

A panoramic view of a city at night, likely Hong Kong, with numerous skyscrapers illuminated by warm yellow and orange lights. The city is situated along a waterfront, with a large body of water visible in the middle ground. The sky is a deep blue, suggesting dusk or dawn. The overall scene is vibrant and modern.

Pankaj Ghemawat with Steven A. Altman

DHL GLOBAL CONNECTEDNESS INDEX 2012

Analyzing global flows and their
power to increase prosperity



DHL GLOBAL CONNECTEDNESS INDEX 2012

Pankaj Ghemawat
with Steven A. Altman,
IESE Business School



Dear Reader,

Among the forces shaping the future of business and society, globalization stands out as one of the most prominent drivers of change. From poverty reduction to job growth and major advances in technology, the benefits of cross-border interactions can be felt everyday. Globalized countries maintain a competitive edge, and their populations enjoy more prosperity.

Since the onset of the global financial crisis in 2007, however, global connectedness has been faltering and has even suffered reversals, according to the DHL Global Connectedness Index 2012. This is an alarming finding given the huge gains that global connectedness has brought to the world's citizens.

Five years into the crisis, some might argue that the risks of globalization – particularly in the form of volatile capital flows – outweigh the benefits. For globalization skeptics and supporters alike, this year's DHL Global Connectedness Index presents a wide range of evidence showing that deeper ties indeed contribute to prosperity.

And while the economic benefits of global connectedness dominate today's debate, it is important to remember that a globalized world is also about advances in human development: in education, health and the environment, for example.

At Deutsche Post DHL, we like to think of ourselves as active and enthusiastic ambassadors of globalization. With our world-class network and logistics capabilities, we enable cross-border commerce by connecting people and markets. We strongly believe that these connections improve people's lives, and that's something all of our 470,000 employees are proud of.

And because we recognize the important role business must play in solving global issues, we engage with governments and NGOs in areas where we can make a strong impact, such as disaster management, environmental protection and educational opportunity.

Simply put, global connectedness is part of the fabric of our organization. We hope our 2012 Global Connectedness Index will inspire you to think about how it can become part of yours.

I wish you an enjoyable reading experience!

A handwritten signature in black ink, appearing to read 'Frank Appel', written in a cursive style.

Frank Appel
CEO, Deutsche Post DHL



Dear Reader,

At a time of economic weakness in countries around the world, increasing the connectedness among them represents one of the most powerful levers available for boosting growth. This second edition of the DHL Global Connectedness Index documents both the potential to increase global connectedness and the problems the world has actually encountered in doing so, since the world is less globally connected today than it was in 2007!

The DHL Global Connectedness Index was developed to provide readers the most comprehensive and timely source of hard data and analysis depicting the actual extent and direction of globalization around the world. This second edition has been expanded significantly compared to the first edition as well as being thoroughly updated. Key enhancements in this year's report include: detailed tracking of how globalized the world is as a whole (Chapter 1), analysis of global connectedness at the industry level (Chapter 3), and brief country case studies illustrating policies to promote connectedness (in Chapter 4). The industry analysis focuses on mobile phones, passenger cars, and pharmaceuticals, and the country cases feature the Netherlands, Vietnam, and Mexico. Fifteen more countries were also added to this year's index, increasing its coverage to 99% of the world's GDP and 95% of its population. And to help readers interpret the country profiles at the back of this report, each profile now contains a brief summary at the bottom of the page.

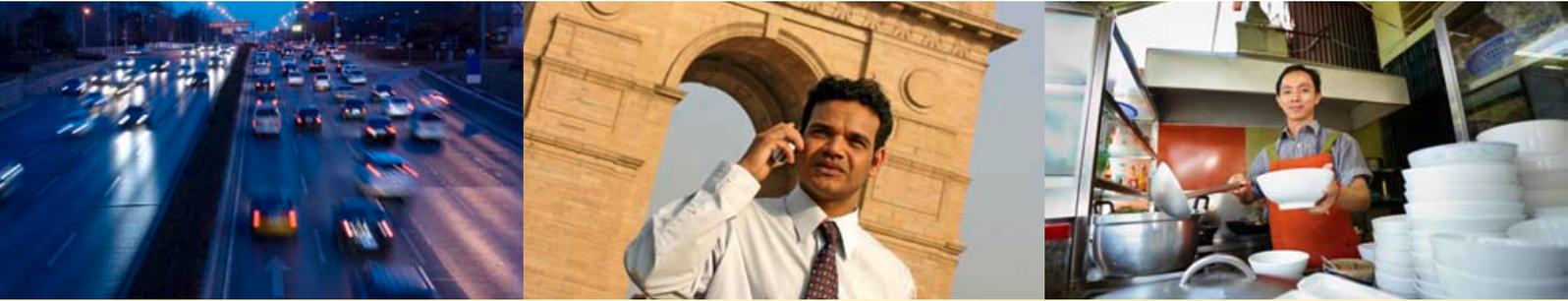
The data behind this year's report have also been completely refreshed, incorporating both the most recent updates (2011 data for most components) as well as revisions to earlier data going back to 2005. Estimated values that were used in last year's report were also replaced with actual values where available.

I am grateful to Steven A. Altman, my partner in conducting this research and the co-author of this report, to Tamara de la Mata for the skill and care with which she helped compile the data and conduct the statistical analyses, and to Paola Elice and Joel Serra Bevin for research assistance. Finally, I would like to thank Deutsche Post DHL for supporting this research. I am particularly grateful to Dr. Jan Dietrich Müller for his role in launching this initiative and to Jill Meiburg for guiding the development of this year's report.

A handwritten signature in black ink that reads "Pankaj Ghemawat". The signature is written in a cursive, flowing style.

Pankaj Ghemawat

Barcelona, November 12, 2012



Ten Key Take-aways

- 1** **The world today is less globally connected than it was in 2007.** Global connectedness was hit hard at the onset of the financial crisis and despite modest gains since 2009 has yet to recapture its pre-crisis peak.
- 2** **Capital markets are fragmenting and services trade is stagnant.** While merchandise trade has recovered robustly since 2009 and information flows continue growing, capital connectedness is on a declining trend and the intensity of services trade has not risen since 2009.
- 3** **Global connectedness is also weaker than is commonly perceived,** which softens and even reverses some widespread fears about globalization.
- 4** **Distance and borders still matter – even online.** Most international flows take place within rather than between regions. Even online connections are mainly domestic and decline with distance.
- 5** **Europe is the world's most globally connected region: a reminder of what EU integration has managed to achieve – and what its fragmentation might put at risk.** The Netherlands retains the top rank on this year's DHL Global Connectedness Index, and 9 of the 10 most connected countries are in Europe.



6

Sub-Saharan African countries averaged the largest connectedness increases.

Sub-Saharan Africa remains the least connected region, but the top 5 countries in terms of connectedness increases over the past year were all in this region.

7

Potential gains from boosting global connectedness can reach trillions of dollars.

As global growth slows and much of the world struggles with its debts, increasing global connectedness can accelerate growth.

8

Every country has untapped possibilities to benefit from more connectedness.

Even in the most connected countries, most activities that could take place either within or across borders are domestic, not international.

9

Countries' domestic and international policies can help them connect more. This report identifies a broad array of policy levers that have been shown to deepen connectedness.

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The world's shifting economic center of gravity reshapes industry connectedness, with significant business implications as shown in this report's analyses of the mobile phone, passenger car, and pharmaceutical industries.

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Chapter 1 measures connectedness at the aggregate global level today and examines what recent trends suggest about where global connectedness is heading. It traces out how the depth and breadth of global trade, capital, information and people flows have evolved since 2005, with special emphasis on changes since the onset of the financial crisis in 2007–2008.



2

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Chapter 3 examines how global connectedness varies across industries, with a particular focus on the changing shape of industries' connectedness as more of the world's economic activity shifts to emerging markets. The depth and breadth of international flows of 20 products are compared, and the pharmaceutical, automotive, and mobile phone industries are featured as case examples.



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Chapter 4 presents evidence on the benefits of global connectedness and then turns to policies that countries can implement to improve their connectedness. A broad variety of policy measures are discussed and then the Netherlands, Vietnam, and Mexico are examined as case examples to emphasize how connectedness policies and strategies must be tailored to a country's unique structural and historical conditions.



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Chapter 5 explains how the DHL Global Connectedness Index was constructed and what aspects of connectedness it covers. It also provides a rough comparison of the DHL Global Connectedness Index to other globalization indices, highlighting the unique aspects of this index.

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Country Profiles 94

Part II of this report provides a set of country profiles that include detailed data on each country's connectedness pattern, track country-level connectedness trends, and display custom rooted maps based on countries' export patterns. A brief summary is also included at the bottom of each profile.



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Executive Summary



The world is less globally connected today than it was in 2007, and global connectedness also falls far short of the levels commonly assumed by business executives and the general public. In light of research indicating that deepening global connectedness can be a powerful lever for increasing prosperity, this report's findings of limited and faltering global connectedness imply that strengthening countries' connectedness offers large untapped potential to help accelerate economic recovery. The fact that the world is less globalized than is often presumed also helps calm many fears about globalization.

The 2012 DHL Global Connectedness Index measures and analyzes the global connectedness of 140 countries, covering 99% of the world's GDP and 95% of its population. It measures the depth and breadth of countries' trade, capital, information, and people flows. Twelve distinct components of connectedness are incorporated across those four pillars, with historical coverage back to 2005. More than one million data points were included into the calculation of this year's DHL Global Connectedness Index.

The DHL Global Connectedness Index is based entirely on hard data in order to separate the facts about global connectedness from commonly held myths. It relies on the most recent data available, which for most components are from 2011. It focuses on measures of actual international flows (and stocks cumulated from prior flows) so as to distinguish clearly between connectedness and its enablers. This makes it more useful for policy analysis than globalization indices that mix flows and enablers together.

At the global level, this report reveals a detailed picture of how the world's connectedness has changed since the onset of the financial crisis in 2007–2008, both in terms of the size of countries' international flows relative to their domestic economies (depth) as well as the extent to which

countries' international connections span the globe or remain more narrowly focused or regionalized (breadth). While merchandise trade has staged a strong recovery since 2009, its growth is slowing, and the intensity of services trade has stagnated. Capital markets are fragmenting, as investors keep more of their funds at home and target their foreign investments more narrowly. Information flows continue to expand, though actual connectedness lags the growth of potential connectivity on this pillar. And connectedness on the people pillar has barely grown since 2005.

The global connectedness patterns traced in this report also highlight how distance, far from being dead, continues to depress connectedness of all types. While the distance between a randomly selected pair of countries is roughly 8,500 km, the average distance traversed by merchandise trade, foreign direct investment flows, telephone calls, and human migration all cluster in the range from 3900 km to 4750 km. This accords with the finding that most international flows take place within rather than between continental regions.

At the country level, while all countries have headroom to increase their connectedness with rest of the world, countries do vary widely with respect to the depth and breadth of their global connectedness. The top ranked countries overall on this year's DHL Global Connectedness Index are, in descending order, the Netherlands, Singapore, Luxembourg, Ireland, Switzerland, the United Kingdom, Belgium, Sweden, Denmark and Germany.

The fact that 9 of the top 10 countries are located in Europe reflects Europe's broader standing as the world's most globally connected continental region. Europe is also the top ranked region on the people pillar. The East Asia & Pacific region tops the trade pillar and North America leads on the capital and information pillars.

Looking more broadly, the top 50 countries include representatives from all six inhabited continents. Singapore, with the 2nd rank worldwide, is the only non-European country in the top 10. The top North American country on the list is the United States, ranked 20th. Australia holds the 30th position as the top ranked country in the South Pacific. Morocco is the highest ranked African country, in 38th place, and South Africa leads among Sub-Saharan African countries, in the 48th position. And Chile is the top ranked South American country, at 41st place.

Sub-Saharan Africa is the least connected region today, but Sub-Saharan African countries averaged the largest increases in connectedness over the past year, with their gains driven primarily by the trade pillar. The top 5 countries in terms of connectedness score increases over the past year are all located in Sub-Saharan Africa: Mozambique, Togo, Ghana, Guinea, and Zambia.

Turning to the depth and breadth dimensions of overall connectedness, the leading countries and territories with respect to the depth of their international connections are Hong Kong (China), Singapore, Luxembourg, Ireland, and the Netherlands. The countries with the broadest connections with the rest of the world are the United Kingdom, the United States, the Netherlands, Switzerland, and Germany. Overall, richer countries tend to have deeper and broader global connections than poorer countries. Smaller countries tend to lead on depth while larger countries tend to lead on breadth.

This report also incorporates analysis of global connectedness at the industry level. The depth and breadth of 20 industries are compared, and the CAGE (cultural, administrative/political, geographic, and economic) distance framework is introduced as a tool to explain the wide variation in industries' connectedness patterns. And three

of these industries – pharmaceuticals, passenger cars, and mobile phones – are analyzed in somewhat greater detail. Mobile phones already has most of its production and sales in emerging markets, passenger cars is in an intermediate position, and the pharmaceutical industry (in value terms) remains focused in the advanced economies. Their different positions in this respect provide some perspective on the broad shift of economic activity toward emerging markets that has accelerated since the onset of the financial crisis, a theme throughout this year's report: 72% of GDP growth around the world from 2008 to 2011 took place in emerging market countries, and according to IMF projections, emerging markets will deliver about 60% of growth from 2012 to 2017. Each of the three brief industry studies illustrates the globalization of sales and production, relates those trends to trade patterns, and identifies lessons and implications.

This year's DHL Global Connectedness Index also features policy analysis aimed at helping countries capture more benefits of global connectedness. Increasing global connectedness has the potential to contribute economic gains valued in trillions of dollars on a global basis as well as more qualitative non-economic benefits. A specific set of policy and structural measures are identified that explain nearly 80% of the observed variation among countries' global connectedness depth scores. Policies that directly target expanding international flows as well as policies that focus on improving countries' domestic business environments both turn out to contribute significantly to deepening countries' global connectedness.

Three country cases are examined in more detail to illustrate national policies to promote global connectedness in diverse contexts. The case of the Netherlands, the most globally connected country in the world, highlights the power of regional integration to increase a country's global

connectedness but also reminds us even the top-ranked country has significant headroom to become more connected. The case of Vietnam provides a dramatic example of how a very poor country can, with appropriate policy shifts, deepen its connectedness very rapidly and reap large gains. And Mexico provides an opportunity to examine the interplay between the depth and breadth of a country's connectedness: in this case, limited breadth is responsible, in part, for also limiting depth.

The country profiles at the back of this report provide detailed data on each country's connectedness pattern, track country-level connectedness trends, and display rooted maps based on countries' export patterns. A brief summary is also included at the bottom of each profile.

Despite evidence of faltering global connectedness, arguments based on assertions about globalization continue to feature prominently in political debates, business strategy deliberations, and in everyday life. Dialogue about globalization, however, is seldom backed up with hard data, and much of it is so far removed from reality that it seems accurate to describe it as "globaloney." The DHL Global Connectedness Index brings together a comprehensive and up-to-date set of facts and analyses to help readers to make more informed judgments about the possibilities associated with forging more cross-border connections. Its basic premise was well-expressed by the late Daniel Patrick Moynihan when he said, "Everyone is entitled to his own opinion, but not to his own facts."