THE TRANSATLANTIC ECONOMY 2019

Annual Survey of Jobs, Trade and Investment between the United States and Europe

Daniel S. Hamilton and Joseph P. Quinlan







U.S. CHAMBER OF COMMERCE

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THE TRANSATLANTIC ECONOMY 2019



16 million jobs on both sides of the Atlantic



Half of total global personal consumption



\$5.5 trillion in total commercial sales a year



One third of global GDP (in terms of purchasing power)

DIM



Thriving Together

No two other regions in the world are as deeply integrated as the U.S. and Europe

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Preface and Acknowledgements



Daniel S. Hamilton



Joseph P. Quinlan

This annual survey offers the most up-to-date picture of the dense economic relationship binding European countries to America's 50 states. The survey consists of five chapters. Chapter One underscores how the transatlantic economy today is structurally sound yet facing significant political turbulence. Chapter Two updates our basic framework for understanding the deeply integrated transatlantic economy via 'eight ties that bind.' Chapter Three explores the transatlantic digital economy, which in many ways has become the backbone of commercial connections across the Atlantic. Chapter Four offers an overview of European commercial ties with the United States, and Chapter Five an

overview of U.S. commercial relations with Europe. The appended charts provide the most up-to-date information on European-sourced jobs, trade and investment with the 50 U.S. states, and U.S.-sourced jobs, trade and investment with the 28 member states of the European Union, as well as Norway, Switzerland and Turkey.

This annual survey complements our other writings in which we use both geographic and sectoral lenses to examine the deep integration of the transatlantic economy, and the role of the U.S. and Europe in the global economy, with particular focus on how globalization affects American and European consumers, workers, companies, and governments.

In another new publication, *Turkey in the North Atlantic Marketplace*, leading experts develop possible ways forward to anchor Turkey in the West by further deepening economic ties between Turkey and its transatlantic partners. In *The Transatlantic Digital Economy*, we expand on chapter 3 in this volume to look at how digital links across the Atlantic are becoming so critical to both U.S. and European economic health.

We would like to thank Jason Moyer, Thibaut L'Ortye, Wendy Lopes and Garrett Workman for their assistance in producing this study.

We are grateful for generous support of our annual survey from the American Chamber of Commerce to the European Union, the U.S. Chamber of Commerce and their member companies, as well as the American Chambers of Commerce in Denmark, Finland, Ireland, Slovenia and Sweden.

The views expressed here are our own, and do not necessarily represent those of any sponsor or institution. Other views and data sources have been cited, and are appreciated.

Executive Summary

- Despite transatlantic political turbulence, the U.S. and Europe remain each other's most important markets. The transatlantic economy generates \$5.5 trillion in total commercial sales a year and employs up to 16 million workers in mutually "onshored" jobs on both sides of the Atlantic. It is the largest and wealthiest market in the world, accounting for onethird of world GDP in terms of purchasing power and half of total global personal consumption.
- Ties are particular thick in foreign direct investment (FDI), portfolio investment, banking claims, trade and affiliate sales in goods and services, mutual R&D investment, patent cooperation, technology flows, and sales of knowledge-intensive services.

Transatlantic Investment: Still Driving the Transatlantic Economy

- Trade alone is a misleading benchmark of international commerce; mutual investment dwarfs trade and is the real backbone of the transatlantic economy. The U.S. and Europe are each other's primary source and destination for foreign direct investment.
- Together the U.S. and Europe accounted for 27% of global exports and over 32% of global imports in 2017. But together they accounted for 65% of the outward stock and 58% of the inward stock of global FDI. Moreover, each partner has built up the great majority of that stock in the other economy. Mutual investment in the North Atlantic space is very large, dwarfs trade, and has become essential to U.S. and European jobs and prosperity.
- European firms based in the U.S. accounted for 52% of the \$370 billion in U.S. exports by U.S.-based foreign affiliates in 2016.
- U.S. foreign affiliate sales in Europe of \$3 trillion in 2017 were greater than total U.S. exports to the world of \$2.4 trillion and roughly half of total U.S. foreign affiliate sales globally.
- Foreign investment and affiliate sales drive transatlantic trade. 60% of U.S. imports from the EU consisted of intra-firm trade in 2016 much higher than U.S. intra-firm imports from Asia-Pacific nations (around 40%) and South/Central America (42%) and well above the global average (49%). Percentages are notably high for Ireland (85%) and Germany (69%).

• Intra-firm trade also accounted for 36% of U.S. exports to Europe and 52% to the Netherlands, 35% to Germany and 28% to France.

The U.S. in Europe

- Over many decades no place in the world has attracted more U.S. FDI than Europe. Since the start of this decade Europe has attracted 58.4% of total U.S. global investment – more than in any previous decade.
- The total stock of U.S. FDI in Europe in 2017 was \$3.6 trillion – 59% of the total U.S. global investment position and more than 3.5 times U.S. investment in the Asia-Pacific region.
- In 2018 U.S. FDI flows increased to France (18%), Italy (79%) and Spain (55%).
- However, 2018 was an atypical year for U.S. capital outflows due to a major U.S. tax overhaul that unleashed large-scale repatriations of U.S. companies' accumulated foreign earnings. Overall U.S. FDI outflows to Europe for the first nine months of the year were -\$13 billion. Global U.S. outflows were -\$125 billion during this period. The largest negative outflows in Europe were from the Netherlands (-\$35 billion) and Ireland (-\$20 billion).
- Within Europe, however, U.S. FDI is becoming more concentrated. Germany accounted for only 1.7% and France for just 1.4% of U.S. FDI flows between 2010 and 2017. In 2017, four countries accounted for 87% of total U.S. FDI outflows of \$164 billion to Europe: Ireland (\$45 billion); the Netherlands (\$35 billion); Luxembourg (\$33 billion); and Switzerland (\$30.0 billion). That said, some of these investment flows ultimately make their way to neighboring countries, so they likely misrepresent the ultimate destination of U.S. direct investment.
- In 2017 nonbank holding companies accounted for \$127 billion, or about 42% of global U.S. FDI outflows of \$300 billion, and 51% of total U.S. foreign direct investment to the EU of \$164 billion.
- From 2009-2017 Europe still accounted for over 47% of total U.S. FDI outflows globally when flows from holding companies are removed from the overall figures. Europe's share was still more than double the share to Asia.

- America's capital stock in the UK (\$748 billion in 2017) is almost triple combined U.S. investment in South America, the Middle East and Africa (\$253 billion). Total U.S. investment stock in China was just \$92 billion in 2017, only about 14% of U.S. investment stock in the UK. U.S. investment presence in China and India combined totaling \$153 billion in 2017 is just 20% of total U.S. investment in the UK.
- The UK still plays an important role for U.S. companies as an export platform to the rest of Europe. U.S. firms based in the UK export more to the rest of Europe than U.S. firms based in China export to the world.
- In 2017 Europe accounted for roughly 62% \$15.6 trillion of Corporate America's total foreign assets globally. Largest shares: the UK (20%, \$5 trillion) and the Netherlands (11%, \$2.9 trillion).
- America's asset base in Germany (\$811 billion in 2016) was roughly one-quarter larger than its asset base in all of South America and double its assets in China.
- America's combined asset base in Poland, the Czech Republic and Hungary (roughly \$144 billion) was on par with its asset base in India (\$141 billion).
- America's assets in Ireland alone (\$1.4 trillion in 2016) were much larger than either those in France (\$376 billion), or Switzerland (\$923 billion), and light years ahead of those in China (\$404 billion).
- Ireland has also become the number one export platform for U.S. affiliates in the entire world.
 Exports from U.S. affiliates based in Ireland reached \$293 billion in 2016, five times more than U.S. affiliate exports from China and about four times more than from Mexico.
- Total output of U.S. foreign affiliates in Europe (\$695 billion) and of European affiliates in the U.S. (\$586 billion) in 2017 was greater than the output of such countries as the Netherlands, Turkey or Indonesia.
- Aggregate output of U.S. affiliates globally reached \$1.4 trillion in 2017; Europe accounted for 51% of the total.
- U.S. affiliate output in Europe (\$665 billion) in 2016 was roughly double affiliate output in all of Asia (\$329 billion). U.S. affiliate output in China (\$65 billion) and India (\$29 billion) pale in comparison to U.S. affiliate output in the UK (\$166 billion), Germany (\$81 billion), or even Ireland (\$91 billion).
- Sales of U.S. affiliates in Europe were 75% larger than the comparable figures for the entire Asian

region in 2016. Affiliate sales in the UK (\$607 billion) were double total sales in South America. Sales in Germany (\$341 billion) were over double the combined sales in Africa and the Middle East.

- We estimate that U.S. affiliate income in Europe reached a record \$281 billion in 2018. Europe accounted for roughly 55% of U.S. global foreign affiliate income in the first nine months of 2018.
- U.S. affiliate income from Europe of \$211 billion in the first nine months of 2018 was about three times more than the affiliate income of Latin America (\$71 billion) and Asia (\$69 billion), respectively.
- U.S. affiliate income in China (\$9.8 billion), however, was more than affiliate income in Germany (\$5.1 billion), and income in India (\$3 billion) was more than in Spain (\$2.8 billion) or France (\$2.2 billion).

Europe in the U.S.

- In 2018 Europe accounted for 60% (\$136 billion) of global FDI inflows into the U.S. of \$226 billion.
- UK firms were the largest source of greenfield investment projects in 18 U.S. states during the ten years between October 2018 and October 2008. German companies led in 16 states, followed by Canadian and Japanese companies each in 8 states.
- In the first nine months of 2018, inflows to the U.S. from Europe totaled \$102 billion, about 20% less than a year earlier, largely because of a massive negative investment outflow from Luxembourg of -\$122 billion. French and German flows trended higher, UK and Swiss flows trended lower.
- Europe accounted for roughly 68% of the \$4.0 trillion invested in the United States in 2017 on a historic cost basis. Total European stock in the U.S. of \$2.7 trillion was four times the level of comparable investment from Asia.
- The bulk of the capital was sunk by British firms (with total UK stock amounting to \$541 billion), Luxembourg (\$411 billion), the Netherlands (\$367 billion), Germany (\$310 billion), Switzerland (\$309 billion), and France (\$275 billion).
- In 2016 total assets of European affiliates in the U.S. were an estimated \$7.7 trillion. The UK ranked first, followed by Germany, Switzerland and France.
- In 2016 European assets accounted for nearly 60% of total foreign assets in the United States.

- European affiliate income earned in the United States in 2018 (estimated at \$132 billion) was up 12% from the year before (\$118 billion).
- The output of British firms in the U.S. in 2017 reached \$144 billion roughly a quarter of the total output of European firms in the U.S. The output of German firms in the U.S. totaled \$109 billion, or about 20% of the total.
- Beyond European affiliates, only Japan and Canada have any real economic presence in the U.S. In 2016, Japanese affiliate output totaled nearly \$135 billion, Canadian \$81 billion.
- European companies operating in the U.S. accounted for nearly two-thirds of the \$911 billion contributed by all foreign firms to U.S. aggregate production in 2016.
- European auto companies produced 25% of total U.S. production in 2017 and generated \$34 billion towards U.S. GDP in 2016. 60% of European cars produced in the U.S. are U.S. exports to the world.
- Affiliate sales, not trade, are the primary means by which European firms deliver goods and services to U.S. consumers. In 2017 European affiliate sales in the U.S. (\$2.5 trillion) rose an estimated 11% and were more than triple U.S. imports from Europe.
- Sales by British affiliates in the U.S. totaled \$534 billion in 2016, followed by German affiliate sales (\$471 billion) and those by Dutch affiliates (\$323 billion).

Transatlantic Trade

- U.S. merchandise exports to the EU rose by an estimated 13% in 2018 to a record \$319 billion. Notably strong export markets included the UK (U.S. exports up 18% in the first eleven months of 2018), Italy (+27%), and the Netherlands (+19%).
- The U.S. and the EU are each other's largest trading partners. In the first eleven months of 2018, U.S. goods exports to the EU (\$293 billion, up 13.2%) were over 2.5 times more than U.S. goods exports to China (\$111 billion).
- The U.S. annual merchandise trade deficit with the EU, estimated at \$168 billion in 2018, was at a record high, up 11% from the year earlier. The U.S. deficit with China (\$417 billion) is 2.5 times larger than the U.S. deficit with the EU.
- The U.S. accounts for 29% of total EU auto exports; the EU accounts for 20% of total U.S. car exports.

- 45 of 50 U.S. states export more to Europe than to China, in many cases by a wide margin.
- In 2017 New York exports to Europe were more than 8 times those to China. California, Texas, Michigan, Illinois and Ohio exported more than twice as much to Europe as to China.
- Germany was the top European export market for 18 U.S. states and the UK for 14 in 2017.
- Foreign firms operating in the United States shipped \$370 billion in U.S. goods exports in 2016; 52% of these U.S. exports were generated by European companies.

Transatlantic Services

- The U.S. and Europe are the two leading services economies in the world. The U.S. is the largest single country trader in services, while the EU is the largest trader in services among all world regions. The U.S. and EU are each other's most important commercial partners and major growth markets when it comes to services trade and investment. Moreover, deep transatlantic connections in services industries, provided by mutual investment flows, are the foundation for the global competitiveness of U.S. and European services companies.
- Four of the top ten export markets for U.S. services are in Europe. Europe accounted for 37% of total U.S. services exports and for 43% of total U.S. services imports in 2017.
- U.S. services exports to Europe reached a record \$298 billion in 2017, up more than 40% from 2009. The U.S. had a \$66 billion trade surplus in services with Europe in 2017, compared with its \$175 billion trade deficit in goods with Europe.
- U.S. imports of services from Europe also hit an alltime high in 2017 of \$232 billion, up nearly 40% from 2009. The UK, Germany, Switzerland, Ireland, France and Italy are top services exporters to the U.S.
- Moreover, foreign affiliate sales of services, or the delivery of transatlantic services by foreign affiliates, have exploded on both sides of the Atlantic over the past few decades and become far more important than exports.
- We estimate that sales of services of U.S. affiliates in Europe rose 4%, to \$802 billion, in 2017, 2.7 times more than U.S. services exports to Europe of \$298 billion.

- The UK alone accounted for 30% of all U.S. affiliate sales in Europe in 2016 - \$232 billion, greater than combined affiliate sales in South and Central America (\$118 billion), Africa (\$13 billion) and the Middle East (\$21 billion).
- On a global basis, Europe accounted for roughly 53% of total U.S. affiliate services sales.
- European affiliate sales of services in the U.S. of \$561 billion in 2016 were about 27% below U.S. affiliate sales of services in Europe.
- Nonetheless, European companies are the key provider of affiliate services in the U.S. Foreign affiliate sales of services in the U.S. totaled \$995 billion in 2016; European firms accounted for 56% of the total. British affiliates lead in terms of affiliate sales of services (\$143 billion), followed closely by Germany (\$134 billion).
- European companies operating in the U.S. generated an estimated \$583 billion in services sales in 2017, 2.5 times more than European services exports to the U.S. of \$232 billion.

Transatlantic Jobs

- Despite stories about U.S. and European companies decamping for cheap labor markets in Mexico or Asia, most foreigners working for U.S. companies outside the U.S. are European, and most foreigners working for European companies outside the EU are American.
- European companies in the U.S. employ millions of American workers and are the largest source of onshored jobs in America. Similarly, U.S. companies in Europe employ millions of European workers and are the largest source of onshored jobs in Europe.
- U.S. and European foreign affiliates directly employed 9.4 million workers in 2017. Further modest gains in employment were most likely achieved in 2018.
- These figures understate the overall job numbers, since they do not include
- o jobs supported by transatlantic trade flows;
- o indirect employment effects of nonequity arrangements such as strategic alliances, joint ventures, and other deals; and
- o indirect employment generated for distributors and suppliers.
- U.S. affiliates directly employed an estimated 4.8 million workers in Europe in 2017 over 30% more than in 2000.

- Roughly 33% of the 14.3 million people employed by U.S. majority-owned affiliates around the world in 2016 lived in Europe; that share is down from 38% in 2009.
- U.S. affiliates employed more manufacturing workers in Europe in 2016 (1.9 million) than they did in 1990 (1.6 million), and about the same as in 2000 (1.9 million). Manufacturing employment has declined in some countries but has rebounded in others.
- Poland has been a big winner: U.S. affiliate manufacturing employment grew more than 2.5 times between 2000 and 2016, rising from 51,000 to over 128,000, and continuing upwards.
- In 2016 the UK, France and Germany accounted for less than 50% of U.S. affiliate manufacturing employment in Europe. In 1990 they accounted for 67%. Meanwhile, the combined share of U.S. affiliate manufacturing employment in Poland, the Czech Republic and Hungary jumped from virtually zero in 1990 to nearly 15% in 2016, indicative of the eastern spread of U.S. companies' European operations.
- Manufacturing employment among U.S. affiliates in the UK has declined from 431,000 in 2000 to 311,000 in 2016 and in France from 249,000 to 197,000.
- Manufacturing employment among U.S. affiliates in Germany is near levels seen at the start of the century – 382,000 jobs in 2016, compared to 388,000 in 2000.
- U.S. affiliates employ more Europeans in services than in manufacturing and this trend is likely to continue. Manufacturing accounted for 40% of total employment by U.S. affiliates in Europe in 2016.
 U.S. affiliates employed nearly 378,000 European workers in transportation and 300,000 in chemicals.
 Wholesale employment was among the largest sources of services-related employment, which includes employment in such areas as logistics, trade, insurance and other related activities.
- The manufacturing workforce of U.S. affiliates in Germany totaled 382,000 workers in 2016 – more than the number of manufactured workers employed by U.S. affiliates in Brazil (310,000) and India (209,000) but well below China (740,000).
- European majority-owned foreign affiliates directly employed 4.6 million U.S. workers in 2017 – some 90,000 more workers than in 2016, although roughly 225,000 workers less than U.S. affiliates employed in Europe.

- Firms from the UK, Germany, Switzerland and the Netherlands largely accounted for the boost in U.S. employment by European companies between 2015 and 2016, with companies from the four countries employing over 157,000 more U.S.-based workers in 2016 than in 2015.
- In 2016 the top five European employers in the U.S. were firms from the United Kingdom (1.2 million), France (729,000), Germany (692,000), the Netherlands (475,000) and Switzerland (471,000).
- European firms employed roughly two-thirds of all U.S. workers on the payrolls of majority-owned foreign affiliates in 2016.
- European companies account for 76% of total foreign FDI in U.S. manufacturing.
- European companies directly supported 173,000 jobs in the U.S. motor vehicles and parts industry 42% of total foreign affiliate employment in this industry.
- Texas gained 132,000 jobs (56% more) directly from European investment between 2006 and 2016. Others with significant gains included California 97,000 (28.1%); New York 66,300 (23.5%); Illinois 58,800 (34.3%); Florida 42,700 (26.6%); Massachusetts 40,200 (33.7%); Pennsylvania 37,900 (20.8%); North Carolina 30,500 (19.8%); New Jersey 27,600 (16.2%); Georgia 26,100 (23.3%); Virginia 24,800 (22.1%); Ohio 23,500 (17.5%); Minnesota 23,300 (46%) and Tennessee 23,300 (31.2%).
- The top five U.S. states in terms of jobs provided directly by European affiliates in 2016 were California (442,500), Texas (367,900), New York (348,400), Illinois (230,100) and Pennsylvania (220,400).

The Transatlantic Digital Economy

- Cross-border data flows between the U.S. and Europe in 2015 were by far the most intense in the world – 50% higher than data flows between the U.S. and Asia in absolute terms, and 400% higher on a per capita basis.
- North America and Europe generate about 75% of digital content for internet users worldwide.
- U.S. and European cities (Frankfurt, London, Amsterdam, Paris, Stockholm, Miami, New York, Marseille, Los Angeles, San Francisco) are the world's foremost hubs for international communication and data exchange.

- Transatlantic cable connections are the densest and highest capacity routes, with the highest traffic, in the world, with an estimated 38% compound annual growth rate until 2025.
- The U.S. and Europe are each other's most important commercial partners when it comes to digitally-enabled services. The U.S. and the EU are also the two largest net exporters of digitally-enabled services to the world.
- In 2017, digitally-enabled services accounted for 55% of all U.S. services exports, 49% of all services imports, and 68% of the U.S. global surplus in trade in services.
- In 2017 the U.S exported \$204.2 billion in digitallyenabled services to Europe and imported \$123.7 billion from Europe, generating a trade surplus with Europe in this area of at least \$80.5 billion, according to figures from the U.S. Bureau of Economic Analysis. U.S. exports of digitally-enabled services to Europe were 2.5 times more than U.S. digitally-enabled exports to Latin America and almost double U.S. digitally-enabled exports to the entire Asia-Pacific region.
- In 2017 EU member states exported \$1.24 trillion and imported \$1.02 trillion digitally-enabled services to countries both inside of and outside of the EU.
- Excluding intra-EU trade, EU member states exported \$579.2 billion and imported \$459.6 billion in digitally-enabled services, resulting in a surplus of \$119.6 billion for these services.
- Digitally-enabled services trade represented 56% of all EU services exports to non-EU countries and 57% of all EU services imports from non-EU countries.
- The U.S. accounted for 31% of the EU's digitallyenabled services exports to non-EU countries, and 39% of EU digitally-enabled services imports from non-EU countries.
- The U.S. purchased \$179.6 billion of EU digitallyenabled services exports according to OECD data for 2017, making it the largest non-EU consumer these services, and accounting for more EU exports than the rest of non-EU Europe (\$122.5 billion), and more than all digitally-enabled services exports from the EU to Asia and Oceania (\$165.4 billion).
- EU member states with the largest estimated value of digitally-enabled services exports were Germany (\$171.6 billion), the United Kingdom (\$149.3 billion), Ireland (\$142.6 billion), and the Netherlands (\$134.1 billion).

- Digitally-enabled services are not just exported directly, they are used in manufacturing and to produce goods and services for export. Over half of digitally-enabled services imported by the U.S. from the EU is used to produce U.S. products for export, and vice versa.
- In 2017, EU member states imported \$1.02 trillion in digitally-enabled services, according to OECD data. 55% originated from other EU member states. Another 17% came from the U.S. (\$177.0 billion), making it the largest supplier of these services. The EU imported more of these services from the U.S. than from EU member states Germany (\$95.3 billion) and the UK (\$112.7 billion).
- Over half of digitally-enabled services imported by the U.S. from the EU is used to produce U.S. products for export and vice versa – a value-added effect on trade not captured in standard metrics.
- Even more important than both direct and valueadded trade in digitally-enabled services, however, is the delivery of digital services by U.S. and European foreign affiliates.
- In 2016 U.S. affiliates in Europe supplied \$401.5 billion in digitally-enabled services; European affiliates in the U.S. supplied \$244.4 billion in digitally-enabled services. Digitally-enabled services supplied by U.S. affiliates in Europe were double U.S. digitallyenabled exports to Europe, and digitally-enabled services supplied by European affiliates in the U.S. were also roughly double European digitallyenabled exports to the U.S.

The Transatlantic Innovation Economy

- Bilateral U.S.-EU flows in R&D are the most intense between any two international partners. In 2016 U.S. affiliates invested \$31.3 billion in research and development in Europe, representing 58% of total global R&D expenditures by U.S. foreign affiliates.
- R&D expenditures by U.S. affiliates were the greatest in Germany (\$9.0 billion), the UK (\$6.0 billion), Switzerland (\$3.0 billion), Ireland (\$2.9 billion), France (\$2.3 billion) and and Belgium (\$1.7 billion). These six nations accounted for 83% of U.S. spending on R&D in Europe in 2016.
- In the U.S, R&D expenditures by majority-owned foreign affiliates totaled \$60.1 billion in 2016. R&D spending by European affiliates totaled \$44 billion, representing 73% of all R&D performed by majorityowned foreign affiliates in the United States.
- Swiss-owned R&D in the U.S. totaled \$10.6 billion in 2016, nearly a quarter of total European affiliate R&D in the United States. British affiliates accounted for 20%, German for 17.7% and French for 12.9%.



The Transatlantic Economy: Fraught Politics, Fragile Economics



1 - THE TRANSATLANTIC ECONOMY 2019

Economic uncertainty Slowdown in global growth

Politics trumped economics in 2018 and threatens to do so again in 2019. Transatlantic trade and investment flows have been buffeted and unsettled by the Trump Administration's "America First" mantle and its attendant assertive trade and investment policies. Uncertainties over the United Kingdom's decision to leave the European Union (EU), known as Brexit, loom large in 2019. Political fissures have wrought economic damage across a number of continental European countries. All of these issues, in the context of a cyclical slowdown in global growth, are testing the resilience and strength of the transatlantic economy – still the most significant commercial artery for both sides of the North Atlantic.

The Trump team's primary target is China, not Europe. Yet Europe has not been able to escape the negative shocks from simmering U.S.-China trade disputes. One consequence of U.S. imposition of steel tariffs, for instance, was to divert steel from China and other countries to Europe, forcing the EU to impose its own set of restrictions.

The EU shares many of the Trump team's frustrations with Chinese cybertheft, its assaults on intellectual property, forced technology transfers, poor implementation of its World Trade Organization (WTO) obligations, and its state-subsidized overcapacity in steel and potentially autos, robotics and other sectors of the economy. Severe Chinese restrictions on investment by U.S., European and other non-Chinese companies in modern services, energy, agriculture and high-tech sectors are a further shared concern. Both are wary of growing investments by state-owned Chinese firms in Europe and the United States. Brussels has joined Washington and Tokyo in trilateral talks focused on the commercial challenges posed by China.

The International Monetary Fund (IMF) estimates that a full-blown trade war could shave 1.6% off of Chinese gross domestic product (GDP) and 1% off U.S. GDP. And while the United Nations Conference on Trade and Development (UNCTAD) estimates that in such a situation the EU theoretically stands to capture about \$70 billion of the U.S.-China bilateral trade that would be diverted elsewhere, the shock waves generated by a U.S.-China trade war on other trade flows, investment decisions and currencies would likely also overwhelm European economies. Even absent a full-scale trade war, tit-for-tat protectionist measures between the U.S. and China, the world's two largest economies, have rattled global business confidence, raised uncertainty about the effectiveness of global supply chains, and contributed to slower growth in global trade. It has also undercut real growth and momentum in China and the United States and dampened economic activity around the world, including in trade-dependent Europe.

A second area of friction, less significant economically but equally fraught politically, is related to Iran. Furious after President Trump pulled out of the Iran nuclear deal and reimposed punitive banking sanctions last year, European leaders first set up a "blocking statute" to forbid European companies from complying with sanctions and then introduced a special purpose vehicle called Instex to prop up European business with Iran as one means to keep Iran in the deal. The move has heightened transatlantic tensions even though it is unlikely that any European companies would risk their substantial commercial engagement with the United States for far smaller opportunities with Iran.

Additional transatlantic economic challenges have been generated by political frictions over climate change, European levels of defense spending, and European energy dependencies on Russia.

These issues offer a negative political backdrop for efforts by Washington and Brussels to kickstart U.S.-EU trade talks. Trade tensions between the United States and the EU were coming to a boil until President Trump and European Commission President Jean-Claude Junker declared a "truce" in July 2018. The two sides are now re-launching bilateral trade negotiations, but with very different goals in mind.

The Trump Administration is adamant about including agriculture in the negotiations, which the EU resists. It still holds open the possibility of invoking section 232 of the Trade Expansion Act of 1962 to move ahead with tariffs on EU cars and auto parts – the same national-security grounds the White House used to impose levies on foreign steel and aluminum, which prompted the EU to retaliate with duties on U.S. goods. U.S. auto-related tariffs would further inflame tensions, given that EU automotive exports to the United States are about 10 times greater in value than EU steel and aluminum exports combined. German producers would be the biggest losers: Germany alone accounts for 60% of Europe's €40 billion in annual exports of cars and parts to the United States.

The EU, in turn, is keen to eliminate transatlantic tariffs on industrial goods and automobiles that Trump is

Why auto-related tariffs would further inflame EU-U.S. trade tensions



€40 billion

fighting to protect. Trump has pledged not to impose auto duties as long as talks continue in good faith. But prospects of a quick agreement are slim. If the U.S. administration imposes Section 232 tariffs on European cars, the EU will end the negotiations and impose tariffs in response, as it did with steel and aluminum, by identifying products that are politically sensitive in the United States, but which are readily substituted in the EU, in order to minimize any negative effects for European firms and consumers. Not only would the economic scale of such a dispute be significantly greater than the irritation caused by the tariffs currently in place, a transatlantic trade dispute could easily spill over into national security issues, possibly damaging NATO and the broader transatlantic relationship.

Germany

These tensions are unfolding in the context of a slowdown in global growth. Prospects of a global recession remain minimal: the Big Three – the United States, China and the European Union – are all expected to post positive real GDP growth this year, although growth rates will be down from the prior year. The key

worry, then, is not the economics associated with what could be a modest cyclical slowdown, but political instabilities that could confound efforts to manage a downturn.

Transatlantic Economic Outlook

In short, the transatlantic economy enters 2019 on unsettled ground, beset by political volatility and economic uncertainty. Transatlantic economic growth is set to slow. The United States is expected to outperform relative to the European Union and most countries in Europe.

A year ago, the situation was different; the transatlantic economy was in sync – the United States and Europe were expanding in tandem owing to a number of variables, including rising consumption levels, investment outlays and trade volumes. By mid-year, however, the paths of the two economies had diverged; growth noticeably slowed across Europe in the second half of 2018, while the U.S. economy powered ahead.



Growth slowed in Europe in the second half of 2018, while the **U.S. economy is powering ahead**



Table 1 Most Developed Economies Back Above Pre-Recession Output Levels (Real GDP level, Q1 2004 = 100)

Source: Haver Analytics. Data through Q3 2018.

According to the latest figures from the IMF, the eurozone is expected to expand by just 1.6% this year, down from 1.8% in 2018. Growth momentum has been sapped by a number of political variables, ranging from street protests in France, political uncertainty over Brexit, and financial stress in heavily-indebted Italy. Overlaid with U.S.-China trade tensions, consumer and business confidence has declined across Europe, and is not likely to rebound anytime soon, as Brexit drags on and Europe braces for May elections to the European Parliament, which could usher in more Euroskeptic, anti-immigration policies, triggering additional economic and market volatility.

In the United States, meanwhile, one of the longest economic expansions in modern history continues. In 2018, the U.S. economy grew by 2.9%. Economic momentum will downshift in 2019, with growth



Table 2 U.S. vs. Euro Area Real GDP, Real GDP, Annual Percent Change

U.S. Euro Area

*2019 forecast. Data as of January 2019. Source : International Monetary Fund; Bureau of Economic Analysis; Eurostat.

Global personal consumption (2017)



slowing on the account of the lagged effects of monetary tightening, the waning fiscal stimulus (including tax reform) and downdraft in capital investment. However, prospects of a recession in the United States are slim thanks to healthy levels of personal consumption.

A key bright spot for both U.S. and European firms is the U.S. consumer, who remains one of the most potent economic forces in the world, accounting for roughly 29% of global personal consumption in 2017, the last year of available data. Totaling over \$13 trillion, U.S. consumer spending is greater than the combined spending of the next five largest consuming markets in the world: China, Japan, Germany, the United Kingdom, and India. The one-two combination of solid employment gains and higher wages has underpinned consumer confidence and spending, with U.S. consumer spending accounting for nearly 70% of U.S. gross domestic product. And since many European firms sell more goods and services in the United States than in their home markets, buoyant U.S. consumer spending positively spills over to Europe via enhanced sales of European affiliates in the United States and higher European exports. Fully half of the world's personal consumption in 2017 was accounted for by the United States (29%) and the European Union (21%) – a reflection of the overarching attractiveness of the transatlantic market.



Table 3 U.S. Merchandise Trade Balance with the EU (Billions of \$)

*2018 estimate. Source: United States Census Bureau. 1 - The Transatlantic Economy: Fraught Politics, Fragile Economics



This wealth underpins bilateral trade. Indeed, transatlantic trade still stands as the largest such relationship in the world, even when compared to America's trade ties with China. In the first eleven months of 2018, for instance, U.S. goods exports to the European Union totaled \$293 billion, up 13.2% from the same period earlier and over 2.5 more than U.S. exports to China (\$111 billion). U.S. goods imports from the EU totaled \$447 billion, leaving a sizable trade gap of \$154 billion, up 14% from the prior year. America's merchandise trade deficit with the EU reached an estimated \$168 billion in 2018, a record high and a thorn in the side of a Trump Administration fixated on bilateral trade deficits. America's deficit with China was larger (estimated at \$417 billion), although that will provide little ballast to U.S.-Europe trade negotiations. America's expanding trade deficit with Europe will remain a constant source of tension between the two parties again this year.

Meanwhile, unemployment levels on both sides of the Atlantic have improved over the past year, notably in the United States. Heading into 2019, the job market in America is one the tightest in decades. The national unemployment rate for December 2018 clocked in at 3.9%; among workers with a four-year degree or more, the unemployment rate was 2.1% in December, which is basically full employment. Job openings were a staggering 7.3 million in December 2018. Moreover, roughly 428,000 manufacturing jobs remained unfilled, a fact largely overlooked by pundits and politicians tuned into the false narrative that America is not in the business of "making stuff", or manufacturing. Nothing could be further from the truth.

Among the skilled labor pool in the United States, the unemployment rate hovered around 2% for the balance of 2018. Most new jobs, however, have not tended to be in high-paying services jobs, where the



Table 4 U.S. vs. EU Unemployment Rate Harmonized Unemployment Rate (%)

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^{*2018} EU data is for November 2018, U.S. data is for December 2018. Source: OECD.

U.S. traditionally has excelled, but in workaday services positions, where pay is mediocre. Automation is changing the very nature of work in many areas, less in terms of replacing workers than displacing them from higher-wage, higher-productivity sectors to lowerwage, lower-productivity sectors of the economy.¹ The U.S. economy continues to evolve, unevenly, but still on a positive trajectory for jobs and growth.

The eurozone unemployment rate fell to a decaderecord low of 7.9% in December 2018 – a positive sign, although that figure was nearly double the same rate in the United States. Regional divergences persist: Germany's unemployment rate (3.3% in December 2018) was well below comparable rates in France (9.1%), Italy (10.3%), Spain (14.3%), and Greece (18.6%).

In sum, fraught transatlantic politics threaten to exacerbate an economic situation that, while still positive overall, is more fragile than a year ago.

Box 1. Brexit Update: As Clear as Mud

The decision by the United Kingdom in 2016 to quit the European Union ("Brexit") and the subsequent negotiations to settle terms of divorce have generated deep fissures through British society and rattled markets throughout Europe. The negotiations have become sloppy, torturous and fraught with downside risks for the United Kingdom, the European Union and the United States.

By some measures, the UK economy is in a relatively strong position to weather the Brexit storm. UK employment reached its highest level on record at the end of 2018 and total pay grew at its fastest in over a decade. Nonetheless, potentially gale-force winds can be felt. The UK economy slowed markedly in 2017 and again in 2018, weighed down by flagging private consumption owing in part to the pound's depreciation and the attendant rise in inflation and loss of real disposable income. Real estate prices have weakened. Ernst and Young expects a trillion euros in bank assets to flee the UK. More than one in seven European companies with UK suppliers have moved part or all of their business out of Britain. UK-based EU institutions are decamping for other parts of Europe. U.S. foreign direct investment flows to the UK plunged by 31% in 2017 and by another 9.8% in the first nine months of 2018. The UK government itself estimated that under the terms of the 2018 UK-EU draft agreement – rejected by the British Parliament yet deemed the best deal the UK could expect by the EU – the British economy would shrink by 3.9% (a loss of £100 billion) by 2030. And without a deal, the Confederation of British Industry concluded that every part of the United Kingdom would pay an "unacceptable economic price."² No matter what the Brexit terms may be, the process is likely to unsettle markets and cast a cloud over the UK's relations with key partners for many years.

2019 is crunch time. The UK must not only define the nature of its exit from the EU, it will also have to do three other things that will affect U.S. and wider European economic interests. First, it will have to replace the EU's common external tariff with its own customs tariff, and submit new tariff commitments for goods and services at the World Trade Organization. Second, it must negotiate new trade arrangements between the UK and the EU27. Third, it will want to negotiate new trade arrangements with the United States and many other non-EU states. Yet Britain has failed to finalize most trade deals needed to replace the EU's 40 existing agreements with leading global economies and will not be close to doing so when Brexit occurs on March 29. Without a formal Brussels divorce agreement, most of the deals would lapse, putting more than £150 billion of UK trade at risk.³ And even with an agreement in hand, the UK is likely to remain under the EU umbrella for at least two additional years, pending a UK-EU trade agreement – but as a rule taker, not a rule maker.

Moreover, a future UK-EU trade framework is unlikely to simply replicate UK access to the Single Market. The terms are likely to be less advantageous and more burdensome. While tariff-free access for goods is a possibility, firms based in the UK are likely to face some local content requirements within the EU. Tariff-free access to services is unlikely as well, which represents a blow to the UK's services-based economy. At risk: UK financial, transportation, logistics and insurance companies as well as UK-based U.S. and EU affiliates in those sectors.

Meanwhile, EU rules mean that London cannot legally begin negotiating a trade deal with Washington before the UK leaves the EU. With U.S.-UK relations notably strained under the Trump administration, no deal is likely anytime soon, which portends more U.S. disinvestment from the one-time prime location for U.S. multinationals doing business in the EU.

After the Netherlands, America's corporate stakes in the United Kingdom are among the deepest in the world. Totaling \$748 billion in 2017, the last year of available data, America's capital stock in the UK is more than double the combined investment in South America, the Middle East and Africa (\$253 billion). Total U.S. investment stock in China was just \$108 billion in 2017. Even when the U.S. investment presence in China and India are combined – totaling \$152 billion in 2017 – the figure is just 20% of total U.S. investment in the UK.

Wealthy consumers, respect for the rule of law, the ease of doing business, credible institutions, membership in the European Union—all of these factors, and more, have long made the UK a more attractive place to do business for American firms. Whatever the metric – total assets, R&D expenditures, foreign affiliate sales, employment, trade, etc. – the United Kingdom has been a long-time pillar of America's global economic infrastructure and a key hub for the global competitiveness of U.S. firms. Since 2000, the UK has accounted for nearly 9% of the cumulative global income of U.S. affiliates, a proxy for global earnings. In the first nine months of 2018, U.S. affiliate income earned in the UK was a robust \$34.2 billion, a 21% increase from the same period a year ago. For all of Europe, it was up 10%.

In the end, Brexit is likely to prove costly for the United Kingdom and dampen the business climate in the EU. Many indicators suggest that the impending separation will weigh on real economic growth, subdue consumer and business confidence, spur disinvestment from foreign investors, and trigger bouts of political instability. That said, the cost to U.S. multinationals remains unclear. Firms are hedging their positions in the UK by exploring alternative locations in the European Union, with Germany, France, the Netherlands, and Ireland among the favored locations for ex-UK investment. A deeper issue for Corporate America is the future contours of the transatlantic economy and the future path of the transatlantic partnership. On both sides of the ocean, the political bonds are fraying, portending tougher times in terms of promoting deeper transatlantic investment and trade ties.

Endnotes

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Jobs, Trade and Investment: Enduring Ties that Bind



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Notwithstanding the rise of the middle class in many emerging markets and the robust growth rates of countries such as China and India, the United States and the European Union remain each other's most important foreign market in the world. This is not likely to change any time soon given the deep and entangled commercial ties that link the transatlantic economy, and given that the United States and the European Union are each embroiled in increasingly contentious trade and investment tensions with China.

Thanks to the dense interlinkages of investment, trade, technology, innovation and jobs that bind the two sides of the North Atlantic together, the transatlantic economy remains a key pillar of the global economy. The combined output of the United States and the European Union (plus Switzerland, Norway and Iceland) accounted for roughly one-third of world GDP in terms of purchasing power parity in 2018. Even if one excludes the United Kingdom, which has signaled its intent to leave the EU, the U.S. and the EU account for a substantial 30% of world GDP – higher than the combined output of China and India (26% of world GDP).

The transatlantic economy is not only larger than the twin giants of Asia but also significantly wealthier. And because wealth matters, it's little wonder that consumers in the U.S. and the EU easily outspend their counterparts in China and India. As mentioned in Chapter One, the U.S. and EU combined accounted for 50% of global personal consumption in 2017, versus a combined share of just 14% for China and India.

In addition to the above, the transatlantic economy is a repository of innovation and technological



advancement, and at the forefront of global foreign direct investment and global mergers and acquisitions activity. Taken together, U.S. and European exports to the world accounted for 27% of global exports in 2017, the last year of complete data; combined imports represented over 32% of the world total. Meanwhile, the U.S. and Europe together accounted for 58% of inward stock of foreign direct investment (FDI) and 65% of outward stock of FDI. Each partner has built up the great majority of that stock in the other economy. Mutual investment in the North Atlantic space is very large, dwarfs trade and has become essential to U.S. and European jobs and prosperity.

Table 1 The Transatlantic Economy vs. The World (Share of World Total)



Sources: UN, IMF, figures for 2017. Transatlantic economy measured as U.S., EU, Norway, Switzerland and Iceland. 1. Based on PPP estimates.

2. Excluding intra-EU, Norway, Switzerland and Iceland trade.



Table 2 America's Major Commercial Arteries

Foreign Affiliate Sales: Estimates for 2017. Total Trade: Data for goods & services, 2017. NAFTA represents U.S. trade and sales linkages with NAFTA member countries, excluding trade and affiliate sales ties between Mexico and Canada. Source: Bureau of Economic Analysis.

In the end, it is the U.S.-EU partnership that continues to drive and dictate global trade, investment and capital flows. No commercial artery in the world is as large as the investment artery forged between the United States and Europe. Total transatlantic foreign affiliate sales were estimated at \$5.5 trillion in 2017, easily ranking as the top artery in the world on account of the thick investment ties between the two parties. Total transatlantic foreign affiliate sales are roughly double total sales between the U.S. and Asia-Pacific region, over four times those with NAFTA partners Canada and Mexico,¹ and five times more than with South America, Central America and the Caribbean.

That said, the burgeoning middle class of the developing nations represents new sources of supply (labor) and demand (consumers) for U.S. and European firms. American and European firms are building out their in-country presence in the developing nations, and for good reason. Economic growth rates are still above the global average in most nations, populated with young consumers who desire Western goods and services. In addition, the technological skill levels of many developing nations are now on par with many developed nations. China, for instance, is rapidly emerging as an innovation superpower; India lags behind but is advancing; more people in Latin America, Africa and the Middle East are online and connecting to the digital economy. It all makes perfect sense for U.S. and European firms to invest outside the transatlantic economy. What is often missing from this either-or picture, however, is the fact that for many U.S. and European companies, the transatlantic economy is the geo-economic base from which they can engage successfully in other parts of the world. Many European car companies, for instance, invest in the United States and then export cars made in the U.S. to China and other countries. U.S. services companies, in turn, use the scale offered by their dense investment linkages across the transatlantic economy to be globally competitive when it comes to offering services in other parts of the world. Many U.S. multinationals – for both goods and services – also use their presence in Europe to serve the markets of North Africa and the Middle East, with operations preferable in stable and secure Europe versus the volatility of the Middle East/Africa.

In all of these ways, the transatlantic partnership remains important not only to the United States and Europe, but also to the world. The U.S.-European partnership is too big and too important to fail, as made all too clear when dissecting the activities of foreign affiliates on both sides of the pond.



The transatlantic economy

A launchpad to the rest of the world for U.S. and European companies

Box 1. Not by Trade Alone

There is a widespread tendency in political circles, by the media, among the broader public, and even by some in the business community to equate international commerce with trade in goods. By this reckoning, surpluses in goods trade are "good" and deficits are "bad." Yet trade deficits can arise due to factors other than trade, such as differing domestic growth, consumption or savings rates among countries. Equally important is a simple fact: trade in goods, as even trade itself, is a misleading benchmark of international commerce. This is especially true when it comes to the transatlantic economy.

As we document in this study, the broad-based nature of U.S.-European commercial ties cannot be understood by looking at merchandise trade figures alone. While some may associate the EU's large trade surplus in goods with the United States as a key competitive advantage for Europe, there are several other modes through which global companies reach consumers. These include services trade broadly, as well as digitally-deliverable services in particular – both key U.S. strengths. U.S. companies also deliver goods and services to Europeans through U.S. affiliates operating in Europe. They also generate so-called "primary income" from their foreign affiliate earnings as well as from investment income earned in Europe. These are all factors underscoring why investment, not trade, is the engine of the transatlantic economy. Of course, European companies do the same in the United States.

Taking all of these factors into consideration leads to a more balanced view of transatlantic commerce. While the United States does run a large deficit in goods with the EU (-\$153 billion in 2017), the U.S. surplus in services trade (+\$51 billion) and primary income (+\$108 billion) with the EU more than offsets the goods imbalance. U.S. primary income receipts from the EU were almost \$400 billion in 2017, versus EU-based companies' profits and investment income of just \$288 billion in the United States.

In short, we believe the eight indices we set forth in this chapter offer a more accurate view of the nature and significance of the transatlantic economy than a narrow focus on goods trade alone.

The Ties That Bind – Quantifying the Transatlantic Economy

An essential key to understanding the enduring strength and importance of the transatlantic economy is to recognize that investment, not trade, drives U.S.-EU commercial relations. It is the activities of foreign affiliates – the foot soldiers of the transatlantic partnership – that bind the United States and Europe together. They have constructed a formidable foundation on both sides of the Atlantic over the past half century.

Over the past years we have outlined and examined eight key indices that offer a clear picture of the "deep integration" forces binding the U.S. and Europe together. This chapter updates those indices with the latest available data and our estimates. Each metric, in general, has ebbed and flowed with cyclical swings in transatlantic economic activity, but has nevertheless grown in size and importance over the past decade.

1. Gross Product of Foreign Affiliates

As standalone entities, U.S. affiliates in Europe and European affiliates in the United States are among the largest and most advanced economic forces in the world. The total output, for instance, of U.S. foreign affiliates in Europe (an estimated \$695 billion in 2017) and of European foreign affiliates in the U.S. (estimated at \$586 billion) was greater than the total gross domestic product of most countries. Combined, transatlantic affiliate output – nearly \$1.3 trillion – was larger than the output of such countries as the Netherlands, Turkey or Indonesia.

Total output of foreign affiliates

(2017)

\$695 billionU.S. in Europe\$586 billionEurope in the U.S.

By our estimation, European affiliate output in the United States rose by around 4% in 2017, while U.S. affiliate output in Europe rose by a slightly faster pace of 4.5%. We expect modest gains in U.S. foreign affiliate output in the near term, reflecting weaker economic conditions across Europe. In the United States, European affiliates are operating in one of the most dynamic economies in the world and are expected to boost their near-term output again this year.

On a global basis, the aggregate output of U.S. foreign affiliates was an estimated \$1.4 trillion in 2017, with Europe (broadly defined) accounting for around 51% of the total.

Looking at actual figures for 2016 from the Bureau of Economic Analysis, U.S. affiliate output in Europe (\$665 billion) was more than double affiliate output in the entire Asia-Pacific region (\$329 billion). While affiliate output in places like China (\$65 billion in 2016) and India (\$29 billion) has increased over the past decade, what U.S. affiliates produce in these two emerging Asian giants pales in comparison to affiliate output in Germany (\$81 billion), Ireland (\$91 billion), and the United Kingdom (\$166 billion).

In the United States, meanwhile, European affiliates are major economic producers in their own right, with British firms of notable importance. The U.S. output of British companies reached an estimated \$144 billion in 2017, about one-quarter of the European total. For the same year, output from German affiliates operating in the United States totaled \$109 billion, or nearly 20% of the European total.

In 2016, the last year of available data, European affiliates in the United States accounted for nearly two-thirds of the roughly \$911 billion that U.S. affiliates of foreign multinationals contributed overall to U.S. aggregate production.

Beyond Europe, only Canada and Japan have any real economic presence in the United States. Japanese affiliate output totaled nearly \$135 billion in 2016, the last year of actual data, while Canadian affiliate output totaled \$81 billion.

U.S. affiliate output

(2016)



2. Assets of Foreign Affiliates

The global footprint of Corporate America and Corporate Europe is second to none, with each party each other's largest foreign investor. According to the latest figures from the Bureau of Economic Analysis, U.S. foreign assets in Europe totaled \$15.6 trillion in 2016, representing roughly 62% of the global total. For 2017, we estimate that U.S. foreign assets in Europe reached \$16 trillion, close again to the 60% of the global total. Within the region, the bulk of U.S. assets were in the United Kingdom, with U.S. assets in excess of \$5 trillion, or around 20% of the global total.

U.S. assets in the Netherlands (around \$2.9 trillion) were the second largest in Europe in 2016. America's significant presence in the Netherlands reflects its strategic role as an export platform/distribution hub for U.S. firms doing business across the continent. To this point, more than half of affiliate sales in the Netherlands are for export, particularly within the EU.

Meanwhile, America's asset base in Germany (\$811 billion in 2016) was more than a quarter larger than its asset base in all of South America. America's asset base in Poland, the Czech Republic and Hungary (roughly \$144 billion) was on par with Corporate America's assets in India (\$141 billion). America's assets in Ireland (\$1.4 trillion) were much larger than those in either France (\$376 billion) or Switzerland (\$923 billion) and light years ahead of those in China (\$404 billion).



As for foreign-owned assets in the United States, Europe's stakes are sizable and significant. Total assets of European affiliates in the United States were valued at roughly \$7.7 trillion in 2016. The United Kingdom ranked first, followed by Germany, Switzerland and French firms. In 2016, the last year of available data, European assets in the United States accounted for nearly 60% of all foreign-owned assets in the United States.

3. Affiliate Employment

U.S. and European foreign affiliates are a major source of employment for the general transatlantic workforce. Indeed, on a global basis, affiliates of both U.S. and European parents employ more workers in the United States and Europe than in other places in the world. Most foreign workers on the payrolls of U.S. foreign affiliates are employed in the developed nations, notably Europe.

U.S. foreign affiliate employment in Europe has increased steadily since the turn of the century, with affiliate employment in Europe rising from 3.7 million workers in 2000 to 4.7 million workers in 2016, the last year of available data. That represents a 27% increase. We estimate that U.S. foreign affiliates in Europe employed 4.8 million workers in 2017, a slight increase from the year before.

While aggregate employment levels continue to rise modestly, manufacturing employment has plateaued since 2000. U.S affiliate manufacturing employment totaled 1.9 million in 2000, on par with the levels of 2016. However, while the overall number has stayed roughly the same, the country composition has changed. In general, the shift has been towards low-cost locations like the Czech Republic, Poland and Hungary, at the expense of the UK, Germany and France. The largest employment declines were reported in the United Kingdom, with the total

European foreign affiliate employment in the U.S.



manufacturing work force falling from 431,000 in 2000 to 311,000 in 2016. U.S. manufacturing employment in France dropped from 249,000 to 197,000, while a slight decline from 388,000 to 382,000 was reported in Germany between 2000 and 2016.

Combined, the UK, Germany and France accounted for 67% of total U.S. affiliate manufacturing employment in Europe in 1990. By 2016, however, their collective share had dropped below 50%. Meanwhile, the combined share of U.S. affiliate manufacturing employment in Poland, the Czech Republic and Hungary jumped from virtually zero to nearly 15% in 2016, indicative of the eastern spread of U.S. European operations. In terms of net gains, not losses in manufacturing jobs, Poland has been a significant winner, with U.S. affiliate manufacturing employment growing more than 2.5 times, from 51,000 in 2000 to 128,000 in 2016, and continuing on an upward trend.

Even given these changes, the manufacturing workforce of U.S. affiliates in Germany (382,000) in 2016 was greater than the number of manufactured workers employed in Brazil (310,000) and India (209,000) – although well below China (740,000).

Roughly 35% of all manufacturing workers employed by U.S. foreign affiliates outside the United States in 2016 were based in Europe.

On a global basis, U.S. majority-owned affiliates (including banks and non-bank affiliates) employed 14.3 million workers in 2016, with the bulk of these workers – roughly 33% – toiling in Europe. That share is down from 38% in 2009. That decline is in part a consequence of Europe's cyclical slowdown for some years, and in part due to the fact that U.S. overseas capacity is expanding at a faster pace in faster-growing emerging markets than slow-growth

U.S. foreign affiliate employment in Europe

(estimate)

4.9 million

workers in 2018



developed nations. Another factor at work: more and more U.S. firms are opting to stay home due to competitive wage and energy costs, as opposed to shipping more capacity abroad. The sweeping overhaul of the U.S. corporate tax code in 2017, which significantly lowered America's tax rate relative to many in Europe, has spurred more investment to come home or stay in the United States – more on that in Chapter 5. That said, however, with the U.S. labor market the tightest in decades, U.S. firms are even more dependent on European workers to drive production and sales.

Most employees of U.S. affiliates in Europe live in the United Kingdom, Germany and France. Meanwhile, U.S. majority-owned firms are on balance hiring more people in services activities than in manufacturing. The latter accounted for just 40% of total U.S. foreign affiliate employment in Europe in 2016. The key industry in terms of manufacturing employment was transportation, with U.S. affiliates employing nearly 378,000 workers, followed by chemicals (300,000). Wholesale employment was among the largest sources of services-related employment, which includes employment in such activities as logistics, trade, insurance and other related functions.

Although services employment among U.S. affiliates has grown at a faster pace than manufacturing employment over the past decade, U.S. affiliates employed more manufacturing workers in Europe in 2016 (1.9 million) than in 1990 (1.6 million). This reflects the EU enlargement process, and hence greater access to more manufacturing workers, and the premium U.S. firms place on highly skilled manufacturing workers, with Europe one of the largest sources of skilled talent in the world.

When it comes to affiliate employment, trends in the United States are similar to those in Europe. Despite stories on the continent about local European companies relocating to lower cost locales in eastern Europe and Asia, most foreign workers of European firms are employed in the United States. Based on the latest figures, European majority-owned foreign affiliates directly employed 4.5 million U.S. workers in 2016 - some 155,000 more workers than in 2015, although roughly 225,000 workers less than U.S. affiliates employed in Europe. In 2016, the top five European employers in the United States were firms from the United Kingdom (1.2 million, up 113,000 from 2015), France (729,000, down 10,000 from 2015), Germany (692,000, up 11,000 from 2015), Switzerland (471,000, up 13,000 from 2015) and the Netherlands (475,000, up 21,000 from 2015). European firms employed roughly two-thirds of all U.S. workers on the payrolls of majority-owned foreign affiliates in 2016.

Table 3 The U.S. - European Employment BalanceThousands of employees, 2017*

Country	European Affiliates of U.S. Companies	U.S. Affiliates of European Companies	Employment Balance
Austria	49.0	16.7	-32.2
Belgium	128.2	148.3	+20.1
Czech Republic	84.9	0.0	-84.9
Denmark	41.1	39.4	-1.7
Finland	20.8	23.9	+3.1
France	491.0	743.1	+252.0
Germany	715.3	706.0	-9.3
Greece	16.0	2.8	-13.3
Hungary	68.7	0.1	-68.6
Ireland	123.4	268.6	+145.1
Italy	228.1	79.8	-148.3
Luxembourg	23.0	6.5	-16.4
Netherlands	255.8	484.7	+228.9
Norway	42.8	7.0	-35.8
Poland	196.2	0.9	-195.3
Portugal	31.2	0.7	-30.5
Romania	74.3	0.0	-74.3
Spain	179.2	81.9	-97.3
Sweden	73.1	216.1	+143.0
Switzerland	104.8	480.4	+375.7
United Kingdom	1,502.9	1,262.3	-240.6
Europe	4,809.9	4,585.1	-224.8

Note: Employment balance "+" favors the United States Source: Bureau of Economic Analysis. *2017 Estimates. Majority-owned bank and non-bank affiliates.

In the aggregate, the transatlantic workforce directly employed by U.S. and European foreign affiliates in 2016 was roughly 9.2 million strong, up roughly 3% from the year before. In 2017, modest gains in employment were most likely achieved on both sides of the pond. We estimate that U.S. affiliates based in Europe directly employed about 4.81 million European workers, and European affiliates based in the United States directly employed about 4.59 million Americans.

That said, as we have stressed in the past, these figures understate the employment effects of mutual investment flows, since these numbers are limited to direct employment, and do not account for indirect employment effects on nonequity arrangements such as strategic alliances, joint ventures, and other deals. Moreover, foreign employment figures do not include jobs supported by transatlantic trade flows. Trade-related employment is sizable in many U.S. states and many European nations.

In sum, direct and indirect employment remains quite large. We estimate that the transatlantic workforce numbers some 14-16 million workers. Europe is by far the most important source of "onshored" jobs in America, and the United States is by far the most important source of "onshored" jobs in Europe.

4. Research and Development (R&D) of Foreign Affiliates

The United States and Europe remain primary drivers of global R&D. Yet as the globalization of R&D has gathered pace, more and more global R&D expenditures are emanating from Asia in general and China in particular. Beijing is unrelentingly focused on being a global leader in artificial intelligence, quantum computing, space exploration, cyber security, life sciences, electric vehicles, supercomputing, semiconductors and 5G wireless devices. The goal of Beijing's 13th Five-Year Plan (2016-2020) is to make China an "innovative nation" by 2020; an "international innovation leader" by 2030; and a "world powerhouse of scientific and technological innovation" by 2050.

While governments and corporations are the main drivers of R&D spending, foreign affiliates of multinationals are also in the thick of things. In fact, foreign affiliate R&D has become more prominent over the past decades as firms seek to share development costs, spread risks, and tap into the intellectual talent of other nations. Alliances, cross-licensing of intellectual property, mergers and acquisitions, and other forms of cooperation have become more prevalent characteristics of the transatlantic economy. The digital economy has become a powerful engine of greater transatlantic R&D. The complexity of scientific and technological innovation is leading innovators to partner and share costs, find complementary expertise, gain access to different technologies and knowledge quickly, and collaborate as part of "open" innovation networks. Cross-border collaboration with foreign partners can range from a simple one-way transmission of information to highly



R&D spending of foreign affiliates (2016)

\$31.3 billion U.S. in Europe

\$44 billion Europe in the U.S. interactive and formal arrangements. Developing new products, creating new processes, and driving more innovation – all of these activities result from more collaboration between foreign suppliers and U.S. and European firms.

Bilateral U.S.-EU flows in R&D are the most intense between any two international partners. In 2016, the last year of available data, U.S. affiliates spent \$31.3 billion on research and development in Europe, down slightly from the prior year. On a global basis, Europe accounted for roughly 58% of total U.S. R&D in 2016, up slightly from 2015. R&D expenditures by U.S. affiliates were the greatest in Germany (\$9.0 billion), the United Kingdom (\$6.0 billion), Switzerland (\$3.0 billion), Ireland (\$2.9 billion), France (\$2.3 billion) and Belgium (\$1.7 billion). These six nations accounted for 83% of U.S. spending on R&D in Europe in 2016.

In the United States, meanwhile, expenditures on R&D performed by majority-owned foreign affiliates totaled \$60.1 billion in 2016, over \$3 billion more than in 2015. As in previous years, a sizable share of this R&D spending emanated from world-class leaders from Europe, given their interest in America's highly skilled labor force and world-class university system. Most of this investment by European firms took place in such research-intensive sectors as autos, energy, chemicals, and telecommunications. In 2016, R&D spending by European affiliates increased by almost \$3 billion over 2015 to total \$44 billion, accounting for 73% of total foreign R&D spending in the United States.

On a country basis, Swiss-owned affiliates were the largest foreign source of R&D in the United States in 2016, spending some \$10.6 billion. Swiss firms accounted for nearly a quarter of the European total. British firms accounted for the second largest percentage of affiliate expenditures, with a 20% share in 2016. Germany's share was close, at 17.7%, followed by France, 12.9%. As Table 4 highlights, some of the world's most innovative companies are domiciled in the U.S. and Europe.

5. Intra-firm Trade of Foreign Affiliates

While cross-border trade is a secondary means of delivery for goods and services across the Atlantic, the modes of delivery – affiliate sales and trade – should not be viewed independently. They are more complements than substitutes, since foreign investment and affiliate sales increasingly drive cross-border trade flows. Indeed, a substantial share of transatlantic trade is considered intra-firm or related-party trade, which is cross-border trade that stays within the ambit of the company. Intrafirm or related party-trade occurs when BMW or

		R&D Spending			
2018	Company	2018, \$U.S. Billions	Change from 2017	Country	Industry
1	Amazon	22.6	40.6%	United States	Retailing
2	Alphabet	16.2	16.3%	United States	Software and Services
3	Volkswagen	15.8	14.1%	Germany	Auto
4	Samsung	15.3	6.8%	South Korea	Technology Hardware
5	Intel	13.1	2.8%	United States	Semiconductors
6	Microsoft	12.3	-5.7%	United States	Software and Services
7	Apple	11.6	15.3%	United States	Technology Hardware
8	Roche Holding	10.8	-8.7%	Switzerland	Healthcare
9	Johnson & Johnson	10.6	16.0%	United States	Healthcare
10	Merck & Co.	10.2	0.8%	United States	Healthcare
11	Toyota	10.0	2.6%	Japan	Auto
12	Novartis	8.5	-11.1%	Switzerland	Healthcare
13	Ford	8.0	9.6%	United States	Auto
14	Facebook	7.8	31.0%	United States	Software and Services
15	Pfizer	7.7	-2.7%	United States	Healthcare
16	General Motors	7.3	-9.9%	United States	Auto
17	Daimler	7.1	-9.2%	Germany	Auto
18	Honda Motor	7.1	8.7%	Japan	Auto
19	Sanofi	6.6	5.8%	France	Healthcare
20	Siemens	6.1	4.9%	Germany	Capital Goods
		214.5	7.3%		

Table 4 The Top 20 R&D Spenders

Source: Bloomberg data, Capital IQ data, Strategy& analysis.

Siemens of Germany sends parts to BMW of South Carolina or Siemens of North Carolina; when Lafarge or Michelin send intermediate components to their Midwest plants, or when General Motors or 3M ships components from Detroit, Michigan or St. Paul, Minnesota to affiliates in Germany or the UK.

The tight linkages between European parent companies and their U.S. affiliates are reflected in the fact that roughly 60% of U.S. imports from the European Union consisted of related-party trade in 2016, the last year of available data. That is much higher than the related party imports from the Pacific Rim nations (around 40%) and South/Central America (42%) and well above the global average (49%). The percentage was even higher in the case of Ireland (85%) and Germany (69%).

Table 5 Related Party Trade, 2016

Country	U.S. Imports: "Related Party Trade," as % of Total	U.S. Exports: "Related Party Trade," as % of Total
European Union	59.9	35.9
Germany	68.7	35.4
France	46.6	28.0
Ireland	85.4	30.0
Netherlands	51.7	51.9
United Kingdom	52.3	30.0

Source: U.S. Census Bureau.

Meanwhile, nearly 36% of U.S. exports to Europe in 2016 represented related-party trade, but the percentage is much higher for some nations. For instance, more than half of total U.S. exports to the Netherlands (52%) were classified as related-party trade. The comparable figure for Germany was 35% and 28% for France.

6. Foreign Affiliate Sales

U.S. majority-owned foreign affiliate sales on a global basis (goods and services) totaled an estimated \$6.2 trillion in 2017. Total U.S. exports, in contrast, were \$2.4 trillion in 2017, or roughly 38% of foreign affiliate sales. This gap underscores the primacy of foreign affiliate sales over U.S. exports. As we have noted many times before, one of the best kept secrets in Washington is how U.S. firms actually deliver goods and services to foreign customers.

As usual, Europe accounted for the bulk of U.S. affiliate sales in 2017. We estimate that U.S. foreign affiliate sales in Europe totaled \$3 trillion, up roughly 7% from the prior year. U.S. affiliate sales in Europe, by our estimates, amounted for roughly half of the global total.

Reflecting the primacy of Europe when it comes to U.S. foreign affiliate sales, sales of U.S. affiliates in Europe were roughly 75% larger than the comparable figures for the entire Asian region in 2016, the last year of available data. Affiliate sales in the United Kingdom (\$607 billion) were double total sales in South America.

Sales in Germany (\$341 billion) were over double the combined sales in Africa and the Middle East.

Affiliate sales are also the primary means by which European firms deliver goods and services to customers in the United States. In 2017, for instance, we estimate that majority-owned European affiliate sales in the United States (\$2.5 trillion) were more than triple U.S. imports from Europe. Affiliate sales in the U.S. rose 11% by our estimates. By country, sales of British firms were the largest (\$534 billion) in 2016, followed by Germany (\$471 billion), and the Netherlands (\$323 billion). For virtually all countries in Europe, foreign affiliate sales were easily in excess of their U.S. imports in 2016.

7. Foreign Affiliate Profits

Transatlantic profits have rebounded from the depressed levels of 2009, when the global financial crisis and ensuing recession triggered a sharp downturn in affiliate income/earnings on both sides of the pond. In 2017, U.S. affiliate income in Europe rose to a record \$265 billion, and by another 6% in 2018 by our estimate, to a record \$281 billion. The figure for 2018 was more than 50% larger than the depressed levels of 2009, when affiliate income earned in Europe plunged to \$179 billion. Meanwhile, European affiliate income earned in the United States in 2018 was also at record levels; by our estimate, affiliate income totaled \$132 billion, up roughly 12% from the prior year.





Source: Bureau of Economic Analysis.

Majority-owned non-bank affiliates data: 1987 - 2008. Majority-owned bank and non-bank affiliates: 2009 - 2017. Foreign Affiliate Sales: Estimates for 2017.



Table 7 Sales of European Affiliates in the U.S. vs. U.S. Imports from Europe



---- European Foreign Affiliate Sales in the U.S. ---- Total U.S. Imports from Europe

Source: Bureau of Economic Analysis

Majority-owned non-bank affiliates: 1987 - 2006. Majority-owned bank and non-bank affiliates: 2007 - 2017. Foreign Affiliate Sales: Estimates for 2017.

Europe continues to be a key market for U.S. multinationals' foreign earnings. The region accounted for roughly 55% of U.S. global foreign affiliate income in the first nine months of 2018. As a footnote, we define Europe here in very broad terms, including not only the EU28 but also Norway, Switzerland, Russia and smaller markets in central and eastern Europe.

On comparative basis, U.S. affiliate income from Europe of \$211 billion in the first nine months of 2018 was about three times more than the affiliate income of Latin America (\$71 billion) and Asia (\$69 billion), respectively. It is interesting to note that combined U.S. affiliate income from China and India in 2017 (\$18.4 billion), the last year of full data, was a fraction of what U.S. affiliates earned/reported in the Netherlands, the United Kingdom and Ireland.

Still, there is little doubt that the likes of China, India and Brazil are becoming more important earnings engines for U.S. firms. To this point, in the first nine months of 2018, U.S. affiliate income in China alone (\$9.8 billion) was well in excess of affiliate income in Germany (\$5.1 billion), France (\$2.2 billion), and Spain (\$2.8 billion). U.S. affiliates in India earned \$3 billion in the January-September period, well more than that earned in many European countries.

All that said, we see rising U.S. affiliate earnings from the emerging markets as a complement, not a substitute, to earnings from Europe. The latter very much remains a key source of prosperity for Corporate America.



Foreign affiliate profits (2018)

\$281 billion U.S. in Europe

\$132 billion Europe in the U.S.



Table 8 U.S. Earnings from Europe Hitting New Highs (U.S. foreign affiliate income from Europe)

Source: Bureau of Economic Analysi. *Data for 2018 is estimate.

Similarly, the United States remains the most important market in the world in terms of earnings for many European firms. In the first nine months of 2018, the income of European affiliates in the United States was up nearly 20% from the same period a year ago, totaling \$99 billion. For the year, we estimate income of European affiliates in the U.S. hit a record \$132 billion.

8. Transatlantic Services

The United States and Europe are the largest services economies in the world. They are each other's largest services market, and dense transatlantic services linkages mean that the transatlantic services economy is the geo-economic base for the global competitiveness of U.S. and European services companies.

Transatlantic ties in services – both in trade and investment – are quite large and have become even more intertwined over the past decade. Transatlantic linkages continue to deepen in insurance, education, telecommunications, transport, utilities, advertising, computer and business services.

On a regional basis, Europe accounted for 37% of total U.S. services exports and for 43% of total U.S. services imports in 2017. Four out of the top ten export markets for U.S. services in 2017 were in Europe. The United Kingdom ranked first, followed by Ireland (ranked 4th), Switzerland (6th), and Germany (9th). Of the top ten services providers to the United States in 2017, five were European states, with the United Kingdom ranked first, Germany second,

Switzerland sixth, Ireland ninth, and France tenth. In 2017, the United States registered a \$51 billion trade surplus in services with the EU, versus a \$153 billion trade deficit in goods. Using a broader definition of Europe, which includes non-EU countries, the U.S. runs a slightly larger surplus in services (\$66 billion) and a larger deficit in goods (\$175 billion).

U.S. services exports to Europe reached a record \$298 billion in 2017, up more than 40% from the cyclical lows of 2009, when exports to Europe plunged 9%. Services exports (or receipts) have been fueled by a number of services-related activities such as travel. passenger fares, education and financial services. In terms of transport, the top five export markets in 2017, ranking order, were Japan, the UK, Canada, China, and Germany. The United Kingdom ranked as the largest market for exports of telecommunications, computer and information services; the UK and Luxembourg also ranked in the top five in financial services. Ireland was the top export market for U.S. trade in intellectual property - or charges or fees for the use of intellectual property rights, representing 14% of total receipts. As for "other business service exports" or activities like management consulting and R&D, Ireland ranked number one in 2017, followed by Switzerland and the UK.

As for U.S. services imports from Europe, figures for 2017 were at all-time highs. U.S. services imports from Europe totaled \$232 billion in 2017, up nearly 40% from the depressed levels of 2009. The United Kingdom, Germany, Switzerland, Ireland, France and Italy all rank as top services exporters to the United States.

Foreign direct investment and foreign affiliate sales, not trade, represent the **backbone of the transatlantic economy**

Trade figures, while significant, do not do full justice to the importance of the transatlantic services economy. Transatlantic foreign affiliate sales of services are much deeper and thicker than traditional trade figures suggest. Indeed, sales of affiliates have exploded on both sides of the Atlantic over the past few decades thanks to falling communication costs and the rise of the digital economy. Affiliate sales of services have not only supplemented trade in services, they have become the overwhelming mode of delivery in a rather short period of time. Worldwide affiliate sales of U.S. services almost doubled in the ten years from 2005 to 2016, exceeding \$1 trillion for the first time in 2007. In 2016, the last year of full data, U.S. affiliate services sales (\$1.5 trillion) were roughly double the level of U.S. services exports (\$798 billion).

Sales of services of U.S. foreign affiliates in Europe rose modestly (2.2%) in 2016 to \$768 billion, and have risen by more than 30% since 2009, when services sales plunged on account of the transatlantic recession. U.S. services exports to Europe in the same year totaled \$284 billion, well below sales of services by affiliates. In other words, like goods, U.S. firms primarily deliver services in Europe (and vice versa) via their foreign affiliates rather than by trade.

Table 9 U.S. - Europe Services Linkages

The UK accounted for roughly 30% of all U.S. affiliate services sales in Europe; affiliate sales totaled \$232 billion, a figure greater than total affiliate sales in South and Central America (\$118 billion), Africa (\$13 billion) and the Middle East (\$21 billion). Affiliate sales in Ireland remain quite large - \$125 billion and reflect strong U.S-Irish foreign investment ties with leading U.S. internet, software and social media leaders. On a global basis, Europe accounted for roughly 53% of total U.S. affiliate service sales.

We estimate that sales of services of U.S. affiliates in Europe rose by around 4%, to \$802 billion in 2017. U.S. services exports to Europe for the same year were \$298 billion, well below sales of affiliates.

U.S. affiliate sales of services in Europe continue to exceed sales of services by U.S. affiliates of European firms. In 2016, the last year of complete data, European affiliate services sales in the United States totaled \$561 billion, about 27% below comparable sales of U.S. affiliates in Europe. That said, European affiliates are the key provider of affiliate services in the United States. Foreign affiliate sales of services in the U.S. totaled \$995 billion in 2016, with European firms accounting for 56% of the total. Within Europe, British affiliates lead in terms of affiliate sales of



Source: Bureau of Economic Analysis.

Majority-owned bank and non-bank affiliates. Services supplied in Europe estimates for 2017.



Table 10 Europe - U.S. Services Linkages

- European Affiliates Services Supplied in the U.S. - U.S. Services Imports from Europe

Source: Bureau of Economic Analysis.

Majority-owned bank and non-bank affiliates. Services supplied in the U.S. estimates for 2017.

services in the United States (\$143 billion), followed closely by Germany (\$134 billion).

We estimate that European affiliate services sales in the United States totaled \$583 billion in 2017, well above U.S. service imports from Europe (\$232 billion) in the same year. The difference between affiliate sales and service imports reflects the everwidening presence of European service leaders in the U.S. economy.

In the end, the U.S. and Europe each owe a good part of their competitive position in services globally to deep transatlantic connections in services industries provided by mutual investment flows. A good share of U.S. services exports to the world are generated by European companies based in the United States, just as a good share of European services exports to the world are generated by U.S. companies based in Europe.

These eight indices convey a more complex and complete picture of U.S.-European engagement than trade figures alone. Transatlantic commerce goes well beyond trade. Foreign direct investment and foreign affiliate sales, not trade, represent the backbone of the transatlantic economy. The eight variables just highlighted underscore the depth and breadth of the transatlantic commercial relationship.

Table 11 America's FDI Roots in Europe (Billions of \$)

Industry	U.S. FDI to Europe	Europe's % of Total U.S. FDI
European Total, all industries	3,553	59%
Manufacturing	440	51%

Note: Historic-cost basis, 2017.

Source: Bureau of Economic Analysis..

Table 12 Europe's FDI Roots in the U.S. (Billions of \$)

Industry	U.S. FDI from Europe	Europe's % of Total U.S. FDI
Total from Europe, all industries	2,731	68%
Manufacturing	1,228	76%

Note: Historic-cost basis, 2017. Source: Bureau of Economic Analysis..

Endnotes

1 The United States, Mexico, and Canada are in the process of updating the NAFTA agreement via the new United States-Mexico-Canada Agreement.


From Pipes to Platforms: The Transatlantic Digital Economy



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60% of global GDP will be digitized by 2022

The digital revolution is transforming the strategic landscape for all industries, in all sectors, across the transatlantic economy as well as around the world. The numbers are staggering. In 2018, internet connectivity reached over half the world's population, companies spent over \$1.2 trillion on digital transformation, the cloud computing industry's global market worth was at least \$127 billion, and value-added services related to the Internet of Things (IoT) topped \$120 billion.¹ Average international bandwidth grew 330-fold between 2000 and 2015, and continues to expand rapidly.² Total digital information is projected to expand 60-fold from 2012-2025 to 16.1 trillion gigabytes.³ By 2022, 60% of global GDP will be digitized.⁴

The digital revolution is both an enabler and a disruptor. It is amplifying the efficiency and effectiveness by which businesses produce, market, sell and disseminate goods and services. It is also uprooting entire sectors of the economy. The media has learned that people no longer need a newspaper to get news; the retail sector has realized that customers don't need to go to a store to buy goods. We're now learning that we don't need a hotel to stay overnight, don't need to call a cab or own a car to get around, don't need a bank for banking services, don't need a television to watch TV, don't need a phone to make a call, don't need a camera to take a photo, and don't have to come to class to take a course.



Table 1 The Expanding Digital Frontier

Sources: GSMA Intelligence; McKinsey Global Institute; Author's own estimates

The digital revolution has also turned some goods into services. Instead of buying a CD or a DVD, consumers simply access or download content.⁵

Disruption is unrelenting, even for the disruptors. The Smartphone Age has given way to a Digitization Age of smart, pervasive, and increasingly automated connectivity. The Internet of Things, 5G technologies, big data analytics, quantum computing, energy storage, precision agriculture, aquaponics, artificial intelligence, blockchain and distributed ledger technologies and other innovations are fast-tracking digital growth around the world. Moreover, some pathfinders are already charting the frontier of a "Bio-Cognitive Age" in which revolutionary advances in digitization, biology, nanotechnology, behavioral and cognitive sciences will combine to affect not only our economic and social lives, but life itself.⁶

These breathtaking changes promise untold opportunities for economic growth and prosperity, human health, and simple ease of life. They have also given rise to concerns on both sides of the Atlantic: worries about lesser privacy and greater insecurity; market dominance; impact on jobs; manipulation of democratic processes; and persistent digital divides across regions and classes. And as each side of the Atlantic has addressed these concerns differently, frictions have arisen. Yet given the dense interlinkages between the United States and Europe in the digital economy, we literally cannot afford to be disconnected.⁷

Digital Globalization: Still Uneven

"Digital globalization" evokes the image of a seamless global marketplace in which unbridled data flows drive goods, services and money across national boundaries without friction. Reality is different. The digital revolution is global in its reach but uneven in its effects.

Digital connections are "thicker" between some continents and "thinner" between others – and they are "thickest" between the United States and Europe. The transatlantic theatre is the fulcrum of global digital connectivity. North America and Europe generate approximately 75% of digital content for internet users worldwide. U.S. and European cities (Frankfurt, London, Amsterdam, Paris, Stockholm, Miami, New York, Marseille, Los Angeles, San Francisco) represent the world's foremost hubs for international communication and data exchange.⁸ In this chapter we offer five metrics through which we can see more clearly the importance of transatlantic digital connections.⁹

1. Digital Services and Digitally-Enabled Services

The digital economy is dominated by services, which accounted for 87.5% of total digital economy currentdollar value added in 2016.¹⁰ Two metrics offer us a clearer picture of transatlantic connections in digital services. A narrow view can be had by looking at crossborder information and communications technology (ICT) services, or *digital services* as shorthand, which are services used to facilitate information processing and communication.¹¹ A broader view can be taken by looking at *digitally-enabled services*: services that can be but are not necessarily delivered remotely over ICT networks. These include digital services as well as "activities that can be specified, performed, delivered, evaluated and consumed electronically."¹² Identifying potentially ICT-enabled services does not tell us with certainty whether the services are actually traded digitally.¹³ But the U.S. Commerce Department notes that "these service categories are the ones in which digital technologies present the most opportunity to transform the relationship between buyer and seller from the traditional inperson delivery mode to a digital one,"¹⁴ which means a digital transaction is likely and thus can offer a rough indication of the potential for digital trade.¹⁵

The transformative impact of each of these types of digital services is not limited to just the services sector but extends to manufacturing and the traditional bricks-and-mortar economy as well. Digitally-enabled services such as consulting, engineering, software, design and finance are used in manufacturing industries such as transport equipment, electrical equipment and food products. In this regard, digitally-enabled services from the United States have become critical to the competitiveness of European manufacturing and retail operations, and vice versa.

In addition, digitally-enabled services are not just exported directly, they are used in manufacturing and to produce goods and services for export. Over half of digitally-enabled services imported by the United States from the EU is used to produce U.S. products for export, and vice versa, thus generating an additional value-added effect on trade that is not easily captured in standard metrics.¹⁶

In 2017, digitally-enabled services accounted for 55% of all U.S. services exports, 49% of all services imports, and 68% of the U.S. global surplus in trade in services.¹⁷

In 2017, the United States registered a \$172.6 billion trade surplus in digitally-enabled services with the world. Its main commercial partner was Europe, to which it exported \$204.2 billion in digitally-



Table 2 U.S. Trade in Digitally-Enabled Services by Major Area, 2017 (\$Billions)

Exports Imports

Source: Bureau of Economic Analysis, Trade in Potentially ICT-Enabled Services Database. Data as of October 2018.

enabled services and from which it imported \$123.7 billion, generating a trade surplus with Europe in this area of \$80.5 billion, according to figures from the U.S. Bureau of Economic Analysis. U.S. exports of digitally-enabled services trade to Europe were 2 ½ times greater than U.S. digitally-enabled services exports to Latin America, and almost double U.S. digitally-enabled services exports to the entire Asia-Pacific region (Table 2).

In 2017, the 28 EU member states collectively exported \$1.24 trillion and imported \$1.02 trillion in digitally-enabled services to countries both inside and outside the EU (See Table 3 and Table 4). Excluding intra-EU trade, EU member states exported \$579.2 billion and imported \$459.6 billion in digitally-enabled services, resulting in a surplus of \$119.6 billion for these services.



Table 3 Destination of EU Exports of Digitally-Enabled Services, 2017 (\$Billions)

Table 4 Origin of EU Imports of Digitally-Enabled Services, 2017 (\$Billions)

5604

United States 177.0 Asia and Oceania Other Americas (excluding U.S) Other Europe (excluding EU) Services not allocated geographically Africa 9.9 International Organizations 0.3 0 100 200 300 400 500 600

Note: Digitally-Enabled Services include finance; insurance; IP charges; telecommunications, computer, information services; R&D services; professional and managemet services; architectural, engineering and other technical services; and other business services. Source: Organization for Economic Cooperation and Development.

Digitally-enabled services represented 56% of all EU services exports to non-EU countries and 57% of all EU services imports from non-EU countries.

In 2017, the United States accounted for 31% of the EU's digitally-enabled services exports to non-EU countries, and 39% of EU digitally-enabled services imports from non-EU countries.¹⁸ The United States purchased \$179.6 billion, according to OECD data for 2017, making it the largest non-EU consumer of EU digitally-enabled services exports, accounting for more EU exports than the rest of non-EU Europe (\$122.5 billion), and more than all digitally-enabled services exports from the EU to Asia and Oceania (\$165.4 billion).¹⁹

EU member states with the largest estimated value of digitally-enabled services exports were Germany (\$171.6 billion), the United Kingdom (\$149.3 billion), Ireland (\$142.6 billion), and the Netherlands (\$134.1 billion).



Table 5 EU Digitally-Enabled Services Trade by Sector, 2017

Charges for Use of Intellectual Property
 Telecommunications
 Insurance
 Financial
 Business, Professional & Technical

Sources: U.S. Bureau of Economic Analysis. Data as of October 2018. In 2017, EU member states imported \$1.02 trillion in digitally-enabled services, according to OECD data. 55% originated from other EU member states (See Table 4). Another 17% (\$177.0 billion) came from the United States, making it the largest supplier of these services. The EU imported more of these services from the U.S. than from EU member states Germany (\$95.3 billion) and the UK (\$112.7 billion).

Table 5 categorizes U.S.-EU digitally-enabled services trade into five sectors. For both economies, the most important exports are represented by business, professional and technical services, which accounted for 50% of digitally-enabled services exports from the EU to the United States and 44% of digitallyenabled services exports from the United States to the EU in 2017. The second most important category consists of intellectual property, including royalties and license fees, most of which are paid on industrial processes and software, underscoring how integral such transatlantic inputs are to production processes in each economy. Strong European demand for U.S. digitally-enabled intellectual property is reflected in the fact that this category accounts for 31% of all U.S. exports of digitally-enabled services to the EU.²⁰ Financial services comprise the third largest digitally-enabled services export category.

Digitally-Enabled Services Supplied Through Foreign Affiliates

The digital economy has transformed the way trade in both goods and services is conducted across the Atlantic and around the world. Even more important, however, is the delivery of digital services by U.S. and European foreign affiliates. In fact, affiliate sales of digitally-enabled services have exploded on both sides of the Atlantic in recent years – another indicator reinforcing the importance of foreign direct investment, rather than trade, as the major driver of transatlantic commerce.

Table 6 underscores the relative importance of digitally-enabled services supplied by affiliates of U.S. companies located in Europe and affiliates of European companies in the United States, versus U.S. and European exports of digitally-enabled services. 52% of the \$767.99 billion in services provided in Europe by U.S. affiliates in 2016 were digitally-enabled. In 2016, U.S. affiliates in Europe



Digitally-enabled services supplied by affiliates (2016)

\$401 billion U.S. affiliates in Europe **\$244 billion** European affiliates in the U.S. supplied \$401.47 billion in digitally-enabled services, whereas European affiliates in the United States supplied \$244.35 billion in digitally-enabled services. Digitally-enabled services supplied by U.S. affiliates in Europe were double U.S. digitally-enabled exports to Europe, and digitally-enabled services supplied by European affiliates in the United States were also roughly double European digitally-enabled exports to the United States.

The significant presence of leading U.S. service and technology leaders in Europe underscores Europe's

position as the major market for U.S. digital goods and services. Table 7 underscores this dynamic. In 2016, Europe accounted for two-thirds of the \$257.6 billion in total global information services supplied abroad by U.S. multinational corporations through their majority-owned foreign affiliates. This is not surprising given the massive in-country presence of U.S. firms throughout Europe, with outward U.S. FDI stock in information overwhelmingly positioned in Europe. Roughly 66% of U.S. overseas direct investment in the "information" industry was in Europe in 2016.²¹

Table 6 Digitally-Enabled Services Trade and Services Supplied through Affiliates* (\$Billions)



Digitally Deliverable Other Services

*Trade data are for 2017. Affiliate data are for 2016, the latest available year. Source: U.S. Bureau of Economic Analysis.



Country	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Canada	3,595	4,140	3,971	5,996	6,316	7,135	7,595	7,401	8,487	8,342	9,259
Europe	67,270	76,156	85,450	84,117	96,310	110,525	119,123	120,796	157,811	162,409	170,419
France	4,045	3,794	4,475	4,713	4,582	5,013	4,768	5,258	6,085	5,894	5,887
Germany	5,260	6,031	6,104	6,456	7,143	7,798	7,970	10,599	12,018	11,191	11,464
Netherlands	5,925	8,152	9,980	8,674	8,719	9,313	10,196	9,117	12,686	13,590	13,228
Switzerland	2,871	2,527	3,197	3,747	4,034	4,419	5,243	4,778	(D)	5,452	5,833
United Kingdom	33,512	35,711	31,479	29,906	24,941	26,446	25,996	23,876	30,228	33,512	35,711
Latin America and Other Western Hemisphere	7,255	10,845	13,165	13,798	17,578	20,943	21,887	21,751	22,457	20,672	20,308
Australia	5,722	6,365	6,369	5,961	6,852	6,960	5,531	7,735	7,045	6,266	6,377
Japan	3,447	(D)	6,224	7,856	4,575	4,828	5,204	5,807	7,796	7,821	11,239
China	n/a	n/a	n/a	1,252	1,633	1,627	1,581	1,656	3,016	2,675	2,736
Other Asia- Pacific and MENA Countries	5,217	(D)	(D)	7,623	8,582	10,320	11,663	14,227	33,461	36,891	37,255
TOTAL	92,507	(D)	(D)	126,603	141,846	162,338	172,583	179,372	240,073	245,076	257,593

 Table 7 Information Services Supplied Abroad by U.S. Multinational Corporations Through Their MOFAs (\$Millions)

MOFA: Majority-owned foreign affiliate.

(D) indicates that the data in the cell have been suppressed to avoid disclosure of data of individual companies.

Source: Bureau of Economic Analysis.

2. E-Commerce

Electronic commerce offers a second window into transatlantic digital connections and complements our lens of digitally-enabled services, because most digital sales and purchases are delivered physically or in person – not digitally.²² And while goods trade growth has been flattening worldwide, the share enabled by e-commerce has been registering double-digit growth in recent years.²³

Here again we run into some definitional and data challenges. Most estimates of e-commerce do not distinguish whether such commerce is domestic or international. In addition, many metrics do not make it clear whether they cover all modes of e-commerce or only the leading indicators of business-to-business (B2B) and business-to-consumer (B2C) e-commerce. Finally, there are no official data on the value of cross-border e-commerce sales broken down by mode; official statistics on e-commerce are sparse and usually based on surveys rather than on real data.²⁴

Nonetheless, we can evaluate and compare many different estimates and surveys that have been conducted. According to the U.S. International Trade Commission (ITC), global e-commerce, which the ITC defines as the sale of goods and services over the internet, was worth \$27.7 trillion in 2016, increasing by 44% percent from 2012 (\$19.3 trillion).

When most people hear the term "e-commerce," they think of consumers buying things from businesses via websites, social networks, crowdsourcing platforms, or mobile apps. These business-to-consumer transactions (B2C), however, currently pale in comparison to business-to-business (B2B) e-commerce. In 2016, B2B e-commerce accounted for more than 86% (\$23.9 trillion) of the total value of global e-commerce, six times larger than business-to-consumer (B2C) transactions (\$3.8 trillion).²⁵

Current statistics do not break down e-commerce transactions by origin. As a result, domestic and cross-border transactions are not separately identifiable.²⁶ Consultancy firm Forrester forecasts annual international e-commerce growth of 17% through 2022, and 12% for overall e-commerce (cross-border and domestic, B2B and B2C).²⁷ According to DHL, cross-border e-commerce accounted for 15% of e-commerce merchandise sales in 2015, and is expected to grow at nearly twice the expected growth rate of domestic e-commerce, by 25% annually until 2020, and account for 22% of global e-commerce merchandise sales in that year.²⁸



While B2B e-commerce accounts for the bulk of global e-commerce, most B2B e-commerce does not cross a border. Most B2B e-commerce users are manufacturers or wholesalers who are dependent on physically moving goods, and often heavy freight; the lack of freight digitalization ultimately poses a barrier to cross-border B2B e-commerce.²⁹

The sheer volume of B2B e-commerce, however, means it still is the most important component of cross-border e-commerce sales.³⁰ Forrester estimates that cross-border B2B e-commerce transactions will reach \$1.2 trillion by 2021.³¹ Yet given the domestic orientation of B2B e-commerce and the relative ease with which B2C commerce can be conducted online, it is likely that B2C could catch up with B2B when it comes to cross-border e-commerce. Accenture and Alibaba project that cross-border B2C e-commerce will explode from \$230 billion to \$1 trillion by 2020.³² By 2020, over 2 billion e-shoppers could be transacting 13.5% of their overall retail consumptions online, equivalent to a market value of \$3.4 trillion.³³ By 2022, cross-border shopping could make up 20% of e-commerce, with sales of \$627 billion.³⁴

China was the biggest B2C e-commerce market (\$636.1 billion) in 2018. Revenues are expected to grow at a compound annual growth rate (CAGR) of 11.3% up to 2023, resulting in revenues of \$1.09 trillion. The U.S. B2C e-commerce market generated revenues of \$504.6 billion in 2018. Revenues are expected to grow 7.8% CAGR to reach \$735.4 billion by 2023. Europe's B2C e-commerce market generated \$346.5 billion in revenues in 2018. An annual growth of 6.9% will lead to revenues of \$483.8 billion by 2023.

China's e-commerce market is large, reflecting its population. Per capita e-commerce consumption expenditure, however, tells a different story: it is more than 13 times higher in the United States, 9 times higher in the UK, 7 times higher in Germany and France, 6 times higher in Italy, and 5 times higher in Spain than in China.

The nature of B2C e-commerce is also changing quickly, and the Asia-Pacific region is setting the pace. Consumers are increasingly paying for their purchases via e-wallets. They have already taken over from credit or debit cards in China, and are projected to do so in the United States and Europe by 2023.³⁵ Moreover, while most cross-border B2C e-commerce purchases are made on a computer or laptop, alternative devices (tablet, smartphone, Smart TV, games console, feature phone) are becoming more important. Asia-Pacific markets are more likely than those in North America or Europe to make cross-border purchases on an alternative device.³⁶

Most reports do not separate out transatlantic e-commerce trade in goods, but a substantial portion of this global figure is undoubtedly between the EU and the United States. Nearly half of all U.S. companies polled by the U.S. International Trade Commission indicated that they had an online trading relationship with the European Union,³⁷ and almost half say that Europe is the region outside North America where they focus their cross-border strategy first, far ahead of other regions. Over half of European companies also focus first on North America as their primary e-commerce market outside of Europe, again far more than on other regions.³⁸

Table 8 Who's Shopping Online, 2018

	Do You Shop Online?	lf So, Do You Shop Internationally?
Norway	89%	65%
Sweden	85%	56%
United Kingdom	85%	38%
Austria	84%	82%
Italy	84%	54%
Netherlands	84%	49%
Poland	83%	38%
Greece	83%	67%
Spain	83%	60%
Ireland	82%	84%
United States	81%	34%
France	81%	40%
Germany	81%	32%
Belgium	81%	72%
Russia	80%	70%
Czech Republic	80%	51%
Hungary	79%	57%
Canada	77%	63%
Switzerland	74%	66%
Turkey	73%	35%
Portugal	70%	87%

B2C E-Commerce. Source: PayPal, https://www.paypal.com/us/ webapps/mpp/passport/tools#consumer-purchasing-trends.

Table 9Table 9. When You Buy Online AcrossBorders, From Which Countries Do You Buy?

Customers in	Buy Mainly from
United States	China (16%) Canada (10%) UK (8%)
Austria	Germany (71%) China (19%) USA (18%)
Belgium	Netherlands (38%) France (28%) Germany (21%)
Canada	USA (53%) China (22%) United Kingdom (8%)
Czech Republic	China (38%) USA (11%) Germany (9%) UK (7%)

Customers in	Buy Mainly from
France	China (17%) USA (13%) UK (12%) Germany (10%)
Germany	China (13%) USA (11%) United Kingdom (9%)
Greece	China (37%) UK (29%) USA (23%)
Hungary	China (43%) UK (12%) Hong Kong (12%) Germany (11%) USA (9%)
Ireland	UK (64%) USA (32%) China (26%)
Italy	China (23%) UK (21%) Germany (21%) USA (16%)
Netherlands	China (27%) Germany (17%) USA (11%) UK (11%)
Norway	USA (30%) China (29%) United Kingdom (26%)
Poland	China (22%) Germany (10%) UK (8%) USA (7%)
Portugal	United Kingdom (42%) China (41%) Spain (38%)
Russia	China (60%) USA (14%) Hong Kong (11%)
Spain	China (35%) UK (20%) USA (20%)
Sweden	China (25%) UK (20%) USA (18%) Germany (16%)
Switzerland	Germany (47%) USA (17%) France (16%)
Turkey	USA (18%) China (17%) Germany (8%)
United Kingdom	USA (17%) China (17%) Germany (6%) Hong Kong (6%)

B2C E-Commerce, 2018. Source: PayPal, https://www.paypal.com/us/webapps/mpp/passport/tools#consumer-purchasing-trends.

Still, e-commerce, especially via cross-border sales, is still evolving. In 2017, E-commerce sales accounted for 19.1% of total retail sales in the UK, 12.6% in Denmark, 9% in the United States, 7.9% in Germany, and only 3.2% in Italy.³⁹ While the European Single Market offers an opportunity for more vigorous crossborder e-commerce within the EU, and while 57% of European internet users shop online, European markets remain fragmented and the potential for cross-border e-commerce has not yet been fully exploited. Only 7% of EU enterprises made e-sales to other EU countries in 2016, although in 2018, 36% of e-buyers made purchases from sellers in other EU countries, up 10% from 2013, and 26% made purchases from sellers outside the EU, up 12% from 2013.40 In the United States, 34% of online consumers indicated they engaged in cross-border shopping in 2018.⁴¹ According to PayPal, the most popular destinations for crossborder shoppers to buy from online are China (26%), the United States (21%), the UK (14%), Germany (10%), and Japan (5%). Clothing and footwear, consumer electronics and toys are the most popular products purchased online internationally.42

3. The C2C Platform Economy

Platforms and collaborative networks are at the heart of the new digital economy; 60–70% of new value created in the next ten years is expected to be based on data-driven digitally enabled networks and platforms.⁴³

Platform companies that connect individuals and companies directly to each other to trade products and services are reshaping the U.S. and European economies, as well as the commercial connections between them. By matching supply and demand in real time, and at unprecedented scale, platforms are swiftly becoming a dominant business model in the transatlantic digital economy.⁴⁴ While they have become important for B2C e-commerce, as we discussed in the previous chapter, and are beginning to impact B2B commerce, they have simply supercharged consumer-to-consumer (C2C) e-commerce (also known as peer-to-peer or P2P e-commerce) in ways that are potentially transformational.

The C2C platform economy model – with main sectors including lending and community financing, online distance work, home sharing, car sharing, online music and video streaming – is spreading quickly to new and more established sectors, such as medical equipment and healthcare, retail, legal services, human resources and food delivery.⁴⁵

While C2C still commands a small share of the e-commerce market, the platform economy has

supercharged its potential. Annual growth currently exceeds 25%, and some sectors are projected to even reach 63% by 2025.⁴⁶ PriceWaterhouseCoopers estimates that the revenue of C2C platform economy companies will grow 22-fold by 2025 and catch up to the B2C model, with each model achieving sales revenue in 2025 of \$335 billion.⁴⁷

The top 242 platform companies in the world now represent a market value of \$7.176 trillion.⁴⁸ Just seven so-called "super platforms" account for 69% (\$4.923 trillion) of this total: U.S.-based Apple, Amazon, Microsoft, Google, Facebook and Chinabased Alibaba and Tencent.⁴⁹

The platform economy is dominated by the United States and China. According to KPMG, 46% of platform companies valued at over \$1 billion are based in the United States, 35% in Asia (mostly China), 18% in the EU and 1% in Latin America. Total platform market value is even more skewed, with 72% going to the United States, 25% to China, and just 2% to the EU. Europe has markedly fewer platforms, and on average they are also significantly smaller (\$6.6 billion) than their U.S. (\$63 billion) and Asian (\$23 billion) counterparts.⁵⁰

Table 10 World Regions by Number of Platforms





Table 11 World Regions by Value of Platforms

These figures are causing considerable anxiety in European capitals that Europe is missing the platform revolution. Despite the EU's effort to create a Digital Single Market, the European market remains relatively fragmented in terms of languages, consumer preferences and rules and regulations, which makes it much harder to achieve the kind of scale that platform companies have achieved in the large continental markets of the United States and China. There is also a more risk-averse culture that makes it generally harder to secure funding for potentially chancy bets on unproven technologies. More Chinese and U.S. platform companies operate multiple platforms than do their European counterparts, which means they can more easily use revenues from one platform to grow others.⁵¹

Nonetheless, Europe can look to some successes. Swedish company Spotify, for instance, is now worth \$25 billion, accounts for over 38% of all recorded music revenue, and is the largest music company in the world. It is deeply tied to the transatlantic economy: North Americans and Europeans accounted for 68% of all active monthly users (32% and 36%, respectively) and 71% of all subscriptions (31% and 40%, respectively). Spotify and other European platforms such as Booking.com or Adyen underscore that companies can achieve success even from relatively small home economies.⁵²

There is certainly potential for European success in the platform economy. A study undertaken for the European Parliament estimates that the EU could gain €572 billion in annual consumption if it could harness the platform economy model to take more effective advantage of underutilized capacities across the Single Market. The study extends its analysis to include B2C transactions, so should be considered an expansive projection. Nonetheless, the potential is significant.⁵³

In addition, while the United States and China lead the C2C platform economy, this sector of the UK economy is also robust. The UK is home to 10% of the businesses involved in the global C2C platform economy – more than France, Germany and Spain combined – and London is the C2C platform economy capital of Europe.⁵⁴

Experts expect the platform economy to continue its rapid growth trajectory, and believe a next wave of platforms will transform the financial sector, the automotive industry, energy and construction services.⁵⁵ Some of the more expansive projections for the growth of the platform economy should be considered with caution, as public policies, which move at the speed of law, attempt to catch up with digital innovation, which seems to move at the speed of light. The platform economy is generating major economic opportunities, but is also creating new policy challenges across a wide spectrum of issues, ranging from tax and competition policy to privacy, insurance, finance and labor markets. Nonetheless, even with a more sober appreciation of the future possibilities, the potential is significant.⁵⁶

4. Cross-Border Data Flows

Another way to understand the nature of transatlantic digital connections is to appreciate the role of crossborder data flows, which not only contribute more to global growth than global goods trade in goods, they underpin and enable virtually every other kind of cross-border flow. According to McKinsey, the volume of data crossing borders has risen by 64 times during the course of this decade.⁵⁷ Globally, demand for international bandwidth increased at a rate of 52% in 2017. The amount of capacity deployed on international networks doubled between 2015 and 2017, rising to 684 Tera bits per second (Tbps).⁵⁸ According to the U.S. International Trade Commission, fully half of all global trade in services now depend on access to cross-border data flows.⁵⁹

As of 2015, cross-border data flows between the United States and Europe, at about 15 terabits per second, were by far the most intense in the world - 50% higher than data flows between the United States and Asia in absolute terms, and 400% higher on a per capita basis.⁶⁰



Cross-border data flows between the United States and Europe are **400% higher** than data flows between the United States and Asia on a per capita basis (2015)



Global data flows now contribute more to global growth than global trade in goods

Researchers are reluctant to use data flows as a proxy for commercial links, since data traffic is not always related to commercial transactions.⁶¹ Knowing the volume of data flows does not necessarily provide insight on the economic value of their content. The Bureau of Economic Analysis puts it succinctly: "Streaming a video might be of relatively little monetary value but use several gigabytes of data, while a financial transaction could be worth millions of dollars but use little data."⁶²

In addition, commercial transactions do not always accompany data, and data do not always accompany commercial transactions. For instance, multinational companies often send valuable, but non-monetized, data to their affiliates.⁶³ User-generated content on blogs and on YouTube drives very high volumes of internet traffic both within countries and across borders, but consumers pay for very little of this content. Since it does not involve a monetary transaction, the significant value that this content generates does not show up in economic or trade statistics but instead reveals itself as "consumer surplus." McKinsey estimates that this "consumer surplus" from the United States and Europe alone is close to €250 billion (\$266.4 billion) each year.⁶⁴

In other words, data flows are commercially significant, yet their extent, as well as their commercial value, are hard to measure and are in constant flux. It is possible to get a better sense of their importance to the transatlantic economy, however, by literally taking a "deep dive" into the world of undersea cables.⁶⁵

5. Under the Sea: The Hardware of the Transatlantic Digital Economy

The digital economy evokes images of electrons speeding through the ether. The reality is that subsea cables bring the internet to life. They transmit 99% of all intercontinental telecommunication traffic – data, content, financial payments, phone calls, tweets, texts, emails.⁶⁶ They serve as an additional proxy for the ties that bind continents, particularly Europe and North America.

Wall Township, New Jersey, a hamlet of about 26,000 people on the U.S. Atlantic coast, is charting the digital frontier in the North Atlantic. In late 2019, the first new subsea cable to connect the United States to Northern Europe in about two decades will link Wall to Blaabjerg, part of the Danish municipality of Varde, a city of about 50,000 in southern Jutland. Branches will go to Lecanvey, Ireland and Kristiansand, Norway. This new transatlantic link, called HAVRUE, is a sign that Wall Township and Blaabjerg, Denmark are not just sleepy seaside towns. Wall is home to the New Jersey Fiber Exchange, which links North America to three other continents. And Blaabjerg is the home of multiple transatlantic cable systems binding Europe to the United States.⁶⁷

The Wall-Blaabjerg connection also heralds a significant shift in transatlantic subsea cables. For decades New York City was the center of the transatlantic digital universe, first for voice traffic and then fiber cables, until the congestion became unbearable and, in the wake of 911, the realization dawned that more than 14 transatlantic fiber cable systems had one common hub – and one single point of failure: 60 Hudson Street in the TriBeCa neighborhood of Manhattan. Since then, new cable routes have shifted away from legacy landing sites toward much greater diversity.⁶⁸

The new diversity is exemplified by the state of Virginia. Over 70% of the world's internet traffic flows through Northern Virginia.⁶⁹ Virginia Beach, Virginia, which is the landing site for the 2018 MAREA cable connection to Bilbao, Spain, will in 2019 be home to the Dunant cable linking North America to France. Named after Henri Dunant, the first Nobel Peace Prize winner and founder of the Red Cross, the 4,100-mile cable is a partnership between Google and the French telecommunications company Orange. Once Dunant goes live, it will provide enough capacity to transfer a 1GB movie in 30 microseconds.⁷⁰

Diversification of transatlantic routes is also happening on the European side of the Atlantic. Traditionally most subsea cables were routed



Undersea cables bring the internet to life: they transmit **99%** of all intercontinental telecommunication traffic

from the United States to the small British coastal village of Porthcurno in Cornwall. This "Cornwall concentration" is now dissipating. In 2006 there were 8 transatlantic cable spans to the UK and only 6 to all of the rest of Europe. Since then one additional span has been completed to the UK and two to continental Europe, and two more will connect the United States to continental Europe by 2021.⁷¹

The new digital ports of the North Atlantic are emblematic of the fact that transatlantic cable connections represent the densest and highest capacity routes, with the highest traffic, in the world.⁷² Between 2011 and 2016 total available capacity increased 240%, with all 13 current transatlantic systems on at least 40G technology and 85% on 100G technology.⁷³ Military agencies also build submarine cables, yet those do not appear on public maps. Suffice it to say that if such connections are also considered, transatlantic submarine cables are even more dense than commonly depicted.⁷⁴

Between 2003 and 2014, no new transatlantic cables were laid. Yet commercial and consumer demand is rapidly outpacing supply, and simple upgrades are inadequate to racing bandwidth needs and greater infrastructure requirements.⁷⁵ Telegeography estimates a compound annual growth rate of 38% in transatlantic capacity until 2025.⁷⁶ Eight new transatlantic cables will be needed by 2027 just to keep up with demand, compared to four for intra-Asian routes, three for transpacific routes, and just one for

U.S.-Latin American routes.⁷⁷ The Dunant cable is but one of seven that Google plans to have come online in the next two years. Just those systems alone will more than double existing total transatlantic capacity.⁷⁸

The Dunant cable is notable for yet another reason: it will be the first private transatlantic cable built by a non-telecom company.⁷⁹ Traditionally, transatlantic cables were laid and controlled by large consortia of national telecommunication carriers, also known as Internet Protocol "backbone" operators. This is now changing. The new surge in transatlantic capacity is being driven by private networks, mainly providers of content and cloud services, which have displaced backbone operators as the major investors in subsea cables and the largest source of used international bandwidth.⁸⁰ In 2006, Internet backbone providers accounted for over 80% of international bandwidth. By 2018, content providers were accounting for 54% of used international bandwidth globally and 83% on transatlantic routes (Table 13). They are the sole drivers of new transatlantic cables planned through 2021.⁸¹

Content providers keen on getting closer to customers and achieving economies of scale are moving quickly to the digital frontier. Rather than rely on leasing arrangements with backbone providers, they see advantages in owning these cable networks themselves as they anticipate continuing massive growth in bandwidth needs. Their densest connections are between North America and Europe.⁸²

Table 12 Used Inter-Regional Bandwidth, 2018



Tbps: Terabits per second. Source: Alan Mauldin, "Back to the Future," Telegeography, https://www.ptc.org/PTC19/Proceedings/WK_TELEGEO_Mauldin_Alan.pdf

Bypassing the Internet

The rise of private content providers as drivers of submarine cable traffic is related to yet another significant yet little understood phenomenon shaping the transatlantic digital economy: more and more companies are working to bypass the public internet as a place to do business in favor of private channels that can facilitate the direct electronic exchange of data among companies.

This demand for "interconnection" - private digital data exchange between businesses - is a fundamental driver behind the proliferation of transatlantic cable systems. Companies in a global digital economy must collaborate with partners instantly, across oceans, and they need to meet user expectations for high-performance connectivity anytime, anywhere. That is impossible for firms tethered to traditional IT architectures, in which data is shuttled back and forth between users and distant, centralized corporate data centers. They need interconnection, and the expansion of submarine cable infrastructure offers just that. Subsea cables bring companies to the digital edge, and the ability to land the cables directly inside data centers enables these systems to deliver the close, direct, many-to-many global connectivity that is the essence of interconnection.⁸³

To better understand and track how industry leaders are driving business advantage with digitalready infrastructures, Equinix developed the Global Interconnection Index, which tracks, measures and forecasts the explosive growth in digital business, in particular "interconnection bandwidth," which is the total capacity available to exchange traffic privately and directly with a diverse set of counterparties and providers at distributed IT exchange points inside carrier-neutral colocation data centers. Private interconnection bandwidth is not only distinct from public internet traffic, it is slated to grow much more quickly and become much larger.

Equinix projects that interconnection traffic – direct, private connections that bypass the public internet – will see a five-year compound annual growth rate (CAGR) of 48%. This is almost double the expected 26% CAGR of global internet traffic. By 2021, interconnection bandwidth will grow to 8,200-plus Terabits per second (Tbps) of capacity – ten times the projected capacity of internet traffic. Over the next five years, interconnection bandwidth in the United States is expected to grow at a 45% CAGR, contributing more than 40% of interconnection bandwidth globally; in Europe at 48% CAGR, contributing about 23% of interconnection

bandwidth globally; in Asia-Pacific at 51% CAGR, contributing more than 27% of interconnection bandwidth globally; and Latin America at 59% CAGR, contributing more than 9% of interconnection bandwidth globally.⁸⁴

The growth in direct interconnection traffic between businesses rather than over the public internet is being driven by security and latency concerns. Cyberhacking and theft can be costly. By 2021, the global cost of cybersecurity breaches is expected to reach \$6 trillion annually. Direct, private connections help mitigate the risks. In addition, more and more countries are blocking the transfer of data outside their borders. Direct connections give organizations more control over the flow and ultimate destination of their data. Finally, customers want high-performance, instantaneous connectivity anytime, anywhere; even micro-lags associated with the public internet can be costly.⁸⁵

Is the internet doomed? Unlikely. It is a pervasive force in most people's lives, and a key to digitallydelivered services, e-commerce and the platform economy. Yet private interconnection is likely to rise alongside the public internet as a powerful vehicle for business. And as we have shown here, its deepest links are across the Atlantic.⁸⁶

Hubs, Nodes and Trombones

The internet is structured as a hub-and-spoke system: the hubs are the internet exchanges located in cities around the world, and the spokes are the undersea fiber optic cables that run between these exchanges. This submarine cable system underscores the unevenness of the digital economy and the critical roles U.S. and European cities play as major cross-border hubs. Europe is the global leader, with tremendous connected international capacity. Frankfurt, London, Amsterdam and Paris substantially outpace North American and Asian cities (Table 14). Frankfurt's connected capacity, for instance, is over three times greater than that of New York and almost five times greater than that of Singapore, the Asian leader. Marseille, France has quickly become a major hub for traffic between Europe, Africa and the Middle East.⁸⁷

The role of the United States and Europe as critical digital gateways is also underscored by looking at interregional connections and capacity. Rising economies are becoming more integrated into the submarine cable network, yet few have data centers and so are reliant on content that is not stored locally. In addition, local content providers in many emerging economies

Table 13 Major Interconnection Hubs

International Internet Bandwidth (Tbps)	2018 Bandwidth (Tbps)	CAGR 2014-2018
Frankfurt	73.1	30%
London	55.7	26%
Amsterdam	48.4	29%
Paris	47.8	29%
Stockholm	21.3	29%
Miami	20	27%
New York	19.2	25%
Marseille	18.3	55%
Los Angeles	16.7	30%
San Francisco	10.2	22%

Tbps: Terabits per second. Source: DE-CIX/Telegeography, Subsea cables and interconnection hubs: The Interplay of diversifying routes and peering markets, 2018, https://www.decix.net/en/about-de-cix/academy/white-papers/subsea-cablesand-interconnection-hubs-the-interplay-of-diversifying-routesand-peering-markets/Download; Ivo Ivanov, "How Traditional Traffic Flows are Changing: The Eve of New Global Submarine Cable Networks?" Presentation to Pacific Telecommunications Council -PTC 19, January 23, 2019, https://www.ptc.org/PTC19/ Proceedings/TS_CDC_Ivanov_Ivo.pdf choose to host their content abroad because the cost is much lower. South Americans, for instance, rely almost exclusively on international connections routed through data centers in the United States. Similarly, 85% of international traffic emanating from the Middle East travels to centers in Europe. Africa is equally dependent: most traffic travels the trombone-like path from Africa through Europe and back to Africa, even if the African user is browsing a local website for a business just down the street. This "trombone" effect highlights why both the United States and Europe play such outsized roles in international digital traffic.⁸⁸

Endnotes

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The 50 U.S. States: European-Related Jobs, Trade and Investment



41 - THE TRANSATLANTIC ECONOMY 2019



In July 2019, the U.S. economy is on target to reach a milestone – America's longest economic expansion on record, outpacing the current record reached during the lead-up to the dot-com bubble. Yet despite such a prolonged period of growth, many factors suggest that the U.S. economy still has further room to run, which should benefit the many multinational companies that invest and create jobs in the United States.

First, the consumer backdrop remains relatively healthy and is supported by a strong labor market. With the national unemployment rate at 4% in early 2019, a healthy jobs market and rise in incomes should lead to higher levels of consumer spending in the near term.

In addition, the 2017 corporate tax reform in the United States has shifted the international investment landscape. The reduced tax rate for repatriations of foreign earnings caused firms to bring home large quantities of cash that had been accumulating overseas. Firms have used the cash in a number of ways, from share buybacks and dividends to greater spending on productivity-enhancing capital equipment.

Meanwhile, the synchronized global expansion of 2017 broke down in 2018, as several countries suffered from a slowdown in growth while the United States proved resilient in the face of global uncertainty. Although U.S. growth is estimated to be weaker in 2019 than in 2018, the increase in economic output comes from an already strong base – an economy that is now in excess of \$20 trillion.

The latest figures suggest that the U.S. economy expanded by 2.9% in 2018. Risks to the economic outlook for 2019 and 2020 are abundant, however, and include uncertainty around trade, political gridlock in Washington, less accommodative financial conditions caused by Federal Reserve interest rate hikes, and weaker-than-expected global growth. Significant geopolitical risks, such as the U.S. trade war with China and Britain's expected departure from the EU, were cited by the IMF as key downside risks to the growth outlook. In January the IMF revised its projections downward for global growth in 2019 and 2020, while leaving its projections for U.S. growth unchanged at 2.5% in 2019 and 1.8% in 2020. In short, while the U.S. economy remains one of the most competitive and resilient economic forces in the world, there are indications that growth, while continuing, is likely to slow.

Given these factors, despite some turbulence the United States remains one of the most attractive countries in the world for foreign direct investment (FDI). For the past twelve years, the United States has ranked number one in the world for FDI inflows, attracting over \$200 billion in 2018 (Table 1).

As Table 2 depicts, no country has attracted more FDI this century than the United States, taking in \$4 trillion cumulatively since 2000, more than the total for the next two countries (China and the UK) combined. The table also underscores that, in general, most global FDI flows have been directed at mature, rich developed nations rather than poorer, underdeveloped nations. The United States has attracted 17% of total global foreign investment flows this century, and of the top ten recipient countries for investment flows, six are developed nations.

Risks to the economic outlook 2019 and 2020



Uncertainty around trade

Political gridlock in Washington





Weaker-than-expectedglobal growthBrexit



European firms will continue to deepen and spread their footprint in the United States in the years ahead

 Table 1 FDI Inflows: Top 10 Host Economies, 2018
 (\$Billions)



Source: United Nations Conference on Trade and Development (UNCTAD). Data for 2018 are preliminary estimates as of January 2019.

Table 2 Cumulative Investment Inflows 2000-2017 Rankings

Rank	Country	Cumulative Flows (Billions of U.S. \$)	Percent of World Total
1	United States	3,973.1	17.0%
2	China	1,704.3	7.3%
3	United Kingdom	1,413.9	6.0%
4	Hong Kong	1,203.1	5.1%
5	Brazil	807.5	3.5%
6	Germany	782.4	3.3%
7	Canada	757.4	3.2%
8	Netherlands	736.7	3.2%
9	Belgium	705.7	3.0%
10	Singapore	694.7	3.0%

Source: United Nations Conference on Trade and Development (UNCTAD). Data as of January 2019. Multiple factors underpin America's dominance in foreign investment flows. First, the U.S. market is a critical destination for multinational companies looking to access a large and wealthy consumer base. European companies investing overseas routinely look to the United States, with a population of 327 million and per capita income of almost \$60,000. With less than 5% of the global population, the United States still accounts for around 30% of global personal consumption expenditures, a testament to the purchasing power of American consumers and healthy consumer sentiment in the world's largest economy.

Second, the United States boasts a hyper-competitive economy, moving up to first place in the World Economic Forum's latest Global Competitiveness rankings. This competitiveness is driven by a strong innovative, risk-taking corporate culture and is underpinned by strong institutions, technological readiness, world-class universities, a strong capacity and culture of entrepreneurship, and a dense web of university-industry collaboration in R&D. The ability to attract R&D from companies abroad is important to the innovative health of the U.S. economy. R&D performed by U.S. affiliates of foreign multinationals accounts for about 16% of the total R&D conducted by all businesses in the United States.

Additionally, European companies investing in the United States gain access to a desired pool of skilled, flexible and productive labor. We estimate that U.S. jobs supported directly by European multinational enterprises topped 4.5 million in 2017.

Meanwhile, the United States is a friendly locale to do business, ranking 8th place in the World Bank's 2019 Ease of Doing Business ranking. After ranking 6th in last year's report, the U.S. lost ground to two European countries: Georgia (6th) and Norway (7th). A transparent rule of law, sophisticated accounting, auditing and reporting standards, secure access to credit, ease of entrepreneurship, and respect for intellectual property rights – all of these factors have contributed to the stable and supportive business environment in the United States. Another competitive U.S. endowment: relatively cheap energy costs thanks to the U.S. energy renaissance that has



seen oil production more than double since 2008, in addition to soaring natural gas production.

And with a lower corporate tax rate and strong economic growth projected for the United States relative to the rest of the developed markets, we anticipate that FDI flows to the U.S. economy will strengthen in the near term. Additionally, the rising risks of U.S. protectionism under the current U.S. administration could spur more foreign firms to be inside the U.S. economy. Thus, we expect European firms to continue to deepen and spread their footprint in the United States in the years ahead.

Europe's Stakes in the United States

European firms maintained their dominant foreign investment position in the United States in 2018. Based on our preliminary estimates, we anticipate that 60% (\$136 billion) of the total \$226 billion worth of U.S. FDI inflows in 2018 were from Europe, reflecting European firms' strategy to be "inside" the world's largest and most dynamic market.

U.S. FDI inflows from Europe and the rest of the world are expected to come in lower in 2018 than the prior year. This marks the third straight year of declines for European FDI flows to the U.S., after reaching a peak of \$339 billion in 2015. That said, most of the retreat in foreign investment flows can be attributed to weakerthan-usual cross-border mergers and acquisition (M&A) activity conducted in the United States in 2018.

According to the United Nations, acquisitions of U.S. assets accounted for 12 of the 20 largest M&A deals completed in 2016 and 2017, but only six in 2018. These large megadeals can skew the data on FDI flows materially, so any major year-over-year fluctuations in the investment data should be interpreted carefully.

Data from the Bureau of Economic Analysis similarly suggests a retreat in U.S. FDI inflows in 2018. During the first nine months of last year, U.S. FDI inflows from Europe came in at \$102 billion, which is almost 20% lower than comparable figure from a year earlier. Most of the shortfall in flows was caused by a massive net negative investment flow from Luxembourg of -\$122 billion in the second guarter of 2018. Total FDI inflows from Europe were -\$19 billion in the second quarter, though rebounded to +\$64 billion in Q3. The large negative outliers in the 2018 data are likely caused by a transfer of ownership abroad of previously U.S.based investments. In other European countries, the net change in investment flows to the United States in 2018 was mixed, with some countries posting strong growth in FDI flows, while others saw a pullback. French investment flows to the United States grew 18% in the first three months of the year, German flows increased 23%, while Irish flows were 70% higher. Meanwhile, the comparable figures for the UK and Switzerland were -42% and -21% respectively.

UK firms were the largest source of greenfield foreign investment projects in 18 U.S. states during the tenyear period from October 2008-September 2018. German companies led in 16 states, followed by Canadian and Japanese companies each in 8 states.

Despite the overall year-over-year decline in investment flows, Europe continues to have an outsized investment presence in the United States, as reflected by its foreign direct investment position, a more stable metric of foreign investment in the United States. In terms of foreign capital stock in the United States, Europe again leads the way. The region accounted for 68% of the total \$4.0 trillion of foreign capital sunk in the United States as of 2017. Total European stock in the United States of \$2.7 trillion was four times the level of comparable investment from Asia.

The United Kingdom remains by far the largest foreign investor, based on FDI on a historic cost basis, with total FDI stock in the United States totaling \$541 billion in 2017. Luxembourg ranked second in Europe (\$411 billion), followed by the Netherlands (\$367 billion), Germany (\$310 billion), Switzerland (\$309 billion), and France (\$275 billion). Many firms from these countries are just as embedded in the U.S. economy as in their own home markets.

Box 1. Chinese Investment in North America and Europe

While both U.S. and European stakes in China are on the rise, and vice versa, the ties that bind the United States and Europe are much thicker and far deeper than comparable ties with China. The United States and Europe represent large, wealthy markets, with respect for the rule of law and transparent rules and regulations. China, on the other hand, remains relatively poor, with many barriers to entry in various sectors, all wrapped in an opaque regulatory environment that favors local firms or large state-owned enterprises.

Table 3 highlights that Chinese investments in both the United States and Europe had grown since the start of the decade, but have recently been on a downward trajectory. Chinese investment in the U.S. peaked in 2016, but declined in 2017.

Chinese investment flows to the United States in 2018 are estimated to have declined even further due to more restrictive Chinese policies on outbound investment, significant Chinese disinvestment of U.S. real estate, hospitality and entertainment assets, tighter U.S. investment screening, and a more protectionist tilt from the administration in the United States. According to data from the Rhodium group, in 2018 Chinese greenfield investments and acquisitions in the United States fell to \$5 billion, their lowest level in seven years. At the same time, Chinese investment in several large mining acquisitions in Canada meant that Canada received more Chinese investment than the United States in 2018. Looking ahead, the pipeline of pending deals in North America (less than \$5 billion) is weak.¹

Chinese investment in Europe fell dramatically in 2018, but was more robust than Chinese investment in the United States. According to the Rhodium Group, Chinese FDI in Europe was \$22.5 billion in 2018, 70% down from the 2017 figure of \$80 billion (over half of which was due to one deal alone: ChemChina's acquisition of Syngenta for \$43 billion). The UK received the most Chinese investment (\$4.94 billion), but this was 76% less than in 2017. Similar falls were seen in the Netherlands (down 76%), Switzerland (down 99%) and Italy (down 21%).

Chinese investment increased in Central and Eastern Europe, albeit from a low base. Chinese investors also made acquisitions worth \$1.83 billion in France (up 86% compared to 2017), \$2.52 billion in Germany (up 34%), \$1.17 billion in Spain (up 162%) and \$4.05 billion in Sweden (up 186%). Investment in Luxembourg spiked from under \$100 million in 2017 to \$1.87 billion, while in Denmark it grew from \$200 million to \$1.1 billion. Pending deals of more than \$20 billion means that the Chinese investment pipeline in Europe will continue to be more robust than in North America.²



Table 3 Value of Completed Chinese FDI Transactions in Europe vs. U.S. (Billions of U.S. \$)

Data represents greenfield investments and acquisitions in the U.S. and Europe, excludes divestitures. Europe includes EU28 plus Norway, Switzerland, Iceland, Lietchtenstein. Source: Rhodium Group. Data as of January 2019.



Whether Swiss pharmaceutical corporations, German auto manufacturers or British services providers, European firms' commercial links to America have driven corporate sales and profits higher in recent decades. In 2018, European firms earned an estimated \$132 billion in the United States, a 12% increase from the income levels that European affiliates recorded in 2017. Through the first nine months of 2018, European affiliate income earned in the U.S. totaled \$99 billion. Affiliates of British multinationals are the top earners and saw a steady increase in income of 7% in the first nine months of 2018, compared to the same period in 2017. Taking the long view, affiliate earning levels for most European firms are significantly higher today than they were at the start of the century. As European firms have built out their U.S. operations, the payoff has been rising affiliate earnings in one of the largest markets in the world.

Table 4 highlights this connection between European investment in the United States and European affiliate earnings. The two metrics are highly correlated - the greater the earnings, the greater the likelihood of more capital investment, and the more investment, the greater the upside for potential earnings and affiliate income. The bottom line is that Europe's investment stakes in the United States have paid handsome dividends over the years, notably since the Great Recession, given the growth differential between the United States and Europe. That said, while European investment in the United States has paid off rather well, the benefits have not been one-sided. The United States has benefitted as well in terms of increased jobs and wages for U.S. workers, and rising exports via European affiliates operating in the United States.



Table 4 European Foreign Direct Investment and Income Earned in the United States (Billions of U.S. \$)

Europe's Stakes in America's 50 States

European firms can be found in all 50 states, and in all economic sectors - manufacturing and services alike. The employment impact of European firms in the United States is quite significant. Table 5 provides a snapshot of state employment provided directly by European affiliates across the United States. It is important to note that the chart represents only those jobs that have been directly created by European investment, thus underestimating the true impact on U.S. jobs of America's commercial ties to Europe. Jobs tied to exports and imports of goods and services are not included, nor are many other jobs created indirectly through suppliers or distribution networks and related activities. Given mounting labor shortages in the United States, many European affiliates have taken the lead in job training in the U.S., and have emerged as strong advocates and funders of vocational training.

As mentioned above, European employment is relatively diverse and spread across many U.S. states. Not surprisingly, California, Texas and New York – some of the most populous states in the nation – are home to the largest share of European affiliate jobs. Over 1 million U.S. workers were on the payrolls of European affiliates in the three states combined in 2016. As the economy has recovered from the 2008/2009 recession, so have the payrolls of European affiliates, with an increase in hiring across many states and industries. In 2016, all 20 of the top 20 states measured by European affiliate employment increased hiring.

UK firms were the largest sources of onshored jobs in 27 U.S. states. Japanese companies led in 10 states, Canadian companies in 9, and German and Dutch companies each were the leading onshored jobs suppliers in 2 states.

Table 5 Ranking of Top 20 States by Jobs Supported Directly by European Investment

(Thousands of employees)

U.S. State	2014	2015	2016
California	389.6	423.1	442.5
Texas	332.8	361.4	367.9
New York	310.0	332.1	348.4
Illinois	206.0	212.1	230.1
Pennsylvania	213.7	213.3	220.4
Florida	181.0	196.4	203
New Jersey	187.4	190.4	198.4
North Carolina	173.8	181.9	184.3
Michigan	147.6	155.6	159.9
Massachusetts	161.9	152.6	159.5
Ohio	145.1	152.8	157.5
Georgia	124.8	131.8	138.3
Virginia	126.7	131.6	137.1
Indiana	108.8	112.2	113.2
South Carolina	92.1	98.2	101.5
Tennessee	82.4	93.3	98.0
Maryland	87.5	90.7	91.8
Connecticut	80.9	81.3	82.7
Missouri	73.1	74.8	79.2
Minnesota	64.7	70.6	74.0

Source: Bureau of Economic Analysis.

By industry, Europe is by far the largest source of FDI in the manufacturing industry, with European companies representing 76% of the total inward investment position in the U.S. Within the manufacturing industry, the U.S. chemicals sector was the biggest recipient of European investment followed by transportation equipment. In terms of European affiliate employment, the retail trade industry employed the most workers



The presence of European affiliates in many states and communities across the United States has helped to **improve America's job picture**.

Top 3 states with the largest share of European affiliate jobs





(509,000 jobs in 2016) while European companies in the chemicals manufacturing and transportation equipment industries were also important contributors to U.S. jobs. (See Box 2 on EU-U.S. auto investment and trade).

In general, the presence of European affiliates in many states and communities across the United States has helped to improve America's job picture. The more European firms embed in local communities around the nation, the more they tend to generate jobs and income for U.S. workers, greater sales for local suppliers and businesses, extra revenues for local communities, and more capital investment and R&D expenditures for the United States.

Deep investment ties with Europe have also generated U.S. trade. Table 6 illustrates the export potential of European affiliates operating in the United States. As a point of reference, in any given year, foreign affiliates based in the United States and exporting from there typically account for one-fourth of total U.S. merchandise exports, with the bulk of these exports resembling intra-firm trade, or trade between the affiliate and parent company. In 2016, the last year of available data, U.S. exports shipped by all foreign affiliates totaled \$370 billion, with European affiliates accounting for 52% of the total. The United Kingdom, the Netherlands and Germany dominate European affiliate exports from the United States, with the three countries combined representing 65% of European affiliate exports in 2016. By commodity, transportation equipment accounted for 25% of German-owned affiliate exports from the United States. In the end, the more European affiliates export from the United States, the higher the number of jobs for U.S. workers and the greater the U.S. export figures.

Table 6 U.S. Exports of Goods Shipped by Affiliates of European Multinational Corporations (\$Billions)



Source: Bureau of Economic Analysis. Data for 2016.

Every U.S. state maintains cross-border ties with Europe, with various European countries key export markets for many U.S. states, a dynamic that creates and generates growth in the United States. Table 7 ranks the top 20 state goods exporters to Europe in 2017, with California ranked number one, followed by Texas, New York and Washington. Overall exports increased moderately, up 5% in 2017 from the prior year, but have jumped sizably since 2000.



Europe is by far **the largest source of FDI in the U.S. manufacturing industry**



45/50 states export more to Europe than China (2017)

Table 8 shows the importance of the European market to U.S. state exports. Even as an emerging middle class in China demands more foreign imports, U.S. merchandise exports to Europe are still more than double U.S. exports to China. On a state level, 45 of 50 states exported more to Europe than China in 2017. California, Texas, Michigan, Illinois and Ohio each exported more than twice as many goods to Europe as to China. New York's exports to Europe were more than eight times those to China. Only the Pacific-oriented states of Alaska, Hawaii, New Mexico, Oregon and Washington sent more goods to China than Europe in 2017.

In addition, while the figures are significant, they actually underestimate Europe's importance as an export destination for U.S. states because they do not include U.S. state exports of services. This is an additional source of jobs and incomes for U.S. workers, with most U.S. jobs tied to services. Europe is by far the most important market in the world for U.S. services, and the United States consistently records a service trade surplus with Europe. Suffice it to say that if services exports were added to goods exports by state, the European market becomes even more important for individual states.

Table 7 Ranking of Top 20 U.S. States Total Goods Exports to Europe, by Value (\$Billions)

U.S. State	2000	2017	% Change from 2016	% Change from 2000
California	27.9	35.7	4%	28%
Texas	12.3	33.7	17%	174%
New York	15.3	26.2	0%	71%
Washington	13.1	15.2	-11%	16%
Illinois	7.3	12.9	15%	76%
Florida	3.9	10.7	9%	175%
Massachusetts	8.0	10.6	3%	32%
New Jersey	6.4	10.5	9%	65%
Pennsylvania	4.7	10.1	0%	116%
Kentucky	3.1	10.1	6%	229%
Indiana	3.1	9.6	7%	205%
Louisiana	3.3	9.4	9%	187%
South Carolina	2.8	9.1	-10%	227%
North Carolina	4.6	9.1	19%	97%
Ohio	5.0	8.7	3%	73%
Georgia	4.0	8.6	5%	117%
Michigan	5.0	7.6	7%	51%
Connecticut	3.5	7.3	15%	108%
Tennessee	2.7	6.7	5%	146%
Nevada	0.3	5.9	22%	1940%
U.S. Total	187.4	332.7	5%	78%

Source: Foreign Trade Division, U.S. Census Bureau.

Box 2. The EU-U.S. Auto Trade and Investment Landscape

The auto industry is a key example of the strong trade and investment ties between the U.S. and Europe. Foreign auto companies are critical supports to the U.S. economy in terms of employment, value added, exports, technological advancements and ultimately America's productivity and competitiveness.

- **Employment:** European companies directly supported 173,000 jobs in the U.S. motor vehicle and parts industry, or 42% of total foreign affiliate employment in this industry. This figure, however, only accounts for direct employment by affiliates and ignores the downstream effects that European auto manufacturing investment has had on other industries such as automotive dealers, parts suppliers, research and development, etc. Incorporating the larger downstream employment effects, the European Commission estimates that EU auto companies support around 420,000 U.S. jobs.
- **Production:** According to the European Automobile Manufacturers Association, EU auto companies produced roughly 2.9 million passenger cars in 2017, or 26% of total U.S. production. All totaled, European auto and parts companies contributed \$34 billion towards America's gross domestic product in 2016.
- **Exports:** European manufacturers not only produce vehicles for U.S. consumers, but also use the U.S. market as a key export hub to send their vehicles overseas. About 60% of European cars produced in the U.S. are exported to third markets, like China and the EU. Thus, trade tensions between the U.S. and China threaten an important source of demand for European automakers.
- **Innovation**: European auto companies that invest in the U.S. are also key contributors to the innovation and research culture that drives the U.S. economy. R&D expenditures by European affiliates in the U.S. auto industry reached a record \$5.5 billion in 2016, or 12.5% of total European affiliate R&D spending.

While foreign direct investment is the primary method of cross-border commerce in the auto industry, U.S.-EU trade ties are also significant, with auto-related trade representing 10% of total trade between the two regions. The U.S. was the largest global market for EU car exports in 2017, representing 29% (€40 billion) of total EU auto exports. Meanwhile, Europe was a significant purchaser of U.S. produced vehicles, taking in 20% of total U.S. car exports. The EU applies a 10% tariff on imported cars. The U.S. applies a 2.5% tariff, but imposes higher duties than the EU on imported trucks.

The accompanying charts highlight European auto companies' investment stakes in the U.S. as a source of exports, investment, jobs and R&D to the U.S. economy.

1. Exports

Made in America, Exported from America: Where German Cars Made in the U.S. Are Sold



Source: German Automotive Manufacturers' Association, Wall Street Journal.

3. Jobs

Foreign Affiliate Employment in the U.S. Autos/Parts Manufacturing Industry

% of total (2016)



2. Capital Investment



Source: American Auto Council. OEM: Original Equipment Manufacturer.

4. Innovation

R&D Expenditures by European Auto Companies in the U.S.



Source: Bureau of Economic Analysis.

Table 8 U.S. State Exports of Goods to Europe and
China, 2017 (\$Millions)

U.S. State	Europe	China
Alabama	5,609	3,573
Alaska	888	1,322
Arizona	3,964	1,322
Arkansas	1,732	368
California	35,741	16,433
Colorado	1,669	586
Connecticut	7,258	795
Delaware	1,010	353
Florida		1,865
	10,696	
Georgia	8,594 19	2,837
Hawaii		125
Idaho	409	353
Illinois	12,874	5,271
Indiana	9,583	2,068
lowa	2,543	587
Kansas	2,031	706
Kentucky	10,083	2,815
Louisiana	9,432	7,761
Maine	444	238
Maryland	3,012	600
Massachusetts	10,574	2,304
Michigan	7,591	3,675
Minnesota	4,642	1,987
Mississippi	2,143	787
Missouri	2,475	929
Montana	227	129
Nebraska	933	483
Nevada	5,913	805
New Hampshire	1,875	423
New Jersey	10,495	1,594
New Mexico	345	1,002
New York	26,221	3,168
North Carolina	9,112	2,362
North Dakota	225	52
Ohio	8,693	3,815
Oklahoma	1,275	222
Oregon	2,853	3,933
Pennsylvania	10,093	2,563
Rhode Island	686	166
South Carolina	9,143	6,230
South Dakota	131	64
Tennessee	6,650	2,502
Texas	33,690	16,419
Utah	4,107	737
Vermont	418	202
Virginia	4,869	1,720
Washington	15,152	17,967
West Virginia	2,485	535
Wisconsin	4,224	1,732
Wyoming	72	37

By destination, key markets in Europe for U.S. states include Germany, the United Kingdom, and the Netherlands. Germany is the most important European customer for 18 different U.S. states; The UK is the biggest European customer for 14 U.S. states, followed by Belgium for 5 states, and France and the Netherlands each of 4 states. Germany is the most important European goods supplier for 33 different U.S. states.

Appendix A highlights European-related jobs, trade and investment for each of the 50 states.

Source: U.S. Census Bureau, Foreign Trade Division.

Endnotes

1 https://rhg.com/research/chinese-fdi-in-north-america-vs-europe/; https://www.bakermckenzie.com/en/newsroom/2019/01/chinese-fdi 2 Rhodium defines "Europe" as the EU-28 plus the EFTA countries: Iceland, Liechtenstein, Norway and Switzerland.



European Countries: U.S.-Related Jobs, Trade and Investment



Real economic growth in the eurozone (estimate 2018)





(2017)

U.S. FDI stock in Europe

\$3.6 trillion59% of the total U.S.global investment position

Over the past year, Europe has had to navigate a series of shocks, ranging from uncertainty over the United Kingdom's Brexit negotiations with the European Union and disputes over Italy's budget plans to protests in France, trade tensions with the United States, and financial stress in Turkey. Amidst all the uncertainty and fears of a global growth slowdown, the European economy ended 2018 in a less stable position than it had been in when the year began. Real economic growth, as high as 2.4% in 2017, slowed to an estimated 1.8% for the eurozone in 2018. Looking ahead, the IMF projects eurozone growth to weaken slightly to 1.6% in 2019 and 1.7% in 2020.

The slowdown in Europe's economy in 2018 can be attributed to a number of factors: trade and investment uncertainty, the rollout of new EU emissions standards for the auto industry, and a slowdown in China - a major trading partner for the EU. 2019 brings a handful of additional risks that economists, investors and business leaders should monitor closely, including elections for the European Parliament and the subsequent formation of a new European Commission, Presidential elections in Ukraine amidst continuous Russian meddling and aggression, a March 29th Brexit deadline, adoption of a new EU e-privacy regulation that supplements the EU's 2018 General Data Protection Regulation (GDPR), and higher-than-expected government deficits in some EU member countries. Meanwhile, the rise of populist pressures across the continent will remain a key area of focus.

Notwithstanding these risks, Europe remains one of the most attractive regions of the world for U.S. FDI. The latest economic figures underscore corporate America's enduring commitment to its long-standing transatlantic partner. Measured on a historic cost basis, the total stock of U.S. FDI in Europe was \$3.6 trillion in 2017, or 59% of the total U.S. global investment position. This is more than three-and-ahalf times the amount of comparable U.S. investment in the Asia-Pacific region.

While FDI flows from the United States have historically been directed towards Europe – with Europe usually attracting more than 50% of U.S. investment each year – 2018 was not a typical year for U.S. capital outflows. Due to large scale repatriations of U.S. multinational companies' accumulated foreign earnings, U.S. FDI outflows to Europe were negative for the first nine months of the year, or -\$13 billion. These repatriations of cash – brought about by a major tax overhaul in the United States that encouraged companies to bring home foreign capital at lower tax rates – spanned multiple regions, from the Caribbean to Europe to the Asia-Pacific region (See Box 1).

In total, U.S. global FDI outflows were -\$125 billion from Q1-Q3 of 2018, compared to a positive \$240 billion during the same period a year earlier. Most of the decline was caused by U.S. companies with offshore operations in Bermuda; these firms repatriated large quantities of accumulated capital, leading to a net -\$148 billion outflow in the first three quarters of 2018. FDI in Europe was also impacted by the change to the U.S. tax code. The Netherlands had the largest negative outflows in Europe (-\$35 billion from Q1-Q3 2018). Meanwhile, U.S. FDI flows to Ireland were -\$20 billion in the first nine months of 2018. This is small compared to the \$376 billion worth of U.S. FDI outflows directed to Ireland over the past ten years. By comparison, Bermuda's -\$148 billion outflow last year (Q1-Q3) came after it received only about \$200 billion in U.S. investment in the previous ten years.

At the other end of the spectrum are countries where U.S. FDI flows actually increased in the first nine months of 2018, compared to the previous year. These include France (+18%), Italy (+79%) and Spain (+55%). Investment in Belgium, Germany, Luxembourg, the UK and numerous other European countries was positive in 2018, though lower than the prior year, according to our estimates.

U.S. FDI activity in Europe has become more concentrated over the years. For a variety of reasons, ranging from the cost of labor to country-specific tax rates, firms are doing more activities in less locations across the region. In 2017, of the \$164 billion of investment that Europe received from the United States, 87% went to four countries: Ireland (\$45 billion), the Netherlands (\$35 billion), Luxembourg (\$33 billion), and Switzerland (\$30 billion). That said, some of these investment flows, ultimately make their way to neighboring countries, so they likely misrepresent the ultimate destination of U.S. direct investment.

Box 1. U.S. Corporate Tax Reform: Impact on FDI Outflows

In December 2017, the United States passed the "The Tax Cuts and Jobs Act," which included several changes to the U.S. taxation of international profits. An important provision of the tax reform bill, which had a material impact on U.S. international investment flows, was the reduced tax rate on U.S. firms' repatriated earnings. This repatriation tax break, which was expected, led to negative U.S. FDI outflows as companies brought home significant quantities of cash. The sweeping U.S. tax reform package also reduced the corporate tax rate from 35% to 21% and moved the United States towards a "territorial" system, under which profits earned by U.S. foreign affiliates will not be taxed.

For years, U.S. multinational companies reinvested their global earnings back into their operations abroad to defer U.S. taxation of these foreign profits. This strategy, widely adopted by U.S. multinationals, caused reinvested earnings to become the primary source of U.S. FDI flows. Table 1a shows the breakout of U.S. global FDI flows by component, with retained earnings making up the bulk of total U.S. investment.

The cumulative effect of years of companies keeping profits overseas led to a large accumulation of U.S. corporate earnings abroad. When the U.S. government passed corporate tax reform, reducing the tax rate on these earnings, it allowed companies to tap into the large pile of foreign profits by repatriating the foreign capital. When companies withdraw prior accumulated earnings, this results in negative retained earnings and negative overall U.S. FDI outflows. A similar pattern occurred in 2005 after the U.S. Homeland Investment Act introduced a similar tax break for multinational companies (Table 1b).

In the first three quarters of 2018, U.S. repatriations of global earnings are estimated to have totaled approximately \$600-700 billion. This is relatively small compared to the estimated \$2.7 trillion in funds stockpiled overseas. These repatriations and negative FDI outflows are likely a to be a short-term anomaly in the data. According to UNCTAD's January 2019 Investment Trends Monitor, however, in the long run the shift to a territorial tax system in the United States may lead to "structurally lower reinvested earnings by U.S. multinationals in the future."





Table 1b U.S. Repatriations of Global Earnings



*2018 estimate based on three quarters of data. Source: U.S. Bureau of Economic Analysis

Source: U.S. Bureau of Economic Analysis. Data as of December 2018. "2018 estimate based on three quarters of data Source: U.S. Bureau of Economic Analysis. Data as of December 2018. These figures underscore that changes in quarterly, and even annual, FDI flows can be an extremely volatile measure of U.S.-European investment ties. Table 2 provides a more long-term view of U.S. foreign direct investment across Europe. A few items stand out. First, three countries on the list (Finland, Russia and Sweden) have experienced net outflows of U.S. investment since the start of this decade. After sinking over \$11 billion into Russia in the first decade of this century, U.S. investment in Russia has dried up since 2010. Second, as mentioned earlier, the share of U.S. FDI in both Germany and France has declined sharply this decade, with France accounting for just 1.4% of U.S. FDI flows to Europe since 2010. Germany's share is slightly higher, 1.7%, but still off the levels of previous decades. That said, some of these figures need to be used carefully, since some U.S. investment in countries neighboring Germany, for instance the Netherlands, Belgium or Luxembourg, ultimately finds its way to Germany.

	1990-1999		2000-2009		2010-3Q2018		
Country	\$ Aggregate Total	% of Total	\$ Aggregate Total	% of Total	\$ Aggregate Total	% of Total	
Europe	465,337		1,149,810		1,377,570		
Austria	2,908	0.6%	501	0.0%	7,939	0.6%	
Belgium	12,028	2.6%	40,120	3.5%	17,869	1.3%	
Czech Republic	155	0.0%	1,941	0.2%	3,532	0.3%	
Denmark	2,798	0.6%	5,782	0.5%	9,948	0.7%	
Finland	1,485	0.3%	1,598	O.1%	-447	0.0%	
France	29,063	6.2%	42,963	3.7%	19,159	1.4%	
Germany	31,817	6.8%	60,363	5.2%	23,558	1.7%	
Greece	413	O.1%	943	O.1%	388	0.0%	
Hungary	2,929	0.6%	1,376	O.1%	835	0.1%	
Ireland	21,369	4.6%	115,085	10.0%	300,147	21.8%	
Italy	13,825	3.0%	26,462	2.3%	8,622	0.6%	
Luxembourg	15,912	3.4%	126,989	11.0%	271,604	19.7%	
Netherlands	70,770	15.2%	295,889	25.7%	346,369	25.1%	
Norway	4,198	0.9%	4,997	0.4%	9,441	0.7%	
Poland	2,681	0.6%	4,699	0.4%	1,776	O.1%	
Portugal	1,993	0.4%	2,212	0.2%	1,226	O.1%	
Russia	1,555	0.3%	11,289	1.0%	-1,437	-0.1%	
Spain	11,745	2.5%	28,371	2.5%	13,241	1.0%	
Sweden	10,783	2.3%	16,974	1.5%	-5,200	-0.4%	
Switzerland	32,485	7.0%	97,869	8.5%	104,347	7.6%	
Turkey	1,741	0.4%	5,994	0.5%	5,120	0.4%	
United Kingdom	175,219	37.7%	237,906	20.7%	245,577	17.8%	
Other	17,465	2.6%	19,487	1.4%	-6,044	-0.4%	

Table 2 U.S. FDI in Europe: The Long View (Millions of \$, (-) inflows)

Source: Bureau of Economic Analysis.

Ireland has become a favored destination for FDI among U.S. multinationals looking to take advantage of the country's flexible and skilled English-speaking labor force, low corporate tax rates, membership in the European Union, and pro-business policies. Add in Ireland's economic rebound – the Irish economy is among the fastest-growing in the world – and one of Europe's smallest economies has emerged as one of the most attractive destinations for U.S. firms. Even when adjusting U.S. FDI figures to take account of flows of U.S. holding companies, Ireland still ranks as one of the most attractive places in the world for U.S. businesses. Just as U.S. firms leverage different states across America, with certain activities sprinkled around the Northeast, Midwest, the South and West, U.S. firms deploy the same strategies across Europe, leveraging the specific attributes of each country. Economic activity across the EU is just as distinct and differentiated by country. Different growth rates, differing levels of consumption, varying degrees of wealth, labor force participation rates, financial market development, innovation capabilities, corporate tax rates – all of these factors, and more, determine where and when U.S. firms invest in Europe.

	1982		1990		2000		2016	
Rank	Country	Value	Country	Value	Country	Value	Country	Value
1	United Kingdom	33,500	United Kingdom	51,350	United Kingdom	94,712	Ireland	292,885
2	Switzerland	27,712	Canada	46,933	Canada	94,296	Singapore	264,012
3	Canada	25,169	Germany	41,853	Germany	69,522	Switzerland	239,549
4	Germany	19,117	Switzerland	38,937	Netherlands	67,852	United Kingdom	172,905
5	Netherlands	15,224	Netherlands	33,285	Singapore	56,961	Netherlands	154,114
6	Belgium	11,924	France	24,782	Switzerland	56,562	Germany	138,217
7	Singapore	11,579	Belgium	21,359	Ireland	51,139	Canada	125,241
8	France	11,255	Singapore	15,074	Mexico	37,407	Mexico	79,817
9	Indonesia	8,289	Hong Kong	9,951	France	35,797	Hong Kong	74,431
10	Hong Kong	4,474	Italy	9,562	Belgium	32,010	Belgium	62,951
11	Italy	3,993	Ireland	9,469	Hong Kong	22,470	China	57,245
12	Australia	3,710	Spain	7,179	Malaysia	16,013	France	53,805
13	Ireland	2,842	Japan	7,066	Sweden	15,736	Spain	29,805
14	United Arab Emirates	2,610	Australia	6,336	Italy	14,370	Luxembourg	29,534
15	Brazil	2,325	Mexico	5,869	Spain	12,928	Japan	28,418
16	Japan	2,248	Indonesia	5,431	Japan	11,845	Brazil	28,201
17	Malaysia	2,046	Brazil	3,803	Australia	9,370	Australia	27,801
18	Panama	1,662	Norway	3,565	Brazil	8,987	India	26,740
19	Spain	1,635	Malaysia	3,559	China	7,831	Italy	25,772
20	Mexico	1,158	Nigeria	2,641	Norway	6,238	Malaysia	23,808
	All Country Total	252,274	All Country Total	398,873	All Country Total	857,907	All Country Total	2,296,497

Table 3 Top 20 U.S. Affiliate Sales Abroad by Destination* (\$Millions)

Source: Bureau of Economic Analysis.

*Destination = affiliate sales to third markets and sales to U.S. for majority-owned foreign affiliates.



A launchpad for U.S. companies 10 European countries in top 20 global export platforms

Table 3 underscores this point. The figures show U.S. affiliate sales to other destinations, or the exports of affiliates per country. Ireland is the number one export platform for U.S. affiliates in the entire world, reflecting the country's attraction as a strategic beachhead for U.S. multinationals hoping to penetrate the larger European market.

Ireland ranked well down the list in 1982, ranking 13th in the world in terms of U.S. foreign affiliate exports. Then, U.S. affiliates exports totaled just \$2.8 billion. By 1990 that figure had grown to \$9.5 billion and by 2000, was in excess of \$50 billion. In the first decade of this century, as the industrial and technological capacities of U.S. affiliates in Ireland surged, so did U.S. affiliate exports, soaring nearly six times between 2000 and 2016 to \$293 billion. U.S. firms leverage Ireland as an export base to a far greater degree than low-cost locales like Mexico, Hong Kong and China. U.S. affiliates export five times more from Ireland than from China and almost four times more than from Mexico, despite strong NAFTA linkages.

On a standalone basis, U.S. affiliates' exports from Ireland are greater than most countries' exports. Such is the export-intensity of U.S. affiliates in Ireland and the strategic importance of Ireland to the corporate success of U.S. firms operating in Europe and around the world. Moreover, the UK decision to leave the EU may further solidify Ireland's spot as the number one location for U.S. affiliate exports if companies decide to relocate operations to Ireland in search of easier access to the EU market. Brexit may generate additional uncertainties, however, further underscoring Ireland's huge stakes in the outcome of the Brexit drama.

Of the top twenty global export platforms for U.S. multinationals in the world, ten are located in Europe, a trend that reflects the intense cross-border trade and investment linkages of the European Union and the strategic way U.S. firms leverage their European supply chains. Switzerland, ranked third, remains a key export platform and pan-regional distribution hub for U.S. firms. The UK still plays an important role for U.S. companies as an export platform to the rest of Europe. The exports of U.S. firms based in the UK to the rest of Europe are greater than the exports of U.S. firms based in China to the rest of the world. However, the introduction of the euro, the Single Market and EU enlargement have enticed more U.S. firms to invest directly in continental member states of the EU. The extension of EU production networks and commercial infrastructure throughout a larger pan-continental Single Market has shifted the center of gravity in Europe eastward within the EU, with Brussels playing an important role in economic policies and decisionmaking. Additionally, the ongoing Brexit saga has many implications for the strategy of U.S. firms when it comes to investment in different European countries.

Why Europe Still Matters

The secular and structural case for investing in Europe remains relatively positive for a number of reasons. First, while both the United States and China loom large in the hierarchy of the global economy, so does the European Union, still one of the largest economies in the world. This fact is often overlooked or ignored by fashionable - and often superficial - political and media consensus, which is more attuned to what's wrong with Europe, as opposed to what's right. In nominal U.S. dollar terms, the European Union (plus Norway, Switzerland, Iceland) accounted for 23.5% of world output in 2018, according to estimates from the International Monetary Fund. Even when the United Kingdom is excluded from the figures, the aggregate output of this group of nations - \$17.1 trillion, or 20.2% - is among the largest in the world. The figure (EU excluding the UK) is slightly less than America's share (24.2%), but in excess of China's - 15.9%. Based on purchasing power parity figures, the European Union's share, including Norway, Switzerland, and Iceland, was greater than that of the United States, but slightly less than that of China in 2018.

What started out as a loosely configured market of six nations (Belgium, France, West Germany, Italy, Luxembourg and the Netherlands) in the late 1950s
58.4% Europe's share of U.S. FDI outflows over the decade

is now an economic behemoth of 28 member states joined together in a Single Market. Even with the UK's decision to leave the EU, the sum of Europe's parts is one of the largest economic entities in the world; as such, Europe remains a key pillar of the global economy and critical component to the corporate success of U.S. firms.

Table 4	Cumulative	U.S. FDI	Outflows	(\$Millions)

Decade	All Countries	Europe	Europe as a % of World
1950-1959	20,363	3,997	19.6%
1960-1969	40,634	16,220	39.9%
1970-1979	122,721	57,937	47.2%
1980-1989	171,880	94,743	55.1%
1990-1999	869,489	465,337	53.5%
2000-2009	2,056,009	1,149,810	55.9%
2010Q1-2018Q3	2,358,055	1,377,570	58.4%

Source: Bureau of Economic Analysis.

As Table 4 highlights, Europe attracts more than half of U.S. aggregate FDI outflows. The region's share of total U.S. FDI this decade is 58.4%, which is up from the first decade of this century as well as from the level of the 1990s. When U.S. FDI flows to Caribbean offshore financial centers are subtracted from the total, Europe's share climbs even higher, to almost two-thirds of U.S. direct investment.

Even after adjusting for FDI flows related to holding companies, Europe remains the favored destination of U.S. firms (see Box 2 on holding company flows). This runs counter to the fashionable narrative that Corporate America prefers low-cost nations in Asia, Latin America and Africa to developed markets like Europe. Reality is different for a host of reasons.

First, investing in emerging markets such as China, India and Brazil remains difficult, with indigenous barriers to growth (poor infrastructure, dearth of human capital, corruption, etc.) as well as policy headwinds (foreign exchange controls, tax preferences favoring local firms,) reducing the overall attractiveness of these markets to multinationals.

Table 5 U.S. FDI Flows to Europe

(% of World Total*)



*Excluding Caribbean and Other Western Hemisphere. Source: Bureau of Economic Analysis. Data as of January 2019.

Second, real growth in the emerging markets has downshifted, notably in Brazil, Russia and China. Although both Russia and Brazil have emerged from recession, growth is still projected to remain relatively weak in 2019. Growth prospects in China, meanwhile, have slowed considerably as Beijing shifts towards more consumption and service-led growth and away from export- and investment-driven growth. India's economy is on the rebound but poor and too closed off to make much of a difference to the bottom line of Corporate America. In the end, for both cyclical and structural factors, the BRICs and the emerging markets remain difficult places to do business. Hence the wide divergence between U.S. FDI to the BRICs (Brazil, Russia, India, China) and U.S. FDI to Europe (See Tables 6 and 7).

Third, while overall economic growth in Europe is moderating, there are pockets of the eurozone economy that are projected to grow rapidly in the near term. Ireland's growth rate for 2019 is estimated at 4%, while several other EU economies, such as Poland, the Czech Republic, Romania, and Hungary, are estimated to grow in the 3-4% range this year.



Table 6 U.S. Foreign Direct Investment Flows to China vs. Europe (\$ Billions)



*2018 etimate based on 1Q-3Q data. Source: Bureau of Economic Analysis. Data as of January 2019.



Table 7 U.S. Foreign Direct Investment Outflows to the BRICs vs. Europe¹ (\$ Billions)

Europe BRICs

1 Europe does not include flows to Russia. *2018 Estimate based on 1Q-3Q data. Source: Bureau of Economic Analysis. Data as of January 2019.

Fourth, in addition to being one of the largest economic blocs in the world, Europe is also wealthy, and wealth matters. Wealth is correlated with highly skilled labor, rising per capita incomes, innovation, and a world class R&D infrastructure, among other things. In the aggregate, 15 of the 25 wealthiest nations in the world are European. Per capita income levels in Europe are light years ahead of those in India and China, and all of Africa.

While much has been made of the rise of China, with the mainland's economy now the second largest in the world, the Middle Kingdom remains relatively poor. China's per capita income totaled just \$8,827 in 2017, according to figures from the World Bank. The Chinese figure ranks 74th in the world and is well below the per capita income levels of Sweden (\$53,442), the Netherlands (\$48,223), Finland (\$45,703), Germany (\$44,470), and the European Union average of around \$34,000. With a miserly per capita income of about \$1,900, India ranks 142nd.

Wealth, in turn, drives consumption. The EU accounts for about 21% of total global personal consumption expenditures in 2017, a slightly lower share than that of the United States but well above that of China (10%) and India (3%) and the BRICs combined (18%). Gaining access to wealthy consumers is among the primary reasons why U.S. firms invest overseas, and hence the continued attractiveness of wealthy Europe to American companies.

Europe is also attractive because of the ease of doing business in the region. Just as the macroeconomic backdrop influences any business climate, so too do micro factors. Country and industry regulations can help or hamper the foreign activities of U.S. multinationals, and greatly influence where U.S. companies invest overseas. Think property rights, the ability to obtain credit, regulations governing employment, the time it takes to start a business, contract enforcements, and rules and regulations concerning cross border trade. These and other metrics influence and dictate the ease of doing business, and on this basis many European countries rank as the most attractive in the world.

The World Bank annually ranks the regulatory environment for domestic firms in 190 nations, a ranking which serves as very good proxy for the ease of doing business for domestic and foreign companies alike. And in the 2019 Ease of Doing Business rankings, 16 European economies ranked among the top 30 most business-friendly countries. Denmark ranked 3rd overall, followed by Georgia (6th), Norway (7th), the United Kingdom (9th), Macedonia (10th), Sweden (12th), Lithuania (14th), Estonia (16th), Finland (17th), Latvia (19th), Iceland (21st), Ireland (23rd), Germany (24th), Azerbaijan (25th), Austria (26th), and Spain (30th) (See Table 8).

Table 8 Ease of Doing Business 2018 Global Rankings

Ease of Doing Business 2019		
Rank	Country	
1	New Zealand	
2	Singapore	
3	Denmark	
4	Hong Kong	
5	South Korea	
6	Georgia	
7	Norway	
8	United States	
9	United Kingdom	
10	Macedonia	
11	United Arab Emirates	
12	Sweden	
13	Taiwan	
14	Lithuania	
15	Malaysia	
16	Estonia	
17	Finland	
18	Australia	
19	Latvia	
20	Mauritius	
21	Iceland	
22	Canada	
23	Ireland	
24	Germany	
25	Azerbaijan	
26	Austria	
27	Thailand	
28	Kazakhstan	
29	Rwanda	
30	Spain	

Source: World Bank, Ease of Doing Business Report 2019.

Outliers include Italy, ranked 51st, Croatia, ranked 58th, and Greece, ranked 72nd. Meanwhile, reflecting the challenging business environment in many emerging markets, these countries rank low on the list. However, there are signs of improvement, with many of the major developing countries seeing their business rankings significantly increase in the past year. China ranked 46th in terms of ease of doing business in the latest rankings, up from 78th last year, while Brazil improved to the 109th spot after ranking 125th the prior year. India ranked 77th, moving up from number 100 last year and 130 in 2017. However, these nations still lag some of the developing countries in Europe. There is still much to be improved in terms of the regulatory environment in the BRIC nations; strong real GDP growth does not necessarily equate

to a favorable environment for business. Other factors need to considered, like the rise of state capitalism in many developing nations, continued intellectual property right infringements, capital controls, and discriminating domestic policies against foreign firms. These factors have become favorite policy tools in many key emerging markets, further enhancing the attractiveness of Europe in the eyes of U.S. multinationals.

In the end, the greater the ease of doing business in a country, the greater the attractiveness of that nation to U.S. firms. The micro climate matters just as much as the macro performance; Europe trumps many developing nations by this standard.

Table 9 North Atlantic Economies are the Most Competitive in the World

Global Competitiveness Index 2018 Rankings		
Rank	Country	
1	United States	
2	Singapore	
3	Germany	
4	Switzerland	
5	Japan	
6	Netherlands	
7	Hong Kong	
8	United Kingdom	
9	Sweden	
10	Denmark	
11	Finland	
12	Canada	
13	Taiwan	
14	Australia	
15	Korea	
16	Norway	
17	France	
18	New Zealand	
19	Luxembourg	
20	Israel	
21	Belgium	
22	Austria	
23	Ireland	
24	Iceland	
25	Malaysia	
26	Spain	
27	United Arab Emirates	
28	China	
29	Czech Republic	
30	Qatar	

Source: World Economic Forum, Global Competitiveness Report 2018.

In addition, despite numerous structural challenges in Europe and notwithstanding current market problems, many European economies remain among the most competitive in the world. For instance, in the latest rankings of global competitiveness from the World Economic Forum, six European countries were ranked among the top ten, and ten more among the top thirty. Germany ranked 3^{rd,} Switzerland 4th, the Netherlands 6th, the United Kingdom 8th, Sweden 9th and Denmark 10th (see Table 9). The United States, by way of comparison, ranked 1st.

At the other end of the spectrum, a handful of European nations scored poorly, underscoring the fact that Europe's competitiveness is hardly homogenous. Some nations did not even score in the top fifty – Bulgaria ranked 51st, Romania 52nd, Greece 57th, while Croatia ranked 68th in the latest survey, the worst performer among EU members.

The spread between third-placed Germany and floundering Croatia underscores the divergent competitiveness of the EU and highlights the fact that various nations exhibit various competitive strengths and weaknesses. For instance, Croatia's ranking was dragged down by a weak entrepreneurial culture, a large percentage of non-performing loans and poor labor market flexibility. Greece received low marks for its institutions and macroeconomic stability, which stands in contrast to Finland's strong protection of property rights and transparent institutions or Germany's healthy inflation and debt dynamics.

Belgium was cited for outstanding macroeconomic stability and utility infrastructure; France was highlighted for its research and development capability as well as its high life expectancy; Spain's ranking was hurt by labor market inefficiencies and worrisome public debt dynamics, but is the top country in terms of the overall health of its citizens. Switzerland ranked highly across many variables: quality of infrastructure, health of the labor market, innovation capability, and financial system stability, among other things.

All of the above is another way of saying that there is a great deal more to Europe than the daily diet of negative headlines. The various countries of Europe offer specific micro capabilities/competencies that are lacking on a relative basis in the United States and critical to the global success of U.S. firms.

Finally, Europe is no slouch when it comes to innovation and knowledge-based activities. Based on the European Innovation Scoreboard for 2018, Sweden, Denmark, Finland, the Netherlands, the UK, and Luxembourg rank as "innovation leaders" in

Number of researchers hosted



Europe. These are the most innovative states in the EU, performing well above that of the EU 28 average.

So-called "strong innovators" include Germany, Belgium, Ireland, Austria, France, and Slovenia. The performance of Croatia, Cyprus, the Czech Republic, Estonia, Greece, Hungary, Italy, Latvia, Lithuania, Malta, Poland, Portugal, Slovakia and Spain was below that of the EU average; these nations are considered moderate innovators. The laggards, or modest innovators, include Bulgaria and Romania.

While significant discrepancies exist among nations in the EU as to knowledge-based capabilities, the innovation performance of the EU remains ahead of all BRIC nations. In addition, based on the latest figures from the innovation scoreboard, the EU is closing its innovation performance gap with the United States.

In that R&D expenditures are a key driver of valueadded growth, it is interesting to note that Europebased organizations accounted for 21.0% of total global R&D in 2017. That lagged the share of the United States (25.6%) but exceeded the share of Japan (8.8%), South Korea (4.1%), and India (3.7%). However, as of 2017, China is estimated to have outspent Europe in terms of R&D, with a 21.2% share. In 2017, the ratio of R&D-to-GDP was larger in Germany, Switzerland, Austria, and Denmark than in the United States.

Led by European industry leaders like Roche, Novartis, Daimler, Sanofi, and GlaxoSmithKline, Europe remains a leader in a number of cuttingedge industries including life sciences, agriculture and food production, automotives, aerospace, nanotechnology, energy, and information and communications. Innovation requires talent, and on this basis, Europe is holding its own relative to other parts of the world. Europe is among one of the world leaders in full time equivalent (FTE) research staff. Of the world's total pool of research personnel, the EU housed 1.9 million researchers in 2016 versus 1.4 million in the United States and 1.7 million in China, according to OECD estimates.

The EU is a global leader in high-technology manufacturing industries such as pharmaceuticals, scientific instruments and aerospace. Also, the EU is the largest exporter of commercial knowledgeintensive services (excluding intra-EU exports), which includes communications, business services, financial services, telecommunications, and computer and information services (See Table 10).



Table 10 Commercial Knowledge-Intensive Services Exports, Selected Countries (\$ Billions)

EU exports do not include intra-EU exports.

Sources: World Trade Organization; National Science Foundation, Science & Engineering Indicators 2018.

Finally, in terms of future workers, Europe is home to one of the most educated workforces in the world. The share of the working age population with a bachelor's degree or higher in Switzerland is the highest in the OECD, at 43%. The comparable figures for Lithuania, Belgium, Iceland, Luxembourg, Ireland, and the UK are all higher than that of the United States (currently 35%).

While U.S. universities remain a top destination for foreign students, the UK, Germany and France are also notable attractions. In the end, Europe remains among the most competitive regions in the world in terms of science and technology capabilities. The U.S. National Science Board has explicitly recognized EU research performance as strong and marked by pronounced EU-supported, intra-EU collaboration.

Adding It All Up

Given all the above, Europe remains a key destination for U.S. multinational companies looking to expand their global footprint. The region remains large, wealthy, richly endowed, open for business, and an innovation leader in many key global industries.

Despite a slight moderation in growth expected in the immediate term, in the long run Europe is expected to remain a critical and indispensable geographic node in the global operations of U.S. companies. Remember: U.S. multinationals increasingly view the world through a tripolar lens—a world encompassing the Americas, Europe and Asia, along with attendant offshoots. In this tripolar world, U.S. companies are not about to give up on or decamp from one of the largest segments of the global economy.

Box 2. U.S. FDI Outflows to Europe Adjusted for Flows of Holding Companies

For the past few years, we have highlighted the role of U.S. holding companies in determining U.S. investment flows to Europe. This additional lens is warranted since holding companies have accounted for a growing share of total U.S. FDI outflows to Europe over the years. This has generated considerable political and media attention, and is important to understand in order to get a full picture of transatlantic commercial linkages.

In 2017, the last year of available data, nonbank holding companies accounted for \$127 billion, or about 42% of global U.S. FDI of \$300 billion, and 51% of total U.S. foreign direct investment to the European Union of \$164 billion. As the U.S. Bureau of Economic Analysis (BEA) notes, "The growth in holding-company affiliates reflects a variety of factors. Some holding-company affiliates are established primarily to coordinate management and administration activities – such as marketing, distribution, or financing – worldwide or in particular geographic region. In addition, the presence of holding-company affiliates in countries where the effective income tax rate faced by affiliates is relatively low suggests tax considerations may have also played a role in their growth. One consequence of the increasing use of holding companies has been a reduction in the degree to which the U.S. Direct Investment Abroad position (and related flow) estimates reflect the industries and countries in which the production of goods and services by foreign affiliates actually occurs."

Against this backdrop, total U.S. FDI flows to Europe over the past few years have been driven in part by holding companies. The countries attracting the most investment of holding companies, not surprisingly, are those with some of the lowest corporate tax rates in Europe, such as Luxembourg, the Netherlands, the UK and Ireland.

Tables 11a and 11b, drawing on BEA data, reflect the significance of holding companies in the composition of U.S. FDI outflows. European markets have accounted for roughly 56% of total U.S. FDI outflows since 2009. However, when flows to nonbank holding companies are excluded from the data, the share of outflows to markets such as Europe and Other Western Hemisphere declines.

The bottom line: when FDI related to holding companies is stripped from the numbers, U.S. FDI outflows are not as large as typically reported by the BEA. Nonetheless, Europe remains the top destination of choice among U.S. firms even after the figures are adjusted. Between 2009 and 2017, Europe still accounted for over 47% of total U.S. FDI outflows when flows from holding companies are removed from the aggregate. Europe's share was still more than double the share to Asia, underscoring the deep and integrated linkages between the U.S. and Europe.



*Includes Central America (excluding Mexico) and Other Western Hemisphere. Source: Bureau of Economic Analysis. Data as of January 2019.



European Commerce and the 50 U.S. States: A State-by-State Comparison

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Sources: Bureau of Economic Analysis; Foreign Trade Division, U.S. Census Bureau; U.S. Department of Commerce; SelectUSA.



















Appendix A - European Commerce and the 50 U.S. States: A State-by-State Comparison







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Appendix A - European Commerce and the 50 U.S. States: A State-by-State Comparison

















Sources: Bureau of Economic Analysis; Foreign Trade Division, U.S. Census Bureau; U.S. Department of Commerce; SelectUSA.































U.S. Commerce and Europe: A Country-by-Country Comparison



Belgium and the United States



U.S. Services Exports to Belgium, 2017



U.S. Services Exports to Bulgaria, 2017

U.S. Services Imports from Bulgaria, 2017



Sources: Bureau of Economic Analysis; U.S. Commerce Department; International Monetary Fund; Office of Trade and Economic Analysis; United Nations.

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Sources: Bureau of Economic Analysis; U.S. Commerce Department; International Monetary Fund; Office of Trade and Economic Analysis. *Latest year of available data

Czech Republic and the United States





United States in Denmark

41,106



Denmark in the United States

39,372

Jobs directly supported by majority-owned affiliates. Estimates for 2017. Total U.S.-related jobs are likely to be higher, because these figures do not include jobs created by trade flows, indirect employment effects through distributors or suppliers, or via non-equity arrangements such as strategic alliances, joint ventures, or





U.S. Services Exports to Estonia, 2017

U.S. Services Imports from Estonia, 2017

Finland and the United States

United States in Finland

20,808



Finland in the United States

23,868

Jobs directly supported by majority-owned affiliates. Estimates for 2017. Total U.S.-related jobs are likely to be higher, because these figures do not include jobs created by trade flows, indirect employment effects through distributors or suppliers, or via non-equity arrangements such as strategic alliances, joint ventures, or



France and the United States





United States in Germany

715,326



Germany in the United States

706,044

Jobs directly supported by majority-owned affiliates. Estimates for 2017. Total U.S.-related jobs are likely to be higher, because these figures do not include jobs created by trade flows, indirect employment effects through distributors or suppliers, or via non-equity arrangements such as strategic alliances, joint ventures, or other deals







Foreign direct investment position, historic-cost basis, 2000-2017.






I lreland and the United States



I lialy and the United States

United States in Italy

228,072



Italy in the United States

79,764

Jobs directly supported by majority-owned affiliates. Estimates for 2017. Total U.S.-related jobs are likely to be higher, because these figures do not include jobs created by trade flows, indirect employment effects through distributors or suppliers, or via non-equity arrangements such as strategic alliances, joint ventures, or







Luxembourg and the United States



Sources: Bureau of Economic Analysis; United Nations; U.S. Commerce Department; U.S. Census Bureau; International Monetary Fund.

Malta and the United States

United States in Malta



Malta in the United States

1,530

612

Jobs directly supported by majority-owned affiliates. Estimates for 2017. Total U.S.-related jobs are likely to be higher, because these figures do not include jobs created by trade flows, indirect employment effects through distributors or suppliers, or via non-equity arrangements such as strategic alliances, joint ventures, or



Netherlands and the United States



Sources: Bureau of Economic Analysis; U.S. Commerce Department; International Monetary Fund; Office of Trade and Economic Analysis.

Do.

Trade in Services \$11.2 bn

U.S. Services Imports from Netherlands, 2017

\$17.3 bn

U.S. Services Exports to Netherlands, 2017

🔚 📕 Norway and the United States United States in Norway Norway in the United States 42,840 7.038 Jobs directly supported by majority-owned affiliates. Estimates for 2017. Total U.S.-related jobs are likely to be higher, because these figures do not include jobs created by trade flows, indirect employment effects through distributors or suppliers, or via non-equity arrangements such as strategic alliances, ioint ventures, or other deals. \$29.2 bn \$26.0 bn Foreign Direct Investment (FDI), 2017 Foreign Direct Investment (FDI), 2017 The investment balance favors Norway, with U.S. direct investment totaling \$29.2 billion in 2017, but the gap in investment is narrowing. America's investment position in Norway is now only 12% more than Norwegian direct investment in the U.S. Still, the employment balance is heavily skewed in favor of Norway, with U.S. foreign affiliates employing almost 43,000 Norwegian workers, according to 2017 estimates, a significant figure compared to the 7,038 workers on the payrolls of Norwegian companies in the U.S. **U.S. FDI Position in Norway** Norway FDI Position in the U.S. Billion \$ 50 Billion \$ 50 40 30 20 10 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 Foreign direct investment position, historic-cost basis, 2000-2017. \$5.5 bn \$5.1 bn Goods U.S. Goods Exports to Norway, 2017 U.S. Goods Imports from Norway, 2017 18.2% ...but the U.S. share 23.4% ...but the U.S. share The U.S. supplied The U.S. received 7.0% 4.5% 7.0% of Norway's increases to 18.2% 4.5% of the total increases to 23.4% total imports... when trade with the goods Norway when trade with the EU is excluded from exported to the EU is excluded from the total world... the total. Top Five U.S. Goods Exports to Norway (\$ millions) Top Five U.S. Goods Imports from Norway (\$ millions) Transportation Oil & Gas 3.457.5 Equipment Extraction Machinery 358.4 Petroleum & Manufactures Coal Products Computers & Primary Metal 332.7 Electronic Prod. Manufactures Chemical Fishing, Hunting, 3278 Manufactures & Trapping Special Chemical 164 4 757 Classifications Manufactures Provisions ■ 2017 ■ 2000 ■ 2017 ■ 2000 Top State Trade Partners Exports of Goods (\$ millions) Top State Trade Partners Imports of Goods (\$ millions) 1 2 3 4 6 a 2 3 4 2 154 2 546.2 792.2 616.2 335.4 213.5 568.9 484 4 371.2 659 6 Washington California Texas South Pennsvl-Pennsvl-Texas Louisiana New Jersev California Carolina vania vania \$3.1 bn \$3.0 bn Trade in Services U.S. Services Exports to Norway, 2017

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Sources: Bureau of Economic Analysis; U.S. Commerce Department; International Monetary Fund; Office of Trade and Economic Analysis.

U.S. Services Imports from Norway, 2017



U.S. Services Exports to Poland, 2017

Sources: Bureau of Economic Analysis; U.S. Commerce Department; International Monetary Fund; Office of Trade and Economic Analysis.

U.S. Services Imports from Poland, 2017



U.S. Services Exports to Portugal, 2017

\$1.2 bn

■ 2017 ■ 2000

Top State Trade Partners Exports of Goods (\$ millions)

3

77

914

4

70.9

876

6

65

795

2

90.5

976

0

118 4

2206

U.S. Services Imports from Portugal, 2017

■ 2017 ■ 2000

Top State Trade Partners Imports of Goods (\$ millions)

3

302.2

\$2.1 bn

New York Tennessee

4

252.6

6

239 4

Texas

2

342.2

New Jersev California

Sources: Bureau of Economic Analysis; U.S. Commerce Department; International Monetary Fund; Office of Trade and Economic Analysis.

Trade in Services a

686.9

Romania and the United States





🚘 📕 Slovenia and the United States



💶 📕 Spain and the United States United States in Spain Spain in the United States 179,214 81,906 Jobs directly supported by majority-owned affiliates, Estimates for 2017, Total U.S.-related jobs are likely to be higher, because these figures do not include jobs created by trade flows, indirect employment effects through distributors or suppliers, or via non-equity arrangements such as strategic alliances, joint ventures, or other deals \$33.1 bn \$74.7 bn Foreign Direct Investment (FDI), 2017 Foreign Direct Investment (FDI), 2017 Since 2011, the investment balance shifted in favor of the U.S., as Spain's economy was squeezed by a severe recession and resulting austerity measures. Since then, U.S. direct investment in Spain has slightly recovered, amounting to \$33.1 billion in 2017. Originally not a strategic priority to Spanish firms, the U.S. has seen foreign direct investment stock almost triple over the last ten years. Spanish investment in the U.S. has increased every year since 2002. U.S. affiliates based in Spain added roughly 3,500 workers to their payrolls in 2017, and employ about 2.2 times as many workers as Spanish affiliates employ in the U.S., according to estimates. **U.S. FDI Position in Spain Spain FDI Position in the U.S.** Billion \$ Billion \$ 80 80 60 40 20 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 Foreign direct investment position, historic-cost basis, 2000-2017. \$15.6 bn \$11.1 bn rade in Goods U.S. Goods Exports to Spain, 2017 U.S. Goods Imports from Spain, 2017 The U.S. supplied ...but the U.S. share ...but the U.S. share The U.S. received 3.7% 9.2% 4.5% 12.7% 3.7% of Spain's total increases to 9.2% 4.5% of the total increases to 12.7% imports... when intra-EU trade goods Spain exported when intra-EU trade is excluded from the to the world... is excluded from the total total Top Five U.S. Goods Exports to Spain (\$ millions) Top Five U.S. Goods Imports from Spain (\$ millions) Chemical 2.512.8 Chemical Manufactures Manufactures Transportation 16806 Transportation Equipment Equipment Crop Production 1,074.6 Food & 1.497.2 Kindred Computers & Products Machinery 839.5 1.463.3 Electronic Prod. Manufactures Machinery 717 2 Petroleum & Manufactures **Coal Products** 10 100,000 **2017** 2000 **2017 2**000 Top State Trade Partners Exports of Goods (\$ millions) Top State Trade Partners Imports of Goods (\$ millions) 0 2 3 4 6 a 2 3 4 6 557.5 1.450.4 1.404.0 737.3 656.5 1.838.0 1.653.4 1.241.9 1.199.4 1.353.4 Texas California Louisiana Washington North New Jersey Michigan New York California Texas Carolina

Sources: Bureau of Economic Analysis; U.S. Commerce Department; International Monetary Fund; Office of Trade and Economic Analysis.

.0.

Trade in Services \$7.0 bn

U.S. Services Imports from Spain, 2017

\$7.0 bn

U.S. Services Exports to Spain, 2017

🔚 📕 Sweden and the United States







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United States in United Kingdom

1,502,868



United Kingdom in the United States

1,262,250

Jobs directly supported by majority-owned affiliates. Estimates for 2017. Total U.S.-related jobs are likely to be higher, because these figures do not include jobs created by trade flows, indirect employment effects through distributors or suppliers, or via non-equity arrangements such as strategic alliances, joint ventures, o



The EU and the United States



Europe and the United States



"Europe" refers to all 28 members of the European Union plus Albania, Andorra, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Gibraltar, Greenland, Iceland, Kazakhstan, Kosovo, Kyrgyzstan, Macedonia, Malta, Moldova, Monaco, Montenegro, Norway, Russia, Serbia, San Marino, Switzerland, Turkey, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, Vatican. Sources: Bureau of Economic Analysis; U.S. Commerce Department; International Monetary Fund; Office of Trade and Economic Analysis.

Notes on Terms, Data and Sources

Employment, Investment, and Trade Linkages for the 50 U.S. States and Europe

Jobs data are from the U.S. Commerce Department's Bureau of Economic Analysis (BEA). BEA employment by state is only available for Canada, France, Germany, Japan, the Netherlands, Switzerland, and the United Kingdom; for this reason, other countries may not be listed in this jobs section. Data on investment is from SelectUSA, a program led by the U.S. Department of Commerce, using data from fDi Markets. The data show number of Greenfield FDI projects announced over the span of ten years; this does not directly translate to the value of projects or jobs added. Trade data comes from the U.S. Census Bureau's USA Trade Online database as well as the International Trade Administration at the U.S. Commerce Department. Europe includes Albania, Andorra, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Faroe Islands, Finland, France, Georgia, Germany, Gibraltar, Greece, Hungary, Iceland, Italy, Kazakhstan, Kosovo, Kyrgyzstan, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russia, San Marino, Serbia, Slovakia, Slovenia, Spain, Svalbard, Sweden, Switzerland, Tajikistan, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan, Vatican City. The top ten exports and imports bar charts employ a logarithmic scale to facilitate cross-state comparisons.

Investment and Trade for the EU 28, Norway, Switzerland, Turkey and the U.S.

Investment and jobs data are from the Bureau of Economic Analysis, with employment figures representing author estimates for 2017. For certain countries where there was no discernable FDI position trend between the European country and the U.S., data on global outward and inward stock was used from the United Nations Conference on Trade and Development (UNCTAD) database. Data on exports and imports of goods and services are from the U.S. Commerce Department. The bar charts employ logarithmic scales to facilitate cross-country comparisons. Data on trade exports and imports by state were extracted from the U.S. Census Bureau's USA Trade Online database. The data representing the United States' share of imports and exports were constructed using data from the International Monetary Fund's Direction of Trade Statistics database.

Digital Services

Information and communications technology (ICT) services, or digital services, are services used to facilitate information processing and communication. The BEA defines digital services as including three categories of international trade in services: telecommunications services, computer services, and charges for the use of intellectual property associated with computer software. Digitally enabled services, or potentially ICT-enabled services, are services that can be, but not necessarily are, delivered remotely over ICT networks. These include the three categories defined above for digital services plus: insurance services, financial services, all charges for the use of intellectual property, information services, research and development, professional and management consulting, architectural and engineering services, industrial engineering, training services, and other business services not included elsewhere.

Services figures in Chapter 3 are sourced from the OECD International Trade in Services Statistics database, which can vary from the corresponding U.S.-EU bilateral trade figures reported by the U.S. Bureau of Economic Analysis. Differences can occur in how services are measured, classified, and attributed to partner countries, resulting in asymmetries in the two data sources. For more information on these asymmetries, please see Eurostat report, "Transatlantic Trade in Services: Investigating Bilateral Asymmetries in EU-US Trade Statistics, 2017 edition," https://ec.europa.eu/eurostat/documents/7870049/8544118/KS-GQ-17-016-EN-N.pdf/eaf15b03-5dcf-48dd-976f-7b4169f08a9e.

E-Commerce

Most estimates of e-commerce do not distinguish whether such commerce is domestic or international. In addition, many metrics do not make it clear whether they cover all modes of e-commerce or only the leading indicators of business-to-business (B2B) and business-to-consumer (B2C) e-commerce. Finally, there are no official data on the value of cross-border e-commerce sales broken down by mode; official statistics on e-commerce are sparse and usually based on surveys rather than on real data. The U.S. International Trade Commission (ITC) defines global e-commerce as the sale of goods and services over the internet.

Terms

Throughout this report, the term "EU" refers to all 28 member states of the European Union. The term EU15 refers to older EU member states: United Kingdom, Ireland, Belgium, Luxembourg, the Netherlands, Austria, Spain, Italy, Greece, France, Germany, Portugal, Sweden, Finland, and Denmark. The term EU13 refers to newer EU member states: Estonia, Latvia, Lithuania, Poland, the Czech Republic, Slovakia, Hungary, Slovenia, Malta, Cyprus, Romania and Bulgaria, and Croatia.

In addition to the above, the term "Europe" in this report refers to the following: all 28 members of the European Union plus Albania, Andorra, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Gibraltar, Greenland, Iceland, Kazakhstan, Kosovo, Kyrgyzstan, Macedonia, Malta, Moldova, Monaco, Montenegro, Norway, Russia, Serbia, San Marino, Switzerland, Turkey, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, and Vatican City.

About the Authors

Daniel S. Hamilton and **Joseph P. Quinlan** have been producing *The Transatlantic Economy* annual survey since 2004. They have authored and edited a series of award-winning books and articles on the modern transatlantic economy, including *Atlantic Rising: Changing Commercial Dynamics in the Atlantic Basin; Germany and Globalization; France and Globalization; Globalization and Europe: Prospering in a New Whirled Order; Sleeping Giant: Awakening the Transatlantic Services Economy; Protecting Our Prosperity: Ensuring Both National Security and the Benefits of Foreign Investment in the United States; Deep Integration: How Transatlantic Markets are Leading Globalization; and Partners in Prosperity: The Changing Geography of the Transatlantic Economy.* Together they were recipients of the 2007 Transatlantic Leadership Award by the European-American Business Council and the 2006 Transatlantic Business Award by the American Chamber of Commerce to the European Union.



Daniel S. Hamilton is the Austrian Marshall Plan Foundation Professor and Senior Fellow at the Foreign Policy Institute Johns Hopkins University's Paul H. Nitze School of Advanced International Studies. He was the Founding Director of the SAIS Center for Transatlantic Relations and for 15 years he served as Executive Director of the American Consortium on EU Studies. He has been a consultant for Microsoft and an advisor to the U.S. Business Roundtable, the Transatlantic Business Dialogue, and the European-American Business Council. Recent books include *Turkey in the North Atlantic*

Marketplace: Creating a North Atlantic Marketplace: Three Paths, One Detour, A U-Turn and the Road to Nowhere; The Transatlantic Digital Economy 2017; Rule-Makers or Rule-Takers? Exploring the Transatlantic Trade and Investment Partnership, edited with Jacques Pelkmans; Domestic Determinants of Foreign Policy in the European Union and the United States, edited with Teija Tiilikainen; Forward Resilience: Protecting Society in an Interconnected World; The Geopolitics of TTIP; Transatlantic 2020: A Tale of Four Futures, and Europe 2020: Competitive or Complacent? He has served in a variety of senior positions in the U.S. State Department, including as Deputy Assistant Secretary of State.



Joseph P. Quinlan is Senior Fellow at the Center for Transatlantic Relations, with extensive experience in the U.S. corporate sector. He is a leading expert on the transatlantic economy and well-known global economist/strategist on Wall Street. He specializes in global capital flows, international trade and multinational strategies. He lectures at Fordham University, and his publications have appeared in such venues as Foreign Affairs, the Financial Times and the Wall Street Journal. He is the author of The Last Economic Superpower: The Retreat of Globalization, the End of American Dominance,

and What We Can Do About It (New York: McGraw Hill, 2010).

TRANSATLANTIC ECONOMY 2019

Annual Survey of Jobs, Trade and Investment between the United States and Europe

Daniel S. Hamilton and Joseph P. Quinlan

The Transatlantic Economy 2019 annual survey offers the most up-to-date set of facts and figures describing the deep economic integration binding Europe and the United States. It documents European-sourced jobs, trade and investment in each of the 50 U.S. states, and U.S.-sourced jobs, trade and investment in each member state of the European Union and other European countries. It reviews key headline trends and helps readers understand the distinctive nature of transatlantic economic relations.

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