly the result of a reduced budget deficit (3.7 percent of GDP), the lowest in six years, although the country has not managed to balance its budget in almost 20 years. Amid the good general assessment, the GCI points to specific areas for improvement, including the low participation rate of women in the labor force.

The ratio—59 women for every 100 men—is one of the lowest (118th) outside the Arab world.

Reversing a four-year slide in the rankings, **Australia** is up one to 21st. The country's performance remains strong across all categories of the Index, particularly in education (9th in basic education and 8th in higher education) and financial market development (7th). Australia leapfrogs 20 places in the labor market efficiency pillar (36th), which has traditionally been its weakest aspect. Despite world-class education and universities, however, it continues to lag behind most advanced economies in innovation (23rd, up two). With global commodity prices set to remain low for the foreseeable future, along with the slowdown in China, the country must diversify further and move up the value chain.

**France** moves up to 22nd place, with encouraging improvements in past areas of weakness—labor and goods markets efficiency, and the macroeconomic environment. The labor market is perceived by the business community as more efficient than in previous years (51st, up 20 places since 2013), in particular on measures of flexibility, though absolute performance remains poor (96th). The country improves on measures of public-sector performance, red tape, and taxation, reflecting recent reform efforts to intensify domestic market competition. France's competitive edge remains centered on its solid innovative capacity (18th), buttressed by sophisticated businesses (20th), large market size (8th), and high-quality infrastructure (8th). Nonetheless, there is further scope to improve structural rigidities in goods (35rd) and labor (51th) markets: for example, addressing high youth unemployment by improving access to education (44th on the quantity of education), and further improving the effect of taxation on incentives to invest (122nd) and non-tariff barriers (76th). The current recovery—driven by lower oil prices, among other factors—provides a window of opportunity for further macroeconomic consolidation, which will be needed to reduce the persistent budget deficit (95th, at 4.2 percent of GDP, based on 2014 data).

**Saudi Arabia** drops one place to 25th. Its strong macroeconomic environment remains the country's most distinctive strength—although the recent oil price drop, which is not yet fully reflected in the data, may lead to a less favorable assessment in this respect. Increased spending has already seen the country move from a budgetary surplus in 2013 to a deficit in 2014, and an additional fiscal spending package of about 4 percent of GDP was announced in February.<sup>30</sup> It is estimated that Saudi Arabia needs the price of oil to be at about US\$100 per barrel to achieve fiscal neutrality.<sup>31</sup> The lower oil price will also necessitate further efforts toward diversification and private-sector growth to create employment opportunities. Entrepreneurship and private-sector growth could be supported by reducing administrative barriers to entry (104th), further developing



the financial sector (41st), and improving corporate governance standards (55th on efficacy of corporate boards). More focus on broad-based access to quality education (54th) and promoting access to and use of ICTs (56th) could also create employment opportunities.

The **Republic of Korea** remains in 26th place. For the first time in close to a decade, our data suggest an improvement in institutions (69th, up 13 places), an area where Korea remains one of the poorest performers among advanced economies. This improvement in the quality of institutions is driven by improved property rights, a more efficient legal system in challenging and settling disputes, and improved accountability of private institutions. However, policy instability remains a concern for doing business and is ranked as the most problematic factor in this respect. The country registers improvements in the efficiency of the goods market (up seven places to 26th) and domestic competition (up eight places to 34th). Overall, Korea benefits from a stable macroeconomic environment (5th), sound infrastructure (13th), and the highest enrollment rates in the world (1st). However, more needs to be done to leverage the country's human capital potential: the quality of education (35th) is low compared to other advanced economies, and a highly inflexible labor market (121st) impedes allocation of workers to their most productive uses. Restrictive labor relations rank as one of the most problematic factors for doing business in the country. The country is not fully leveraging its human capital potential, as evidenced by the low female participation in the labor force (91st). Although still high, the country's innovation potential (19th) has been gradually falling over the years. The financial market also continues to perform poorly (87th), as access to finance across all modes remains difficult.

**China** ranks 28th—unchanged from last year. Its overall performance has barely budged in the past six years. Faced with rising production costs, an aging population, and diminishing returns on the massive capital investments of the past three decades, China must now evolve to a model where productivity gains are generated through innovation and demand through domestic consumption. Box 4 details the performance of China in the GCI and highlights the priority areas on which it must focus to meet the challenges ahead.

**Chile** remains the most competitive country in Latin America and the Caribbean, although dropping two places to 35th. Its strengths include solid institutions (32nd), a stable macroeconomic environment (29th), well-functioning financial markets (21st), high technological readiness (39th), and widespread uptake of ICTs (47th). The data suggest a downward trend in the efficiency of the goods market (40th, down 6 places) and labor market (63rd, down 13 places), with increasingly rigid hiring and firing practices (110th, down 44 places). Restrictive labor regulation is identified as the most problematic factor for

doing business in Chile. In its transformation toward a more diversified and knowledge-based economy, Chile will also need to address long-standing issues such as its education system, specifically the overall quality of primary education (108th) and math and science education (107th). Higher education and training is in much better shape (33rd), but Chile must do more to improve its capacity to innovate (85th) in areas such as R&D (92nd) to diversify and foster robust growth.

After leapfrogging 16 places in the past two years, **Indonesia** posts a performance almost unchanged from last year (37th, down three) and remaining uneven across the different categories of the Index. Under new leadership, Southeast Asia's largest economy still faces major challenges in the basic areas of competitiveness, including infrastructure (62th, down six) and institutions (53rd, down two). Our data suggest that efforts to tackle corruption—a priority for the previous as well as the current administration—are paying off, with Indonesia improving on almost all measures related to bribery and ethics. Another area of concern is public health (96th, up three), with the incidence of communicable diseases and the infant mortality rate among the highest outside sub-Saharan Africa. Lack of labor market efficiency remains the weakest aspect of the country's performance (115th, down five), the result of persisting rigidities in wage setting and hiring and firing procedures. The macroeconomic situation remains satisfactory (33rd, up one), thanks to a moderate government budget deficit of around 2 percent of GDP, low debt levels, and a high savings rate. The fiscal situation could worsen, though, because depressed energy prices lead to lower proceeds from oil exports.

**Azerbaijan** scores highest in its region (40th), having weathered the recent crisis better than neighboring economies, yet it declines two places. It benefits from a strong macroeconomic environment (10th), characterized by low inflation and favorable public finances. However, the recent decline in the price of oil and gas, which is not captured in this year's edition because of a time lag in the data, may have an impact on the public budget. The country also boasts a relatively efficient labor market (30th). On the less positive side, Azerbaijan faces two main challenges to further development. First, corruption is still the most problematic factor for doing business; and second, its financial sector is still underdeveloped (114th). This is particularly problematic for a country that needs private investments to diversify its economy. At a time when commodity prices are projected to remain relatively low, diversification and the implementation of market-based policies will be particularly important to achieve long-term growth.

**Italy** is in 43rd, up six positions. After a positive first quarter, it is forecast to return to growth for the current year, fueled by increasing domestic demand, expansionary monetary policy in the euro area, and

**Box 4: China's new normal**

China has come a long way since the 1978 election of President Deng Xiaoping heralded a new era of market-oriented reforms. From 1980 to 2010, its economy grew 18-fold, averaging 10 percent a year. It progressed from low-income to upper-middle income country status, lifting hundreds of millions out of poverty: by 2011 just 6 percent of people were in extreme poverty, compared with 61 percent in 1990.<sup>1</sup>

Recent developments—including the weakening of the yuan, the stock market crash, rapid credit growth, and a stalling property market—have cast some doubt on China's economic prospects. Yet a hard landing of the Chinese economy still seems unlikely, for three reasons.

First, as the Global Competitiveness Index (GCI) shows, China possesses strong economic foundations. The country ranks 28th out of 140 economies in the 2015–2016 edition. China has achieved near universal primary education and high levels of public health, invested massively in transport and energy infrastructure, and ensured a relatively stable macroeconomic environment. These successes not only have contributed to China's emergence as a manufacturing hub, they also represent assets on which to build. China's advantages are not shared by many neighboring economies at a similar stage of development, as shown by Figure 1.

Second, an eventual slowdown was inevitable, predictable, and entirely normal, given China's impressive growth trajectory over the past two decades. Figure 2 compares China's annual real growth rate since 1980 to the GDP-weighted average growth rate of other countries in the income group to which it belonged in each year. Since 1991, China has grown faster than its peers every year. For several years in the 1990s, the differential was almost 10 percentage points. Since achieving upper-middle-income status in 2010, the differential has been around 5 percentage points.

Third, even though it has not yet abandoned the official 7 percent target, there are signs that the government has

**Figure 1: China in the 12 pillars of the GCI**  
Score 1–7



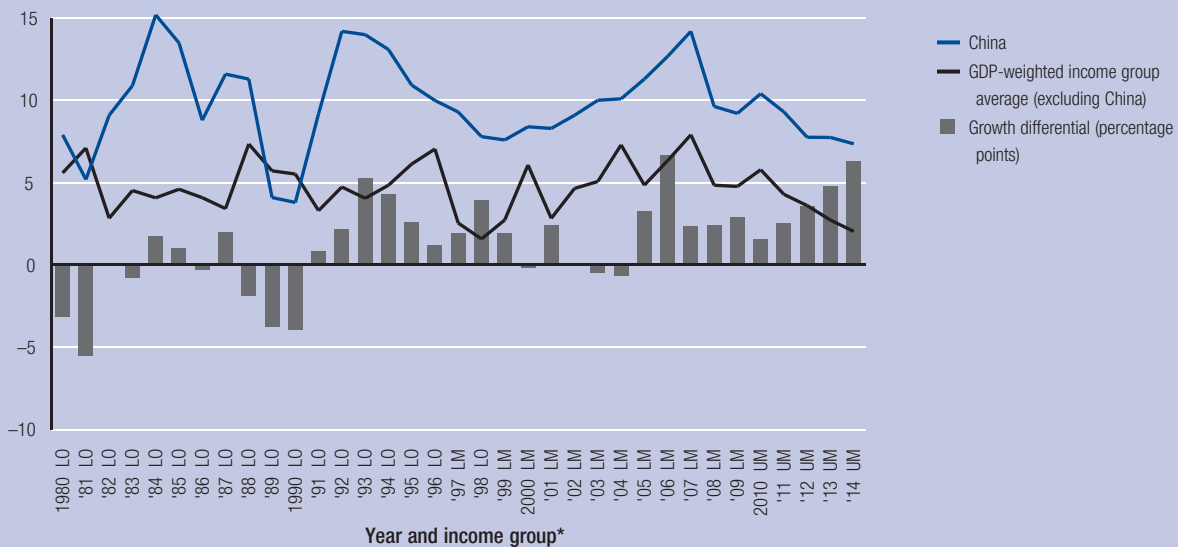
Note: China's rank out of 140 economies appears in parentheses next to each pillar.

been preparing for the economy's new phase and has been recalibrating its growth objectives from the quantitative to the qualitative. The 12th five-year plan, adopted in 2011 and covering 2010–15, had called for a rebalancing of the economy; more recently, President Xi referred to a "new normal" under which growth will be lower.

Even though the economy is unlikely to experience a hard landing, the challenges and downside risks are many. Under the new normal, productivity gains will be harder to achieve. This is reflected in China's stagnation in the GCI rankings for the past four years. The drivers that fueled China's growth—investment, low wages, urbanization—are yielding diminishing returns or even vanishing, as shown

**Figure 2: Real GDP growth**

Percent

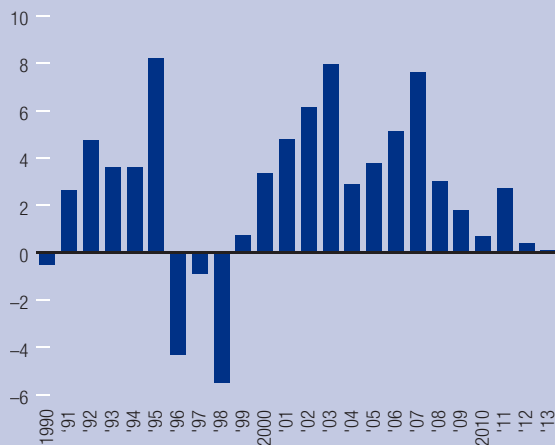


Sources: World Economic Forum's calculation; IMF 2015c; World Bank for classification (see <http://go.worldbank.org/U9BK7IA1J0>).  
\* LO = Low income; LM = Lower-middle income; UM = Upper-middle income.

(Cont'd.)

## Box 4: China's new normal (cont'd.)

**Figure 3: China's total factor productivity growth**  
Percentage points



Source: The Conference Board, *Total Economy Database™* (May 2015).

Note: Estimated as a Tornqvist index, log change. See <https://www.conference-board.org/data/economydatabase/> for more information.

by the downward trend of overall productivity since 2007 (Figure 3). Future gains will have to come through more market-oriented reforms that tackle remaining distortions, controls, and rigidities across the economy and that enable more efficient use of factors of production.

The GCI points to the structural weaknesses of China's financial sector: it ranks 78th for the soundness of its banks, which have accumulated many non-performing loans. The sector is dominated by large state-owned banks, and credit flows more to state-owned enterprises or large corporations with connections than to small- and medium-sized enterprises: access to finance is rated as the second most problematic factor for doing business in China (Figure

4). A rank of 58th on goods market efficiency highlights the need to create a level playing field in non-strategic economic sectors by reforming state-owned enterprises and subjecting them to fair domestic and foreign competition, and by tackling corruption (China ranks 67th for incidence of bribery) and bureaucracy (123rd for the time it takes to start a new company).

Moving beyond market efficiency, the list of the most problematic factors for doing business in China is topped by its lack of capacity to innovate, which has become a growing concern in recent years (Figure 4). Evolving from a manufacturing-based economy to an innovation powerhouse for design and R&D requires a holistic approach to the innovation ecosystem, including nurturing talent (China ranks 68th in higher education and training) and technological readiness (ranking 74th; technology is still far from universally available, let alone used).

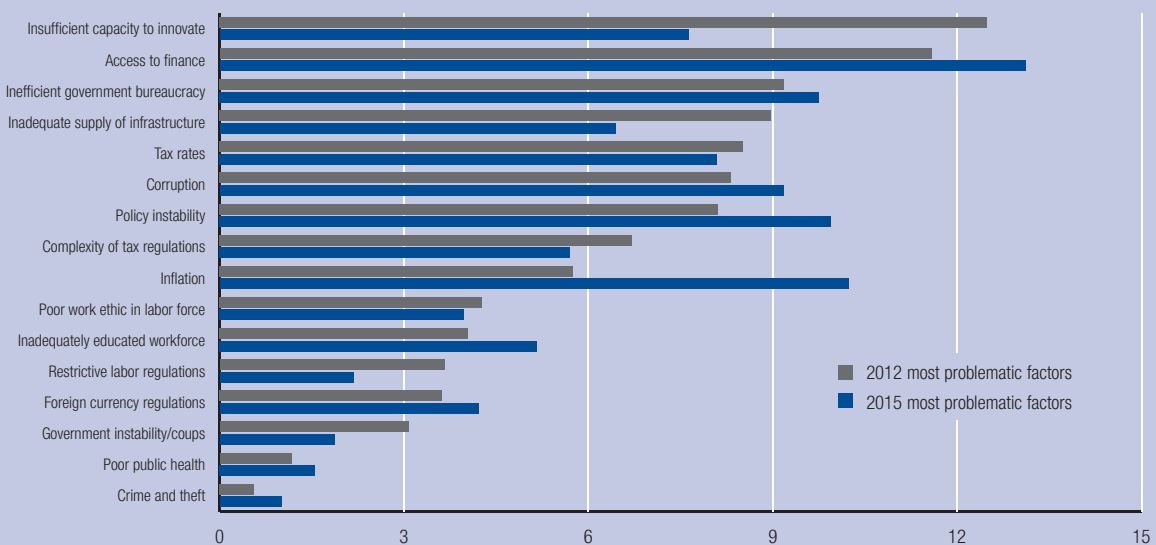
The progress that China has already made in rebalancing its economy suggests its capacity to identify and rectify weaknesses in its growth model. Since 2005, the relative importance of manufacturing in China's economy has been declining steadily, and services now account for a bigger share of GDP.<sup>1</sup> Meanwhile, a fledgling social safety net consisting of a healthcare and pension system, along with rising incomes and lower exports, have initiated a rebalancing of demand toward domestic consumption. China's "new normal" will bring further challenges in improving productivity, but its strong performance elsewhere in the GCI indicates that the country is well positioned to meet them.

#### Note

- 1 World Bank, *World Development Indicators Database* (accessed September 9, 2015).

**Figure 4: The most problematic factors for doing business in China**

Score\*



Source: World Economic Forum, Executive Opinion Survey 2012 and 2015.

\* See Box 3 for methodology.

some progress in implementing structural reforms: it is up 10 places in efficiency of the labor market, although starting from a low base, and has put more emphasis on fostering companies' innovation (32st, up three places). Although Italy has begun to improve the fundamentals needed for long-term growth, its recovery is still brittle. It needs to continue implementing structural reforms to improve productivity, which remains low compared to other European countries as a result of long-standing constraints such as burdensome red tape (139th) and labor market inefficiency (126th). Access to finance remains difficult for firms, as financial efficiency continues to deteriorate (117th): banks are still under pressure because of nonaccrual assets, while the large public debt (136th) continues to impact financing conditions and crowd out private investments.

The **Russian Federation** improves eight places to 45th, although this is explained mostly by a major revision of purchasing power parity estimates by the IMF, which led to a 40 percent increase in Russia's GDP when valued at PPP. At the same time, the country improves on some market efficiency aspects, such as the regulatory business environment and domestic competition (96th), reflecting the government's efforts to improve domestic conditions for doing business.<sup>32</sup> Import tariffs have been significantly reduced as an effect of Russia's accession to the World Trade Organization in 2012. However, the recession following the 2014 currency crisis has already dented the country's macroeconomic environment, with rising inflation and worsening public finances. This rather pessimistic outlook is compounded by weakening domestic demand, economic sanctions on the part of certain countries, and the uncertainty regarding future prices for mineral commodities. Tackling structural weaknesses in institutions (100th), financial market development (95th), and goods market efficiency (92nd) will be necessary to achieve higher prosperity beyond the current downturn—for Russia itself and for the other economies in the region to which it is strongly connected.

The decade-long improvement of **Mauritius** comes to a halt this year with a fall of seven places to 46th. Small improvements in the basic factors for competitiveness—institutions (34th, up one), infrastructure (37th, up five), and higher education (52, up two ) are offset by declines in the efficiency of labor (down by five places to 57th) and the financial market (down by eight places to 34th). Despite this, Mauritius remains sub-Saharan Africa's most competitive economy, ahead of South Africa in 49th. It boasts the region's best infrastructure (37th), most healthy and educated workforce (63rd on health and 52nd in higher education and training), and most efficient goods market (25th). Institutions are a further asset (34th). However, as the country transitions moves up the development ladder, more needs to be done to unlock the areas of competitiveness conducive to a

knowledge-driven economy: higher education, especially its quality; the use of ICTs and ability to absorb new technologies (65th), where it has steadily declined over the past decade; the capacity to innovate, about which business leaders are particularly concerned; and an inadequately educated workforce.

**South Africa** climbs seven places to reach 49th, reversing its four-year downward trend thanks largely to increased uptake of ICTs—especially higher Internet bandwidth—and improvements in innovation (up by five places to 38th), which establish the economy as the region's most innovative. South Africa also hosts the continent's most efficient financial market (12th) and benefits from a sound goods market (38th), which is driven by strong domestic competition (28th) and an efficient transport infrastructure (29th). It further benefits from strong institutions (38th), particularly property rights (24th) and a robust and independent legal framework. Reducing corruption (76th) and the burden of government regulation (117th) and improving the security situation (102nd) would further improve institutions. The country also needs to address its inefficient electricity supply (116th) and inflexible labor market (107th). Even more worrisome are health (128th) and the quality of education (120th), where higher secondary enrollment rates will not be enough to create the skills needed for a competitive economy.

**Turkey** drops six places to 51st. This result has been driven by a general decline in almost all factors driving competitiveness, with 10 out of 12 pillars registering a lower score than in the past edition. The assessment of institutions experiences the most severe drop, falling to 75th. The country's delicate political phase (elections took place in June 2015) along with the geopolitical conflicts the country engaged in have set a climate of uncertainty that tends to hold back private investments, especially those coming from international investors, which are crucial for Turkey's development. Investments have also been restrained by the uncertainty linked to a high level of inflation (8.9 percent, well above policy targets) and by a slight decline in the efficiency and confidence in the local financial sector (64th). Inflation has been driven by loose monetary policy, which has attempted to make up for lack of progress on structural reforms. In particular, policy should address the excessive reliance on external financing and the rigidity and inefficiency of a labor market (127th) that has been a drag on productivity for a long time. The investments that have been made to improve the transport infrastructure (23rd) and the relative good performance in the efficiency of the goods market (45th) only partially offset the lack of structural reforms that are indeed crucial to sustain Turkey's long-term competitiveness.

After five years of decline, **India** jumps 16 ranks to 55th place. This dramatic reversal is largely

attributable to the momentum initiated by the election of Narendra Modi, whose pro-business, pro-growth, and anti-corruption stance has improved the business community's sentiment toward the government. The quality of India's institutions is judged more favorably (60th, up 10), although business leaders still consider corruption to be the biggest obstacle to doing business in the country.

India's performance in the macroeconomic stability pillar has improved, although the situation remains worrisome (91st, up 10). Thanks to lower commodity prices, inflation eased to 6 percent in 2014, down from near double-digit levels the previous year. The government budget deficit has gradually dropped since its 2008 peak, although it still amounted to 7 percent of GDP in 2014, one of the world's highest (131st). Infrastructure has improved (81st, up six) but remains a major growth bottleneck—electricity in particular. The fact that the most notable improvements are in the basic drivers of competitiveness bodes well for the future, especially the development of the manufacturing sector. But other areas also deserve attention, including technological readiness: India remains one of the least digitally connected countries in the world (120th, up one). Fewer than one in five Indians access the Internet on a regular basis, and fewer than two in five are estimated to own even a basic cell phone.

**Mexico** progresses four places to 57th, despite some deterioration of the institutional environment, thanks to improvements in the efficiency of financial markets (up 17 places to 46th), business sophistication (up eight places to 50th), and fostering innovation (59th). The country's competitiveness also benefits from an efficient goods market with enhanced, albeit low, level of competition (99th) and a large market (11th)—Mexico is the second largest country in the region. These results signal that recent reforms are bearing fruit, but challenges remain. Despite some improvement in the labor market (up seven places to 114th), rigidities are still a problem, as are weak public (115th) and private (78th) institutions—which reflect the fact that corruption is considered the most problematic factor for doing business.

**Rwanda** continues its five-year upward trend, placing 58th and improving in seven out of 12 pillars. It has improved in business sophistication (up by 15 places to 69th) and financial markets (28th), with confidence increased by improved regulation of securities exchanges (46th) and the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders. The country benefits from strong public and private institutions (17th) and efficient markets: a flexible labor market (12th) and high female participation in the labor force (3rd) help Rwanda to rank 8th overall in labor market efficiency, though pay and productivity have to be better aligned (60th). However, basic weaknesses still

need to be tackled: despite improvements, infrastructure (97th) is hampered especially by electricity and telephony (112th), while the workforce's health (108th) and higher education (120th) remain low.

**Colombia** rises in the rankings for the second consecutive year, gaining five places to rank 61st thanks largely to an impressive amelioration in financial market development (up 45 places to 25th). The country's performance is relatively stable across other pillars, with slight improvements on most dimensions compared to last year, including business sophistication (59th) and health and education, albeit at a low position (97th). Colombia benefits from a relatively large market size (36th) and good macroeconomic results (32nd) by regional standards. Nonetheless, further improvement in the quality of the education system, especially in math and science (117th), is crucial to deliver the capacity to innovate (93rd) and diversify the economy. Other areas for improvement are the country's institutional framework, especially public institutions (125th), with corruption (126th) and security (134th) remaining dire. Structural reforms to foster competition (127th) and improve infrastructure, specifically the overall quality of transport (98th), would further enhance competitiveness.

**Brazil** continues its downward trend, dropping to 75th amid low prospects of growth and deteriorating terms of trade.<sup>33</sup> The country's performance is uneven across the Index. Brazil's most important competitiveness strength is its extremely large market size (7th). It benefits from a relatively high level of technological readiness (54th), especially ICT use, along with sophisticated businesses (56th), and it registered a significant improvement in the quality of its air transport and infrastructure (95th, up 18 places). However, it deteriorated in nine out of the 12 pillars. With a large fiscal deficit and rising inflationary pressure, Brazil's weak macroeconomic performance (down to rank 117th) is negatively impacting the country's competitiveness. Corruption scandals have undermined trust in institutions, both public (122nd, down 18 places) and private (109th, down 38). Important reforms are also needed to provide higher-quality education (132nd).

**Argentina** drops two places to 106th with continuing poor performance across different dimensions of the Index. Exceptions are market size (27th), uptake of ICTs (52nd), and higher-level education and training (39th), which is among the best in the region; however, performance is poorer on the overall quality of education (108th) and the quality of math and science (113rd). A weak macroeconomic environment (114th) and inefficient financial sector (132nd) hold back investment, with business leaders considering inflation and foreign currency regulations to be the two most problematic factors for doing business in Argentina. The country faces a deep institutional crisis, scoring poorly on property rights (133rd), ethics and corruption (137th), undue

influence (135th), public-sector performance (138th), and corporate ethics (138th). The quality of infrastructure (122nd) is also among the lowest in the region.

**Egypt**, at 116th, moves up in the rankings for the first time since the Arab Spring. This reflects a more positive assessment of the country's institutions (87th), in particular higher levels of physical security (up by seven places although still, at 133rd, an important hindrance to economic growth), a more efficient judiciary in settling business disputes (up by 23 places), and better protection of property rights (up by seven). Smaller improvements are registered on the macroeconomic environment (up four) and financial market development (up six). The upward movement reflects recent reforms, including a reduction of energy subsidies, tax reforms, and a strengthened business environment, as well as greater political stability after years of turmoil. Continued reforms are needed to create favorable conditions for private-sector growth, which will be crucial for job creation and hence social cohesion. These include more openness to trade and investment (130th on foreign competition), including reduction in tariff duties (132nd), non-tariff barriers (105th), and a more favorable environment for foreign direct investment. Continued efforts to strengthen the financial markets (119th) and investment in skills and education (111th) will further support private-sector growth.

**Nigeria** improves by three places to 124th. Last year's revision of GDP is reflected in an increase in market size (up by eight places to 25th), lower government deficit and debt, and decreased national savings. Improvements in property rights, the efficiency of the legal framework to settle and challenge disputes, and the accountability of the private sector lift the country's institutions up by five places, albeit remaining low overall (124th). The picture is mixed on efficiency of the goods market (100th), where a less competitive domestic environment outweighs improvements to encourage foreign competition; the financial market (79th), where banks are rated as relatively sound but access to finance remains problematic; and the labor market, which is one of the region's most flexible (18th) but is dragged down by an inefficient use of talent (68th) and a comparatively low female participation rate (87th). Priorities include investment in infrastructure (ranking 133rd and singled out as the most problematic factor for doing business) and human capital, where poor health in the workforce (134th) and inefficient higher education (128th) holds the country back from fulfilling its potential.

## CONCLUSIONS

Seven years after the beginning of the financial crisis, its consequences are still being felt around the world. The recovery has been less robust, more uncertain, and taken longer than many expected, suggesting a "new normal" of low economic growth, low productivity, and

high unemployment. Recent shocks—from the crisis in Ukraine to conflicts in the Middle East, terrorism, and the migrant crisis—have added to economic woes.

In the face of such fragile economic recovery and geopolitical turbulence, the analysis in this chapter has demonstrated the importance of competitiveness—understood as the drivers of higher productivity—in supporting growth and economic resilience. The historic proportions of the economic crisis and the relative performance of economies since its onset have shed light on how structural weaknesses can exacerbate shocks and make an economy ill-equipped to respond. The crisis is a forceful reminder that competitiveness matters: countries that were more competitive at the onset of the crisis are those that have weathered the crisis much better. In this context, productivity-enhancing reforms are the only way forward.

Most importantly, we cannot lose sight of the human angle. High unemployment figures are weighing heavily on societies, risking not only prolonged lower demand but also the de-skilling of a significant part of the labor force and growing discontent. Results presented here suggest that leveraging talent is at the heart of a competitive and resilient economy and countries that identify, nurture, use, and reward talent are those that enjoy more robust growth and swifter recovery. This holds even truer in these the post-crisis years, which are coinciding with a fundamental shift away from the traditional manufacturing industry to one where the continuously spreading use of ICTs is giving rise to entirely new and consumption models and industries, while disrupting others. Talent-driven economies are the best equipped to adapt to the changes brought about by this so-called fourth industrial revolution and reap their benefits.

Recovering growth in this uncharted territory will require the recognition that we need a shared assessment and understanding of the future sources of productivity. By reducing complexity and providing a tool to identify strengths and weaknesses and to track progress, the GCI framework serves as a useful means to inform this conversation and support policymakers, businesses, and civil society in their development of a shared long-term vision. Since its introduction in 2005, the GCI has been used by a growing number of countries and institutions to benchmark national competitiveness. It provides a platform for dialogue among government, businesses, and civil society that can serve as a catalyst for productivity-enhancing actions.

Building on the strengths of the GCI as a policy tool, the World Economic Forum is in the process of updating the GCI methodology. The objective is to provide a more refined assessment of the drivers of competitiveness, based on latest research and empirical evidence and using newly available datasets. Chapter 1.2 introduces the conceptual building blocks of the updated GCI framework.

## NOTES

- 1 IMF 2015d.
- 2 IMF 2015d.
- 3 US Department of Labor 2015.
- 4 For example, Hall and Jones 1999; Caselli 2005; Gourinchas and Jeanne 2006.
- 5 IMF 2015c.
- 6 The rankings for all GCI components, including each individual indicator, are available at <http://gcr.weforum.org>.
- 7 IMF 2015d.
- 8 *Secular stagnation* describes an economy where aggregate demand is so low that it necessitates high borrowing and/or very low interest rates to absorb potential output.
- 9 In advanced economies, productivity has declined already before the crisis.
- 10 Gordon 2015.
- 11 OECD 2015b.
- 12 See IMF 2015c for a more detailed discussion on the factors driving the slowdown in global trade.
- 13 OECD 2015b.
- 14 The five most competitive advanced economies were the United States, Switzerland, Denmark, Sweden, and Germany. The five least competitive were Slovenia, Portugal, Italy, Cyprus, and Greece.
- 15 By considering income groups rather than regions, we control for catch-up growth—that is, the fact that less-developed economies tend to grow faster. Income group classification was adapted from the World Bank (status as of 2007).
- 16 ILO 2015.
- 17 For the purpose of the analysis and unless mentioned otherwise, we adopt the International Monetary Fund's regional classification of economies (see page xv).
- 18 IMF 2015c.
- 19 Estonia is now classified as an advanced economy, but we retain it in this geographical group for ease of comparison.
- 20 IMF 2015c.
- 21 The World Economic Forum is currently implementing a project intended to help close the skills and innovation gaps in Latin America: the Competitiveness Lab. For more information, visit <http://www.weforum.org/reports/bridging-skills-and-innovation-gap-boost-productivity-latin-america-competitiveness-lab>.
- 22 Authors' calculation, based on IMF 2015c.
- 23 Falling oil prices would benefit the region's 37 net oil importers. Yet many of these export other commodities, whose prices have equally declined.
- 24 To absorb this growing labor force, it is estimated that 18 million jobs will need to be created in sub-Saharan Africa per year until 2035. Growth opportunities are contingent on several factors, such as the critically important issue of the employment of the expanding workforce. Successfully extended employment opportunities would lead to greater economic output and labor income per household, and—among other aspects—would increase per capita investments in health, education, and infrastructure. It would also represent a move away from the informal to the formal sector. For a complete discussion, see also IMF 2015c, Chapter 2.
- 25 However, ease of entry and exit from low-wage, low-productivity jobs and an improving business environment alone will not lead to improved competitiveness and needs to be critically complemented by competitiveness-enhancing reforms in basic requirements.
- 26 IMF 2015b.

- 27 This is partially the result of a revision of public debt data by the International Monetary Fund.
- 28 Farugee and Lusinyan 2015.
- 29 It has to be noted however, that the indicator is likely to underestimate tertiary enrollment in the United Arab Emirates as well as in other GCC economies, because students who study abroad are not included.
- 30 IMF 2015a.
- 31 IMF 2015a.
- 32 Russia made starting a business easier by eliminating requirements to deposit charter capital before registering a company and the requirement to notify tax authorities of the opening of a bank account.
- 33 OECD 2015a.

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## Appendix: Methodology and Computation of the Global Competitiveness Index 2015–2016

This appendix provides a short description of each pillar of the Global Competitiveness Index 2015–2016 (GCI) and of the application of the concept of stages of development to weight the Index. For a more detailed description and literature review for each pillar, refer to Chapter 1.1 in *The Global Competitiveness Report 2014–2015*.<sup>a</sup> The appendix also presents the detailed structure of the GCI and explains how the Index is computed.

### THE TWELVE PILLARS OF COMPETITIVENESS

We define *competitiveness* as the *set of institutions, policies, and factors that determine the level of productivity of a country*. The level of productivity, in turn, sets the level of prosperity that can be reached by an economy. The productivity level also determines the rates of return obtained by investments in an economy, which in turn are the fundamental drivers of its growth rates. In other words, a more competitive economy is one that is likely to grow faster over time.

This open-endedness is captured within the GCI by including a weighted average of many different components, each measuring a different aspect of competitiveness. The components are grouped into 12 categories, the pillars of competitiveness:

#### First pillar: Institutions

The institutional environment of a country depends on the efficiency and the behavior of both public and private stakeholders. The legal and administrative framework within which individuals, firms, and governments interact determines the quality of the public institutions of a country and has a strong bearing on competitiveness and growth. It influences investment decisions and the organization of production and plays a key role in the ways in which societies distribute the benefits and bear the costs of development strategies and policies. Good private institutions are also important for the sound and sustainable development of an economy. The 2007–08 global financial crisis, along with numerous corporate scandals, has highlighted the relevance of accounting and reporting standards and transparency for preventing fraud and mismanagement, ensuring good governance, and maintaining investor and consumer confidence.

#### Second pillar: Infrastructure

Extensive and efficient infrastructure is critical for ensuring the effective functioning of the economy. Effective modes of transport—including high-quality roads, railroads, ports, and air transport—enable entrepreneurs to get their goods and services to market in a secure and timely manner and facilitate the movement of workers to the most suitable jobs. Economies also depend on electricity supplies that are free from interruptions and shortages so that businesses and factories can work unimpeded. Finally, a solid and extensive telecommunications network allows for a rapid and free flow of information, which increases overall economic efficiency by helping to ensure that businesses can communicate and decisions are made by economic actors taking into account all available relevant information.

#### Third pillar: Macroeconomic environment

The stability of the macroeconomic environment is important for business and, therefore, is significant for the overall competitiveness of a country. Although it is certainly true that macroeconomic stability alone cannot increase the productivity of a nation, it is also recognized that macroeconomic disarray harms the economy, as we have seen in recent years, conspicuously in the European context. The government cannot provide services efficiently if it has to make high-interest payments on its past debts. Running fiscal deficits limits the government's future ability to react to business cycles. Firms cannot operate efficiently when inflation rates are out of hand. In sum, the economy cannot grow in a sustainable manner unless the macro environment is stable.

#### Fourth pillar: Health and primary education

A healthy workforce is vital to a country's competitiveness and productivity. Workers who are ill cannot function to their potential and will be less productive. Poor health leads to significant costs to business, as sick workers are often absent or operate at lower levels of efficiency. Investment in the provision of health services is thus critical for clear economic, as well as moral, considerations. In addition to health, this pillar takes into account the quantity and quality of the basic education

received by the population, which is increasingly important in today's economy. Basic education increases the efficiency of each individual worker.

#### **Fifth pillar: Higher education and training**

Quality higher education and training is crucial for economies that want to move up the value chain beyond simple production processes and products. In particular, today's globalizing economy requires countries to nurture pools of well-educated workers who are able to perform complex tasks and adapt rapidly to their changing environment and the evolving needs of the production system. This pillar measures secondary and tertiary enrollment rates as well as the quality of education as evaluated by business leaders. The extent of staff training is also taken into consideration because of the importance of vocational and continuous on-the-job training—which is neglected in many economies—for ensuring a constant upgrading of workers' skills.

#### **Sixth pillar: Goods market efficiency**

Countries with efficient goods markets are well positioned to produce the right mix of products and services given their particular supply-and-demand conditions, as well as to ensure that these goods can be most effectively traded in the economy. Healthy market competition, both domestic and foreign, is important in driving market efficiency, and thus business productivity, by ensuring that the most efficient firms, producing goods demanded by the market, are those that thrive. Market efficiency also depends on demand conditions such as customer orientation and buyer sophistication. For cultural or historical reasons, customers may be more demanding in some countries than in others. This can create an important competitive advantage, as it forces companies to be more innovative and customer-oriented and thus imposes the discipline necessary for efficiency to be achieved in the market.

#### **Seventh pillar: Labor market efficiency**

The efficiency and flexibility of the labor market are critical for ensuring that workers are allocated to their most effective use in the economy and provided with incentives to give their best effort in their jobs. Labor markets must therefore have the flexibility to shift workers from one economic activity to another rapidly and at low cost, and to allow for wage fluctuations without much social disruption. Efficient labor markets must also ensure clear strong incentives for employees and promote meritocracy at the workplace, and they must provide equity in the business environment between women and men. Taken together these factors have a positive effect on worker performance and the attractiveness of the country for talent, two aspects of the labor market that are growing more important as talent shortages loom on the horizon.

#### **Eighth pillar: Financial market development**

An efficient financial sector allocates the resources saved by a nation's population, as well as those entering the economy from abroad, to the entrepreneurial or investment projects with the highest expected rates of return rather than to the politically connected. Business investment is critical to productivity. Therefore economies require sophisticated financial markets that can make capital available for private-sector investment from such sources as loans from a sound banking sector, well-regulated securities exchanges, venture capital, and other financial products. In order to fulfill all those functions, the banking sector needs to be trustworthy and transparent, and—as has been made so clear recently—financial markets need appropriate regulation to protect investors and other actors in the economy at large.

#### **Ninth pillar: Technological readiness**

The technological readiness pillar measures the agility with which an economy adopts existing technologies to enhance the productivity of its industries, with specific emphasis on its capacity to fully leverage information and communication technologies (ICTs) in daily activities and production processes for increased efficiency and enabling innovation for competitiveness. Whether the technology used has or has not been developed within national borders is irrelevant for its ability to enhance productivity. The central point is that the firms operating in the country need to have access to advanced products and blueprints and the ability to absorb and use them. Among the main sources of foreign technology, FDI often plays a key role, especially for countries at a less advanced stage of technological development.

#### **Tenth pillar: Market size**

The size of the market affects productivity since large markets allow firms to exploit economies of scale. Traditionally, the markets available to firms have been constrained by national borders. In the era of globalization, international markets have become a substitute for domestic markets, especially for small countries. Thus exports can be thought of as a substitute for domestic demand in determining the size of the market for the firms of a country. By including both domestic and foreign markets in our measure of market size, we give credit to export-driven economies and geographic areas (such as the European Union) that are divided into many countries but have a single common market.

#### **Eleventh pillar: Business sophistication**

Business sophistication concerns two elements that are intricately linked: the quality of a country's overall business networks and the quality of individual firms' operations and strategies. These factors are especially important for countries at an advanced stage of

development when, to a large extent, the more basic sources of productivity improvements have been exhausted. The quality of a country's business networks and supporting industries, as measured by the quantity and quality of local suppliers and the extent of their interaction, is important for a variety of reasons. When companies and suppliers from a particular sector are interconnected in geographically proximate groups, called *clusters*, efficiency is heightened, greater opportunities for innovation in processes and products are created, and barriers to entry for new firms are reduced.

### Twelfth pillar: Innovation

The final pillar of competitiveness focuses on technological innovation. Innovation is particularly important for economies as they approach the frontiers of knowledge, and the possibility of generating more value by merely integrating and adapting exogenous technologies tends to disappear. In these economies, firms must design and develop cutting-edge products and processes to maintain a competitive edge and move toward even higher value-added activities. This progression requires an environment that is conducive to innovative activity and supported by both the public and the private sectors. In particular, it means sufficient investment in research and development (R&D), especially by the private sector; the presence of high-quality scientific research institutions that can generate the basic knowledge needed to build the new technologies; extensive collaboration in research and technological developments between universities and industry; and the protection of intellectual property.

### The interrelation of the 12 pillars

Although we report the results of the 12 pillars of competitiveness separately, it is important to keep in mind that they are not independent: they tend to reinforce each other, and a weakness in one area often has a negative impact in others. The detailed structure and methodology used to compute the GCI are presented at the end of this appendix.

## STAGES OF DEVELOPMENT AND THE WEIGHTED INDEX

Although all of the pillars described above will matter to a certain extent for all economies, it is clear that they affect different economies in different ways.

In line with well-known economic theory of stages of development, the GCI assumes that, in the first stage, the economy is *factor-driven* and countries compete based on their factor endowments—primarily unskilled labor and natural resources.<sup>b</sup> Maintaining competitiveness at this stage of development hinges primarily on well-functioning public and private institutions (1st pillar), a well-developed infrastructure

(2nd pillar), a stable macroeconomic environment (3rd pillar), and a healthy workforce that has received at least a basic education (4th pillar).

As a country becomes more competitive, productivity will increase and wages will rise with advancing development. Countries will then move into the *efficiency-driven* stage of development, when they must begin to develop more-efficient production processes and increase product quality because wages have risen and they cannot increase prices. At this point, competitiveness is increasingly driven by higher education and training (5th pillar), efficient goods markets (6th pillar), well-functioning labor markets (7th pillar), developed financial markets (8th pillar), the ability to harness the benefits of existing technologies (9th pillar), and a large domestic or foreign market (10th pillar).

Finally, as countries move into the *innovation-driven* stage, wages will have risen by so much that they are able to sustain those higher wages and the associated standard of living only if their businesses are able to compete using the most sophisticated production processes (11th pillar) and by innovating new ones (12th pillar).

The GCI takes the stages of development into account by attributing higher relative weights to those pillars that are more relevant for an economy given its particular stage of development. To implement this concept, the pillars are organized into three subindexes, each critical to a particular stage of development.

The *basic requirements subindex* groups those pillars most critical for countries in the factor-driven stage. The *efficiency enhancers subindex* includes those pillars critical for countries in the efficiency-driven stage. And the *innovation and sophistication factors subindex* includes the pillars critical to countries in the innovation-driven stage.

The weights attributed to each subindex in every stage of development are shown in Table 1.

Two criteria are used to allocate countries into stages of development. The first is the level of GDP per capita at market exchange rates. The thresholds used are also reported in Table 1. A second criterion is used to adjust for countries that, based on income, would have moved beyond stage 1, but where prosperity is based on the extraction of resources. This is measured by the share of exports of mineral goods in total exports (goods and services), and assumes that countries with more than 70 percent of their exports made up of mineral products (measured using a five-year average) are to a large extent factor driven.<sup>c</sup> Countries that are resource driven and significantly wealthier than economies at the technological frontier are classified in the innovation-driven stage.<sup>d</sup> Any countries falling between two of the three stages are considered to be “in transition.” For these countries, the weights change smoothly as a country develops, reflecting the smooth transition from

**Table 1: Subindex weights and income thresholds for stages of development**

	STAGE OF DEVELOPMENT				
	Stage 1: Factor-driven	Transition from stage 1 to stage 2	Stage 2: Efficiency-driven	Transition from stage 2 to stage 3	Stage 3: Innovation-driven
GDP per capita (US\$) thresholds*	<2,000	2,000–2,999	3,000–8,999	9,000–17,000	>17,000
Weight for basic requirements	60%	40–60%	40%	20–40%	20%
Weight for efficiency enhancers	35%	35–50%	50%	50%	50%
Weight for innovation and sophistication factors	5%	5–10%	10%	10–30%	30%

Note: See individual country/economy profiles for the exact applied weights.

\* For economies with a high dependency on mineral resources, GDP per capita is not the sole criterion for the determination of the stage of development. See text for details.

**Table 2: Countries/economies at each stage of development**

Stage 1: Factor-driven (35 economies)	Transition from stage 1 to stage 2 (16 economies)	Stage 2: Efficiency-driven (31 economies)	Transition from stage 2 to stage 3 (20 economies)	Stage 3: Innovation-driven (38 economies)
Bangladesh	Algeria	Albania	Argentina	Australia
Benin	Azerbaijan	Armenia	Brazil	Austria
Burundi	Bhutan	Bolivia	Chile	Bahrain
Cambodia	Botswana	Bosnia and Herzegovina	Costa Rica	Belgium
Cameroon	Gabon	Bulgaria	Croatia	Canada
Chad	Honduras	Cape Verde	Hungary	Cyprus
Côte d'Ivoire	Iran, Islamic rep.	China	Latvia	Czech Republic
Ethiopia	Kazakhstan	Colombia	Lebanon	Denmark
Gambia, The	Kuwait	Dominican Republic	Lithuania	Estonia
Ghana	Moldova	Ecuador	Malaysia	Finland
Guinea	Mongolia	Egypt	Mauritius	France
Haiti	Nigeria	El Salvador	Mexico	Germany
India	Philippines	Georgia	Oman	Greece
Kenya	Saudi Arabia	Guatemala	Panama	Hong Kong SAR
Kyrgyz Republic	Venezuela	Guyana	Poland	Iceland
Lao PDR	Vietnam	Indonesia	Romania	Ireland
Lesotho		Jamaica	Russian Federation	Israel
Liberia		Jordan	Seychelles	Italy
Madagascar		Macedonia, FYR	Turkey	Japan
Malawi		Montenegro	Uruguay	Korea, Rep.
Mali		Morocco		Luxembourg
Mauritania		Namibia		Malta
Mozambique		Paraguay		Netherlands
Myanmar		Peru		New Zealand
Nepal		Serbia		Norway
Nicaragua		South Africa		Portugal
Pakistan		Sri Lanka		Qatar
Rwanda		Swaziland		Singapore
Senegal		Thailand		Slovak Republic
Sierra Leone		Tunisia		Slovenia
Tajikistan		Ukraine		Spain
Tanzania				Sweden
Uganda				Switzerland
Zambia				Taiwan, China
Zimbabwe				Trinidad and Tobago
				United Arab Emirates
				United Kingdom
				United States

one stage of development to another. The classification of countries into stages of development is shown in Table 2.

### STRUCTURE AND COMPUTATION OF THE INDEX

The computation of the GCI is based on successive aggregations of scores from the indicator level (i.e., the most disaggregated level) all the way up to the overall GCI score. Unless noted otherwise, we use an arithmetic mean to aggregate individual indicators within a category.<sup>g</sup> For the higher aggregation levels, we use the percentage shown next to each category. This percentage represents the category's weight within its immediate parent category. Reported percentages are rounded to the nearest integer, but exact figures are used in the calculation of the GCI. For example, the score a country achieves in the 11th pillar accounts for 50 percent of this country's score in the *innovation and sophistication factors* subindex, irrespective of the country's stage of development. Similarly, the score achieved on the subpillar *transport infrastructure* accounts for 50 percent of the score of the infrastructure pillar.

Unlike the case for the lower levels of aggregation, the weight put on each of the three subindexes (*basic requirements*, *efficiency enhancers*, and *innovation and sophistication factors*) is not fixed. Instead, it depends on each country's stage of development, as discussed in the chapter.<sup>f</sup> For instance, in the case of Burundi—a country in the first stage of development—the score in the *basic requirements* subindex accounts for 60 percent of its overall GCI score, while it represents just 20 percent of the overall GCI score of Sweden, a country in the third stage of development. For countries in transition between stages, the weighting applied to each subindex is reported in the corresponding profile at the end of this volume. For instance, in the case of Turkey, currently in transition from stage 2 to stage 3, the weight on each subindex is 36.3 percent, 50 percent, and 13.7 percent, respectively, as reported in the country profile on page 350.

Indicators that are not derived from the Executive Opinion Survey (the Survey) are identified by an asterisk (\*) in the following list. The Technical Notes and Sources section at the end of the *Report* provides detailed information about each of these indicators. To make the aggregation possible, the indicators are converted to a 1-to-7 scale in order to align them with the Survey results. We apply a min-max transformation, which preserves the order of, and the relative distance between, country scores.<sup>g</sup>

Indicators that are followed by the designation "½" enter the GCI in two different pillars. In order to avoid double counting, we assign a half-weight to each instance.<sup>h</sup>

Weight (%) within  
immediate parent category

<b>BASIC REQUIREMENTS</b> .....	<b>20–60%</b> <sup>f</sup>
<b>1st pillar: Institutions</b> .....	<b>25%</b>
<b>A. Public institutions</b> .....	<b>75%</b>
1. Property rights.....	20%
1.01 Property rights	
1.02 Intellectual property protection <sup>½</sup>	
2. Ethics and corruption.....	20%
1.03 Diversion of public funds	
1.04 Public trust in politicians	
1.05 Irregular payments and bribes	
3. Undue influence.....	20%
1.06 Judicial independence	
1.07 Favoritism in decisions of government officials	
4. Public-sector performance.....	20%
1.08 Wastefulness of government spending	
1.09 Burden of government regulation	
1.10 Efficiency of legal framework in settling disputes	
1.11 Efficiency of legal framework in challenging regulations	
1.12 Transparency of government policymaking	
5. Security.....	20%
1.13 Business costs of terrorism	
1.14 Business costs of crime and violence	
1.15 Organized crime	
1.16 Reliability of police services	
<b>B. Private institutions</b> .....	<b>25%</b>
1. Corporate ethics.....	50%
1.17 Ethical behavior of firms	
2. Accountability.....	50%
1.18 Strength of auditing and reporting standards	
1.19 Efficacy of corporate boards	
1.20 Protection of minority shareholders' interests	
1.21 Strength of investor protection*	
<b>2nd pillar: Infrastructure</b> .....	<b>25%</b>
<b>A. Transport infrastructure</b> .....	<b>50%</b>
2.01 Quality of overall infrastructure	
2.02 Quality of roads	
2.03 Quality of railroad infrastructure <sup>i</sup>	
2.04 Quality of port infrastructure	
2.05 Quality of air transport infrastructure	
2.06 Available airline seat kilometers*	
<b>B. Electricity and telephony infrastructure</b> .....	<b>50%</b>
2.07 Quality of electricity supply	
2.08 Mobile telephone subscriptions* <sup>½</sup>	
2.09 Fixed telephone lines* <sup>½</sup>	
<b>3rd pillar: Macroeconomic environment</b> .....	<b>25%</b>
3.01 Government budget balance*	
3.02 Gross national savings*	
3.03 Inflation* <sup>j</sup>	
3.04 Government debt*	
3.05 Country credit rating*	

**4th pillar: Health and primary education.....25%****A. Health..... 50%**

- 4.01 Business impact of malaria<sup>k</sup>
- 4.02 Malaria incidence\*<sup>k</sup>
- 4.03 Business impact of tuberculosis<sup>k</sup>
- 4.04 Tuberculosis incidence\*<sup>k</sup>
- 4.05 Business impact of HIV/AIDS<sup>k</sup>
- 4.06 HIV prevalence\*<sup>k</sup>
- 4.07 Infant mortality\*
- 4.08 Life expectancy\*

**B. Primary education.....50%**

- 4.09 Quality of primary education
- 4.10 Primary education enrollment rate\*

**EFFICIENCY ENHANCERS .....35–50%<sup>f</sup>****5th pillar: Higher education and training.....17%****A. Quantity of education.....33%**

- 5.01 Secondary education enrollment rate\*
- 5.02 Tertiary education enrollment rate\*

**B. Quality of education.....33%**

- 5.03 Quality of the educational system
- 5.04 Quality of math and science education
- 5.05 Quality of management schools
- 5.06 Internet access in schools

**C. On-the-job training.....33%**

- 5.07 Local availability of specialized research and training services
- 5.08 Extent of staff training

**6th pillar: Goods market efficiency .....17%****A. Competition.....67%****1. Domestic competition .....variable<sup>l</sup>**

- 6.01 Intensity of local competition
- 6.02 Extent of market dominance
- 6.03 Effectiveness of anti-monopoly policy
- 6.04 Effect of taxation on incentives to invest
- 6.05 Total tax rate\*
- 6.06 Number of procedures required to start a business\*<sup>m</sup>
- 6.07 Time required to start a business\*<sup>m</sup>
- 6.08 Agricultural policy costs

**2. Foreign competition variable<sup>l</sup>**

- 6.09 Prevalence of trade barriers
- 6.10 Trade tariffs\*
- 6.11 Prevalence of foreign ownership
- 6.12 Business impact of rules on FDI
- 6.13 Burden of customs procedures
- 6.14 Imports as a percentage of GDP\*<sup>n</sup>

**B. Quality of demand conditions.....33%**

- 6.15 Degree of customer orientation
- 6.16 Buyer sophistication

**7th pillar: Labor market efficiency .....17%****A. Flexibility.....50%**

- 7.01 Cooperation in labor-employer relations
- 7.02 Flexibility of wage determination
- 7.03 Hiring and firing practices
- 7.04 Redundancy costs\*
- 7.05 Effect of taxation on incentives to work

**B. Efficient use of talent.....50%**

- 7.06 Pay and productivity
- 7.07 Reliance on professional management<sup>½</sup>

- 7.08 Country capacity to retain talent
- 7.09 Country capacity to attract talent
- 7.10 Female participation in labor force\*

**8th pillar: Financial market development.....17%****A. Efficiency.....50%**

- 8.01 Availability of financial services
- 8.02 Affordability of financial services
- 8.03 Financing through local equity market
- 8.04 Ease of access to loans
- 8.05 Venture capital availability

**B. Trustworthiness and confidence.....50%**

- 8.06 Soundness of banks
- 8.07 Regulation of securities exchanges
- 8.08 Legal rights index\*

**9th pillar: Technological readiness.....17%****A. Technological adoption.....50%**

- 9.01 Availability of latest technologies
- 9.02 Firm-level technology absorption
- 9.03 FDI and technology transfer

**B. ICT use.....50%**

- 9.04 Internet users\*
- 9.05 Broadband Internet subscriptions\*
- 9.06 Internet bandwidth\*
- 9.07 Mobile broadband subscriptions\*
- 2.08 Mobile telephone subscriptions\*<sup>½</sup>
- 2.09 Fixed telephone lines\*<sup>½</sup>

**10th pillar: Market size.....17%****A. Domestic market size.....75%**

- 10.01 Domestic market size index\*<sup>o</sup>

**B. Foreign market size.....25%**

- 10.02 Foreign market size index\*<sup>p</sup>

**INNOVATION AND SOPHISTICATION FACTORS .....5–30%<sup>f</sup>****11th pillar: Business sophistication .....50%**

- 11.01 Local supplier quantity
- 11.02 Local supplier quality
- 11.03 State of cluster development
- 11.04 Nature of competitive advantage
- 11.05 Value chain breadth
- 11.06 Control of international distribution
- 11.07 Production process sophistication
- 11.08 Extent of marketing
- 11.09 Willingness to delegate authority
- 7.07 Reliance on professional management<sup>½</sup>

**12th pillar: R&D Innovation.....50%**

- 12.01 Capacity for innovation
- 12.02 Quality of scientific research institutions
- 12.03 Company spending on R&D
- 12.04 University-industry collaboration in R&D
- 12.05 Government procurement of advanced technology products
- 12.06 Availability of scientists and engineers
- 12.07 PCT patent applications\*
- 1.02 Intellectual property protection<sup>½</sup>

## NOTES

- a World Economic Forum 2014.
- b Probably the most famous theory of stages of development was developed by the American historian W. W. Rostow in the 1960s (see Rostow 1960). Here we adapt Michael Porter's theory of stages (see Porter 1990). See Chapter 1.1 of *The Global Competitiveness Report 2007–2008* for a complete description of how we have adapted Michael Porter's theory for the present application (Sala-i-Martin et al. 2007).
- c In order to capture the resource intensity of the economy, we use as a proxy the exports of mineral products as a share of overall exports according to the sector classification developed by the International Trade Centre in their Trade Performance Index. In addition to crude oil and gas, this category also contains all metal ores and other minerals as well as petroleum products, liquefied gas, coal, and precious stones. The data used cover the years 2010 through 2014. Further information on these data can be found at <http://www.intracen.org/menus/countries.htm>  
All countries with more than 70 percent of their exports made up of mineral products are considered to be to some extent factor driven. The stage of development for these countries is adjusted downward smoothly depending on the exact primary export share. The higher the minerals export share, the stronger the adjustment and the closer the country will move to stage 1. For example, a country that exports 95 percent of mineral exports and that, based on the income criteria, would be in stage 3 will be in transition between stages 1 and 2. The income and primary exports criteria are weighted identically. Stages of development are dictated solely by income for countries that export less than 70 percent minerals. Countries that export only primary products would automatically fall into the factor-driven stage (stage 1).
- d In practice, this applies to countries where the GDP per capita at current market prices has, for the past five years, been above an average of that of economies at the technology frontier. Countries at the technology frontier are the 10 countries with the highest per capita patenting activity according to Patent Cooperation Treaty data.

- e Formally, for a category  $i$  composed of  $K$  indicators, we have:

$$category_i = \frac{\sum_{k=1}^K indicator_k}{K}$$

- f As described above, the weights are as specified in Table 1 of this appendix. Refer to individual country/economy profiles at the end of this *Report* for the exact weights used in the computation of each economy's GCI score.

- g Formally, we have:

$$6 \times \left( \frac{\text{country score} - \text{sample minimum}}{\text{sample maximum} - \text{sample minimum}} \right) + 1$$

The *sample minimum* and *sample maximum* are, respectively, the lowest and highest country scores in the sample of economies covered by the GCI. In some instances, adjustments were made to account for extreme outliers. For those indicators for which a higher value indicates a worse outcome (e.g., disease incidence, government debt), the transformation formula takes the following form, thus ensuring that 1 and 7 still corresponds to the worst and best possible outcomes, respectively:

$$-6 \times \left( \frac{\text{country score} - \text{sample minimum}}{\text{sample maximum} - \text{sample minimum}} \right) + 7$$

- h For those categories that contain one or several half-weight indicators, country scores are computed as follows:

$$\frac{(\text{sum of scores on full-weight variables}) + \frac{1}{2} \times (\text{sum of scores on half-weight variables})}{(\text{count of full-weight variables}) + \frac{1}{2} \times (\text{count of half-weight variables})}$$

- i "N/Apl." is used for economies where there is no regular train service or where the network covers only a negligible portion of the territory. Assessment of the existence of a network was conducted by the World Economic Forum based on various sources.
- j In order to capture the idea that both high inflation and deflation are detrimental, inflation enters the model in a U-shaped manner as follows: for values of inflation between 0.5 and 2.9 percent, a country receives the highest possible score of 7. Outside this range, scores decrease linearly as they move away from these values.
- k The impact of malaria, tuberculosis, and HIV/AIDS on competitiveness depends not only on their respective incidence rates but also on how costly they are for business. Therefore, in order to estimate the impact of each of the three diseases, we combine its incidence rate with the Survey question on its perceived cost to businesses. To combine these data we first take the ratio of each country's disease incidence rate relative to the highest incidence rate in the whole sample. The inverse of this ratio is then multiplied by each country's score on the related Survey question. This product is then normalized to a 1-to-7 scale. Note that countries with zero reported incidence receive a 7, regardless of their scores on the related Survey question. In the case of malaria, countries receive a 7 if the World Health Organization has classified them as malaria-free countries or included them in the supplementary list of areas where malaria has never existed or has disappeared without specific measures.
- l The *competition* subpillar is the weighted average of two components: *domestic competition* and *foreign competition*. In both components, the included indicators provide an indication of the extent to which competition is distorted. The relative importance of these distortions depends on the relative size of domestic versus foreign competition. This interaction between the domestic market and the foreign market is captured by the way we determine the weights of the two components. Domestic competition is the sum of consumption (C), investment (I), government spending (G), and exports (X), while foreign competition is equal to imports (M). Thus we assign a weight of  $(C + I + G + X)/(C + I + G + X + M)$  to *domestic competition* and a weight of  $M/(C + I + G + X + M)$  to *foreign competition*.
- m Indicators 6.06 and 6.07 combine to form one single indicator.
- n For indicator 6.14, imports as a percentage of GDP, we first apply a log-transformation and then a min-max transformation.
- o The size of the domestic market is constructed by taking the natural log of the sum of the gross domestic product valued at purchased power parity (PPP) (indicator 10.03) plus the total value (PPP estimates) of imports of goods and services (indicator 6.14), minus the total value (PPP estimates) of exports of goods and services (indicator 10.04). Data are then normalized on a 1-to-7 scale. PPP estimates of imports and exports are obtained by taking the product of exports as a percentage of GDP and GDP valued at PPP.
- p The size of the foreign market is estimated as the natural log of the total value (PPP estimates) of exports of goods and services, normalized on a 1-to-7 scale. PPP estimates of exports are obtained by taking the product of exports as a percentage of GDP (indicator 10.04) and GDP valued at PPP (10.03).