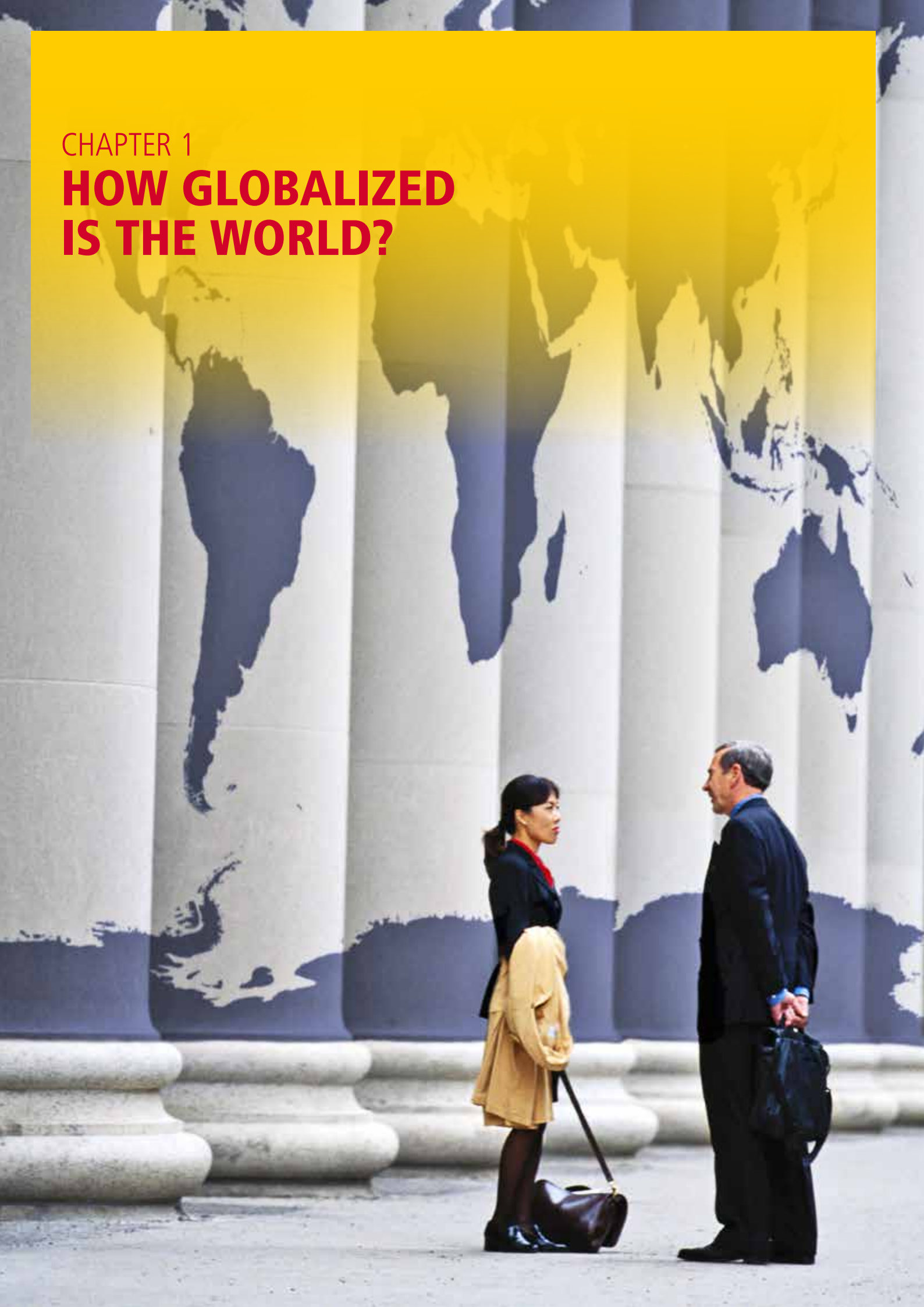
CHAPTER 1

HOW GLOBALIZED IS THE WORLD?



Ambiguity about the future of globalization[1] has given way to anxiety since the publication of the last edition of this report—particularly in Western advanced economies. The financial crisis of 2008–09, during which trade and capital flows plummeted, provided a vivid reminder that economic integration is not inevitable and can suffer reversals. With that memory still fresh, many saw the UK's vote to exit the European Union as a final blow. The headline "Britain's Brexit just killed globalization as we know it" summed up the standard reaction.[2]

Shifting sentiment about globalization is also evident in business. In 2006, Sam Palmisano, then Chairman and CEO of IBM, published his manifesto on the Globally Integrated Enterprise in *Foreign Affairs:* "Simply put, the emerging globally integrated enterprise is a company that fashions its strategy, its management, and its operations in pursuit of a new goal: the integration of production and value delivery worldwide. State borders define less and less the boundaries of corporate thinking or practice."[3] Ten years later, Jeff Immelt, Chairman and CEO of GE, declared—before the Brexit vote—that "The globalization I grew up with—based on trade and global integration—is changing…With globalization, it is time for a bold pivot…In the face of a protectionist global environment…We will localize…A localization strategy can't be shut down by protectionist politics."[4]

Amid this souring of sentiment, supporters of globalization have also begun to mount more vocal defenses—and to call for reforming how international flows are managed rather than reducing them. In September 2016, the G20 Leaders declared their commitment to accelerating global growth by strengthening international trade and investment.[5] In October 2016, the heads of the IMF, World Bank, and WTO published a joint editorial entitled, "How to Make Trade Work for Everyone."[6] Some business leaders have also begun speaking out, albeit in more cautious terms. Microsoft CEO Satya Nadella, for example, has argued for US politicians to jointly support "globalization and addressing the inequities that do exist in our society."[7]

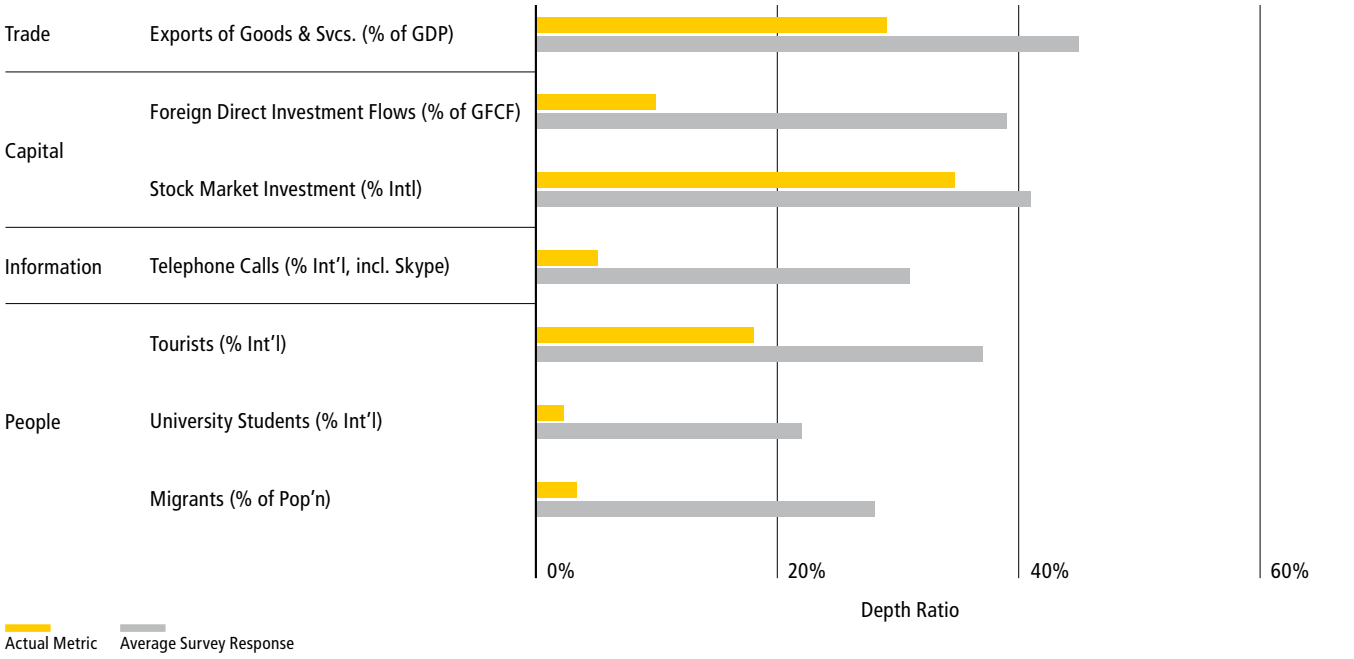
The hard data underlying the DHL Global Connectedness Index affirm that global flows have come under some pressure, but also provide a broader perspective. Overall, the index indicates that global connectedness surpassed its pre-crisis peak during 2014, and that there was a slowdown rather than a reversal in 2015. The index does not yet cover 2016, but narrower assessments of Brexit indicate that what matters more at the global level is not the UK's relationship with the EU itself but how the rest of the world reacts.[8] So, the future of globalization remains uncertain and very much in the hands of policymakers around the world.

To provide a structured examination of global connectedness at the world level, this chapter begins with an overview of present levels of globalization—contrasted with perceived levels, followed by a summary of global trends since 2005. It then digs deeper into each of the four pillars of the index: trade, capital, information, and people. The chapter concludes with a look beyond recent changes to consider what remains unchanged: a pair of regularities that Pankaj Ghemawat has proposed as two *laws of globalization.*

Global Connectedness in 2015: A Reality Check

In prior editions of this report, we have highlighted discrepancies between popular perceptions of levels of globalization and the actual data, attaching the term "globaloney" to the tendency of people to believe the world is more globalized than it really is.[9] New evidence reveals that this phenomenon is even more widespread than previously known and can cause real damage in both business and public policy.

FIGURE 1.1 //
GLOBAL DEPTH MEASURES VERSUS US SURVEY ESTIMATES



Members of the general public, on average, guess that the world is five times more deeply globalized than it really is. This phenomenon of overestimating levels of globalization, "globaloney," holds across age groups, education levels, and genders.

Global Connectedness is measured in this report based on the *depth* and *breadth* of countries' integration with the rest of the world as manifested by their participation in international flows of products and services (trade), capital, information, and people (the four pillars of the DHL Global Connectedness Index).[10] Consider first how the depth of global connectedness compares to estimates obtained via surveys.

Depth measures how much of a given type of activity that could take place either within or across national borders is international rather than domestic. **Figure 1.1** reports global depth metrics drawn from across the four pillars of the index. We will discuss levels and trends on each of these metrics (and others) one by one later in this chapter, but for now we simply observe at a summary level that four of the seven metrics fall below 10% and none of them exceed 35%. They exemplify the general pattern that domestic activity tends to greatly exceed international activity.

Figure 1.1 also reports the results of a survey in which a sample of 1720 adults from across the United States were asked to estimate the same depth ratios.[11] On average, the respondents guessed levels about 5 times as high as the correct ones. Additionally, the structure of this sample enables us to compare the prevalence of globaloney across segments of the US population. The broad conclusion was that roughly similar levels of overestimation persist across age groups, levels of education, and genders; although older and more educated people did have somewhat more accurate views.

Lest readers suspect that globaloney afflicts only Americans, on another survey of more than 3,000 students from 138 countries, respondents from every country for which a meaningful average could be calculated also overestimated levels of globalization—on average, again, by about 5 times.[12] While globalization is far less advanced than is commonly perceived, globaloney does seem to be a global phenomenon.

What about the consequences of globaloney? The surveys cited above permit us to relate respondents' perceptions of globalization to their beliefs about international business strategy and public policy. Starting with business, respondents were presented with the following six statements about international business—all of them generally viewed by scholars to be erroneous because they fail to account for the effects of borders and distances/differences on business activity:

- Uniformity: Competing the same way everywhere is the highest form of global strategy

- Ubiquity: The truly global company should compete in all major markets
- Statelessness: The truly global company has no home base
- Concentration: Globalization tends to make industries become more concentrated
- Limitless Growth: Globalization offers virtually limitless growth opportunities
- Act of Faith: Global expansion is an imperative rather than an option to be evaluated

Respondents with more exaggerated perceptions of globalization were more likely to agree with these international strategy myths—to a statistically significant extent—even after controlling for variation in age, gender, and level of education. It makes intuitive sense that when people who think the world is more globalized than it really is try to do business abroad, they tend to underestimate the need to understand and respond to differences across countries.

And as far as public policy is concerned, survey participants with more exaggerated perceptions of globalization also tend to worry more about it leading to harmful consequences. To cite some specific examples, people who overestimate levels of globalization to a greater extent are more likely to believe that globalization generally increases the risks faced by countries, companies, and individuals and is a major contributor to global warming.[13] This kind of globaloney-induced fear can erode support for public policies intended to capture the potential benefits of stronger international ties.

An even more concrete example is provided by research the German Marshall Fund of the US has conducted about immigration. In their surveys, they asked respondents if they felt there were "too many" immigrants in their countries—both with and without telling the respondents how many immigrants actually live there. Simply telling people the actual levels of immigration into their countries cut the proportion feeling there are too many immigrants by roughly one-third in Europe and one-half in the US![14]

Turning to the *breadth* dimension of global connectedness, at the global level, it is convenient to analyze breadth using simple metrics such as the average distance traversed by international flows. In the country-level analysis that follows in Chapter 2, we turn to a more sophisticated type of breadth measure to avoid biasing the results due to countries' geographic locations: We compare the distribution of a country's international flows with the global distribution of the same flow in the opposite direction.[15]

Survey data suggest that the phenomenon of globaloney extends to breadth—in this context via people underestimating the extent to which distances and differences between countries constrain international flows. In a survey of *Harvard Business Review* readers, 68% of respondents agreed with the quote from Thomas Friedman's bestselling book *The World is Flat* that we have witnessed the creation of "a global, Web-enabled playing field that allows for… collaboration on research and work in real time, without regard to geography, distance, or in the near future, even language."[16]

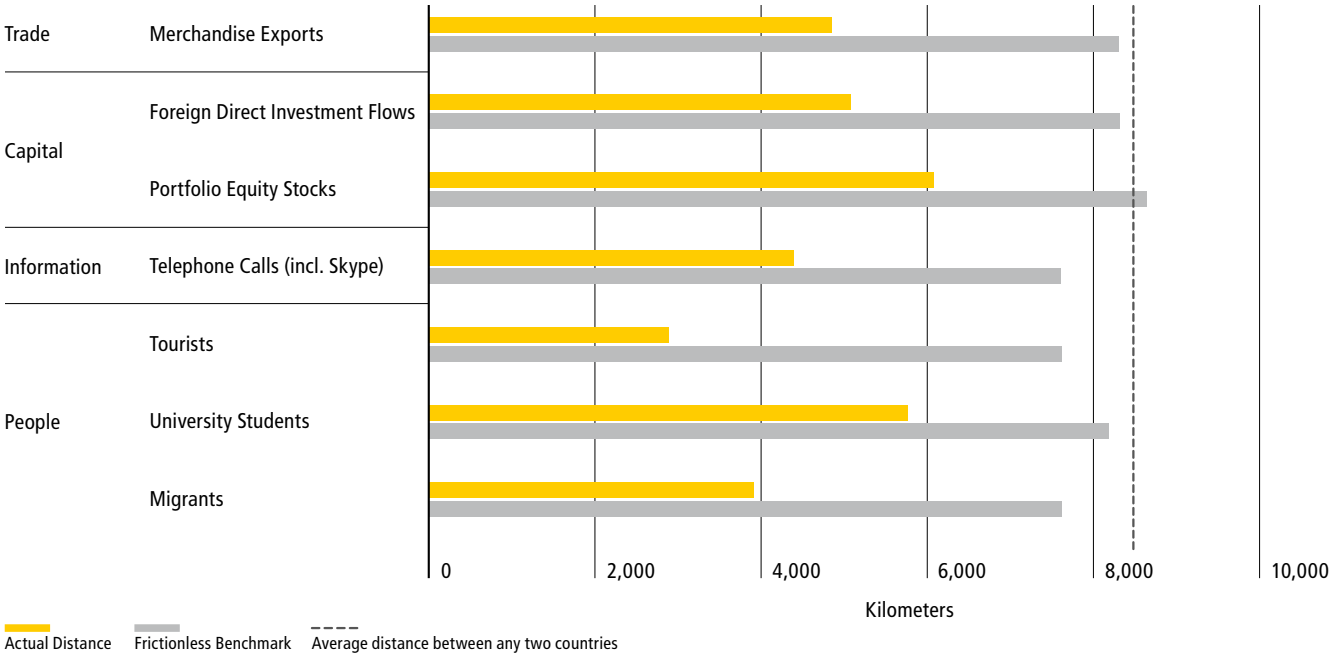
Actual international activity, however, still turns out to be strongly dampened by distance. The average distance between two countries around the globe is roughly 8,500 km, but the flows covered on the breadth dimension of the DHL Global Connectedness Index average a distance of only 4,963 km. **Figure 1.2** provides a somewhat more sophisticated take on the same pattern by comparing the distance traversed by specific types of flows to how far those flows would be expected to travel if distance and cross-country differences had ceased to matter.[17] On average, this sample of flows went only 58% as far as they would in a "flat" world.

Furthermore, the myth that distance has ceased to matter extends beyond geography to apply also to cultural, administrative/political, and economic differences between countries. Contrary to Friedman's prediction, the presence or absence of a common language still has a very large effect on international flows: 22% of trade and 34% of migration, for example, take place between countries that share a common language, as compared to estimates of 11% and 13%, respectively, if international flows were not dampened by cross-country distances and differences. To cite a concrete example, more than 10 years after the offshoring of IT Services to India inspired Friedman to declare the world "flat," the overwhelming majority of India's IT Services exports are still to English-speaking countries.

Considering both depth and breadth, the stock market response to the Brexit vote seems also to have been affected by globaloney. By the Monday after the vote, global stock markets had shed $3.6 trillion in value, a number comparable to Britain's entire GDP.[18] Although the markets did make up those losses in the week that followed, that drop provided a reminder—as if we needed one after the global financial crisis—that fear flies across borders faster than fundamentals. Looking forward, the limited depth of the UK's international flows (as well as the fact that the UK accounts for only 4% of world GDP—and closer to 2% at purchasing power parity) implies that any significant impact of Brexit on aggregate levels of global connectedness could only come via contagion to other countries.

To summarize, the depth and breadth of trade, capital, information, and people flows all fall far short of levels that are commonly presumed. National borders and the distances and differences between countries still have large dampening effects on international activity. We return to these points in the conclusion of this chapter, as they underpin the two proposed *laws of globalization* that will be discussed there. But first, we turn to the burning question of whether globalization is advancing or declining.

FIGURE 1.2 //
GLOBAL AVERAGE DISTANCE VERSUS BENCHMARKS WITHOUT DISTANCE EFFECTS



International flows—even "weightless" flows such as portfolio equity investment and phone calls—diminish with geographic distance as well as other cross-country differences. On average, the flows covered on the breadth dimension of the DHL Global Connectedness Index traverse 4,963 km, about half as far as would be expected in a world where distance had ceased to matter.

Global Connectedness Trends: 2005–2015

Moving from the most recent snapshot of global connectedness to analysis over time, ambiguity and anxiety about the future of globalization prompt a need for better tracking of how globalization is evolving. With this in mind, we introduce several enhancements to how we analyze global trends in levels of connectedness. In prior editions of this report, we placed a premium on using the same methods at the world and the country levels. But given recent developments (post-crisis ambiguity, Brexit, etc.), we now place primary emphasis in this chapter on providing the clearest and timeliest depiction of changes in the trajectory of globalization, even if that requires adjustments to our country-level methodology. Specifically, we have implemented the following adjustments to how we compute global trends:

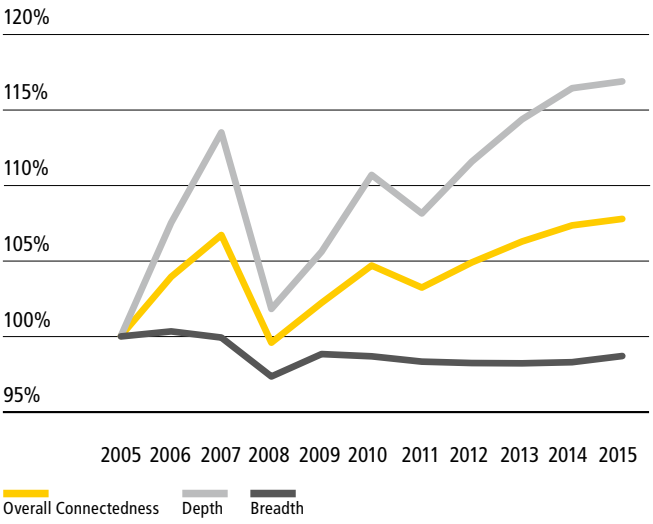
- We now measure global trends in terms of percent changes in levels of global connectedness relative to a 2005 baseline. With this adjustment, the magnitudes of the changes are more convenient to interpret, but they are no longer directly comparable to the values in the country-level trend charts reported in Part II (which reflect the percentile-based normalization described in Chapter 4).[19]

- We do not smooth capital flows over 3 years in the calculation of global trends. While such smoothing is retained in the country-level analysis to avoid excessive swings in the rankings due to volatile country-level capital flows, it is removed here to increase the responsiveness of the global trend analysis to year-to-year changes.

- In cases where our preferred depth metrics can be estimated at the global level but are not available for a large enough number of countries to use in country level analysis, we use our preferred metrics at the global level. Specifically, we estimate the international proportion of total telephone call minutes (including Skype) instead of using international telephone call minutes per capita, as we do at the country level. Furthermore, we estimate the international proportion of total internet traffic instead of relying on international internet bandwidth per internet user.[20]

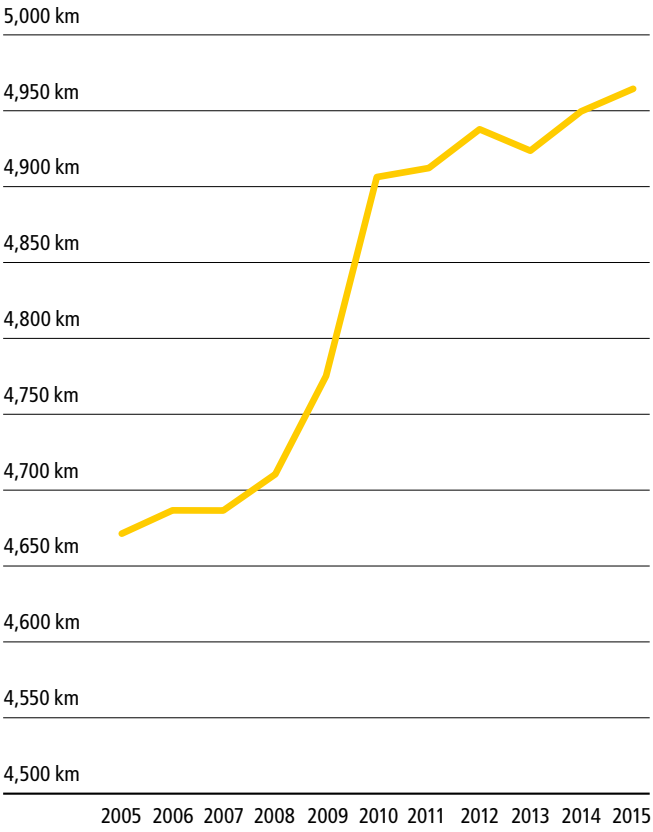
On this basis, the world's overall level of global connectedness—taking into account the depth and breadth of trade, capital, information, and people flows—surpassed its 2007 (pre-crisis) peak during 2014, as shown in **Figure 1.3**. The DHL Global Connectedness Index indicates that the world was 8% more connected in 2015 than in 2005, although

FIGURE 1.3 // GLOBAL CONNECTEDNESS, DEPTH, AND BREADTH, 2005–2015



The world's overall level of global connectedness surpassed its pre-crisis peak during 2014. In 2015, its post-crisis expansion slowed but the available evidence does not indicate another reversal during the period analyzed.

FIGURE 1.4 // AVERAGE DISTANCE TRAVERSED BY FLOWS COVERED ON THE BREADTH DIMENSION OF THE DHL GLOBAL CONNECTEDNESS INDEX, 2005–2015



There was a sharp increase in the average distance traversed by the international flows covered on the index between 2008 and 2010. Since that period, further increases have been modest.

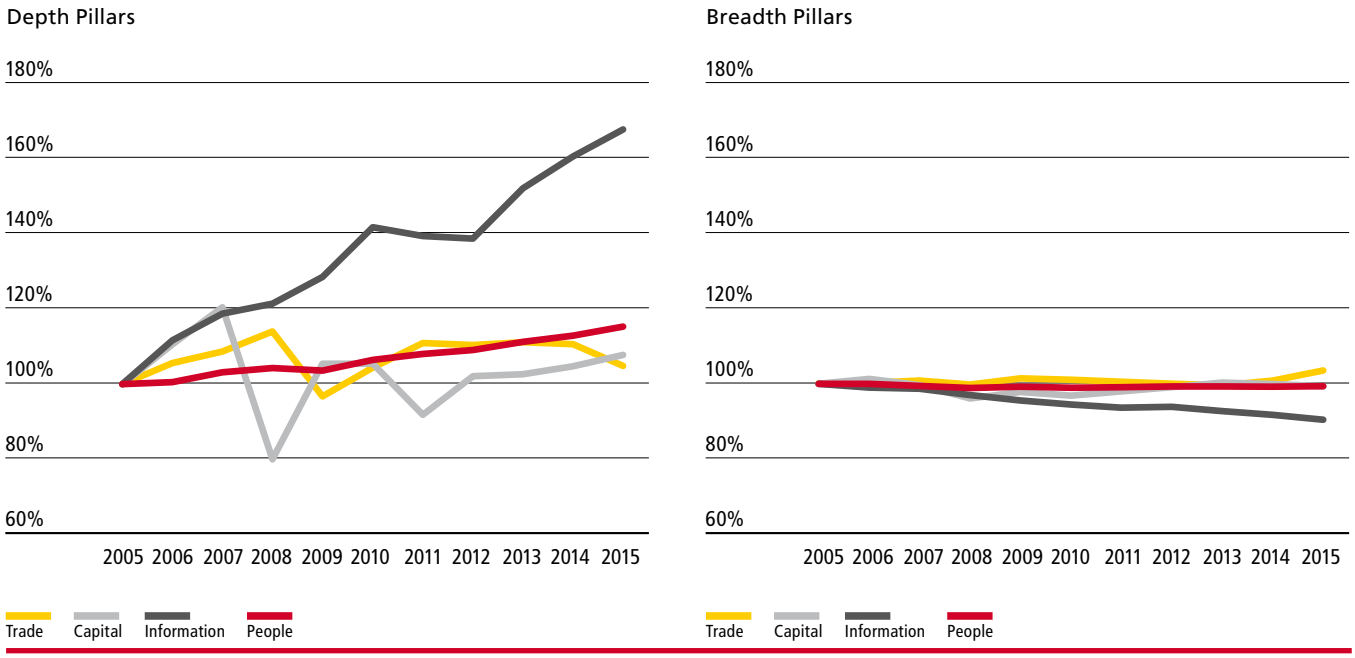
qualifications about the individual component metrics described later in this chapter—as well as the data limitations covered in Chapter 4—suggest thinking more in terms of a small increase than a more specific value. Globalization is not advancing as rapidly as it was before 2007, but the available evidence does not indicate that another reversal took place over the period analyzed.

Figure 1.3 also shows that the post-crisis recovery in overall global connectedness has been driven primarily by the depth dimension of the index, the dimension that fell the most during the crisis period. However, the data for 2015 indicate that growth on the depth dimension decelerated, but that this slowdown was offset in part by an uptick on breadth. That said, these 2015 results must still be treated as preliminary since data gaps in the most recent year are more common than in earlier years (see Chapter 4).[21] If this apparent trend persists, it should prompt some concern because our prior research suggests that deeper global connectedness can accelerate economic growth, whereas there is no parallel general prescription that higher breadth is better than lower for all countries (this must be analyzed on a country-by-country basis).[22]

In 2015, at the overall level, the depth dimension of the index was 17% higher than in 2005, well above its previous peak of 14% in 2007 (although, again, there is some fuzziness around these specific values for reasons discussed later in this chapter). While the vast majority of flows that could take place either within or across borders are still domestic, as emphasized in the previous section, the international share has risen over the period analyzed. Breadth has generally been less volatile than depth. While flow volumes can expand or contract sharply due to macroeconomic or other shifts, the patterns of which countries connect particularly intensively with each other tend to change more slowly. Such connections are shaped by cultural affinities, political agreements, infrastructural links, and so on, that tend to persist across macroeconomic cycles. The breadth dimension of the index ended 2015 1% below its 2005 level, up from a maximum shortfall of 3% below this baseline in 2008.[23]

Additional perspective on breadth trends is provided by **Figure 1.4**, which tracks the average distance traversed by the flows covered on the breadth dimension of the index. It shows that a general trend of international flows taking

FIGURE 1.5 //
PILLAR LEVEL GLOBAL CONNECTEDNESS TRENDS, 2005–2015



The information pillar has been the largest contributor to increases on the depth dimension of global connectedness since 2013, but those gains were offset in large part in 2015 by a sharp drop on the trade pillar. Year-to-year changes on the breadth dimension tend to be smaller. An uptick on trade pillar breadth in 2015 offset the continuation of a declining trend on information pillar breadth.

place across greater distances continues. This "stretching" took place at a relatively brisk pace between 2008 and 2010 (from 4,685 to 4,905 km), as emerging economies (which tend to interact over greater distances) boosted their shares of global flows and crisis-hit advanced economies sought to tap into growth farther away from home. Since 2010, further expansion of the average distance traversed has been modest (up to 4,963 km).

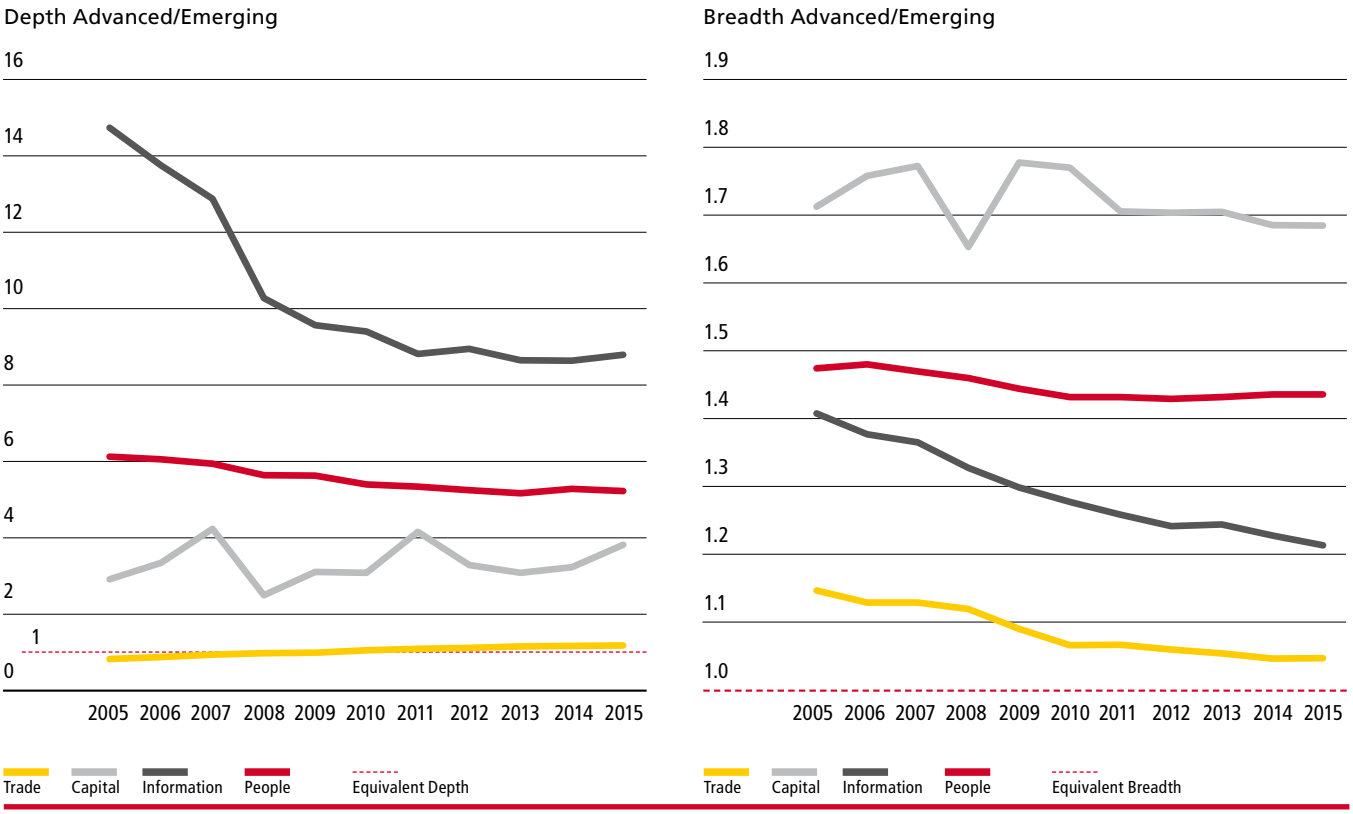
At the pillar level, as shown in **Figure 1.5**, the aspect of global connectedness with the strongest growth over the period studied has been information pillar depth. Depth on the people pillar also exhibits a more modest rising trend. And while it is especially volatile, capital pillar depth has also been increasing since 2012. Trade pillar depth, on the other hand, has been declining since 2012 and that decline accelerated in 2015. In contrast, trade pillar breadth has been rising since 2014, powering the first notable increase in overall breadth since 2009.

Pillar-level analysis also helps paint a picture of the differences in connectedness levels between advanced and emerging economies. **Figure 1.6** tracks ratios of advanced over emerging economies' connectedness scores. Ratios (above one) on these charts quantify how much more connected advanced economies are than emerging economies. On trade depth, advanced and emerging economies are roughly at parity, but advanced economies are about four times as deeply integrated into international capital flows, five times as much on people flows, and nine times with respect to information flows. On breadth, the differences are smaller, but again emerging economies are closest to parity with respect to trade. They lag progressively farther behind on information, people, and capital breadth.

If emerging economies become more similar to advanced economies in terms of their connectedness levels, this would provide a powerful boost to overall global connectedness. However, the trends depicted on Figure 1.6 do not provide strong evidence for such a pattern of convergence, and if emerging economies continue to grow faster than advanced economies—and continue to lag behind on global connectedness—then their growth might prompt a decline in the overall world level of connectedness.

The next four sections of this chapter provide a more detailed examination of levels of connectedness within each of the pillars, including discussion of recent developments and future prospects. They focus on depth rather than breadth because depth is the more volatile dimension of the index as well as the dimension that has a clearer positive relationship with economic growth.

FIGURE 1.6 //
PILLAR LEVEL TRENDS, ADVANCED VS. EMERGING ECONOMIES, 2005–2015



Advanced and emerging economies are roughly at parity in terms of their integration into international trade flows, but emerging economies lag behind on both depth and breadth across all of the other pillars of the index.

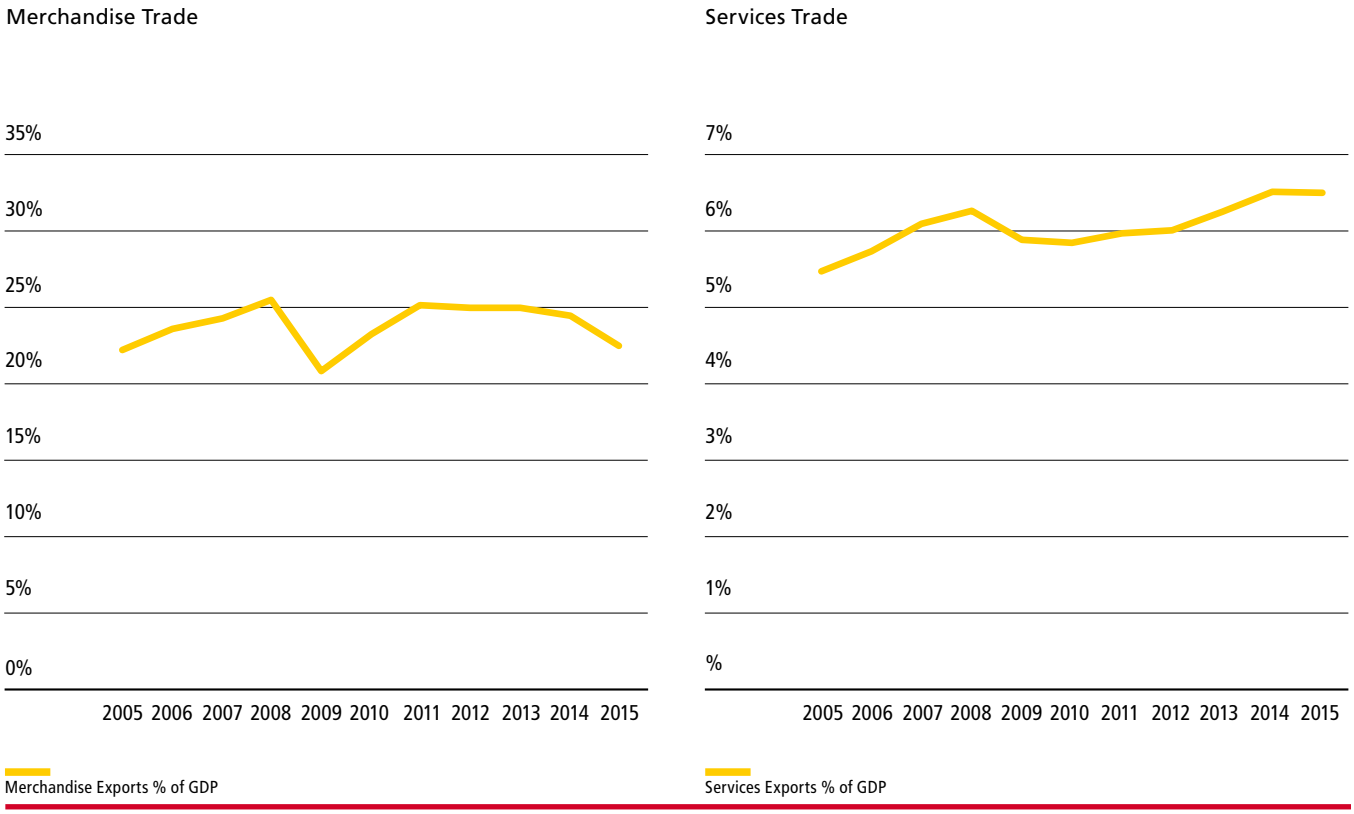
The Trade Pillar

Trade in goods is the most tangible marker of economic globalization, and its recent weakness underpins much of the present pessimism about the future. Merchandise trade in US dollar terms fell 13% between 2014 and 2015, prompting the sharp decline in trade depth highlighted in the previous section. Merchandise exports as a percent of world GDP fell from 24.4% to 22.5% over the same period, as shown in **Figure 1.7**. Trade growth, however, does look better in volume rather than value terms (with the discrepancy between the two reflecting exchange rate shifts and commodity prices). Merchandise trade volume rose a modest 2.7% in 2015, roughly in line with global output.[24] However, that remains a far cry from the years when trade was regularly expanding at twice the pace of world GDP growth (roughly from 1990 to 2007). Regardless of the measurement approach employed, we remain in a weak environment for merchandise trade.

Looking ahead, near-term forecasts do not call yet for a return to robust growth. In September 2016, the WTO slashed its 2016 projection for trade growth (in volume terms) from 2.8% to 1.7%, which would be the slowest expansion since the financial crisis. For 2017, the WTO forecasts growth of between 1.8% and 3.1%—the first time the organization provided a range rather than a specific forecast, another indicator of the unusually ambiguous environment.[25] Such uncertainty has also fed demand for more timely data, motivating the WTO to introduce a new "World Trade Outlook Indicator," calculated based on several drivers of trade growth.

Weak trade growth has also prompted speculation about whether the world has reached or even passed "peak trade," i.e. the possibility that trade growth is under pressure due to structural rather than cyclical factors. We have pointed to one of the structural drivers of slowing trade growth in previous editions of this report: China's rebalancing away from an export-intensive growth model to one that relies more heavily on domestic demand. China's merchandise exports depth (as a percentage of its GDP) has fallen from a peak of 35% in 2006 to only 21% in 2015. As the world's largest goods exporter (with about 14% of world exports), China by itself does impact global exports depth. And China's impact is further amplified by supply chain effects. The share of imported content in China's exports has fallen

FIGURE 1.7 //
TRADE PILLAR DEPTH RATIOS, 2005–2015



The intensity of merchandise trade flows (in value terms, relative to world GDP) has been on a declining trend since 2012, and fell sharply in 2015. The growth of services trade intensity also stalled in 2015.

from as high as 60% in the mid-1990s to about one-third.[26] Shortening of supply chains elsewhere may also contribute, although the evidence on this point is mixed. Rather than shortening, more supply chains may instead shift from China to other low cost countries.[27]

Another structural shift that depresses trade intensity when measured as a percentage of GDP is the rising proportion of services in world output. The service sector has grown from 58% of world GDP in 1995 to 69% in 2014.[28] Indeed, merchandise trade intensity does look modestly better when assessed based on output in goods-producing sectors only. While such an adjustment does not erase the present declining trend, it does draw attention to the stronger results on the services component of the trade pillar. Services trade intensity, which is a fraction of merchandise trade intensity, has risen every year since 2010, although that growth also appears to have stalled in 2015.

In the view of WTO Director-General Roberto Azevêdo, cyclical rather than structural factors explain enough of the slowdown to point to brighter prospects over the medium term. As Azevêdo commented in June 2016, "as much as the 'new normal' is not 'normal', actually the 'old normal' was not 'normal' either." He expects merchandise trade growth relative to GDP to recover "to a midpoint between today's doldrums and the rapid expansion of the pre-crisis years."[29]

Such measured optimism about future trade growth depends, of course, on at least a moderately supportive policy environment. However, recent evidence points to rising protectionism. Global Trade Alert reported 50% more discriminatory trade policy measures in 2015 than 2014, implying a greater turn to protectionism in 2015 than at the height of the crisis in 2009.[30] The WTO found a surge of trade-restrictive measures implemented by G20 members between October 2015 and May 2016, as well.[31] Global Trade Alert also reports sector-level evidence that protectionist policies have contributed to the trade slowdown.

In the context of such uncertainty about future trade growth, it is useful to reflect briefly on how much trade has already grown and how much headroom remains available. Taking into account both goods and services, the ratio of exports to GDP soared from roughly 10% in the 1960s to 32% in 2008 before slipping back down to 29% in 2015.

Theoretical benchmarking, however, points to a great deal of room for additional growth. One benchmark model, in fact, suggests that the maximum theoretical value for exports as a percentage of GDP rose from 77% in 1960 to 92% in 2011 (due to the rise of emerging economies and the erection of new borders, e.g. with the breakup of the former Soviet Union).[32]

It is also important to recognize that even 29% depth for total exports in 2015 overstates the proportion of output that is traded across borders because the same content can cross borders more than once in multi-country supply chains. In 2010, an estimated 28% of the value of gross exports of goods and services was foreign value added (value from a country other than where the exports were registered). This implies that exports really account for closer to 20% of global value added rather than nearly 30%.[33] Adjusting for multi-country supply chain effects also brings into clearer focus the deeper trade in goods as compared to services. Exports account for about 40% of value added in goods-producing sectors (agriculture and industry) but only 15% in the service sector.[34]

Furthermore, examination of trade trends at the industry level illustrates the importance of informing strategy and policy via more tailored analyses. It would be a mistake to assume based on weak overall trade expansion that export growth opportunities are limited for all companies. Crude oil, in fact, alone accounted for 20% of the drop in trade value from 2014 to 2015, and all mineral fuel commodities combined to account for close to 40%. In contrast, trade in art and aircraft, to cite just two categories, grew strongly over the same period.

The Capital Pillar

The most dramatic development on the capital pillar in 2015 was a spike in the depth of FDI flows, reversing a declining trend on this metric since 2011 (see **Figure 1.8**). By 2014, world FDI inflows had shrunk to only 6.7% of gross fixed capital formation (implying that more than 93% of fixed investment around the world occurred within rather than across national borders).[35] In 2015, FDI inflows rebounded to 9.9% of gross fixed capital formation, slightly higher than in 2010, although still far short of an apparent all-time peak of 17% in 2000.

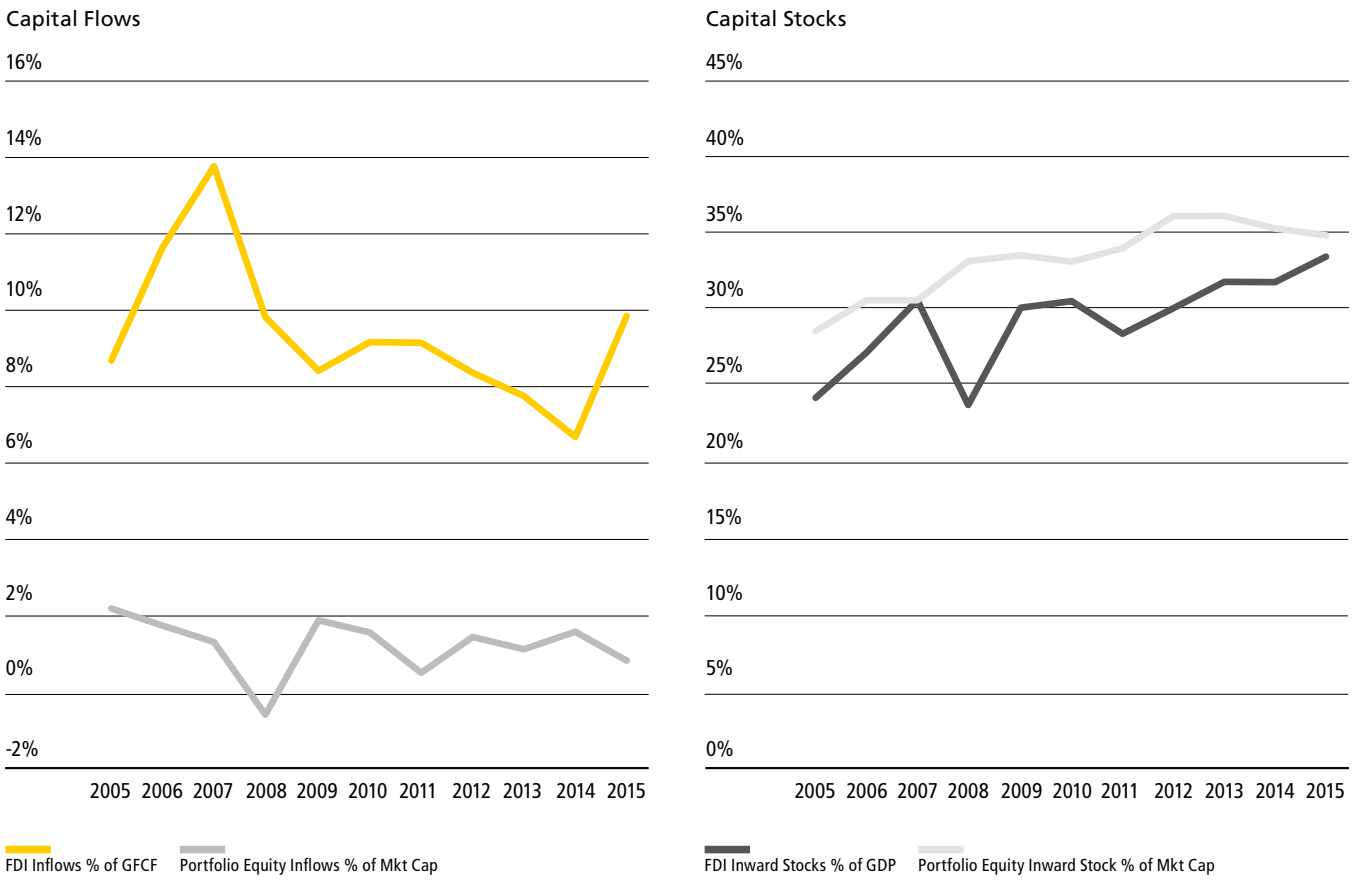
While a rebound of FDI flows should normally be a positive development given the benefits associated with FDI (technology transfer, lower volatility than other types of international capital flows, and so on), the 2015 data are less positive than they may first appear. The United Nations Conference on Trade and Development (UNCTAD) reported that "FDI recovery was strong in 2015, but lacked productive impact."[36] The reason for this downbeat assessment is that more than half of the 2015 expansion of FDI flows came from what UNCTAD termed "corporate reconfigurations," including corporate inversions in which companies (mainly from the US) entered into M&A transactions with foreign firms to relocate their domiciles to countries with lower corporate tax rates. Stripping out corporate reconfigurations cuts the 2015 global FDI inflows depth ratio to only 8.2%.[37]

While China has been a key player in influencing global merchandise trade growth in recent years, the United States had an even larger impact on FDI flows in 2015. The growth of US FDI inflows alone made up 57% of the world total, and 97% of FDI into the US in 2015 involved acquisitions of US firms.[38] The prominence of tax inversions among those deals (motivated by the US's 35% corporate tax rate, the highest among advanced economies) prompted a vigorous response by the US Treasury Department. These regulatory changes led directly to the cancellation of the largest such deal ever announced, a $160 billion merger between Pfizer (of the US) and Allergan (domiciled in Ireland) in April 2016.

Looking forward, UNCTAD projects that FDI flows will decline 10 – 15% in 2016 before starting to grow again in 2017. These projections reflect both macroeconomic forecasts as well as the new US regulations curbing corporate inversions. In this context, it is encouraging that—in contrast to the pattern of rising trade protectionism discussed in the previous section—there is a trend toward greater investment policy liberalization. Among the changes in national investment policies tracked by UNCTAD in 2015, 85% eased restrictions or promoted foreign investment; only 15% added new restrictions. The proportion of regulatory changes favoring FDI has been on an upward trend since 2010.

Turning to the other capital pillar depth metrics, the sharp rebound in FDI flows was accompanied by an uptick on the depth of FDI stocks. FDI stocks grew to a record 34% of world GDP. Meanwhile the portfolio equity depth metrics covering both flows and stocks turned in modest declines over the past year. Portfolio equity flows depth has fluctuated within a narrow range since 2011, and portfolio equity stocks closed out 2015 at 35% of stock market capitalization.[39]

FIGURE 1.8 //
CAPITAL PILLAR DEPTH RATIOS



The most dramatic development on the capital pillar was a spike in the intensity of FDI inflows in 2015. However, closer examination reveals that this expansion was driven in large part by corporate reconfigurations rather than real growth in international activity.

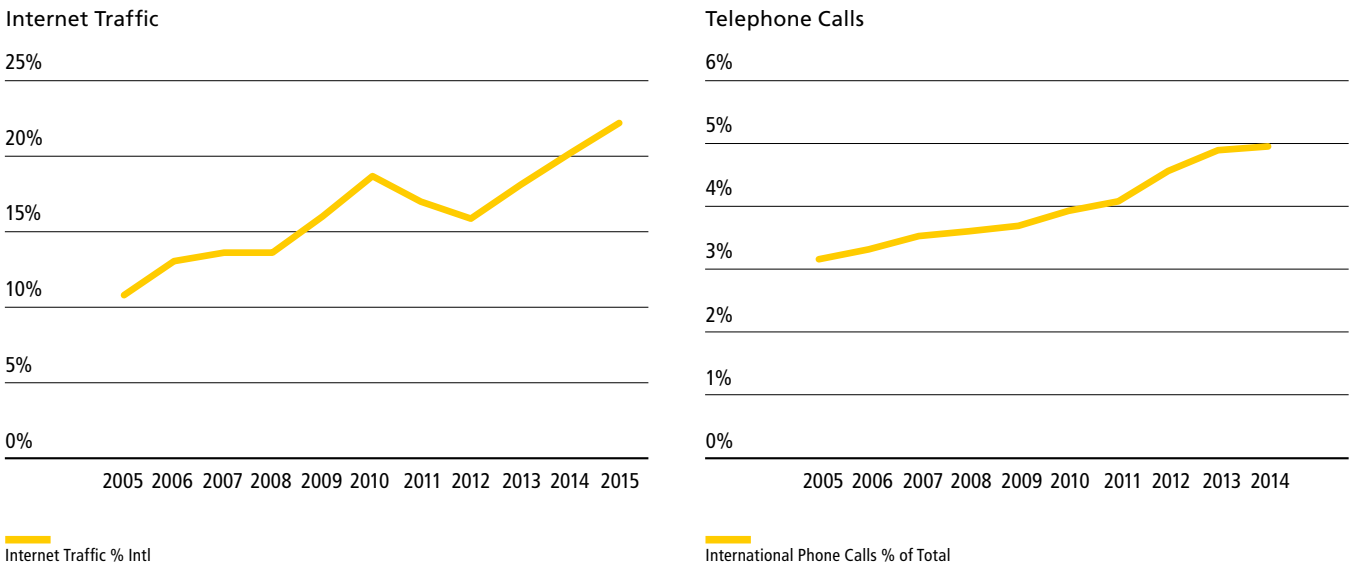
The Information Pillar

International information flows have expanded swiftly since 2005, powered by a tenfold increase in the amount of international internet bandwidth available per internet user. Domestic connectivity, however, has also multiplied over the same period, prompting us to focus our analysis of data flows over the internet on rough estimates of the proportion of internet traffic that crosses national borders rather than the international bandwidth per capita metric we use in our country level analysis.[40] As shown in **Figure 1.9**, we estimate that the proportion of internet traffic crossing national borders has risen from roughly 11% to 22% since 2005. [41]

Even though a rising proportion of internet traffic appears to be crossing national borders, the internet is still used primarily for domestic communications. This pattern also holds for several more specific types of online activity. An estimated 15% of e-commerce was international in 2014.[42] Newly published research on Facebook reports 14% of friendships on the social network crossing national borders[43], somewhat lower than the 16% reported in a widely-cited earlier study. [44] Twitter *is* somewhat more international than Facebook, with an estimated 25% of Twitter users located in different countries from the people they follow, although this is still only a fraction of the level one would expect if borders did not matter at all.[45]

The internet has also powered a significant increase in the depth of international telephone calls. Since 2012, the absolute growth of Skype-to-Skype calls over the internet has outstripped the growth of international calls via traditional telephone networks (fixed and mobile).[46] The international proportion of all telephone call minutes can only be estimated approximately due to limited reporting of countries' domestic telephone traffic.[47] However, the available data point to an increase from about 3% to 5% in the international proportion of telephone call minutes (including Skype) between 2005 and 2014.

FIGURE 1.9 //
INFORMATION PILLAR DEPTH RATIOS



The intensity of international internet traffic and telephone calls have both roughly doubled since 2005. Their expansion was powered by a tenfold increase in international internet bandwidth per internet user over the same period, with the majority of the growth in international telephone call minutes coming from calls placed over the internet.

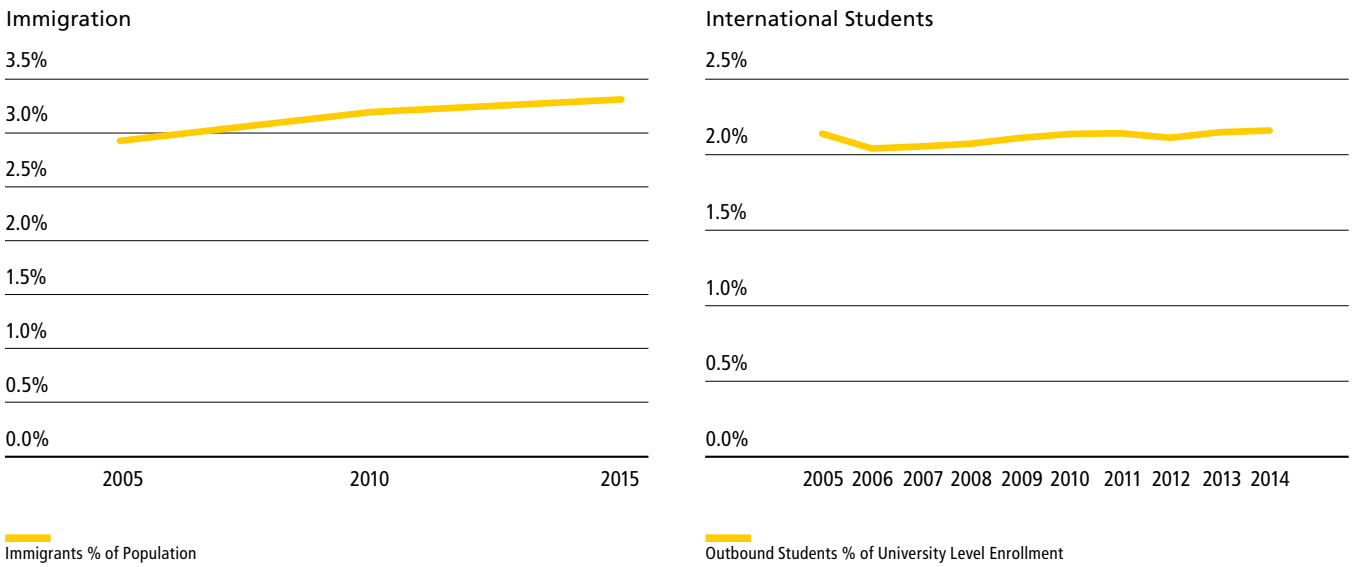
To put these figures in perspective, while the international proportion of phone call minutes has nearly doubled since 2005, direct contact between individuals around the world remains very limited. In 2014, the average person spent only 110 minutes (less than 2 hours) talking to people in other countries (up from 43 minutes in 2005), versus roughly 35 hours spent on domestic calls. Limited depth is also evident on the final component of the information pillar, trade in printed publications.[48] There was only $6.74 (USD) of such material exported per person in 2015, and there is no discernible rising (or falling) trend on this metric.

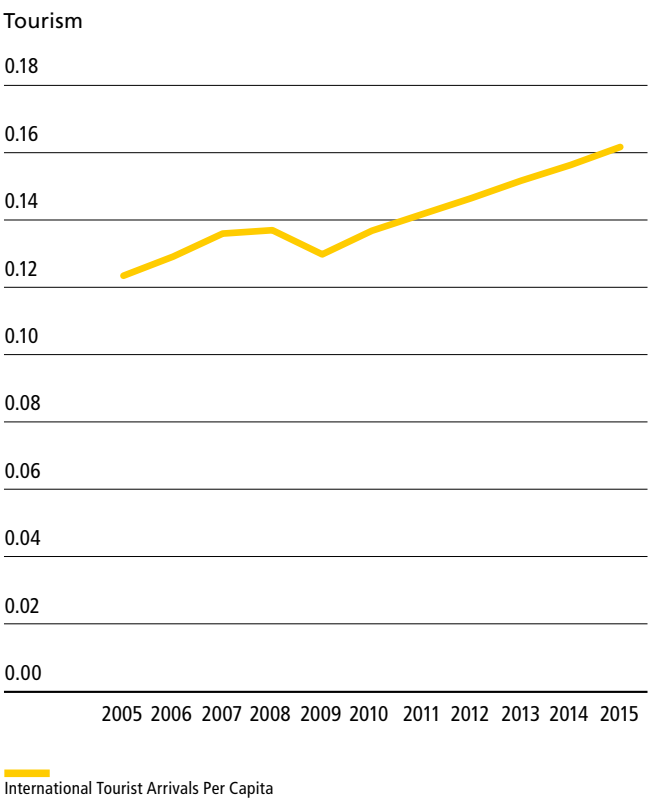
The People Pillar

Migration is presently a hot-button political issue in many countries, and a desire to control immigration from within the EU was one of the top reasons UK voters cited for supporting Brexit. On a global basis, migration is on a rising trend, but a very modest one. Since migration is a long-term people flow, we measure it based on the number of people living abroad rather than how many people move in a given year. The proportion of people living outside of the countries where they were born has risen from 2.9% in 2005 to 3.3% in 2015 (see **Figure 1.10**). Both of those values, however, still round to 3% - the same level that global migration depth has approximated for more than a century![49]

For a medium-term perspective on people movements, we measure the number of university students enrolled in degree programs outside their home countries as a proportion of total university-level enrollment. This metric has also been rising, but off of a very low base. The share of

FIGURE 1.10 //
PEOPLE PILLAR DEPTH RATIOS





International tourism is on a strong rising trend, but increases in the depth of migration and international education are more limited, reflecting the greater constraints that visa and work permit regulations impose on medium-to-long term people flows.

tertiary students enrolled abroad grew from an estimated 2.1% in 2005 to 2.2% in 2014.[50] Given some imprecision in the underlying data, the best overall conclusion to draw is that roughly 2% of tertiary students are enrolled abroad and the depth of international education appears to be on a very modest increasing trend.

Tourism represents a short-term people flow (typically days or weeks rather than years) and is therefore measured based on the number of international tourist arrivals during a given year (excluding "excursionists" who do not stay overnight). Roughly 17%-19% of all tourist arrivals in 2015 were international.[51] However, available data are not sufficient to construct a time series based on this metric. We do so, therefore, using international tourist arrivals per capita as an alternative indicator.

Measured on a per capita basis, international tourist arrivals have grown significantly over the period studied: from 0.12 international trips per person in 2005 to 0.16 in 2015. These data imply that the average person around the world now travels outside his or her home country once every six years. And this metric is expected to continue rising, as international tourist arrivals are projected to outpace population growth. International tourist arrivals grew 4.6% in 2015, and the United Nations World Tourism Organization (UNWTO) forecasts 3.5%-4.5% growth in 2016 and 3% annualized growth through 2030. As a reference point, the world's population is projected to grow about 1% per year between 2015 and 2030.

1. HOW GLOBALIZED IS THE WORLD? – CONCLUSION

TWO LAWS GOVERNING GLOBALIZATION

The majority of this chapter focused on tracking recent changes in levels of globalization. However, it is also useful to step back from these trends to consider what remains unchanged. In an environment of varying and often contradictory perceptions and predictions about globalization, a stable frame of reference is essential. As Amazon.com Chairman and CEO Jeff Bezos put it, "It helps to base your strategy on things that won't change. When I'm talking with people outside the company, there's a question that comes up very commonly: 'What's going to change in the next five to ten years?' But I very rarely get asked 'What's not going to change in the next five to ten years?' At Amazon we're always trying to figure that out, because you can really spin up flywheels around those things."[52]

In this spirit, Pankaj Ghemawat has recently proposed two *laws of globalization* that summarize a broad array of observed regularities:[53]

- The *law of semiglobalization*: International interactions, while non-negligible, are significantly less intense than domestic interactions.

- The *law of distance:* International interactions are dampened by distance along cultural, administrative, and geographic dimensions and are often affected by economic distance as well.

The *law of semiglobalization* pertains to the depth of globalization and the *law of distance* to its breadth. These laws are intended to have the status of scientific laws in the sense of describing important regularities (as distinct from scientific theories that posit a mechanism or explanation of observed phenomena).[54]

The UK's vote to exit the EU provides a timely illustration of the power of these laws and their persistence over time.[55] Starting with the *law of semiglobalization,* flows across the UK's borders (especially people flows but also trade and capital flows) were large enough to provoke a backlash, yet they still fall far short of what one would expect if borders (in this case, even just intra-EU borders) had ceased to matter. Thus, the UK's (gross) exports account for less than one-third of its GDP, about the same as the world as a whole and far below a zero-border effect benchmark of 96% (100% minus the UK's share of world GDP). Even under the worst-case scenarios of how Brexit will play out, it is extremely unlikely that the UK's international flows would shrink so much as to become irrelevant to it.

Turning to the *law of distance,* the UK's international ties are disproportionately centered on Europe. In 2015, 45% of the UK's exports went to the EU and it drew slightly over one-half its imports from there. Adding in Switzerland brings the Continental share of the UK's merchandise exports to over one-half as well, versus 15% for the US and 6% for China. Given physical proximity, the EU is likely to continue to be the UK's largest export-import partner by far, unless the terms of separation are very acrimonious (like India-Pakistan, to invoke a rather different example of Brexit). And it is not that the UK is particularly narrow in terms of its international engagement: rather, the reverse. On the 2016 DHL Global Connectedness Index, the UK ranks *first* out of 140 countries in terms of the breadth of its international interactions. Furthermore, the UK's ties to countries beyond the EU—the US is its largest destination country for exports—illustrate the non-geographic dimensions of the *law of distance*.

Where did the *laws of globalization* come from? They were informed by the same hard data as the DHL Global Connectedness Index, and they also have roots in well-established research on geography. They represent generalizations—within the international domain[56]—of

the two laws of geography proposed decades ago by Waldo Tobler:

- The phenomenon external to [a geographic] area of interest affects what goes on in the inside.[57]
- Everything is related to everything else, but near things are more related than distant things.[58]

The *law of semiglobalization* adds an upper bound to Tobler's lower bound on outside influences. In addition to positing that international influences are non-negligible, it makes the point that national borders still matter a great deal. And the *law of distance* generalizes Tobler's focus on geographic distance to also encompass measures of cultural, administrative/political, and (with some qualifications) economic distance.

The *laws of globalization* provide a stable frame of reference in an ambiguous environment. They are grounded in the view that we are very far away from either complete globalization or localization, and hence very unlikely to reach either endpoint in the foreseeable future.

Looking forward, levels of global connectedness may increase, stagnate or even suffer a sharp reversal, but given the parameters of the current situation, it is unlikely that increases will any time soon yield a state in which the differences or barriers between countries can be ignored. Nor is it probable that decreases could lead to a state in which the similarities or bridges that unite countries could be disregarded.

1. HOW GLOBALIZED IS THE WORLD?
NOTES

1 Within a span of just three weeks in 2015, the *Washington Post* treated its readers to the full spectrum of possibilities with headlines ranging from "Globalization at Warp Speed" to "The End of Globalization?"

2 Jim Tankersley, "Britain's Brexit just killed globalization as we know it," *The Sydney Morning Herald*, June 26, 2016.

3 Samuel J. Palmisano, "The Globally Integrated Enterprise," *Foreign Affairs*, May/June, 2006. In 2016, Palmisano reflected on developments since the publication of his original article and argued that "The future global enterprise will be found at the intersection of this tension between local vs. global, which in today's reality is increasingly revealed by the constraints of the physical world as companies pursue digitalization's technological benefits." (Quoted from Samuel J. Palmisano, "The Global Enterprise: Where to Now?" *Foreign Affairs*, October 14, 2016.)

4 Jeffrey R. Immelt, "The World I See," MBA Commencement Address at NYU Stern School of Business, May 20, 2016. http://www.gereports.com/the-world-i-see-immelts-advice-to-win-in-the-time-of-globalization/

5 The G20 Leaders' Hangzhou Summit Communique is available at http://www.g20.org/English/Dynamic/201609/t20160906_3396.html

6 Christine Lagarde, Jim Yong Kim, and Roberto Azevêdo "How to Make Trade Work for Everyone," *The Wall Street Journal,* October 4, 2016.

7 Anita Balakrishnan, "America needs to be a 'beacon of progress' for globalization: Microsoft CEO," CNBC, July 11, 2016.

8 For a more detailed analysis, refer to Pankaj Ghemawat, "Beyond Brexit: An Initial Analysis and Questions for the AIB Community," *AIB Insights* 16(3), 2016. Available at http://documents.aib.msu.edu/publications/insights/v16n3/v16n3_Article1.pdf.

9 The term "globaloney" was coined by the late American politician Clare Boothe Luce. See Albin Krebs, "Clare Boothe Luce Dies at 84: Playwright, Politician, Envoy," *The New York Times,* October 10, 1987.

10 For a detailed explanation of how the DHL Global Connectedness Index measures globalization, refer to Chapter 4. The data sources employed are listed in Appendix B. We relate the definition of globalization employed here to definitions in the literature in Pankaj Ghemawat and Steven A. Altman, "Defining and Measuring Globalization," Chapter 1 in Pankaj Ghemawat, *The Laws of Globalization and Business Applications*, Cambridge University Press, 2017.

11 Survey conducted for Pankaj Ghemawat via the SurveyMonkey platform.

12 Pre-course survey of students enrolled in Pankaj Ghemawat's MOOC (massive open online course) "Globalization of Business Enterprise" on the Coursera platform.

13 Separately from the survey cited, other research suggests that international activity—consistent with the general pattern of limited depth—contributes far less to such problems than domestic activity (and policy). For additional discussion of alleged harms associated with globalization, refer to chapters 5-11 of Pankaj Ghemawat, *World 3.0: Global Prosperity and How to Achieve It,"* Harvard Business Review Press, 2011.

14 See the 2014 edition of the German Marshall Fund of the United States "Transatlantic Trends" survey.

15 To illustrate this measure—as well as the importance of measuring breadth, which is a unique feature of the DHL Global Connectedness Index—consider tourism in Macau. While Macau ranks first in terms of the number of inbound tourists per capita (a depth metric), more than 80% of those tourists come from Mainland China and Hong Kong. Thus, while the depth of inbound tourism in Macau is very high, its breadth is limited, especially when one notes that less than 10% of outbound international tourists worldwide come from Mainland China and Hong Kong. From the standpoint of scoring breadth, if Macau attracted tourists from all around the world in proportion to where the world's outbound tourists come from, it would have the highest possible breadth score. In contrast, if all of Macau's tourists came from just one country that sends tourists nowhere else, it would receive the lowest possible score.

16 Thomas L Friedman, *The World Is Flat: A Brief History of the Twenty- First Century,* Farrar Straus and Giroux, 2005.

17 Under frictionless benchmark assumptions, each country consumes imports from every other country in proportion to every other country's share of world output. While this type of benchmark was developed originally for trade analysis, we construct analogous benchmarks here for other flows based on the denominators of the their depth ratios: gross fixed capital formation for FDI flows, market capitalization for portfolio equity, population for telephone calls, migration, and tourism, and tertiary education enrollment for students. For additional background, refer to Keith Head and Thierry Mayer, "What Separates Us? Sources of Resistance to Globalization," *Canadian Journal of Economics/Revue canadienne d'économique* 46(4), November 2013.

18 Based on data reported by Bloomberg. Actually, the losses immediately inferred from Brexit are even larger than $3.6 trillion if one recognizes that even before the vote, the probability of a vote in favor of Brexit was (significantly) greater than zero. Formally, the inferred losses are equal to $3.6 trillion divided by 1 minus the assessed probability, prior to the vote, of the UK voting to leave the EU.

19 Percent changes versus 2005 are first computed at the component level and then higher levels of aggregation (overall index, depth and breadth dimensions, and pillars) are calculated as weighted averages of the component-level percent changes (using the weights reported in Chapter 4). In prior editions of this report, the analogous trend charts reported percent changes in normalized scores.

20 Additionally, for the trend analysis presented here, we do not employ the 5-year limit on data repetition used in calculating the country scores and ranks. This is done so as to ensure that trend analysis is not affected by changing data availability across years.

21 Tables 4.4 and 4.5 list variables for which no 2015 data were yet available at the time we conducted this analysis. The methods employed for handling these and other data gaps are explained in detail in Chapter 4. Additionally, recent data are also more often subject to large revisions by the data sources than older data.

22 Refer to Chapter 4 of the 2011 edition of this report for analysis relating the depth dimension of global connectedness to country-level economic growth.

23 The drivers of the drop-off in breadth relative to its baseline level were analyzed in Chapter 4 of the 2014 edition of this report. In brief, the primary driver of the decline was the rising share of international flows involving emerging economies, especially during the 2008–09 crisis centered in advanced economies. Advanced economies stretched their international flows out over greater distances, but their flow patterns did not change fast enough to keep up with the underlying shift in economic activity (towards emerging economies).

24 WTO Press Release, "Trade growth to remain subdued in 2016 as uncertainties weigh on global demand," April 7, 2016; WTO Press Release, "Trade in 2016 to grow at slowest pace since the financial crisis," September 27, 2016.

25 WTO Press Release, "Trade in 2016 to grow at slowest pace since the financial crisis," September 27, 2016.

26 Cristina Constantinescu, Aaditya Mattoo, and Michele Ruta, "Slow Trade," *Finance and Development* Vol. 51, No. 4, International Monetary Fund, December 2014.

27 See, for example, Madhur Jha, Samantha Amerasinghe, and John Calverley, "Global supply chains: New directions," Standard Chartered, May 27, 2015.

28 Based on data from World Bank World Development Indicators database.

29 WTO Director-General Roberto Azevêdo keynote address to the World Trade Symposium in London on June 7, 2016, published online at https://www.wto.org/english/news_e/spra_e/spra126_e.htm.

30 Simon J. Evenett and Johannes Fritz, "Global Trade Plateaus," Global Trade Alert Report #19, 2016.

31 World Trade Organization, "Report on G20 Trade Measures," June 21, 2016.

32 Keith Head and Thierry Mayer, "What separates us? Sources of resistance to globalization," *Canadian Journal of Economics/Revue canadienne d'économique* 46(4), November 2013.

33 UNCTAD, "World Investment Report 2013: Global Value Chains: Investment and Trade for Development," United Nations. http://unctad.org/en/PublicationsLibrary/wir2013_en.pdf

34 Calculation based on comparison of trade in value added from the 2013 UNCTAD World Investment Report (p. 137) with sectoral composition of GDP data from World Bank World Development Indicators database.

35 Gross fixed capital formation is not a perfect comparison for FDI flows. It includes, for example, investment in housing. However, we are not aware of any better indicator available to replace it.

36 UNCTAD World Investment Report 2016.

37 This estimate is based on applying the 15% growth rate excluding corporate reconfigurations reported by UNCTAD to total FDI inflows in 2014. Note that global gross fixed capital formation (the denominator in this depth ratio) fell 6% in US dollar terms in 2015. Thus even if FDI inflows had failed to expand at all, the depth ratio would have risen to 7.2%.

38 Based on UNCTAD World Investment Report 2016 and the July 13, 2016 U.S. Bureau of Economic Analysis news release entitled, "New Foreign Direct Investment in the United States, 2014 and 2015."

39 In this paragraph, for consistency with the preceding discussion of FDI inflows, we have used depth ratios reported by the countries on the receiving end of the capital flows (portfolio equity inflows and inward stocks of both FDI and portfolio equity). The only one of these metrics on which the direction used made a material difference in 2015 was portfolio equity stocks, which closed 2015 at 33% of stock market capitalization based on outward data.

40 Other sources that do not perform such normalization seem to us to overhype the growth of informational connectedness. McKinsey Global Institute's March 2016 report, "Digital Globalization: The New Era of Global Flows," for example, mentions at least six times that international internet bandwidth has grown 45 times over the past decade.

41 Rough estimate based on data from Cisco Visual Networking Index and Telegeography. The values reported in the text include all IP traffic (fixed internet, managed IP, and mobile data) in the denominator of the depth ratio. If the denominator is restricted to fixed internet traffic only the international share rises to 18% in 2005 and 33% in 2015.

42 Accenture, "Cross-border Ecommerce," 2016.

43 Maurice H. Yearwood, Amy Cuddy, Nishtha Lamba, Wu Youyou, Ilmo van der Lowe, Paul K. Piff, Charles Gronin, Pete Fleming, Emiliana Simon-Thomas, Dacher Keltner, and Aleksandr Spectre, "On wealth and the diversity of friendships: High social class people around the world have fewer international friends." *Personality and Individual Differences* 87, December 2015.

44 Johan Ugander, Brian Karrer, Lars Backstrom, and Cameron Marlow, "The Anatomy of the Facebook Social Graph," arXiv:1111.4503 [cs.SI], November 2011.

45 Yuri Takhteyev, Anatoliy Gruzd, and Barry Wellman. "Geography of Twitter Networks." *Social Networks* 34(1), January 2012.

46 Based on data reported by Telegeography.

47 Annual data for domestic telephone calls are available from the ITU, though with significant coverage gaps for most countries. There are better data available on total number of mobile and fixed line subscriptions, however, from the World Bank's World Development Indicators. These data are available on an annual basis and without significant gaps for most countries. These variables were used to develop fixed effects models of the per capita levels of fixed-to-fixed, fixed-to-mobile and mobile-to-mobile minutes. The fixed effects employed were countries (if there was sufficient data to ascertain a trend) and regions. Each of these fixed effects was interacted with the subscription data so that individual countries' and regions' trends were preserved when they were known. The model was checked in detail for goodness-of-fit at the country level; the final models had an average adjusted R-squared of 0.89. These models were used to predict the calling minutes of each country in the model, as well as the remaining countries in each region, and these were aggregated to estimate a world total.

48 More precisely, trade in all commodities classified under the HS Code 49: printed books, newspapers, pictures and other products of the printing industry, manuscripts, typescripts, and plans.

49 According to the 2009 UNDP Human Development Report, "A report by the ILO counted 33 million foreign nationals in 1910, equivalent to 2.5% of the population covered by the study (which was 76% of the world population at the time); the share of migrants in the world population (excluding the former Soviet Union and Czechoslovakia for comparability because their breakups caused people to become reclassified as migrants without actual movement) grew from 2.7% to 2.8% between 1960 and 2010 (p. 30)"; The International Organization for Migration (IOM) reports that migrants formed 2.5% of the world population in 1960 and 3.1% in 2010 (International Organization for Migration (IOM), "World Migration Report 2005: Costs and Benefits of International Migration," *IOM World Migration Report Series* 3, 2005. https://publications.iom.int/system/files/pdf/wmr_2005_3.pdf).

50 2015 data not yet released on this metric.

51 UN World Tourism Organization (UNWTO), "World Tourism Highlights," 2016.

52 Julia Kirby and Thomas A. Stewart, "The Institutional Yes," *Harvard Business Review,* October 2007.

53 For a book-length treatment of this material, refer to Pankaj Ghemawat, *The Laws of Globalization and Business Applications,* Cambridge University Press, 2017.

54 William F. McComas, "A Textbook Case of the Nature of Science: Laws and Theories in the Science of Biology," *International Journal of Science and Mathematics Education* 1(2), June 2003.

55 Pankaj Ghemawat, "Beyond Brexit: An Initial Analysis and Questions for the AIB Community," *AIB Insights* 16(3), 2016. Available at http://documents.aib.msu.edu/publications/insights/v16n3/v16n3_Article1.pdf.

56 Some of the same insights, however, do also apply within countries, at the regional and even local levels. See, for instance, Pankaj Ghemawat, "From International Business to Intranational Business," in *Emerging Economies and Multinational Enterprises,* edited by Laszlo Tihanyi, Elitsa R. Banalieva, Timothy M. Devinney, and Torben Pedersen, Emerald Group Publishing, 2015.

57 Waldo Tobler, "Linear Pycnophylactic Reallocation—Comment on a Paper by D. Martin," *International Journal of Geographical Information Science* 13(1), January 1999.

58 Waldo Tobler, "A Computer Movie Simulating Urban Growth in the Detroit Region," *Economic Geography* 46 (Supplement: Proceedings, International Geographical Union), Commission on Quantitative Methods," June 1970.