CHAPTER 2
HOW GLOBALIZED ARE INDIVIDUAL COUNTRIES AND REGIONS?

As Chapter 1 demonstrated, the world is still less connected than most people presume, even with globalization's rise to a new record level in 2017. Globalization is also far from complete in another sense: some parts of the world are much more connected than others. This chapter compares countries' and regions' levels of connectedness and examines country characteristics that influence them.[1]

We begin by ranking and discussing countries' overall DHL Global Connectedness Index scores, and then delve into their separate results on the depth and breadth dimensions of the index. Second, we compare countries' actual scores to predictions based on their structural characteristics. Third, we report changes from 2015 to 2017 in countries' levels of connectedness and highlight where connectedness increased or decreased the most. Fourth, we summarize the results at the level of major world regions. We conclude with recommendations on how to use the index as an input to business and public policy decision-making.

Readers who wish to examine countries' global connectedness trends over time should use the scores and ranks computed for this edition of the index, which are provided back to 2001 in **Appendix A, Tables A.1 to A.3**, rather than comparing this year's report with prior editions. There are three reasons for this: First, this report incorporates our latest methodological enhancements, as well as the most recent revisions to the source data underlying the index. Second, the number of countries included in the index has been expanded to 169 from 140 in the previous edition, shifting the field of comparison against which countries' positions on the index are calculated.[2] Third, comparing results across years within a single edition of this report rather than across editions is consistent with the technical requirements of the normalization method used to compute the index, as described in **Chapter 3**.

Since this chapter cannot discuss every country in detail, we provide a full set of country profiles in **Part II** of this report. These profiles graph all counties' overall global connectedness since 2001, map their international flows, and provide data on their depth and breadth metrics. They also compare countries' inward versus outward connectedness and highlight key structural and policy drivers of global connectedness.

2017 Scores and Rankings

Figure 2.1 reports countries' overall scores and ranks in 2017, the most recent year covered in this edition of the index. It also highlights the composition of each country's score based on the depth and breadth of its connectedness. Recall that depth measures how much of a country's trade, capital, information, and people flows are international rather than domestic, while breadth captures whether its international flows are spread out globally or more narrowly focused. Both depth and breadth are scored from 0 to 50, so that when they are added together overall global connectedness is measured from 0 to 100. **Figure 2.2** summarizes countries' ranks on a world map, and **Appendix A** provides complete depth, breadth and pillar-level results.

The top 10 ranks on the DHL Global Connectedness Index are held, in descending order, by the Netherlands, Singapore, Switzerland, Belgium, the United Arab Emirates, Ireland, Luxembourg, Denmark, the United Kingdom, and Germany. The countries that fall to the bottom of the rankings are, in ascending order, Sudan, Zimbabwe, Afghanistan, Kiribati, Yemen, Uzbekistan, Timor-Leste, Eswatini (Swaziland), Comoros, and Uganda.

Contrasting the countries with the highest and the lowest ranks begins to suggest patterns of how levels of connectedness vary with countries' economic conditions and geographic locations. The top 10 are all among the world's most prosperous countries, and the International Monetary Fund (IMF) classifies all but one (the United Arab Emirates) as

FIGURE 2.1 // DHL GLOBAL CONNECTEDNESS INDEX, OVERALL RESULTS
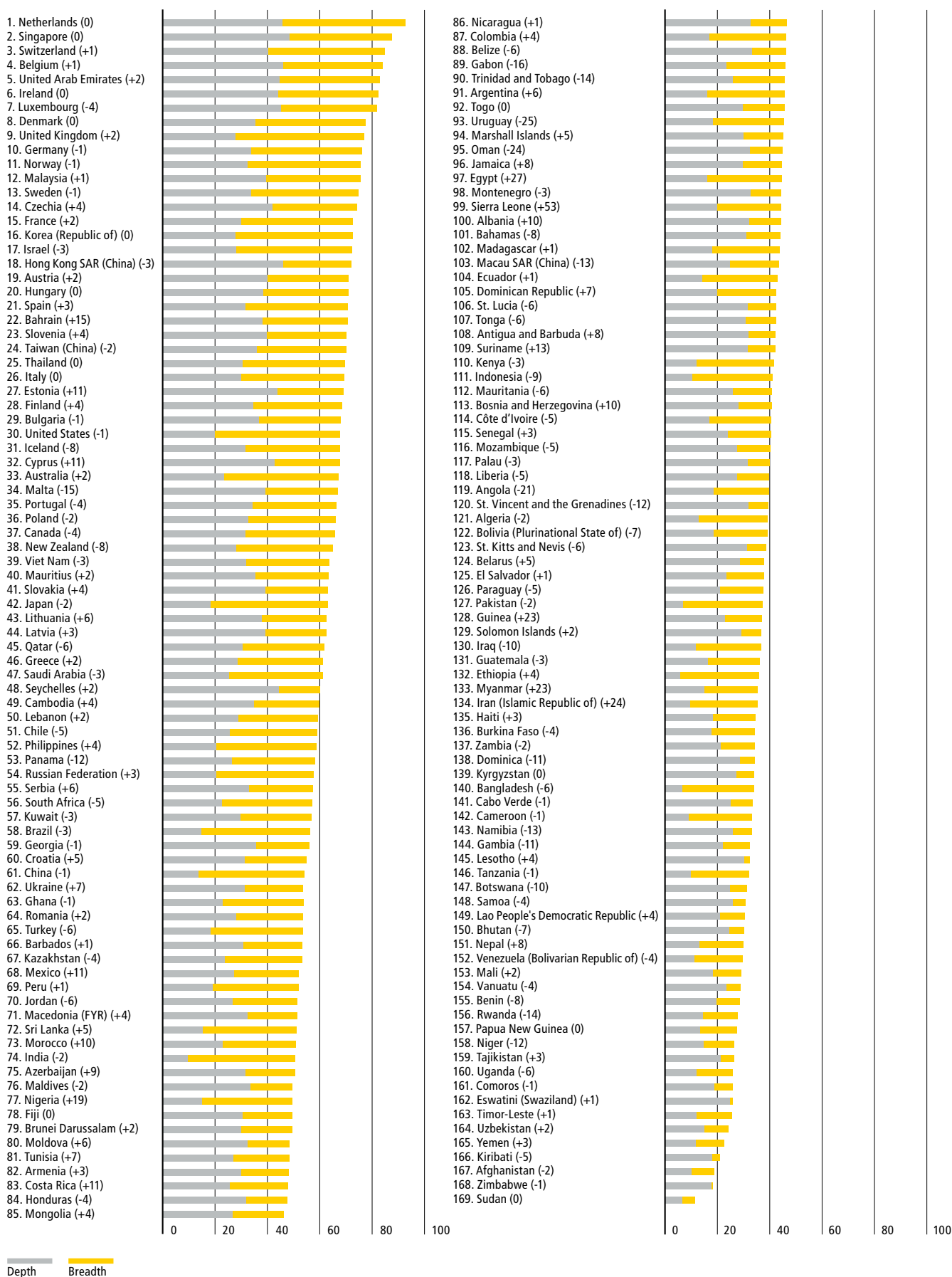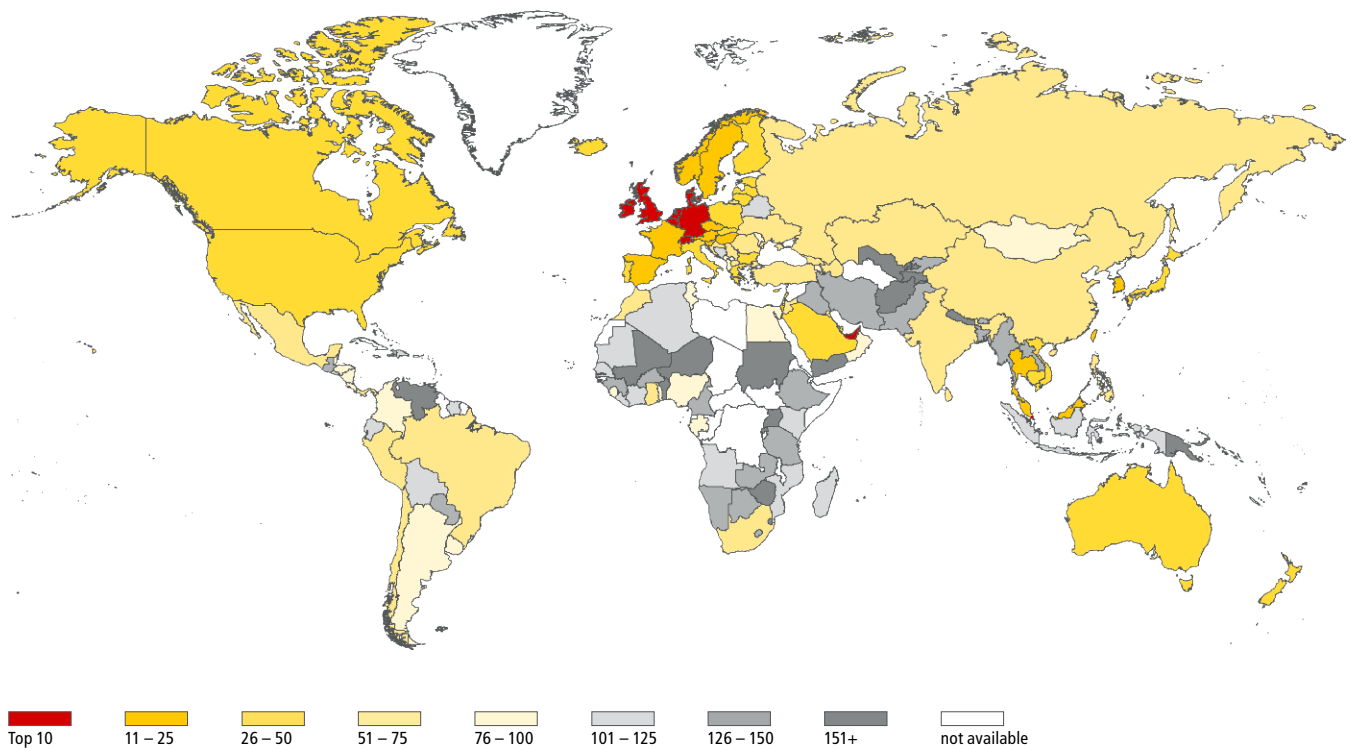### WITH RANK CHANGES FROM 2015 TO 2017 IN PARENTHESES

1. Netherlands (0)
2. Singapore (0)
3. Switzerland (+1)
4. Belgium (+1)
5. United Arab Emirates (+2)
6. Ireland (0)
7. Luxembourg (-4)
8. Denmark (0)
9. United Kingdom (+2)
10. Germany (-1)
11. Norway (-1)
12. Malaysia (+1)
13. Sweden (-1)
14. Czechia (+4)
15. France (+2)
16. Korea (Republic of) (0)
17. Israel (-3)
18. Hong Kong SAR (China) (-3)
19. Austria (+2)
20. Hungary (0)
21. Spain (+3)
22. Bahrain (+15)
23. Slovenia (+4)
24. Taiwan (China) (-2)
25. Thailand (0)
26. Italy (0)
27. Estonia (+11)
28. Finland (+4)
29. Bulgaria (-1)
30. United States (-1)
31. Iceland (-8)
32. Cyprus (+11)
33. Australia (+2)
34. Malta (-15)
35. Portugal (-4)
36. Poland (-2)
37. Canada (-4)
38. New Zealand (-8)
39. Viet Nam (-3)
40. Mauritius (+2)
41. Slovakia (+4)
42. Japan (-2)
43. Lithuania (+6)
44. Latvia (+3)
45. Qatar (-6)
46. Greece (+2)
47. Saudi Arabia (-3)
48. Seychelles (+2)
49. Cambodia (+4)
50. Lebanon (+2)
51. Chile (-5)
52. Philippines (+4)
53. Panama (-12)
54. Russian Federation (+3)
55. Serbia (+6)
56. South Africa (-5)
57. Kuwait (-3)
58. Brazil (-3)
59. Georgia (-1)
60. Croatia (+5)
61. China (-1)
62. Ukraine (+7)
63. Ghana (-1)
64. Romania (+2)
65. Turkey (-6)
66. Barbados (+1)
67. Kazakhstan (-4)
68. Mexico (+11)
69. Peru (+1)
70. Jordan (-6)
71. Macedonia (FYR) (+4)
72. Sri Lanka (+5)
73. Morocco (+10)
74. India (-2)
75. Azerbaijan (+9)
76. Maldives (-2)
77. Nigeria (+19)
78. Fiji (0)
79. Brunei Darussalam (+2)
80. Moldova (+6)
81. Tunisia (+7)
82. Armenia (+3)
83. Costa Rica (+11)
84. Honduras (-4)
85. Mongolia (+4)

86. Nicaragua (+1)
87. Colombia (+4)
88. Belize (-6)
89. Gabon (-16)
90. Trinidad and Tobago (-14)
91. Argentina (+6)
92. Togo (0)
93. Uruguay (-25)
94. Marshall Islands (+5)
95. Oman (-24)
96. Jamaica (+8)
97. Egypt (+27)
98. Montenegro (-3)
99. Sierra Leone (+53)
100. Albania (+10)
101. Bahamas (-8)
102. Madagascar (+1)
103. Macau SAR (China) (-13)
104. Ecuador (+1)
105. Dominican Republic (+7)
106. St. Lucia (-6)
107. Tonga (-6)
108. Antigua and Barbuda (+8)
109. Suriname (+13)
110. Kenya (-3)
111. Indonesia (-9)
112. Mauritania (-6)
113. Bosnia and Herzegovina (+10)
114. Côte d'Ivoire (-5)
115. Senegal (+3)
116. Mozambique (-5)
117. Palau (-3)
118. Liberia (-5)
119. Angola (-21)
120. St. Vincent and the Grenadines (-12)
121. Algeria (-2)
122. Bolivia (Plurinational State of) (-7)
123. St. Kitts and Nevis (-6)
124. Belarus (+5)
125. El Salvador (+1)
126. Paraguay (-5)
127. Pakistan (-2)
128. Guinea (+23)
129. Solomon Islands (+2)
130. Iraq (-10)
131. Guatemala (-3)
132. Ethiopia (+4)
133. Myanmar (+23)
134. Iran (Islamic Republic of) (+24)
135. Haiti (+3)
136. Burkina Faso (-4)
137. Zambia (-2)
138. Dominica (-11)
139. Kyrgyzstan (0)
140. Bangladesh (-6)
141. Cabo Verde (-1)
142. Cameroon (-1)
143. Namibia (-13)
144. Gambia (-11)
145. Lesotho (+4)
146. Tanzania (-1)
147. Botswana (-10)
148. Samoa (-4)
149. Lao People's Democratic Republic (+4)
150. Bhutan (-7)
151. Nepal (+8)
152. Venezuela (Bolivarian Republic of) (-4)
153. Mali (+2)
154. Vanuatu (-4)
155. Benin (-8)
156. Rwanda (-14)
157. Papua New Guinea (0)
158. Niger (-12)
159. Tajikistan (+3)
160. Uganda (-6)
161. Comoros (-1)
162. Eswatini (Swaziland) (+1)
163. Timor-Leste (+1)
164. Uzbekistan (+2)
165. Yemen (+3)
166. Kiribati (-5)
167. Afghanistan (-2)
168. Zimbabwe (-1)
169. Sudan (0)

Depth   Breadth

FIGURE 2.2 //
DHL GLOBAL CONNECTEDNESS INDEX, OVERALL RANKS MAP

Top 10	11 – 25	26 – 50	51 – 75	76 – 100	101 – 125	126 – 150	151+	not available

The world's most globally connected countries in 2017 are the Netherlands, Singapore, Switzerland, Belgium, the United Arab Emirates, Ireland, Luxembourg, Denmark, the United Kingdom, and Germany.

advanced economies.[3] And eight of the top 10 are located in Europe. In contrast, the IMF classifies all of the bottom 10 countries as emerging and developing economies.

Statistical analysis across all countries affirms that more connected countries tend to be more prosperous than less connected countries. All else equal, if one country has twice as high a GDP per capita as another, its global connectedness score will tend to be about 6 points higher on average. Location and size matter, too. When countries are assigned remoteness scores between 0 and 10 based on their distance from foreign markets, an increase of 5 points in remoteness is associated with a reduction of more than 6 points on global connectedness (5 points is about how much more remote Rwanda is, loosely speaking, from the world's economic center of gravity than the Netherlands). And if one country has twice the population of another, its global connectedness score will tend to be roughly 1 point higher.[4]

In fact, countries' per capita GDPs, remoteness, and populations alone explain about 70% of the variation in their global connectedness scores. Additionally, speaking a common language with other major economies and direct

access to the sea (i.e. a country not being landlocked) are also associated with higher global connectedness.

Returning to the highest and lowest ranked countries, it is unsurprising that eight of the top 10 are in Europe, a wealthy region where countries average the lowest remoteness. And while two of the top 10 are landlocked, even those—Switzerland and Luxembourg—benefit from well-developed institutional and physical infrastructure to connect them to world markets. The five landlocked countries in the bottom 10 lack such compensating advantages.[5]

Focusing on the top 10 most globally connected countries should not, however, foster the misconception that global connectedness is restricted to the richest countries in the most privileged locations. Malaysia (ranked 12th) is classified by the World Bank as an upper-middle-income country. Viet Nam (ranked 39th) is a lower-middle-income country.[6]

The top 60 countries include representatives from all geographic regions.[7] Countries in Europe, East Asia & Pacific, and Middle East & North Africa were already featured in the top 10. North America enters the list with the United

FIGURE 2.3 //
DHL GLOBAL CONNECTEDNESS INDEX, DEPTH RANKS MAP

| Top 10 | 11 – 25 | 26 – 50 | 51 – 75 | 76 – 100 | 101 – 125 | 126 – 150 | 151+ | not available |
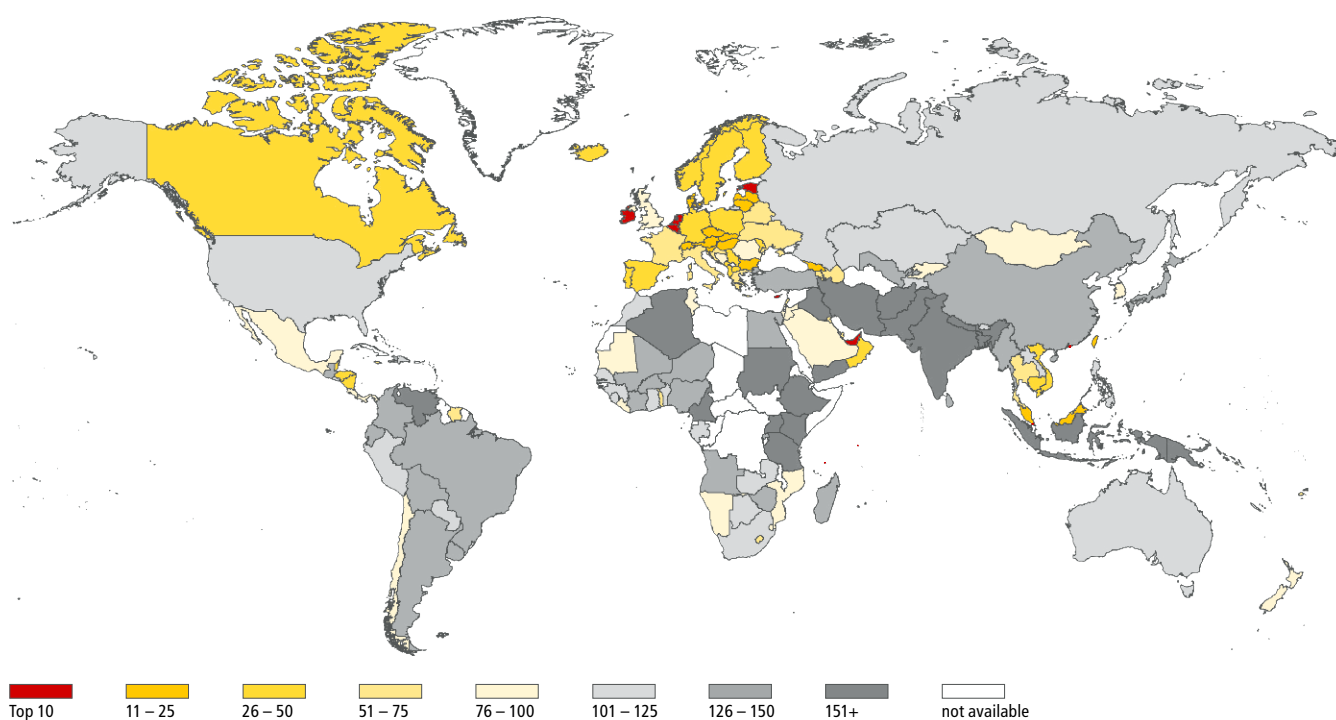
The most deeply connected countries tend to be small and wealthy. The top two economies on the depth dimension of the index, Singapore and Hong Kong SAR (China), are so small that they are barely visible on a world map.

States (30th). Mauritius (40th) is the top ranked country in the Sub-Saharan Africa region.[8] Chile (51st) leads among countries in South & Central America & the Caribbean, and Georgia (59th) is the most globally connected country in South & Central Asia.

Depth and Breadth

As the split bars on Figure 2.1 indicate, the leading countries earned their places in the top 10 based on a mix of strengths on the depth and breadth dimensions. The top ranked country, the Netherlands, excelled on both dimensions without topping either one (ranking fourth on depth and third on breadth), and Switzerland also earned similar scores on depth and breadth. Singapore, Belgium, the United Arab Emirates, Ireland, and Luxembourg earned their high ranks primarily based on the depth of their international integration relative to the size of their domestic economies. In contrast, Denmark, the United Kingdom, and Germany earned their positions in the top 10 based mainly on the global breadth of their connectedness. The largest disparity within the top 10 is the United Kingdom, which ranks first on breadth but only 80th on depth.

On the depth dimension, the top ranks are held by Singapore, Hong Kong SAR (China), Belgium, the Netherlands, Luxembourg, the United Arab Emirates, Seychelles, Ireland, Estonia, and Cyprus. The lowest ranked countries are Ethiopia, Bangladesh, Sudan, Pakistan, Cameroon, Iran (Islamic Republic of), India, Tanzania, Afghanistan, and Indonesia. **Figure 2.3** summarizes all countries' depth ranks on a world map, and detailed depth ranks are reported in **Figure A.2** in **Appendix A**.

Economies with higher depth scores tend to be both wealthy and relatively small. Naturally, advanced economies with limited internal markets will have a larger share of their trade, investment, communications, and even people, outside of their own borders. Such patterns are indeed statistically significant, with higher depth scores positively associated with countries' GDP per capita but negatively associated with population size and remoteness.[9]

The top 10 countries on the breadth dimension of global connectedness are the United Kingdom, the United States, the Netherlands, Japan, the Republic of Korea, Switzerland, Israel, Australia, Norway, and France. The lowest ranked

FIGURE 2.4 //
DHL GLOBAL CONNECTEDNESS INDEX, BREADTH RANKS MAP

| Top 10 | 11 – 25 | 26 – 50 | 51 – 75 | 76 – 100 | 101 – 125 | 126 – 150 | 151+ | not available |

Large, wealthy economies tend to have higher breadth scores. The United Kingdom has held the top breadth rank in every year we have analyzed, from 2001 through 2017.

countries are Zimbabwe, Eswatini (Swaziland), Lesotho, Kiribati, Samoa, Sudan, Tajikistan, Vanuatu, Dominica, and Bhutan. **Figure 2.4** summarizes all countries' breadth ranks on a world map, and detailed breadth ranks are reported in **Figure A.3** in **Appendix A**.

The countries with the highest breadth scores are both large and wealthy. All of the top 10 countries on breadth rank among the world's 35 largest economies based on GDP in US dollars at market exchange rates. Israel is the smallest, and the breadth of its international interactions is elevated by its unusually limited connections to neighboring countries. Thus, while the same country characteristics used to describe depth scores are also significant factors for explaining breadth, the main contrast is that breadth is positively—rather than negatively—associated with countries having larger populations.[10]

The pattern of larger economies exhibiting higher breadth scores and lower depth scores holds up even in the extreme cases of the largest emerging markets, which helps explain why those countries are so globally significant even though their economic activity is disproportionately domestic.

Each of the BRIC countries (Brazil, Russia, India, and China), has higher breadth than depth, with an average difference of 25 points. The magnitude of these differences is considerable, especially when one recalls that both depth and breadth are scaled from 0 to 50, so the maximum possible difference is 50 points, and the largest observed difference is 31 points.

Consider China, which ranks 150th (out of 169 countries) on depth and 16th on breadth. As the world's second largest economy and as a country with relatively high breadth (and with stronger outward than inward connectedness), China's global impact is very large. But China's depth rank provides a useful reminder that even in China, the overwhelming majority of activity is domestic, as it is in all other large economies. China ranks 104th (of 169) in terms of the depth of its merchandise exports, a rank that is high only in comparison to other very large economies: the United States, India, and Japan rank 145th, 133rd, and 124th, respectively, on this metric. Of course, China's rank in terms of the depth of its merchandise imports, 157th, is much lower.

Outward vs. Inward Flows

Segmenting the DHL Global Connectedness Index scores based on the directions of the flows that are measured yields further insight into patterns of global connectedness.[11] While disparities between inward and outward flows on the trade and capital pillars can sometimes indicate imbalances that can contribute to instability, it is important not to interpret all such differences as indicators of danger. First, international flows of debt capital—the most dangerous flows in these terms because they must be repaid on specific dates—are almost all excluded from the index. Second, while trade, FDI, and portfolio equity flows do impact future obligations, other components of the index do not. And third, imbalances on the breadth dimension just mean that a country interacts with a more globally representative set of countries in one direction, while focusing more on particular partners in the other.

With those caveats in mind, starting with depth, the economies where the depth of outward flows exceeds that of inward flows by the widest margin are Taiwan (China), Kuwait, Papua New Guinea, Bahrain, Germany, Azerbaijan, China, Korea (Republic of), Italy, and Japan. Some of these are industrial leaders that have larger outward than inward FDI and often run trade surpluses (e.g. Taiwan, Germany), while others are countries that rely heavily on exporting natural resources (e.g. Kuwait, Bahrain).

Conversely, the countries where inward depth most exceeds outward depth are Palau, Kiribati, Cabo Verde, Antigua and Barbuda, Dominica, Montenegro, St. Vincent and the Grenadines, Tonga, St. Kitts and Nevis, and Gambia. All of these except Montenegro and Gambia are recognized by the United Nations as "Small Island Developing States." Such countries tend to face special challenges with building robust international connections.

On the breadth dimension, the countries with the largest directional imbalances are more idiosyncratic. Outward connections are broader than inward by the widest margin for Ethiopia, Cambodia, Hong Kong SAR (China), Nepal, Liberia, China, Viet Nam, Marshall Islands, Austria, and Thailand. Inward breadth most exceeds outward breadth in Qatar, Jordan, Togo, Burkina Faso, United Arab Emirates, Mongolia, Ukraine, Suriname, Kuwait, and Georgia. Refer to **Appendix A, Figures A.8 and A.9** for a full set of outward versus inward connectedness rankings.

Actual Depth Versus Predictions Based on Country Characteristics

Opportunities and prospects for global connectedness vary across countries, implying that their levels of connectedness should be compared not only in absolute terms (as in the previous section) but also relative to expectations based on their structural characteristics. We have already highlighted five characteristics that can help predict countries' levels of connectedness: GDP per capita, population, remoteness, landlockedness, and linguistic commonality.

In this section, we examine which countries are more or less deeply connected than one would expect given such characteristics.[12] Depth is of particular interest because higher depth scores on the DHL Global Connectedness Index have been associated with faster economic growth,[13] and more generally the upside available to countries from deeper connectedness is often underestimated.[14]

Figure 2.5 plots countries' actual depth scores (on the vertical axis) versus estimated depth scores based on their structural characteristics (on the horizontal axis). The countries that are farthest above the diagonal line are those that outperform predictions based on their structural characteristics the most, and the countries farthest below the line are the countries that underperform the most. The 10 countries with the largest outperformance and underperformance are labelled.

While considering this analysis, keep in mind that "outperformance" and "underperformance" are relative to historically observed levels of globalization—not potential levels. As discussed in **Chapter 1,** the world's depth of global connectedness remains limited in absolute terms, with substantial headroom to grow. Even the Netherlands, the world's most globally connected country and an outperformer relative to expectations based on its structural conditions, could still become more deeply connected. So, the true "connectedness possibility frontier" remains above the line traced out by the outperformers in the figure.

The five countries with the largest outperformance versus structural estimates are, in descending order, Cambodia, Malaysia, Mozambique, Singapore, and Viet Nam. Four of these top five countries, Cambodia, Malaysia, Singapore, and Viet Nam, are located in Southeast Asia, a region where countries tend to have unusually high scores on the trade pillar. Southeast Asian countries benefit from linkages with wider Asian supply chain networks as well as ASEAN policy initiatives promoting regional economic integration.[15]

FIGURE 2.5 // ACTUAL DEPTH SCORES VERSUS DEPTH SCORES ESTIMATED BASED ON STRUCTURAL CHARACTERISTICS
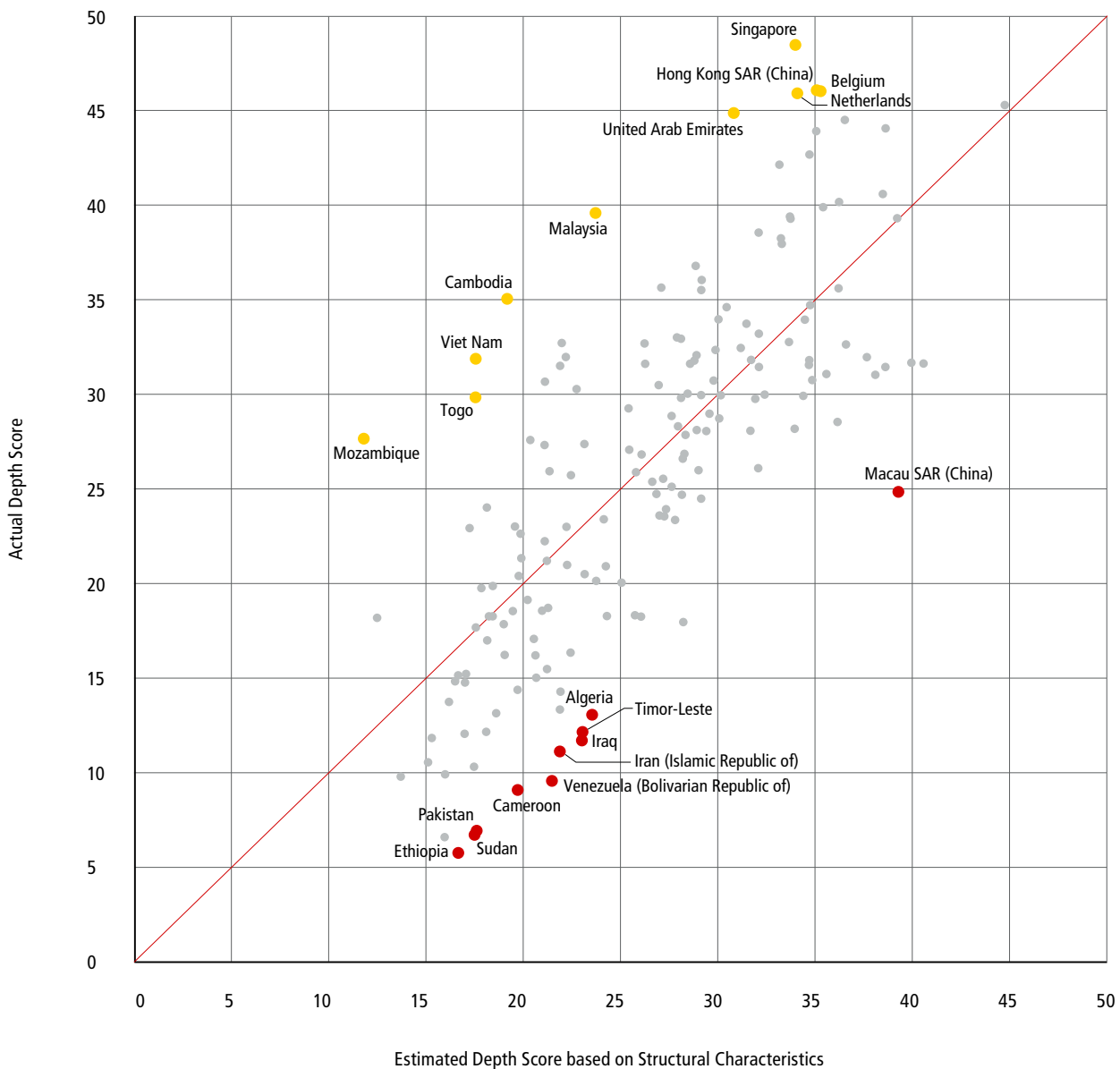
Four of the five countries with the largest outperformance on the depth dimension of the index are located in Southeast Asia: Cambodia, Malaysia, Singapore, and Viet Nam.

Cambodia's depth rank has risen sharply over the past decade, reaching 27th place in 2017 (from 46th in 2008). As a lower-middle-income country, Cambodia has a relatively low predicted depth, but it far exceeds expectations. It achieves high depth based primarily on the trade pillar. In 2017, goods exports were 54% of GDP and imports were 63%. Services exports were particularly high at 20% of GDP, and services imports were 10%. Cambodia also attracted significant inward FDI, with inward FDI stocks reaching 93% of GDP and FDI inflows 54% of gross fixed capital

formation. The garment industry features prominently in Cambodia's trade and FDI.

Malaysia has long been ahead of its peers in terms of the depth of its global connectedness, consistently ranking among the top 20 countries on this dimension of the index. In 2017, it ranked 15th. Additionally, Malaysia has the distinction of being the most populous country with a depth score in the top 25. Like Cambodia, Malaysia's outperformance on depth is driven primarily by its trade flows,

although the country surpassed expectations across all four pillars of the index. However, Malaysia's trade intensity has been on a long-term declining trend. In 2005, Malaysia exported goods worth 96% of its GDP, but this depth ratio fell all the way to 64% in 2016 before rebounding to 69% in 2017. Gains on the other pillars helped to offset Malaysia's shrinking—though still large—outperformance on the trade pillar.

Mozambique's outperformance is driven primarily by inward FDI and secondarily by trade. Its overall depth rank was 83rd. While Mozambique is still among the world's poorest countries, with a GDP per capita of less than $500 at market exchange rates, it has managed to attract a great deal of investment, ranking fifth worldwide on inward FDI stock depth and seventh on FDI inflows. Most of this investment has supported natural resource-based mega-projects. Mozambique also has unusually large services imports, ranking 13th on the depth of these flows.

Singapore is not only an outperformer on depth, but it also claims the top depth rank for all countries. It is also ranked first on trade depth and second on information depth. Well before pursuit of "global city" status became fashionable, Singapore began enacting policies to leverage global connectedness as a cornerstone of its economic development strategy.[16] Viet Nam's largest outperformance is on trade depth, but it features as a notable outperformer on capital and information depth as well. Viet Nam has become a serious competitor to China not only in textiles manufacturing, but also increasingly in high tech products.[17]

The remaining economies among the top 10 outperformers—the United Arab Emirates, Togo, the Netherlands, Hong Kong SAR (China), and Belgium exemplify a variety of other paths to surpassing expectations based on countries' structural characteristics. The United Arab Emirates has achieved high depth through a combination of exports and imports, as well as high immigration, which in turn, has contributed to large information flows. Togo is a strong outperformer on FDI depth, and has reasonably high trade depth as well. The Netherlands and Belgium are at the core of the world's most interconnected region, Europe, and in addition to being closely connected to larger countries in their neighborhood, they are also closely connected with each other and with Luxembourg.[18] Hong Kong, like Singapore, is a global city, and it has long served as a link between China and other parts of the world.

The 10 economies that most lagged depth estimates based on structural factors vary widely in terms of size, income,

and geographic characteristics. They are, in ascending order, Macau SAR (China), Iran (Islamic Republic of), Iraq, Ethiopia, Timor-Leste, Sudan, Venezuela (Bolivarian Republic of), Pakistan, Cameroon and Algeria. Many of these face unique challenges, such as international sanctions regimes applied to Iran and Sudan and political and economic instability in Iraq and Venezuela.

Actual Breadth Versus Predictions Based on Country Characteristics

This section provides an analysis of breadth scores that parallels the previous section on depth. While there is no general prescription that higher breadth scores are better than lower, comparisons of countries' breadth relative to expectations based on structural factors are still useful. In cases where breadth is well below expectations, countries may be able to increase depth by broadening their networks of connections. On the other hand, when breadth is well above expectations, countries may be able to increase depth by taking greater advantage of natural bridges to specific other countries.

Figure 2.6 plots countries' actual breadth scores (on the vertical axis) versus estimated breadth scores based on their structural characteristics (on the horizontal axis). The structural characteristics used to generate these estimates are the same as those used in the depth analysis (GDP per capita, population, remoteness, landlockedness, and linguistic commonality).[19] The countries where breadth exceeded expectations the most are Marshall Islands, Madagascar, Sierra Leone, Iceland, Sri Lanka, Bahrain, Luxembourg, Mauritius, the Netherlands, and Israel.

The Marshall Islands, a tiny archipelago in the South Pacific, ranks 119th on breadth, but would be expected to rank even lower given its size and location. This is the country with the second-smallest population among those covered in this report (about 50,000 people), and it ranks 27th on remoteness from international markets. Its breadth exceeds expectations on the trade and people pillars of the index. The Marshall Islands imports extensively from major Asian exporters such as South Korea, China, Singapore, and Japan. Its exports are smaller, but they are spread across Asian, European, and North American destinations. The majority of emigrants from the Marshall Islands live in the United States, with which the country shares a Compact of Free Association.[20]

Madagascar is another island country with broader than expected international flows. Its breadth is much higher than that of Marshall Islands (ranking 72nd), but its expected

FIGURE 2.6 // ACTUAL BREADTH SCORES VERSUS BREADTH SCORES ESTIMATED BASED ON STRUCTURAL CHARACTERISTICS
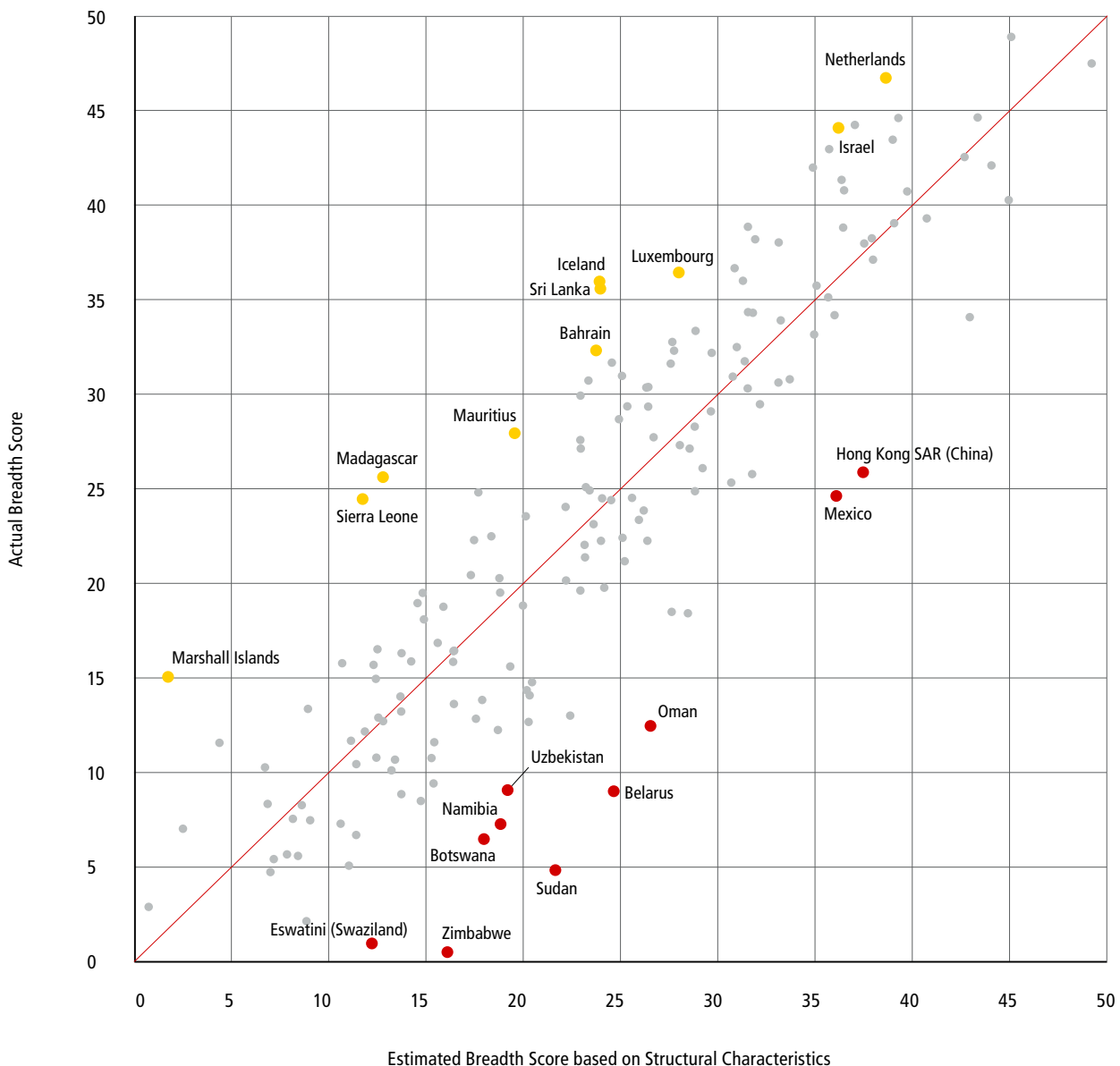
Marshall Islands's international flows are broader than predicted by the widest margin, while Sudan's are narrower than predicted by the widest margin.

breadth is also higher due to its much larger population. Madagascar's higher than expected breadth is driven primarily by its trade flows and especially its exports. Despite its location off the east coast of Africa, Madagascar's top export destinations are France, the US, China, Germany, and Japan. Madagascar's closest ties overall are to France, of which Madagascar was a colony from 1894 to 1960 and which retains sovereignty over nearby Réunion and Mayotte.

Sierra Leone's greater than expected breadth is a recent phenomenon, appearing only since 2016. It was ranked

81st in 2017. A large increase in the country's trade breadth (especially imports) after the devastating outbreak of the Ebola virus there contributed to Sierra Leone's standing as the country where global connectedness increased the most from 2015 to 2017. In 2015, Sierra Leone's largest sources for imports were Senegal (23%), the United Kingdom (15%), the United Arab Emirates (12%), and China (12%). By 2017, China (the world's top exporter) ranked first (17%), followed by India (8%), Turkey (7%) and Belgium (6%).

LARGEST CHANGES IN SCORES AND RANKS FROM 2015 TO 2017

Largest Increases

Country	Score Change	Country	Rank Change
Sierra Leone	13	Sierra Leone	53
Iran (Islamic Republic of)	9	Egypt	27
Myanmar	8	Iran (Islamic Republic of)	24
Egypt	7	Guinea	23
Guinea	6	Myanmar	23
Bahrain	6	Nigeria	19
Estonia	5	Bahrain	15
Cyprus	5	Suriname	13
Yemen	5	Costa Rica	11
Nepal	4	Cyprus	11

Largest Decreases

Country	Score Change	Country	Rank Change
Oman	-7	Uruguay	-25
Uruguay	-7	Oman	-24
Niger	-6	Angola	-21
Angola	-5	Gabon	-16
Gabon	-5	Malta	-15
Trinidad and Tobago	-5	Rwanda	-14
Malta	-5	Trinidad and Tobago	-14
Panama	-5	Macau SAR (China)	-13
Kiribati	-4	Namibia	-13
Rwanda	-4	Niger	-12

Iceland, Sri Lanka, Mauritius, and Bahrain, like the Marshall Islands and Madagascar, are island nations with diverse ties to proximate and distant countries. Luxembourg's breadth is elevated by its standing as a European financial center. The Netherlands has strong ties to all parts of Europe and a long history of global engagement, propelling it to third place worldwide on breadth. And Israel has ties mainly to Europe and the US rather than to its neighbors in the Middle East.

Turning to countries with narrower than expected flow patterns, the economies with the largest gaps between actual and predicted breadth are Sudan, Belarus, Zimbabwe, Oman, Hong Kong SAR (China), Namibia, Botswana, Mexico, Eswatini (Swaziland), and Uzbekistan. Several of these have a large neighbor that dominates their international flows: South Africa for Zimbabwe, Namibia, Botswana, and Eswatini; Russia for Belarus and Uzbekistan; Mainland

China for Hong Kong; and the United States for Mexico. Some have also been subjected to international sanctions that have affected their international flow patterns (Sudan, Belarus, and Zimbabwe).

Changes in Country Level Connectedness, 2015–2017
Turning to how specific countries' levels of connectedness and ranks shifted from 2015 to 2017, 90 countries increased their absolute levels of connectedness while 79 saw their levels of connectedness decline. **Table 2.1** lists the countries with the largest increases and decreases in both their scores (which reflect changes in absolute levels of connectedness) and their ranks (reflecting changes in relative levels of connectedness).

The largest gains over the period from 2015 to 2017 in terms of absolute levels of connectedness (scores) were posted, in decreasing order, by Sierra Leone, Iran (Islamic

Republic of), Myanmar, Egypt, Guinea, Bahrain, Estonia, Cyprus, Yemen, and Nepal.

The top country, Sierra Leone, primarily gained on breadth. Between 2015 and 2017, Sierra Leone increased its breadth rank from 131st to 81st, primarily on the trade pillar. As discussed in the previous section, Sierra Leone's trade broadened significantly in the wake of the 2014-2016 Ebola outbreak. Sierra Leone also gained on some measures of the depth dimension, including merchandise and services exports as well as inward FDI stocks. This growth, contrasted with the country's declining GDP over this period, highlights how international connections can help moderate a domestic downturn.

By contrast, Iran's increase shows the dramatic effect of lifting international sanctions (the strongest of which were in place from 2010 through 2015), particularly on breadth. While Iran's overall depth rank remained relatively stable, fluctuating between 162nd and 167th, its breadth rank cratered from 73rd in 2010 to 117th in 2014. This decline was driven by the trade pillar. Since 2015, there have been increases in trade depth and breadth. US President Donald Trump's decision to reimpose sanctions, however, puts these gains at risk moving forward.

Myanmar's gains reflect the continuation of an upward trend that began when the country initiated a political reform process in 2011. Both depth and breadth have increased steadily over this period, lifting Myanmar's overall rank from 166th to 133rd. Since 2015, gains on breadth have been larger than on depth. Egypt's gains, on the other hand, reflect a rebound that has partially reversed a declining trend that prevailed since 2009. They were driven by depth across the trade, capital, and information pillars.

The countries with the largest absolute declines in global connectedness since 2015 were, starting with the largest decline, Oman, Uruguay, Niger, Angola, Gabon, Trinidad and Tobago, Malta, Panama, Kiribati, and Rwanda.

Oman's fall was due primarily to declines in trade breadth as well as trade and capital depth, the latter particularly with respect to portfolio equity flows. Oman's trade patterns shifted in 2017 when Saudi Arabia, the United Arab Emirates, and other neighboring countries cut their links with Qatar, prompting a large increase in exports from Oman to Qatar. Oman is officially neutral in the dispute.[21] Additionally, low oil prices weighed on Oman's economy during much of 2016 and 2017, affecting the country's trade and capital depth.

Uruguay's stark drop was mainly a result of a significant decline in the capital pillar. In 2017, its 3-year trailing average FDI inflows as well as portfolio equity inflows and outflows were all negative.[22] Poor macroeconomic conditions in the country's larger neighbors, Argentina and Brazil, depressed Uruguay's capital flows. Trade depth also declined, in part due to the developments on its capital pillar. According to the IMF, weak foreign investment inflows combined with weak government investment to reduce the country's imports.[23]

Niger's decline was also driven primarily by the depth dimension of the index, but it was centered mainly on trade and information flows rather than capital. Trade intensity fell across exports and imports of both goods and services, but the declines were much larger for imports than for exports. Niger's decline on the information pillar reflected a drop in international internet bandwidth per internet user, but this (fortunately) resulted from an increase in the proportion of the population using the internet rather than a decline in international internet bandwidth itself. In other words, the growth of internet users in the country outpaced the growth of the international bandwidth available to them. In addition, Niger's depth scores also declined on FDI inflows and outbound students, the latter due to both increased domestic enrollment and fewer students going abroad.

Turning to the world's largest economies, the United States's rank dropped one place from 29th in 2015 to 30th place in 2017. It is, of course, noteworthy that 2016 saw the election of President Donald Trump, but the rhetoric around a trade war did not reach a fever pitch until 2018, and thus these policy measures are not reflected. The world's largest economy earns its relatively high rank on the index by being second only to the United Kingdom in terms of breadth. It ranks only 120th on depth and fourth from last specifically on the depth of its trade flows. The US's large size only partly explains its low rank on depth. Its international flows are even smaller than one would predict based on its structural characteristics.

China's global connectedness rank also declined one place, from 60th in 2015 to 61st in 2017, reflecting modest declines in depth on the trade pillar and breadth on the capital pillar. The trade pillar trend is a result of China's continued rebalancing away from export-led growth that was discussed in Chapter 1. On the capital pillar, the breadth of China's inward FDI flows and outward portfolio equity stocks declined, but the meaning of this shift is difficult to discern because of the high proportion of China's capital

FIGURE 2.7 //
REGIONAL AVERAGE SCORES, 2017
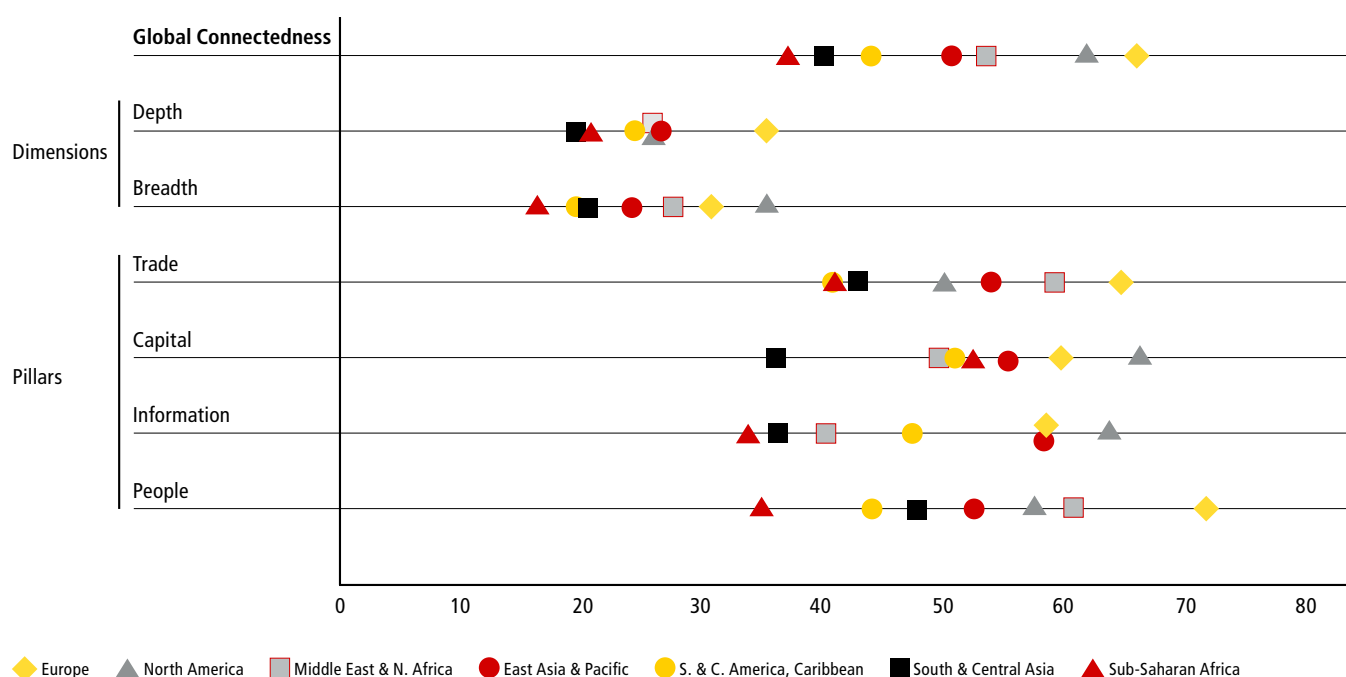
Europe is the world's most globally connected region, followed by North America. Europe leads on the trade and people pillars, while North America leads on the capital and information pillars.

flows routed through Hong Kong and offshore financial centers. Offsetting China's falling ranks on the trade and capital pillars was a large increase in the country's rank on the information pillar due to rising internet bandwidth per internet user and the growth of international phone calls via internet-based applications.

Japan's overall global connectedness rank fell by two places, from 40th in 2015 to 42nd in 2017. Japan's connectedness had risen fairly dramatically from 2009 to 2015 due to rising depth on the trade, capital, and information pillars and rising breadth on the trade pillar. Since 2015, however, information pillar depth has continued to increase while the other pillars have stabilized or declined.

The largest European economies tend to have both high depth and breadth, owing to the high level of market integration within Europe, particularly among European Union (EU) and European Free Trade Association (EFTA) members. Germany's rank fell one place from ninth in 2015 to 10th in 2017, although its score (reflecting its absolute level of connectedness) remained stable. Increases in trade, information, and people pillar depth offset a decline in capital pillar depth, while Germany's breadth declined modestly, primarily based on information flows. In spite of ongoing Brexit negotiations, the United Kingdom's overall

rank increased from 11th in 2015 to ninth in 2017. This rise reflected gains on depth, where it rose from 86th to 80th place, while the UK's breadth rank remained unchanged in first place. France's rank rose from 17th to 15th due to gains on the depth dimension of the index.

Rounding out the discussion of the largest emerging economies, India, Brazil, and Russia have all maintained fairly stable levels of connectedness from 2015 to 2017. India's score remained flat as its rank declined from 72rd to 74th. Declines on the capital and trade pillars were partially offset by gains on the information pillar. Brazil's overall connectedness score dropped slightly as its rank declined from 55th to 58th. This reflects a slight fall after what had been a steady rising trend for Brazil since 2009. Russia's connectedness has increased modestly since 2015 with gains on both depth and breadth raising the country's rank from 57th to 54th.

This section was able to highlight only a small number of countries because there are too many for each to be covered. The next section attempts to achieve comprehensiveness by aggregating countries into a relatively small number (seven) of regions. For additional details on individual countries, refer to the country profiles in Part II.

FIGURE 2.8 //
REGIONAL AVERAGE CHANGES IN SCORES FROM 2015 TO 2017
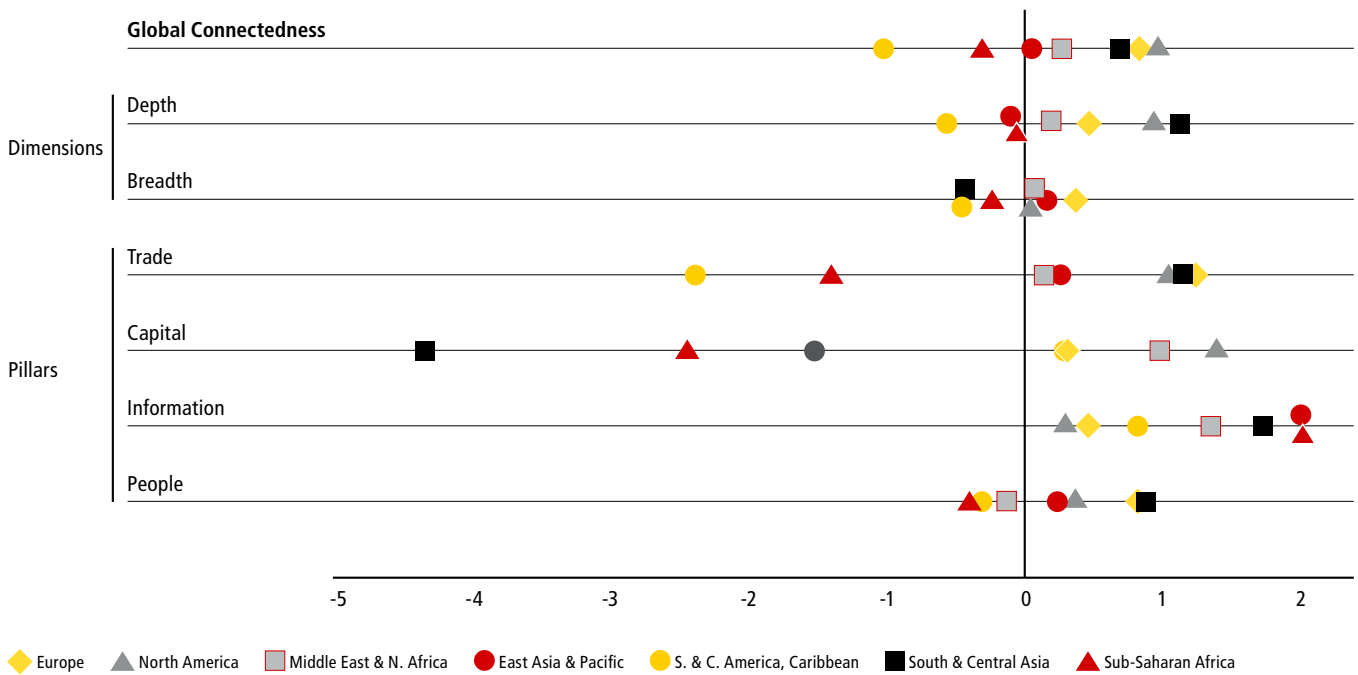
Between 2015 and 2017, North American countries averaged the largest increases in overall connectedness, followed by countries in Europe and South & Central Asia.

Regional Differences in Global Connectedness

As described in **Chapter 1**, international interactions are dampened by geographic distance as well as other types of cross-country differences. The majority of international activity, therefore, takes place within rather than between roughly continent-sized regions, boosting the value of region-level analysis of global connectedness. This section begins by introducing a set of comparisons among regions, and then delves into discussion of connectedness patterns in each of the world's regions. For a list of countries in each region, refer to **Table B.5** in **Appendix B**.[24]

Figure 2.7 displays average global connectedness, depth, breadth, and pillar scores for countries in each region. Note that this analysis is based on simple averages of scores across the countries in each of the regions, so these comparisons across regions reflect, more precisely, comparisons among average countries within regions.

In terms of overall global connectedness, countries in Europe average the highest levels of connectedness followed by those in North America. Middle East & North Africa and East Asia & Pacific rank third and fourth, at some distance behind the leading regions. All of these regions lie above the world average. South & Central America & the Caribbean, South & Central Asia, and Sub-Saharan

Africa lie below the world average. Consistent with patterns described in the first section of this chapter, wealthier regions average higher levels of global connectedness than poorer ones. Countries in the four most connected regions average five times the GDP per capita of countries in the three least connected regions.

This overall ranking of regions' levels of connectedness is robust to several alternative ways of comparing regions. Using weighted averages, so that regions' results reflect more the connectedness of large countries within them, there are no changes to the ranking. And removing the smoothing effects of the normalization we use at the country level to more closely approximate a regional equivalent to the global analysis in Chapter 1, the ranks again remain unchanged except that South & Central Asia falls very slightly behind Sub-Saharan Africa to last place. Thus, there are clearly three clusters of regions: Europe and North America in the lead, Middle East & North Africa and East Asia & Pacific in the middle, and South & Central America & the Caribbean, South & Central Asia, and Sub-Saharan Africa bringing up the rear.

Figure 2.8 shows the average changes in scores from 2015 to 2017 for each of the regions. Countries in North America, Europe, and South & Central Asia averaged the largest

FIGURE 2.9 //
REGIONAL AVERAGE DEPTH SCORES BY PILLAR, 2017

Europe   North America   Middle East & N. Africa   East Asia & Pacific   S. & C. America, Caribbean   South & Central Asia   Sub-Saharan Africa
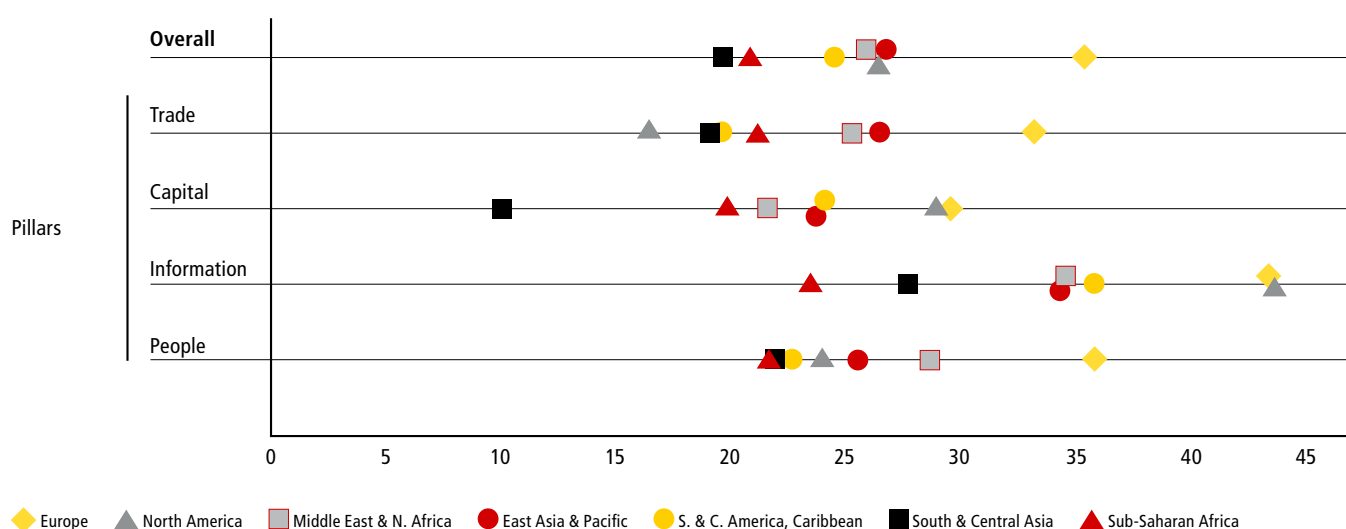
European countries lead on depth, both overall and on all of the pillars except information, where North America has a narrow lead.

FIGURE 2.10 //
REGIONAL AVERAGE BREADTH SCORES BY PILLAR, 2017

Europe   North America   Middle East & N. Africa   East Asia & Pacific   S. & C. America, Caribbean   South & Central Asia   Sub-Saharan Africa
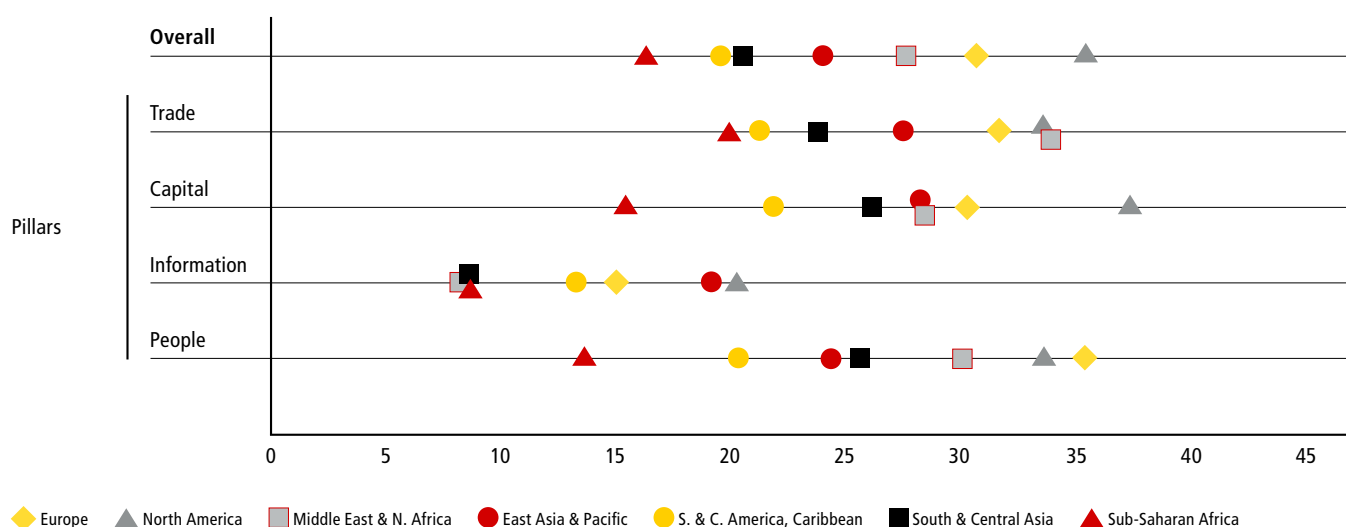
North America leads on breadth overall, as well as on the capital and information pillars. The Middle East & North Africa leads by a narrow margin on trade breadth, whereas Europe leads on people breadth.

increases in connectedness, while countries in the Middle East & North Africa and East Asia & Pacific averaged smaller increases. The two regions where countries, on average, had declining levels of connectedness are Sub-Saharan Africa and South & Central America & the Caribbean. Consistent with the relative volatility of the pillars, the dispersion of changes was greatest for capital and trade flows. All regions averaged increases on the information

pillar, while most regions recorded only small changes on the people pillar.

To understand more clearly what global connectedness means to different regions, it is useful to compare regions' average depth and breadth scores, as shown in **Figures 2.9 and 2.10**. While country-level depth and breadth are not closely correlated, the relationship between the two is stronger at the regional level, since regional averages smooth

FIGURE 2.11 //
REGIONAL AVERAGE INTRA-REGIONAL SHARE OF FLOWS BY PILLAR, 2017

Legend: Europe | North America | Middle East & N. Africa | East Asia & Pacific | S. & C. America, Caribbean | South & Central Asia | Sub-Saharan Africa
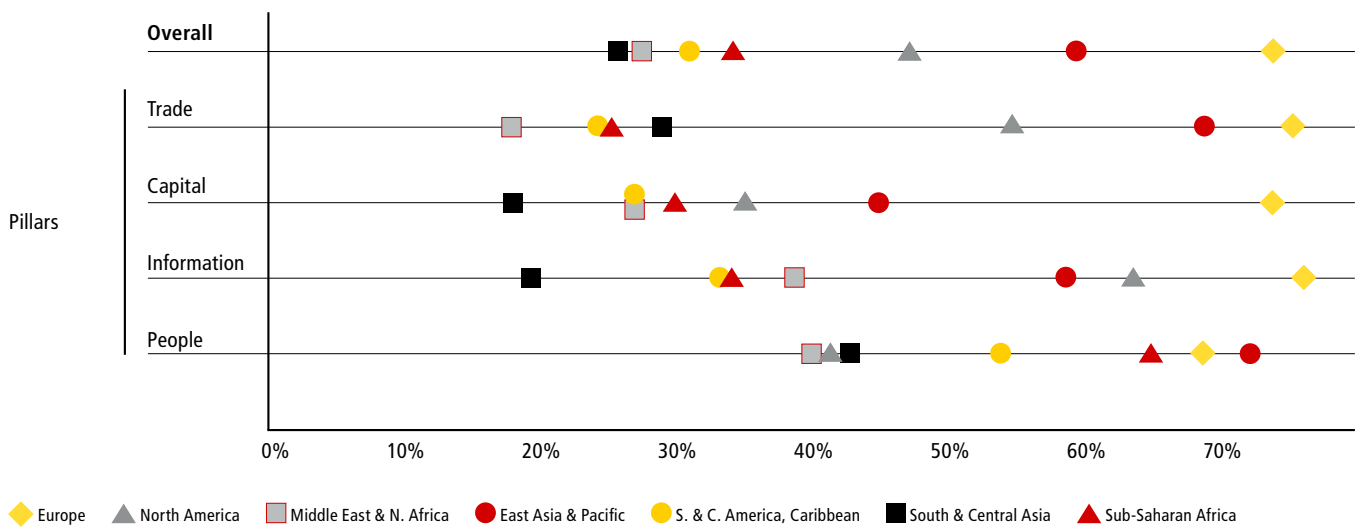
The proportion of international flows taking place within regions varies widely. On average, more than 70% of European countries' flows are with other countries in Europe, but just one-quarter of South & Central Asian countries' flows stay within their region.

over differences between large and small countries.[25] Europe leads in terms of overall depth, and ranks second in terms of breadth. North America leads in overall breadth, but ranks third in terms of depth (very slightly behind East Asia & the Pacific). Similarly, the bottom three regions on depth are also the bottom three regions in terms of breadth, albeit in a different order.

The region-level similarity between depth and breadth ranks, however, does not extend to the individual pillars of the index. While Europe and Sub-Saharan Africa are near the top and bottom, respectively, across the pillars, other regions' ranks vary widely. North America is a prime example: it appears at the very bottom on trade depth, but second only to the Middle East & North Africa on trade breadth. By contrast, it is the leader for both depth and breadth on the information pillar.

Figure 2.11 compares the average proportions of countries' international flows taking place within their own regions. While the high proportion of intra-regional flows globally has already been noted, this is far from uniform across regions. Consider, for example, the contrast on the trade pillar between Europe and Middle East & North Africa. Across European countries, the average intra-regional share of trade flows is 75% whereas the same metric averages only 18% in the Middle East & North Africa.[26] In Europe, international activity primarily involves interactions with neighbors, whereas in the Middle East & North Africa, distant countries loom much larger.

Relating depth and regionalization (Figures 2.9 and 2.11) helps to underscore the point from Chapter 1 that regionalization serves primarily to support rather than to substitute for globalization. The same regions often lead (and lag) across both figures.[27] Intra-regional integration takes advantage of the many types of cultural, administrative/ political, geographic, and economic ("CAGE") proximity and similarity among neighboring countries that can ease international interactions.[28]

Figure 2.12 traces the total intra-regional and inter-regional flows of each region to provide a high-level summary of global flow patterns and how they have shifted over time. It was constructed based on all of the trade, capital, information, and people flows included in the breadth dimension of the DHL Global Connectedness Index, combined using the weights reported in Table 3.6 in Chapter 3. In 2001, about 70% of all of the international flows covered involved European or North American countries as origins or as destinations. By 2017, those proportions were down to about 60%. Nonetheless, they remain well above those regions' shares of world GDP (53%, down from 65%) and population (16%, down from 18%).[29]

Consistent with the preceding discussion about regionalization, the largest flows shown on Figure 2.12 are intra-regional. Despite Europe's falling share of global flows, a full 28% of all international flows worldwide still took place between European countries in 2017 (as compared to 34% in 2001). The second largest set of flows was also

FIGURE 2.12 //
AGGREGATE GLOBAL FLOWS BY REGION, 2001 VS 2017

2001
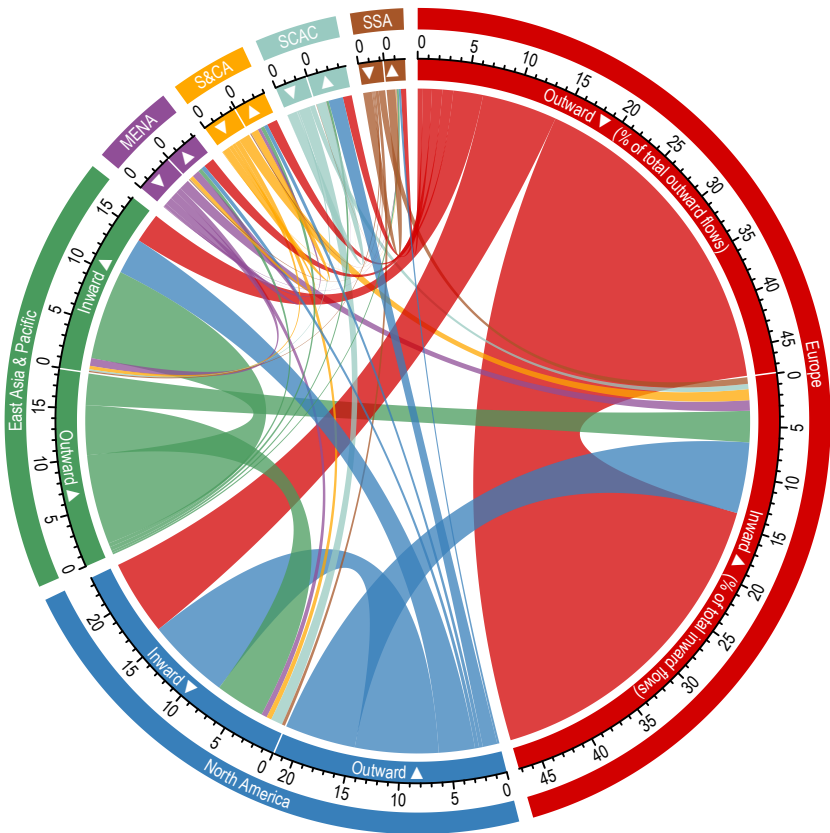
2017
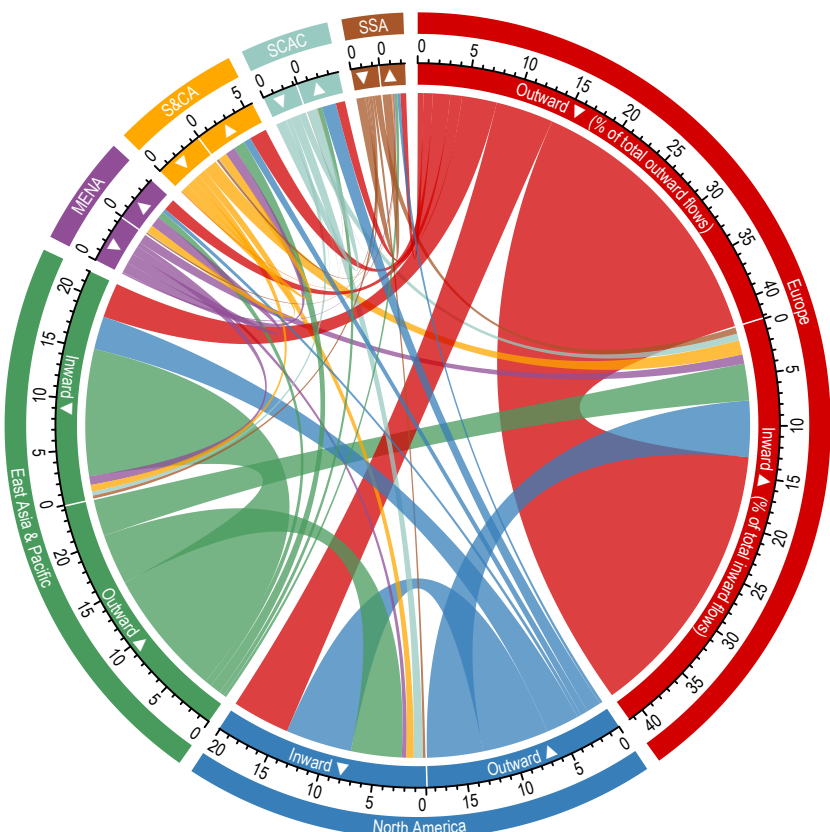
MENA = Middle East & North Africa   S&CA = South & Central Asia   SCAC = South & Central America & Caribbean   SSA = Sub-Saharan Africa

intra-regional, the 13% of global flows that were internal to East Asia & Pacific in 2017 (up from 9% in 2001).

Europe's flows to and from other regions also stand out prominently in Figure 2.12. Flows with Europe are larger than both intra-regional flows and flows involving any other region for North America, South & Central Asia, Sub-Saharan Africa, and the Middle East & North Africa. For East Asia & Pacific, flows with Europe rank third, after intraregional flows and those to and from North America. For South & Central America & the Caribbean, North America is the top partner region followed by Europe.

Figure 2.13 disaggregates the data depicted in Figure 2.12 to the country level. The seven maps within this figure incorporate intra-regional and inter-regional flows, both inward and outward, to provide a composite picture of each region's international connections. Countries are resized in proportion to their aggregate flows with other countries in each region.[30] Additionally, Figure 2.13 lists the individual countries that are most connected to each region, which we will discuss in the region-by-region summaries of connectedness patterns that follow next.

Europe

Europe is the world's most globally connected region, reflecting both its structural characteristics (many wealthy countries in close proximity) as well as decades of policy initiatives aimed at promoting integration via the European Union (EU) and its predecessors. Europe leads specifically on the depth dimension and on the trade and people pillars. On depth, Europe ranks first on trade, capital, and people flows and just slightly behind top-ranked North America on information flows. On breadth, Europe leads on people flows, ranks second on capital, and places third on trade and information.

Europe's strength across the four pillars of the DHL Global Connectedness Index is supported by the pillars' close correspondence to core principles of the EU. Three pillars (trade, capital, and people) are addressed directly by the EU's "four freedoms," specifically free movement of goods, capital, services, and people.[31] The remaining pillar, information, is included in the EU's Copenhagen Criteria for accession to the Union, based on which "the EU makes press freedom one of the main criteria for accession."[32] Pending EU legislation curbing data localization policies should also support Europe's standing on the information pillar.

FIGURE 2.13 //
AGGREGATE FLOW MAPS BY REGION, 2017

EUROPE
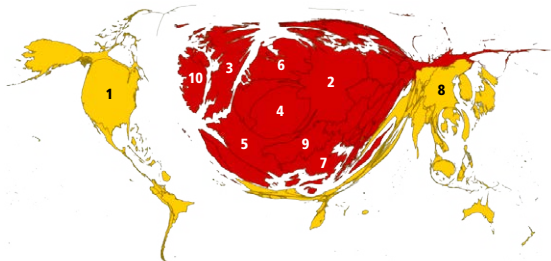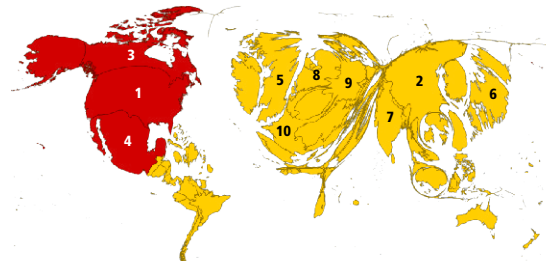
1. United States (11%)
2. *Germany (10%)*
3. *United Kingdom (7%)*
4. *Luxembourg (6%)*
5. *France (6%)*
6. *Netherlands (5%)*
7. *Italy (3%)*
8. China (3%)
9. *Switzerland (3%)*
10. *Ireland (3%)*

MIDDLE EAST & NORTH AFRICA

1. India (10%)
2. United States (8%)
3. China (6%)
4. France (6%)
5. *Saudi Arabia (5%)*
6. *Egypt (4%)*
7. United Kingdom (3%)
8. *United Arab Emirates (3%)*
9. Japan (3%)
10. Pakistan (3%)

SOUTH & CENTRAL AMERICA, CARIBBEAN

1. United States (32%)
2. China (7%)
3. *Argentina (5%)*
4. Spain (5%)
5. *Brazil (4%)*
6. *Colombia (3%)*
7. *Chile (2%)*
8. Mexico (2%)
9. Netherlands (2%)
10. *Peru (2%)*

SUB-SAHARAN AFRICA

1. United Kingdom (8%)
2. United States (8%)
3. India (7%)
4. China (7%)
5. *South Africa (5%)*
6. *Zimbabwe (3%)*
7. *Nigeria (3%)*
8. France (3%)
9. Netherlands (2%)
10. *Mauritius (2%)*

NORTH AMERICA
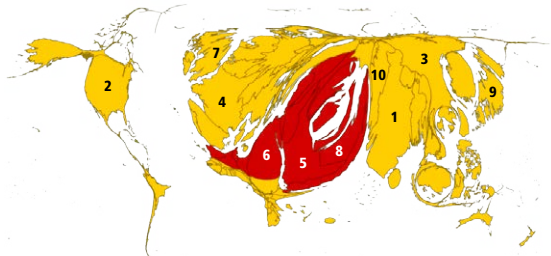
1. *United States (17%)*
2. China (9%)
3. *Canada (9%)*
4. *Mexico (7%)*
5. United Kingdom (7%)
6. Japan (5%)
7. India (3%)
8. Netherlands (3%)
9. Germany (3%)
10. France (3%)

EAST ASIA & PACIFIC
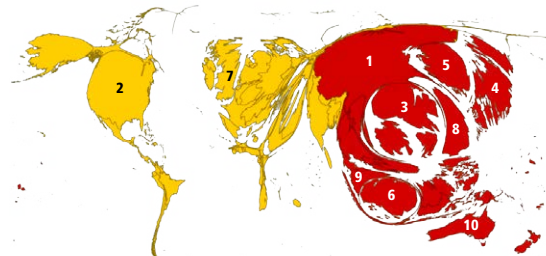
1. *China (17%)*
2. United States (14%)
3. *Hong Kong SAR (China) (8%)*
4. *Japan (6%)*
5. *Korea (Republic of) (4%)*
6. *Singapore (4%)*
7. United Kingdom (3%)
8. *Taiwan (China) (3%)*
9. *Malaysia (3%)*
10. *Australia (3%)*
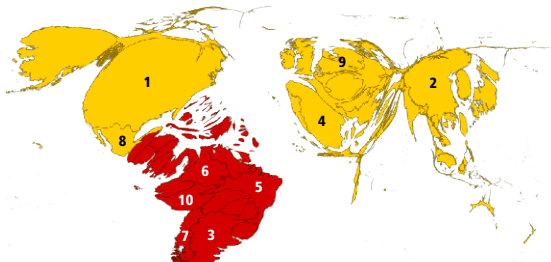
SOUTH & CENTRAL ASIA

1. United States (10%)
2. Russian Federation (8%)
3. United Arab Emirates (7%)
4. *China (5%)*
5. *India (5%)*
6. Germany (5%)
7. United Kingdom (5%)
8. Saudi Arabia (4%)
9. Singapore (2%)
10. Qatar (2%)
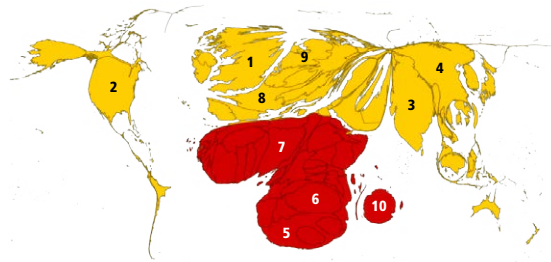
These maps were constructed using the same method as the country profile maps in Part II, described on page 84. Regions' component-level flow distributions across partner countries were aggregated using both the component weights reported in Table 3.6 and regions' shares of global flows on each of the components. Thus, each map depicts a region's top origins and destinations for international flows based on the types of flows for which that region is particularly active.

The average level of global connectedness across European countries increased from 2015 to 2017, as did European countries' scores on both the depth and the breadth dimensions. However, the contentious negotiations between the UK and EU member states on a post-Brexit relationship and Euroscepticism more generally raise concern about the future of regional integration as a driver of global connectedness in Europe.[33] In this context, it is worth remembering that since Europe has the highest proportion of intraregional flows (more than 70% for the average European country), this is the region with the most at risk from a potential unwinding of regional integration.

The regionalization of Europe's international activity is also illustrated in Figure 2.13. Europe appears far larger on its flow map than it does on a normal one because of the region's large intra-regional flows. The United States, however, also stands out as Europe's single largest partner country with 11% of the region's total flows. Among non-European countries, China comes next with 3%, but it still ranks only 8th, between Italy and Switzerland. Among European countries, Luxembourg's fourth place rank with 6% of the region's flows is particularly striking, since Luxembourg's contributes less than 0.5% of the region's GDP. Its share of Europe's flows is elevated by the high proportion of the region's international investments routed through Luxembourg.

North America

North America holds the second place ranking in overall global connectedness, leading on breadth and ranking third on depth. This region (defined here as the United States, Canada, and Mexico) achieves its top breadth rank by combining large intra-regional flows with strong ties to Europe and Asia. Outside of North America itself, the region's largest partner countries are China (with 9% of the region's flows), the UK (7%), and Japan (5%). Recall that countries with larger populations tend to have higher breadth scores and lower depth scores. The United States, Mexico, and Canada rank third, 10th, and 38th globally in terms of the sizes of their populations.

At the pillar level, North America leads on capital and information, and ranks third on people and fourth on trade. This region ranks last, however, on trade pillar depth. North America's trade depth has risen steadily since 2009, but it is still well below that of the next-lowest region (South & Central Asia). The deal reached in September 2018 on a revised regional trade agreement, the United States-Mexico-Canada Agreement (USMCA), reduces the
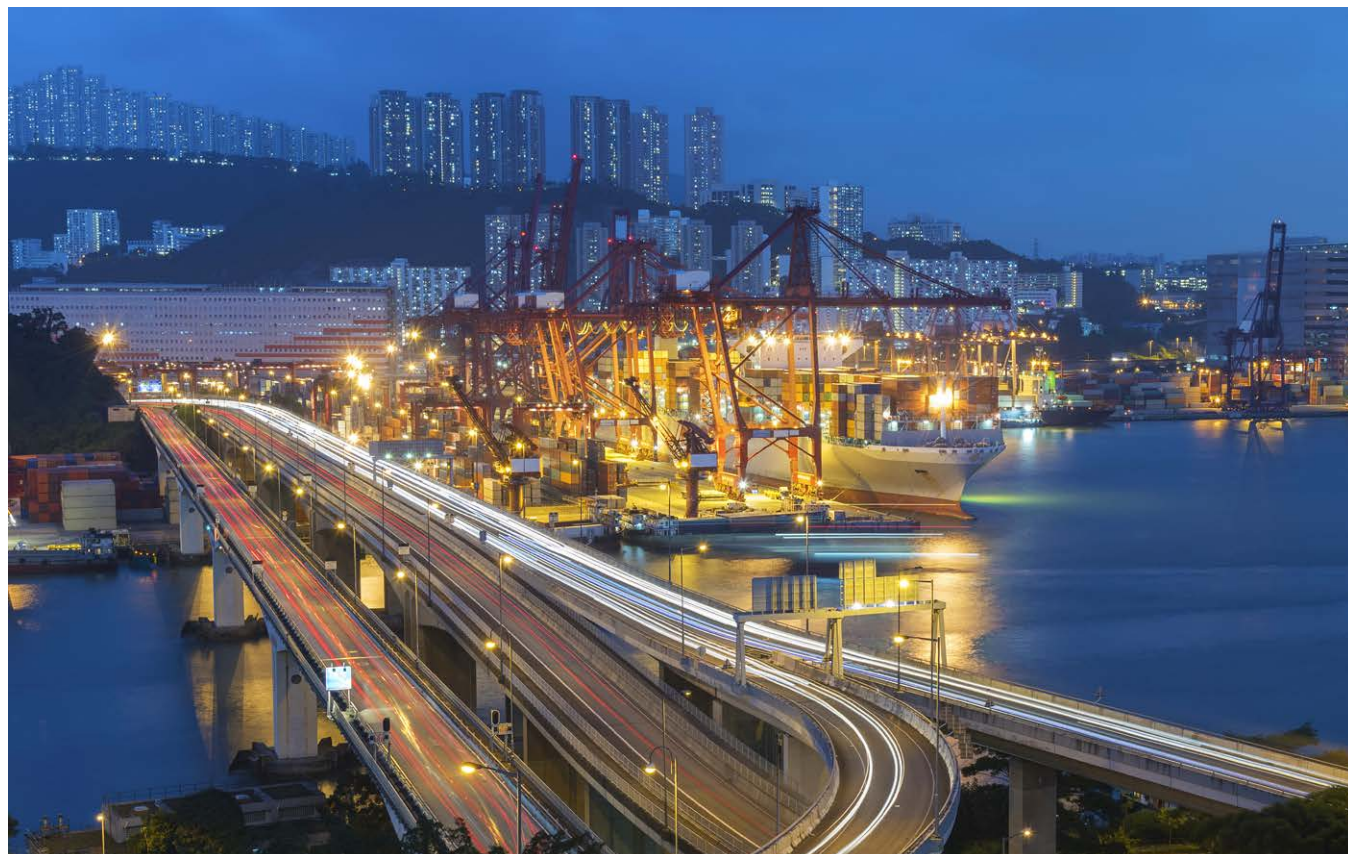
uncertainty about future trading arrangements within this region. However, trade disputes between the United States and other major economies, especially China, continue to cloud the future of this region's trade flows.

North America recorded the largest average increase in global connectedness from 2015 to 2017. Its gains were driven by the depth dimension of the index and were strongest on the capital and trade pillars. While North America is the top-ranked region on information flows, countries in this region averaged the smallest increase on the information pillar.

Just under half of North American countries' international flows, on average, take place within the region, placing North America in third place on this metric, behind Europe and East Asia & Pacific. Canada and Mexico have lessened somewhat the regionalization of their international flows in recent years, reducing modestly their focus on the United States. Both have signed trade agreements with the European Union, and both are part of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). Mexico's level of regionalization has fallen from a peak of 76% in 2004 to its current level of 62%, while Canada's declined from 67% in 2001 to a low of 59% in 2009 before rising back to 61%.[34] The United States, by

contrast, has a much broader distribution of international flows, with just one-quarter being intraregional—and this proportion has remained fairly steady since 2001.

Middle East & North Africa

Middle East & North Africa ranks third on overall connectedness, placing fourth on depth and third on breadth. At the pillar level, this region has its strongest ties on the trade and people pillars, ranking second on both. The region's standing on both of those pillars is elevated by the rankings of the wealthy hydrocarbon exporters near the Persian Gulf, countries that employ large contingents of foreign workers. In the United Arab Emirates, Kuwait, and Qatar, the majority of the populations were born abroad.

Unlike the other regions discussed so far, the Middle East & North Africa has low intra-regional flows across all four pillars. While Arabic is an official (and widely spoken) language in most of this region's countries,[35] economic, geographic, and political factors have favored stronger ties to countries outside of the region.

The oil-rich gulf countries naturally trade intensively with the largest markets for their commodity exports, and most of their foreign workers come from South Asia,

strengthening their ties to that region. India is the region's top ranked partner, with 10% of its total flows. The countries near the Mediterranean have plentiful opportunities for exchange with Europe, which is a much larger market. France is the region's largest partner in Europe. Additionally, the diplomatic dispute between Qatar and its neighbors has dealt a setback to integration among members of the Gulf Cooperation Council.[36]

East Asia & Pacific

East Asia & Pacific has the fourth highest level of overall global connectedness, ranks second on depth, and fourth on breadth. This region's high depth rank is driven by the trade pillar, on which its depth is second only to Europe's. East Asia & Pacific's relatively high trade intensity reflects the export-oriented development strategies pursued by many of its countries and the associated growth of multi-country supply chains across this region. Exports from East Asia & Pacific contain a higher proportion of foreign value-added than those from any other region.[37]

Countries in East Asia & Pacific average the second highest intra-regional share of their international flows. Nearly 60% of the region's flows are with other countries in the region.[38] Outside of the region itself, the United States is East Asia & Pacific's largest partner country, with 14% of its total flows. Among European countries, the region's top partner is the United Kingdom, with 3% of total flows.

The East Asia & Pacific region is at the center of several integration initiatives. In 2016, the Association of Southeast Asian Nations (ASEAN)[39] agreed to a Master Plan on Connectivity 2025 that puts forward a set of goals to strengthen integration between its member states.[40] Among those goals are improving logistics, harmonizing regulations, reducing non-tariff barriers, and improving mobility of people throughout the bloc. Meanwhile, seven of the 11 countries in the CPTPP are in East Asia and Pacific. And the proposed Regional Comprehensive Economic Partnership (RCEP) would include all of the region's major economies as well as India.[41] If successful, the RCEP would be the world's largest trade bloc.

South & Central America & the Caribbean

South & Central America & the Caribbean ranks third from last overall and on depth, and second to last on breadth. Only about one-third of its international flows are within the region, in spite of strong historical and linguistic ties as well as multiple regional integration initiatives.

In terms of pillar scores, South & Central America & the Caribbean is tied for last on trade with Sub-Saharan Africa, second to last on people, third to last on capital, in the middle on information.

This region's combination of low breadth scores and low intra-regional integration reflects a pattern where many countries connect primarily with specific countries outside of the region. Countries in the northern part of this region, especially those in Central America and the Caribbean, tend to have a very large proportion of their international flows taking place with the United States. Nearly one-third of this region's flows are to or from the United States. China is the second largest partner country, with 7% of total flows. Spain, which shares a common language with most of this region due to its colonial history, is the region's largest partner in Europe, with 5% of its flows.

South & Central America & the Caribbean also stands out as the region where countries averaged the largest declines in connectedness scores from 2015 to 2017. The region ranks last on this basis with respect to both depth and breadth, and is the only region where countries averaged significant declines in depth. Most of these declines took place on the trade pillar, although the region also averaged a small decline on the people pillar. These declines were partially offset by modest increases on the capital pillar and larger gains on the information pillar.

South & Central Asia

South & Central Asia ranks second from last overall, last on depth and third from last on breadth. At the pillar level, this region ranks third from last on trade and people, second from last on information, and last on capital. South & Central Asia also ranks last on the proportion of its international flows that take place within the region. Intra-regional integration in this part of the world is constrained by the animosity between two of its largest economies, India and Pakistan.

This region's top partner country is the United States (with 10% of South & Central Asia's total flows), but Russia ranks a close second with 8%. Ties across the Persian Gulf also feature prominently, with the United Arab Emirates ranking third (7%). Among European countries, this region is most connected to Germany (5%) and the United Kingdom (5%). Germany's high share reflects its links to Turkey (especially migration and telephone calls), while the UK's results mainly from ties to India, Pakistan, and Bangladesh.

A bright spot in this region's results is the growth in its connectedness from 2015 to 2017. It ranked third on this basis, just behind the leaders, North America and Europe. Even more encouraging from an economic development standpoint was that South & Central Asia averaged the largest increases on the depth dimension of the index. Given this region's low level of intra-regional integration, its decline on the breadth dimension is not concerning. At the pillar level, strong gains on the trade, information, and people pillars were partially offset by a large decline on the capital pillar.

Sub-Saharan Africa

Finally, Sub-Saharan Africa ranks last overall and on breadth, and ahead of only South & Central Asia on depth. Its highest rank is on the capital pillar, where it placed in the middle. Across the other three pillars, this region ranked last. Given this standing, it is particularly concerning that Sub-Saharan Africa is one of only two regions where the average country's level of connectedness declined from 2015 to 2017. Declines in this region took place mainly on the capital and trade pillars. In contrast, Sub-Saharan Africa averaged the largest gains on the information pillar.

With that said, there are reasons for optimism. The African Continental Free Trade Agreement (AfCFTA), signed by 44 countries in March 2018, holds the potential to boost the continent's global connectedness, especially as additional countries continue to join the agreement. According to a study by the UN Economic Commission for Africa, full implementation of the AfCFTA could double intra-African trade.[42]

While Sub-Saharan Africa averages a relatively low level of intra-regional integration, it ranks third on the intra-regional proportion of its people flows. On average, nearly two-thirds of emigrants from countries in this region have moved to other countries within the region. With more than half of all of the world's population growth through 2050 projected to take place in this region, Sub-Saharan Africa will exert a large influence on the long-run future of the people pillar of the index.

Sub-Saharan Africa's largest partner countries are the United Kingdom and the United States (each with 8% of the region's total flows). Asia's largest economies, China and India, follow next. While India outranks China (7.3% versus 6.5%) on Sub-Saharan Africa's map in Figure 2.13, India's share is elevated by investment stocks routed via Mauritius, a significant portion of which originated in India itself.[43] Excluding Mauritius, China's share rises to 6.8% while India's falls to 4.5%.

HOW TO USE THE COUNTRY-LEVEL RESULTS

This chapter has compared the global connectedness of countries and regions around the world. The world's most connected countries are the Netherlands, Singapore, Switzerland, Belgium, and the United Arab Emirates. The least connected countries are Sudan, Zimbabwe, Afghanistan, Kiribati, and Yemen. The countries with the largest increases in their global connectedness scores from 2015 to 2017 are Sierra Leone, Iran, Myanmar, Egypt, and Guinea.

Wealthier countries tend to be more connected in terms of both depth and breadth. Countries with larger populations tend to score higher on breadth but lower on depth. Sharing a common language with other countries is positively associated with connectedness, and geographic remoteness and being landlocked are negatively associated with connectedness.

Those structural factors, however, influence but do not strictly determine countries' levels and patterns of connectedness. This chapter also compared countries' actual depth and breadth scores to predictions based on their structural characteristics. Depth is of particular interest in this context, since higher depth has been associated with faster economic growth. The countries with the largest "outperformance" on depth are Cambodia, Malaysia, Mozambique, Singapore, and Viet Nam. Interestingly, four of these five countries are located in Southeast Asia.

Europe is the top-ranked region in terms of overall global connectedness and also leads on the trade and people pillars. North America is the second most connected region, ranks first on the capital and information pillars, and is also the region with the largest increase in connectedness scores from 2015 to 2017.

Country rankings such as those presented in this chapter naturally and appropriately draw attention to relative comparisons among countries—celebrating the "winners" and raising questions for the countries toward the bottom of the ranking tables. However, the real power of the DHL Global Connectedness Index lies in its utility for business and public policy analysis. Companies and countries can use it to identify and pursue opportunities while prudently managing risks.

Business executives can use the country-level results of the DHL Global Connectedness Index as inputs to prioritize international markets, investment destinations, and sourcing locations, as follows:

■ *Identify What Types of Connectedness Matter Most for Your Company:* Start by thinking through what kinds of connectedness matter most in your industry, and then identify what is most relevant for your company in light of the strategy it is pursuing. If you are planning to source manufactured products for global markets, look at the depth and breadth of merchandise exports. If you are thinking of investing in the media sector, look at inward FDI and information flows. And so on.

■ *Compare Depth Scores and Trends:* For doing business across borders, countries with deeper connectedness generally present lower barriers to entry, easing your access to the market. However, such countries also welcome your rivals, implying a greater need to worry about tough competition. And countries that have relatively lower scores but are rising quickly in the rankings can also be particularly attractive.

■ *Compare Breadth Scores and Trends:* Countries with high scores on depth but low scores on breadth are connected only to a narrow set of partner countries. Depending on where you are coming from, think carefully about whether to enter these countries directly or via one of their key trading partners. Countries that lead in terms of both depth and breadth are often good candidates to serve as regional hubs.

■ *Account for Distance Effects and Company Capabilities:* Keep in mind that the relative ease or difficulty with which you can access foreign countries depends not only on their connectedness, but also on how far or different they are from your home base or other countries where you are comfortable operating, as well as your company's capabilities to bridge such distances.

■ *Perform Competitive Analysis:* Review the connectedness profile of your company's home country and compare it to the profiles of your major competitors' home bases. What do such patterns imply about the relative strengths and weaknesses that each company inherits from its national context? Do they suggest strengths to exploit or weaknesses to remedy?

Public policymakers can use the material in this report to identify and prioritize opportunities to capture greater benefits from global connectedness. More specifically:

■ *Benchmark Levels of Connectedness:* Compare your country's scores to those for other countries that you feel represent an appropriate reference group. Typically, it is useful to compare levels of connectedness versus neighbors, countries with similar levels of economic development, countries of a similar size in terms of GDP or population, and countries that you otherwise deem to be important partners or rivals.

■ *Analyze Your Country's Connectedness Trends:* Track your country's scores over time to see if it is becoming more or less connected. Remember that scores reflect absolute levels of connectedness, while ranks reflect levels of connectedness in comparison to other countries.

■ *Compare Scores Across Flows, Dimensions, and Directions:* Across the 12 components of the index, their depth and breadth, and their inward and outward directions, no country ranks even in the top half across every aspect of connectedness covered in this report. Relative comparisons both within and among countries can help identify areas to target for improving connectedness.

■ *Benchmark Policy Enablers of Connectedness:* Each country profile in Part II of this report provides data on a set of policy metrics that may help countries deepen their global connectedness. Benchmarking scores on these measures can help identify policy initiatives that merit further study. An even wider range of policy measures are discussed in Chapter 5 of the 2011 edition of this report.

■ *Understand Structural Enablers and Barriers to Connectedness:* Some factors that influence connectedness are beyond a country's direct control. A large landlocked country faces very different challenges in terms of fostering connectedness than a small country built around a port on a major shipping lane. Structural drivers and barriers, listed in the country profiles, provide useful perspective to inform cross-country comparisons and can help guide policy customization.

Finally, while global connectedness creates opportunities for companies and countries, risks due to the policy threats discussed in Chapter 1 are high on the agenda of decision-makers. The country-level content in this report can also serve as a helpful input for risk assessment and contingency planning.

Even as higher depth scores are associated with faster growth, more deeply connected countries can suffer greater harm if barriers to international flows are raised. Depth metrics, therefore, can help inform assessments of how countries may be affected by policy

threats. Such assessments should be conducted with respect to specific types of flows rather than overall depth to avoid mistaking, for example, a country with a high level of immigration as one where rising trade barriers would pose a large threat.

Breadth analysis is also an essential input to risk assessment. As we saw in Chapter 1, most countries maintain strong connections to only a small number of partner countries. Threats affecting a country itself or one of its major partners are much more salient than those affecting less closely connected countries. With this in mind, we introduce in Part II of this report new country profile maps that identify each country's top partners considering all of the flows on the breadth dimension of the DHL Global Connectedness Index.[44]

It is also important to recall from Chapter 1 that managers and the public tend to believe that the world is much more globalized than it really is. As a result, fear often flies across borders much faster than real business fundamentals warrant. Associated swings in market sentiment can themselves threaten firms and economies, but they also create opportunities. Amid heightened uncertainty about the future of globalization, a clear understanding of countries' present levels and patterns of international flows becomes even more valuable.

2. HOW GLOBALIZED ARE INDIVIDUAL COUNTRIES AND REGIONS?
NOTES

1 The term "countries" is used throughout this report to refer to all of the countries and territories in the index, regardless of their political status. The Hong Kong and Macau Special Administrative Regions (SARs) of the People's Republic of China, as well as Taiwan (China), are treated as separate economic areas from Mainland China. China, throughout this report, refers to Mainland China. This treatment reflects the way data on these areas are covered in our primary data sources, i.e. with data for Hong Kong, Macau, and Taiwan reported separately from Mainland China in light of their maintenance of distinct economic systems and economic statistics, separate customs areas, separate immigration controls, etc. These territories were deemed important to include in the index due to the sizes of their economies: Taiwan ranks 22nd globally on GDP in US Dollars at market exchange rates (between Argentina and Sweden), Hong Kong ranks 34th (between South Africa and the Malaysia), and Macau ranks 84th (between Croatia and Tanzania).

2 In this edition, all countries that meet the data availability requirements described in Chapter 3 are included, bringing 32 new countries into the index. Meanwhile, three countries that were included in the 2016 edition (Burundi, Republic of the Congo, and Guyana) are not included in this edition because of insufficient recent data.

3 The current IMF country classifications are reported at https://www.imf.org/external/pubs/ft/weo/2018/01/weodata/weoselagr.aspx.

4 These estimates are based on the regression reported in Column 1 of Table B.4 in Appendix B. Data sources for countries' structural factors are reported in Table B.3, also in Appendix B.

5 Three of the bottom ten are small island countries, which also face special connectivity challenges. Note that while landlockedness was not significant in Column 2 of the regression reported in Table B.4, it was significant with a negative sign in an alternate specification in which the dependent variable was in log form.

6 Based on the World Bank's income classifications, which are reported at http://data.worldbank.org/about/country-and-lending-groups.

7 The region classifications employed here are shown in Table B.5 in Appendix B and discussed in the final section of this chapter.

8 Among countries on the African continent itself, South Africa holds the highest rank (56th).

9 If we control statistically for whether countries are "small island developing states," we also find that linguistic commonality is positively and significantly associated with depth.

10 With respect to merchandise exports, larger countries have greater breadth than smaller countries in terms of both destinations and industries, a regularity that is documented and rationalized theoretically in Pankaj Ghemawat and Morten Olsen, "Country Size and Export Breadth," Unpublished Working Paper, IESE Business School, 2016.

11 Due to limitations in availability of directional data, the following components are excluded from analysis of directional flows: telephone calls (depth and breadth), international internet bandwidth (depth), portfolio investment (breadth), students (breadth), and tourists (breadth).

12 The regression model employed here is reported in the fourth column of Table B.4 in Appendix B. In this model, the impact of the size of countries' economies is decomposed into GDP per capita and population rather than simply GDP itself because of the different magnitudes of the effects associated with these factors.

13 This relationship was analyzed in Chapter 4 of the *DHL Global Connectedness Index 2011*. The sense that higher depth scores are economically beneficial is reinforced by the fact that the design of the index has sought to exclude international interactions that are generally viewed as harmful rather than beneficial on a global net basis. For additional discussion of this topic, refer to Chapter 3. Furthermore, most studies using other measures of globalization have also found a positive relationship between globalization and economic growth. See, for example, Niklas Potrafke, "The Evidence on Globalization," The World Economy, Volume 8 Issue 3, 2015.

14 Pankaj Ghemawat, *World 3.0: Global Prosperity and How to Achieve It* (Harvard Business Review Press, 2011) reviews how traditional models underestimate the benefits of deeper global connectedness, and then devotes seven chapters to addressing concerns about potential harms associated with globalization.

15 For more on these countries, see Pankaj Ghemawat and Phillip Bastian, "Southeast Asia's globalization outperformers," *Nikkei Asian Review,* March 29, 2017.

16 The 2016 DHL Global Connectedness Report featured a ranking of global cities both as "hotspots" and "giants," and Singapore ranked first on both measures. In 1972, less than seven years after Singapore's independence and almost two decades before Saskia Sassen inserted the term "global city" into the academic discourse, Singapore's first foreign minister, S. Rajaratnam, gave a speech titled "Singapore as a Global City." Singapore went on to implement a multi-pronged approach to globalization tying together industry-specific strategies, infrastructure development, promotion of inward foreign direct investment, and so on.

17 For an extended case study on how Viet Nam leveraged deepening international integration to grow from ranking as the second poorest country in the world in 1989 up to middle-income status, see Chapter 4 of the *DHL Global Connectedness Index 2012.*

18 For a case study on the Netherlands' global connectedness, see Chapter 4 of the *DHL Global Connectedness Index 2012.*

19 For details, refer to the sixth column of Table B.4 in Appendix B.

20 The United States captured the Marshall Islands from Japan during World War II and administered the islands from 1944 to 1986. The two countries are currently linked by a Compact of Free Association that provides for extensive defense cooperation, regular financial flows from the US to the Marshall Islands, and rights for Marshallese citizens to live and work in the US (and for Americans to live and work in the Marshall Islands).

21 Jonathan Schanzer and Varsha Koduvayu, "Kuwait and Oman Are Stuck in Arab No Man's Land," *Foreign Policy,* June 14, 2018.

22 Negative capital flows imply that divestments of existing holdings exceeded new investments. Portfolio equity inflows did turn positive on

an annual basis in 2017, but recall that we use 3-year averages on capital flows to smooth out year-to-year volatility.

23 International Monetary Fund, "Uruguay: 2017 Article IV Consultation," IMF Country Report No. 18/23, January 2018.

24 We developed these classifications for the DHL Global Connectedness Index based on the World Bank's regions, with the most significant adjustment being our grouping of Central Asia together with South Asia, whereas the World Bank groups Central Asia together with Europe. In an analysis relating regional boundaries to patterns of international interactions, the DHL Global Connectedness Index regions outperformed five other region classification schemes. See Pankaj Ghemawat and Steven A. Altman, "Geographic Distance and Regionalization," Chapter 10 in Pankaj Ghemawat, *The Laws of Globalization,* Cambridge University Press, 2016.

25 The correlation coefficient between countries' depth and breadth scores in 2017 was only 0.19, whereas for regions, it was 0.67.

26 Again, recall that these are simple averages across countries, which can differ from levels of regionalization measured on a flow-weighted basis. These results do, however, reflect the weights applied to the trade pillar's components as reported in Chapter 3.

27 The correlation coefficient between countries' depth scores and intra-regional shares of flows in 2017 was 0.43, and it was 0.85 using regional averages. This very high region-level correlation was driven primarily by the capital and information pillars. The correlation was somewhat weaker on the trade pillar and much weaker on the people pillar.

28 These categories correspond to those in the CAGE Distance Framework, which was introduced in Pankaj Ghemawat, "Distance Still Matters: The Hard Reality of Global Expansion," *Harvard Business Review,* September 2001. For a detailed discussion of the phenomenon of regionalization and how it relates to CAGE Distance, refer to Pankaj Ghemawat and Steven A. Altman, "Geographic Distance and Regionalization," Chapter 10 in Pankaj Ghemawat, *The Laws of Globalization*, Cambridge University Press, 2016. Note that while the prosperous North American region might initially seem like an exception to this pattern with its moderate level of region-alization, that largely reflects how this region is composed of only three countries among which one (the United States) is disproportionately large (87% of the region's GDP). Those characteristics naturally reduce the intra-regional share of this region's international flows.

29 While this analysis is based on the breadth dimension of the index, it fits with the results from the discussion of the depth dimension in Chapter 1 that advanced economies are far more deeply globalized than emerging economies.

30 Regions' component-level flow distributions across partner countries were aggregated using both the component weights reported in Table 3.6 and regions' shares of global flows on each of the components. Thus, each map depicts a region's top origins and destinations for international flows based on the types of flows for which that region is particularly active.

31 Note that the "four freedoms" also apply beyond the EU to the other member countries of the European Economic Area (EEA): Iceland, Liechtenstein, and Norway.

32 Institute for Intercultural Diplomacy, "The Berlin International Freedom of Expression Forum: Censorship and Freedom in Traditional and New Media: The Revolution of Media as a tool of Freedom of Expression," Presentation at the Berlin International Conference, February 28-March 2, 2012.

33 While parties opposing European integration have made gains in several countries, there are also some indications of countervailing trends in public opinion. An April 2018 Eurobarometer poll recorded the highest level of support for the EU since 1983. See http://www.europarl.europa.eu/at-your-service/files/be-heard/eurobarometer/2018/eurobarometer-2018-democracy-on-the-move/report/en-one-year-before-2019-eurobarometer-report.pdf.

34 The intra-regional percentages reported in this paragraph, like those in Figure 2.11, reflect weighted averages across components using only the weights reported in Table 3.6. They do not incorporate the additional weighting based on countries' shares of global flows used in the maps in the country profiles in Part II and in Figure 2.13. Because of this

distinction, the intra-regional shares of countries' international flows reported here do not equal the sums across the countries in the same region on the country profile maps.

35 Israel is also included in this region, although its economy is much more closely tied to Europe and North America.

36 Countries in the Middle East & North Africa have also entered into a variety of broader trade agreements. All of the countries of North Africa are involved in the African Continental Free Trade Agreement (AfCFTA). Algeria, Egypt, Israel, Jordan, and Lebanon have trade agreements with the European Union; Israel, Jordan, Oman, Morocco and Bahrain have trade agreements with the United States.

37 On an export-weighted basis, 29% of the value of exports from East Asia & Pacific countries came from a country other than the one that recorded the exports, slightly above Europe's 28% and well above the third-ranked region, South and Central Asia (21%). On a simple average basis, however, Europe ranks first with 32% relative to East Asia & Pacific's 29%, due to the higher proportion of small countries in Europe. These calculations are based on 2014 data from OECD's Trade in Value Added (TiVA) Nowcast Estimates.

38 In addition to the effects of regional supply chains already discussed, this is also due in part to the fact that the region so large. For example, while only 26% of South & Central Asia's flows were intra-regional in 2017, the average distance traversed by that region's flows was 4,280 km. By contrast, 59% of East Asia & the Pacific's flows were intra-regional, but the average distance traversed was 6,392 km.

39 Brunei Darussalam, Indonesia, Cambodia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam.

40 See https://asean.org/wp-content/uploads/2016/09/Master-Plan-on-ASEAN-Connectivity-20251.pdf.

41 The RCEP is currently being negotiated between the ASEAN countries, China, Japan, the Republic of Korea, India, Australia, and New Zealand.

42 United Nations Economic Commission for Africa, "The whole continent will benefit from African Continental Free Trade Area," July 30, 2018, available online at https://www.uneca.org/stories/whole-continent-will-benefit-african-continental-free-trade-area.

43 The "Mauritius Route" for Indian investments has been motivated by tax benefits, but these advantages were reduced in 2016. See Amy Kazmin and Simon Mundy, "India closes tax loophole with Mauritius," *Financial Times,* May 11, 2016.

44 Country profile maps in prior editions of this report showed only merchandise exports.