



United States  
International Trade Commission

# Recent Trends in U.S. Services Trade:

2016 Annual Report

2016

Publication Number: 4643

Investigation Number: 332-345

# United States International Trade Commission

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# Preface

This report is the 20th in a series of annual reports on recent trends in U.S. services trade that the U.S. International Trade Commission (Commission) has published. The Commission also publishes an annual companion report on U.S. trade in goods, *Shifts in U.S. Merchandise Trade*. These recurring reports are the products of an investigation instituted by the Commission in 1993 under section 332(b) of the Tariff Act of 1930.<sup>1</sup> The information in this report reflects the knowledge, industry contacts, and analytic skills the Commission uses in providing expert analyses of service industries in its statutory investigations and in apprising its customers of global industry trends, regional developments, and competitiveness issues.

In addition to the *Recent Trends* series, major recent Commission publications offer significant services content. These include *Trade and Investment Policies in India, 2014–2015*; *Overview of Cuban Imports of Goods and Services and Effects of U.S. Restrictions*; *Trans-Pacific Partnership Agreement: Likely Impact on the U.S. Economy and on Specific Industry Sectors*; and *Economic Impact of Trade Agreements Implemented under Trade Authorities Procedures, 2016 Report*.

Moreover, within the past year Commission staff have published several short studies, known as Executive Briefings on Trade that focus on the services sector.<sup>2</sup> These include “The Undersea Cable Boom in Sub-Saharan Africa” (June 2015); “Mobile Money in Kenya” (June 2015); “World Bank Indicators Suggest that Sub-Saharan African Countries Are Open to Services Trade” (July 2015); “Factors Contributing to the Rapid Growth of Mauritius’ Services Economy” (July 2015); “Trends in U.S. Health Travel Services Trade” (August 2015); “Transport Corridors Have Improved Trade in Sub-Saharan Africa, but Issues Remain” (October 2015); “Sub-Saharan African Travel Services Trade” (October 2015); “South Africa Is a Leading Producer and Supplier of Services in Africa” (October 2015); and “Factors Affecting Growth in Ghana’s Services Economy” (October 2015).

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<sup>1</sup> On August 27, 1993, acting on its own motion under section 332(b) of the Tariff Act of 1930 (19 U.S.C. 1332(b)), the USITC instituted investigation no. 332-345, *Annual Reports on U.S. Trade Shifts in Selected Industries*. On December 20, 1994, the Commission on its own motion expanded the scope of this report to include more detailed coverage of service industries. Under the expanded scope, the Commission publishes two annual reports, *Shifts in U.S. Merchandise Trade* and *Recent Trends in U.S. Services Trade*. The USITC’s current report format provides a systematic means of examining and assessing major trade developments with leading U.S. trading partners, in the services, agriculture, and manufacturing sectors.

<sup>2</sup> The Commission’s Executive Briefings on Trade are published at [http://www.usitc.gov/research\\_and\\_analysis/executive\\_briefings.htm](http://www.usitc.gov/research_and_analysis/executive_briefings.htm). These briefings are designed to inform the Commission and the public of current domestic and global activities that affect U.S. trade, investment, and competitiveness. They reflect the opinions and research of individual authors and are not the views of the Commission or any of its individual Commissioners.



## Abstract

*Recent Trends in U.S. Services Trade: 2016 Annual Report* focuses on U.S. exports and imports of financial services, including banking, insurance, and securities services. In 2015, the United States exported \$119.6 billion in financial services and imported \$72.9 billion, resulting in a trade surplus of \$46.7 billion. By comparison, the total U.S. services trade surplus was \$263.5 billion, a decrease of \$2.5 billion from the previous year. U.S. financial services contributed \$1.2 trillion to U.S. gross domestic product (GDP) in 2015, or 9 percent of total U.S. private sector GDP. Financial services employed over 6.4 million full-time equivalent employees in 2015, representing almost 6 percent of U.S. total private sector employment. Despite slow wage growth in financial services in recent years, workers on average earned \$99,672 in 2015, nearly twice the average wage for the private sector as a whole.

Financial services are facing significant challenges and disruptions from digital technologies and in navigating the post-recessionary financial landscape of increased regulation and low interest rates. U.S. financial services firms have adapted by incorporating new financial technologies into their operations, but also face rising cybersecurity risks. In addition, the growth of the Chinese financial system has increased competition for U.S. banks while at the same time creating an attractive market for U.S. securities firms. Furthermore, climate change has emerged as both a challenge and an opportunity for U.S. insurers. Overall, U.S. and global financial services firms' business models will continue to evolve in response to a variety of emerging market conditions.





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# Acronyms and Abbreviations

Terms	Definitions
ASEAN	Association of Southeast Asian Nations
BEA	Bureau of Economic Analysis
BIS	Bank for International Settlements
BRIC	Brazil, Russia, India, and China
CAGR	compound annual growth rate
CRD4	Capital Requirements Directive 4
CVV	card verification value
EU	European Union
FDI	foreign direct investment
FTC	Federal Trade Commission
FTE	full-time equivalent
GAT	General Agreement on Tariffs
GATTS	General Agreement on Tariffs and Trade
GDP	gross domestic product
IIB	Institute of International Banking
IMF	International Monetary Fund
IRSG	International Regulatory Strategy Group
IT	information technology
n.i.e.	not included elsewhere
OCC	Office of the Comptroller of the Currency
OECD	Organisation for Economic Co-operation and Development
P2P	peer-to-peer
PRA	Prudential Regulatory Authority
PwC	Pricewaterhouse Coopers
QFII	Qualified Foreign Institutional Investor
RMB	renminbi
S&P	Standard and Poor's
SIFI	systemically important financial institution
SIFMA	Securities Industry and Financial Markets Association
SMEs	small and medium-sized enterprises
SQL	Structured Query Language
TFA	Trade Facilitation Agreement
TIC	Treasury International Capital
TISA	Trade in Services Agreement
TPP	Trans-Pacific Partnership
TTIP	Transatlantic Trade and Investment Partnership
U.S.	United States
UK	United Kingdom
USDA	United States Department of Agriculture
USDOC	United States Department of Commerce
USITC	United States International Trade Commission





# Executive Summary

The United States is the world's largest services market, and remained the largest global cross-border exporter and importer of services in 2014 (figure ES.1).<sup>3</sup> Preliminary data for 2015 indicate that U.S. services exports increased by 1 percent to \$730.6 billion, while imports increased by 2 percent to \$467.1 billion. Services contribute significantly to the U.S. economy, accounting for \$11.0 trillion (78 percent) of U.S. private sector gross domestic product (GDP) and 91.8 million private sector employees (82 percent) in 2015.

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<sup>3</sup> The time frames used in this report are based on the latest data available from each source used. At the time of publication in October 2016, comparative global trade data from the World Trade Organization are available only through 2014; preliminary annual data from the U.S. Bureau of Economic Analysis are available for total cross-border trade for some sectors, including financial services, through 2015. U.S. cross-border services trade data by country are available only through 2014; data on affiliate transactions, through 2013. For details on the different modes of services trade, see box 1.1.

## U.S. Services Trade Highlights

**The United States continued to be the largest** global exporter and importer of services in 2014.

**Financial services** (banking, insurance, and securities) represented a major share of U.S. services trade, and registered a cross-border trade surplus of \$46.7 billion in 2015.

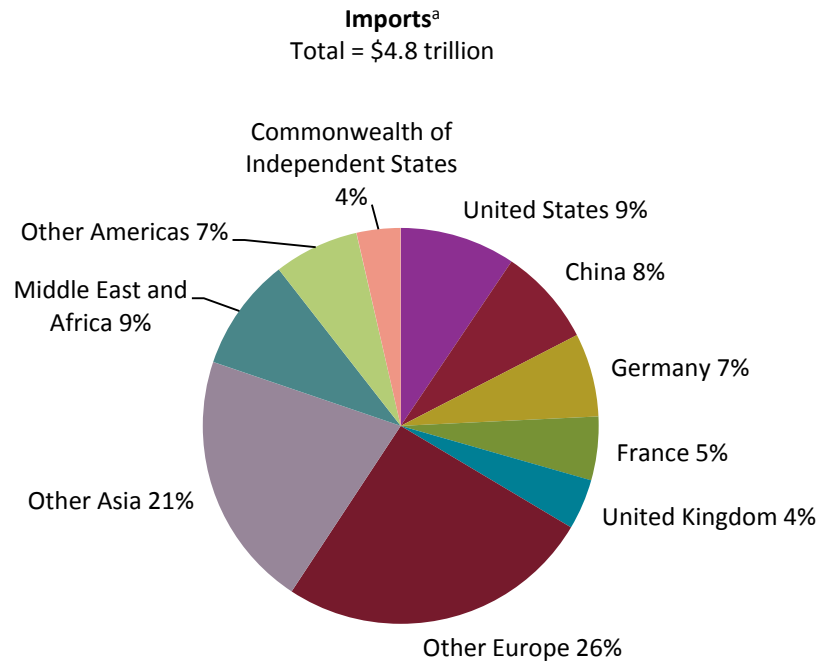
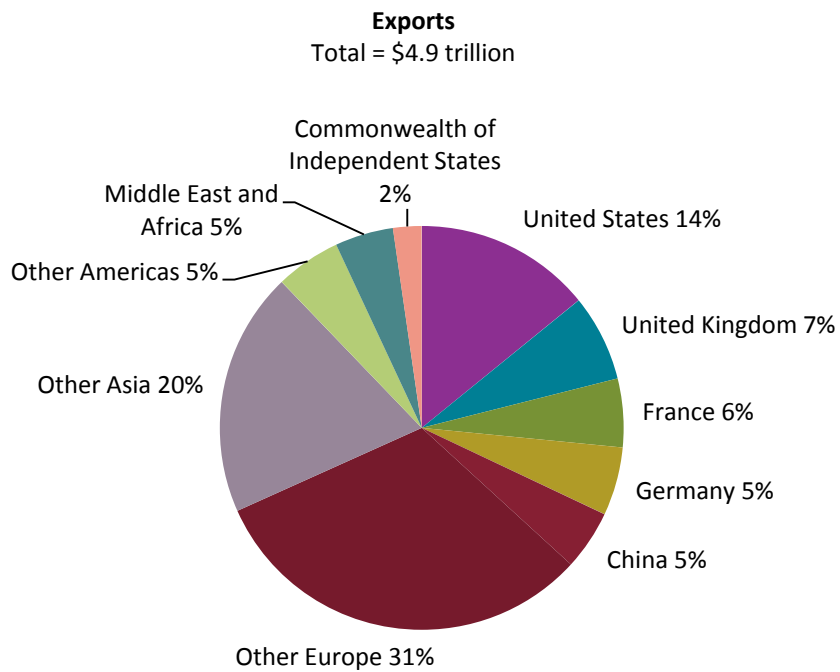
**Digital technologies and post-recession regulations** are significantly transforming the global market for financial services.

**The growing significance of Chinese banks** in the global banking system reflects the rapid growth of the Chinese economy in recent years.

**Continued low interest rates and climate change concerns** are among the most important new trends affecting the U.S. and global insurance industries.

**The United States is the world's largest securities services market**, accounting for half of stocks traded globally in 2014, and is home to 6 of the world's top 10 investment banks.

**Figure ES.1:** Global services: The United States led the world in cross-border trade of commercial services in 2014



Source: WTO, International Trade Statistics 2015, tables A8 and A9 (accessed March 1, 2016). (See appendix table B.1.)

Notes: Excludes public sector transactions. The World Trade Organization includes the following countries under the Commonwealth of Independent States: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

<sup>a</sup>The value of global exports and imports differ due to several factors, including time lags, differences in methodology, and other measurement error.

This report is the latest in the annual *Recent Trends* series prepared by the U.S. International Trade Commission (Commission or USITC), and provides an overview of U.S. trade in services. The focus for this year's report is on recent developments in financial services trade, with detailed descriptions of trends in banking, insurance, and securities services.<sup>4</sup> Financial services provide the critical economic infrastructure necessary for modern economies to function. As such, they are essential in the production of nearly all goods and services, and facilitate international trade. Well-developed financial systems promote economic efficiency, lower transaction costs, facilitate personal and commercial transactions, and direct savings toward economically productive activities. The critical importance of financial services to the global economy is underscored by the fact that it is one of the few services industries that has international regulatory standards.

The depth of the 2008–09 global recession, which erased an estimated \$50 trillion in global wealth, and the relatively slow pace of recovery afterwards both resulted, in part, from systemic failures in the financial sector. Seven years later, U.S. and global financial services firms' revenue growth is only now recovering to pre-crisis levels. However, financial services firms still face the need to adjust to evolving digital technologies and substantial new international and national regulatory measures that are aimed at averting another global financial crisis. In addition, the fallout from the United Kingdom's decision to exit the European Union (EU) may have significant long-term consequences for the global financial sector.

Digital technologies and the Internet are changing the global financial system. This change is being driven by demographic and behavioral changes from a new generation of digitally enabled consumers, who are increasingly using digital devices to conduct commercial transactions online. Smartphones, in particular, are transforming the way U.S. and global consumers access financial services. According to the U.S. Federal Reserve, over half of U.S. smartphone owners used their devices to access retail banking services in 2013. In response, traditional financial services firms are changing the way they supply services. In addition, many are facing strong competitive pressures from non-bank financial technology (fintech) firms.

Like banking, insurance and securities services are also being transformed by digital technologies. Insurance activities such as underwriting and pricing are becoming increasingly automated and are moving to online platforms that diminish the traditional advantages of size and scale. Securities services providers are also facing competitive challenges from the

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<sup>4</sup> Beginning with its publication in 2013, *Recent Trends* covers three industries each year, rotating on a four-year basis between professional services (education, healthcare, and legal or management consulting services); electronic services (audiovisual, computer, and telecommunication services); distribution services (logistics, retail, and transportation services); and financial services (banking, insurance, and securities). The *2015 Recent Trends* report focused on distribution services.

increased availability of data and information online, including wealth management programs and online trading.

New post-financial crisis regulations designed to safeguard the global financial system from future instability have increased costs for financial institutions, particularly larger banking and securities firms that now must devote more resources to comply with these regulations. Insurance firms have also been affected by new rules requiring them to hold more capital. The variation in regulations across markets also makes trade more costly and complicated, since financial services firms need to comply with diverse laws and regulations in each market. Efforts by countries to harmonize rules or engage in other forms of regulatory cooperation are beginning to address some of these concerns. However, the proliferation of regional and bilateral trade agreements and investment treaties, with varying provisions for financial services, may introduce additional impediments to trade as these agreements harmonize regulations across certain countries but not others.

## Key Findings

### Total U.S. Trade in Services

#### Services Generated Large Trade Surpluses in 2014 and 2015

U.S. cross-border exports of private services totaled \$690.1 billion in 2014, while U.S. imports totaled \$453.3 billion, resulting in a \$236.9 billion trade surplus. Preliminary data for 2015 suggest an increase in total U.S. services exports and imports. Annual services exports were reported to be \$730.6 billion in 2015, while imports were \$467.1 billion, generating a surplus of \$263.5 billion.<sup>5</sup> Leading export markets were Canada, the UK, and Japan, which collectively received 25 percent of total U.S. cross-border services exports in 2014 (latest available data). Similarly, the UK (11 percent), Canada (7 percent), Japan (6 percent), and Germany (6 percent) supplied the largest shares of U.S. services imports.

Services supplied by U.S.-owned foreign affiliates, the leading channel by which many U.S. services are delivered to foreign markets, increased by 3 percent to slightly more than \$1.3 trillion in 2013 (latest available data). The largest foreign markets for sales by U.S.-owned foreign affiliates were the UK (14 percent), Canada (10 percent), and Ireland (7 percent). The EU as a whole accounted for 42 percent of such sales by U.S.-owned foreign affiliates in 2013. Purchases from U.S. affiliates of foreign firms were \$878.5 billion in 2013, an increase of 8 percent from the previous year. Japan accounted for the largest share of these purchases

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<sup>5</sup> The data regarding exports and imports for 2015 discussed in this section are preliminary; the data do not contain breakdowns for all countries and certain industries or affiliate transactions.

(17 percent), followed by UK- and German-owned affiliates (14 percent each). Overall, 51 percent of purchases in the United States from foreign-owned affiliates were from affiliates of EU-based parent firms.

## Financial Services

### Banking Services Accounted for the Majority of U.S. Cross-border Trade in Financial Services in 2015

In 2015, U.S. cross-border exports of financial services totaled \$119.6 billion, while imports totaled \$72.9 billion, resulting in a trade surplus of \$46.7 billion.<sup>6</sup> Banking services (including financial management, credit card processing, and credit-related services, but excluding retail banking) accounted for 62 percent (\$74.2 billion) of total U.S. financial services exports in 2015 and 25 percent (\$17.9 billion) of imports. Securities services (including brokerage, underwriting, and lending) made up 24 percent (\$28.2 billion) of total U.S. financial services exports and 10 percent (\$7.3 billion) of imports in the same year. Insurance services represented 14 percent (\$17.1 billion) of total U.S. financial services exports and 66 percent (\$47.8 billion) of imports in 2015. In 2014, the UK (17 percent), Canada (7 percent), and Belgium-Luxembourg (4 percent) were the largest export markets for banking and securities services combined, while the top three markets for U.S. exports of insurance services were Bermuda (20 percent), Canada (17 percent), and the UK (11 percent).<sup>7</sup>

### Affiliate Transactions Accounted for the Majority of Financial Services Trade in 2013

The majority of U.S. financial services trade occurs through affiliate transactions. Affiliates of U.S. financial services companies located abroad (U.S.-owned foreign affiliates) represented 20 percent or \$259.5 billion of sales by all U.S.-owned foreign affiliates in 2013. Within financial services, securities services accounted for the largest share of affiliate sales, with 39 percent (nearly \$102.3 billion) in 2013. Insurance accounted for 25 percent of sales by U.S.-owned foreign affiliates in 2013, followed closely by banking services (21 percent). Purchases of financial services from foreign-owned U.S. affiliates (i.e., affiliates of foreign firms located in the United States) totaled \$182.9 billion in 2013. Insurance services represented the largest share of purchases from foreign-owned U.S. affiliates in financial services, totaling \$69.5 billion

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<sup>6</sup> For the purposes of the cross-border trade discussion, data on financial services encompass securities services, banking services, insurance services, and rental and leasing services (excluding real estate). Other aspects of financial services, such as retail banking, are reported as affiliate transactions and discussed separately.

<sup>7</sup> Preliminary data for total exports and imports are available for 2015, as well as data for certain industries such as financial services. However, breakdowns of exports and imports by country for financial services are only available through 2014.

(38 percent), followed closely by securities services (34 percent) and banking services (25 percent).

## **Financial Services' GDP Contribution, Wages, and Labor Productivity Grew in 2015**

In 2015, the contribution of U.S. private sector financial services to U.S. gross domestic product (GDP) was \$1.2 trillion, accounting for nearly 9 percent of total U.S. GDP. Insurance and banking services each represented around one-third of financial services' contribution to U.S. private sector GDP in 2015, followed by securities services (17.6 percent) and rental and leasing services (16.4 percent).<sup>8</sup> Overall employment growth in this sector has been slow since the 2008–09 financial crisis, increasing 1 percent for most years during 2010–14 (slower than the 3 percent for the services industry as a whole). In 2015, employment was highest in banking services (including retail banking), with just over 2.5 million full-time equivalent (FTE) employees (39 percent of all financial services employees) and insurance services (slightly less than 2.5 million FTEs, also 39 percent). Insurance services employment rose the fastest from 2014 to 2015 (3 percent), while employment in banking increased by less than 1 percent.

Growth in labor productivity in financial services has been slow but positive. It was one of only two services industries to report labor productivity growth from 2010 to 2014, rising at an average annual rate of 0.4 percent, but from 2014 to 2015 labor productivity growth in financial services was outpaced by nearly every other services sector. Average output per worker in financial services was \$192,110 in 2015, the second highest of any services category, but ranged from almost \$158,000 in banking services to over \$383,000 in rental and leasing services. Wages in financial services reflected the industry's relatively higher labor productivity: workers earned on average \$99,672 in 2015, nearly twice the average wage for the private sector as a whole, and increased at an average annual rate of 2.7 percent from 2010 to 2014. Within financial services, securities services had the highest average wage in 2015 at \$221,447, four times the lowest average wage, which was reported in rental and leasing services (\$55,956).

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<sup>8</sup> For the purposes of this report, rental and leasing services (excluding real estate) are referred to in discussions of economic and affiliate trade data, where applicable. The U.S. Bureau of Economic Analysis (BEA) does not record cross-border trade data in rental and leasing services.

## Banking Services

### Growth in Global Banking Assets Has Shifted from Europe and North America to China in Recent Years

Three regions accounted for over 70 percent of global bank assets in 2014: Europe, North Asia (China, Japan, and South Korea), and North America. The share of assets held by European and North American banks has declined since the end of the financial crisis. Demand growth has been lower in North America and Europe, as these markets for banking services are relatively mature. By contrast, the large increase in North Asia's share of global banking assets has been driven by growth in the Chinese banking industry, which has experienced double-digit annual growth in assets since 2012. In 2014, Chinese financial institutions accounted for 5 of the top 10 global banks by total assets. Two U.S. banks—JPMorgan Chase & Co., at number 6; and Bank of America, at number 9—ranked among the world's top 10 banks. Other leading U.S. banks were Wells Fargo, at number 11, and Citigroup, at number 13. The growing significance of Chinese institutions reflects the recent rapid growth of the Chinese economy.

### The United States Posted a Large Trade Surplus in Banking Services in 2015

In 2015, U.S. cross-border exports of banking services totaled \$74.2 billion, a 5 percent decrease from 2014, while U.S. imports of banking services were \$17.9 billion. Low interest rates and a rapidly changing regulatory environment have tempered growth in U.S. exports of banking services. Sales by foreign affiliates of U.S. banks abroad totaled \$53.9 billion in 2013, a 7 percent decrease from 2012. By contrast, purchases of banking services from U.S. affiliates of foreign banks decreased by 9 percent in 2013, to \$44.9 billion. Major U.S. trading partners in banking services continued to be the UK, Australia, Canada, China, and Germany.

## Insurance Services

### The United States Was the Largest Global Insurance Market by Global Premiums in 2014

The United States is the world's largest insurance market by far; its \$553 billion in life premiums and \$764 billion in nonlife premiums together accounted for over one-quarter of total global premiums. Japan, the UK, and China were the world's second-, third-, and fourth-largest insurance markets, respectively. U.S. insurance companies also held the most assets: \$5.2 trillion in 2014, on which they earned \$223 billion in net investment income. Among the challenges and opportunities facing insurers, there is concern within the industry that climate change is increasing the risks associated with the provision of coastal property insurance and

crop insurance, and life insurers are struggling with low global interest rates that depress investment income.

## **The United States Was a Net Importer of Insurance Services in 2015**

U.S. affiliate sales in insurance (sales by U.S.-owned insurance affiliates in foreign markets) continued to exceed cross-border trade in insurance by a wide margin. The United States maintained a large deficit in cross-border insurance trade in 2015, primarily driven by imports of reinsurance, though that trade deficit shrank to its lowest level since 2006. Similarly, purchases of insurance from U.S. affiliates of foreign firms have modestly exceeded sales by foreign affiliates of U.S. firms since 2011. Japan was the top market for sales by U.S.-owned foreign insurance affiliates in 2013, accounting for 35 percent of total sales.

## **Securities Services**

### **The United States Accounted for a Substantial Share of Global Stock Trades in 2014**

The United States remained the world's largest securities services market in 2014 as it accounted for more than half of stocks traded by value, followed by China (31 percent) and Japan (12 percent). These three markets also led the list of stocks traded as a percentage of GDP. Notably, the value of stocks traded in the United States was equivalent to 224 percent of U.S. GDP, far higher than the global average of 102 percent. The United States is home to the world's five largest investment banks (JPMorgan Chase & Co., Goldman Sachs & Co., Bank of America Merrill Lynch, Morgan Stanley, and Citi), with each holding between 5 and 7 percent of global market share. Global investment banking revenues grew by 6 percent in 2014 to \$81.6 billion, led by high growth in the EU and the BRIC countries (Brazil, Russia, India, and China), though revenues were still down from their 2007 peak of \$89.8 billion. The securities industry will continue to be shaped by new regulations and by the evolving demand for financial assets. In terms of challenges, securities services firms are currently navigating both new technologies and emerging financial markets such as China.

### **The United States Ran a Large Cross-border Trade Surplus in Securities Services in 2015**

In 2015, the United States exported \$28.2 billion of securities services, which included \$11.8 billion of brokerage and underwriting services and \$16.4 billion of securities lending and electronic funds transfer services. The United States imported \$7.2 billion of securities services,



comprising \$4.4 billion of brokerage and underwriting services and \$2.8 billion of lending and electronic funds transfer services. The cross-border trade surplus in 2015 was \$20.9 billion.

Securities services are traded at much larger volumes through affiliates than through cross-border trade. In 2013, foreign affiliates of U.S. firms sold \$102 billion of securities services abroad, while purchases from U.S. affiliates of foreign firms totaled \$62 billion. Compared to 2012, this represents 3 percent growth in sales by U.S. affiliates abroad and 16 percent growth in purchases from U.S. affiliates of foreign firms. While sales by the foreign affiliates of U.S. firms have not yet recovered to their 2010 peak of \$128 billion, the 2013 purchases from U.S. affiliates of foreign firms represented an all-time high. The United Kingdom purchased the most securities services from affiliates of U.S. firms in 2013, accounting for 29 percent—more than half of the total sales to Europe. Canada and Japan were also significant markets, accounting for 6 percent and 5 percent of affiliate sales, respectively.

## USITC Roundtable Discussion

The Commission hosted its ninth annual Services Roundtable on November 5, 2015, with Chairman Meredith Broadbent and Commissioner Rhonda Schmidlein moderating. The Commission holds these roundtables annually to encourage discussion among individuals from government, industry, and academia about important issues affecting services trade. This year's event focused on the evolution and effectiveness of services trade provisions in existing trade agreements, and the impact of digital technologies on the cross-border provision and liberalization of services.

During the roundtable, participants cited the “negative list” approach to market access provisions contained in agreements such as the Trans-Pacific Partnership (TPP), which allow agreements to capture unforeseen developments in covered sectors,<sup>9</sup> as being particularly important for allowing innovation in services trade to continue. Participants noted that trade agreements have become increasingly complex in other respects, and include mechanisms that allow countries to exclude certain activities from liberalization; they stated that this trend could be an impediment to trade. However, many participants were encouraged that agreements such as the TPP will contain provisions that will prevent discriminatory treatment and improve market access for many services industries; they saw future agreements, such as the proposed Trade in Services Agreement, as important for setting new standards in services trade.

Participants also discussed the particular importance of commitments made in the TPP regarding the free flow of data across members' borders for services such as e-commerce,

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<sup>9</sup> In trade agreements, a negative list approach means that the agreement covers all services, present and future, unless specific exceptions are listed.

insurance, and telecommunications, though these commitments would not prohibit forced data localization for financial services providers. Some attendees added that a challenge for liberalizing trade in digital services was to ensure that commitments would be enforced similarly across borders. Commenting on the prospects for future trade agreements, most panelists agreed that the commitments in the TPP will set a high standard for commitments on digital trade in future trade agreements. Lastly, participants considered the challenges of measuring trade in digital services in official statistics, as the technology facilitating trade in services continues to change faster than the ability to measure it.

# Chapter 1

## Introduction

Services continue to be a growing and important sector in the U.S. economy, accounting for 79 percent of U.S. gross domestic product (GDP) and 82 percent of employment in 2015. The World Trade Organization (WTO) reports that the U.S. services trade surplus in 2014 was the world's largest at \$235.9 billion, followed by that of the United Kingdom (UK) at \$140.3 billion.<sup>10</sup>

This annual report provides an overview of U.S. services trade, identifying important U.S. trading partners and analyzing global market conditions in selected industries. It focuses on financial services, which include banking services, insurance services, and securities services.<sup>11</sup> U.S. financial services employed 6.4 million people in 2015 and accounted for almost 9 percent of GDP; since 2006 (including the 2008–09 financial crisis and recovery), the industry's annual 9 percent export growth has outpaced the 7 percent export growth per year of the U.S. private services sector as a whole.<sup>12</sup>

## Data and Organization

The U.S. International Trade Commission (Commission or USITC) draws much of the services trade data used throughout this report from the Bureau of Economic Analysis (BEA) at the U.S. Department of Commerce (USDOC). The BEA collects services trade data through a number of surveys, which under most conditions require respondents with more than \$2 million in exports or \$1 million in imports to furnish details about their international services transactions. The BEA estimates trade flow data using these survey results.<sup>13</sup> For this report, the Commission has supplemented the BEA data with information from other sources, including individual firms,

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<sup>10</sup> WTO, *International Trade Statistics 2015*, tables A8 and A9 (accessed March 3, 2016).

<sup>11</sup> In 2013, *Recent Trends* changed its format to cover three industries per year in depth, rotating on a four-year basis between professional services (education, healthcare, and legal or management consulting services); electronic services (audiovisual, computer, and telecommunication services); distribution services (logistics, retail, and transportation services (maritime transport)); and financial services (banking, insurance, and securities or leasing services). Rental and leasing services are not covered in detail in this year's report. The 2015 report focused on distribution services.

<sup>12</sup> In this study, all multiyear growth rates are calculated as compound annual growth rates (CAGR). For more information on the U.S. services economy, see USDOC, BEA, *Survey of Current Business*, October 2015.

<sup>13</sup> For more information on the BEA's data collection methods, see USDOC, BEA, *Survey of Current Business*, October 2015, 26.

## Chapter 1: Introduction

trade associations, industry and academic journals and reports, international organizations, and other government agencies.<sup>14</sup>

This chapter examines the U.S. services sector, global trade in services, and U.S. trade in services. It reviews both cross-border trade in services from 2009 through 2015 and affiliate firms' sales of services from 2009 through 2013,<sup>15</sup> comparing the trade picture in recent years with earlier trends. Chapter 2 provides an overview of financial services; identifies key trends affecting the sector; and examines its contribution to U.S. economic output, employment, labor productivity, and trade. Chapters 3, 4 and 5 focus on banking services, insurance services, and securities services, respectively. These chapters provide an overview of market conditions, selected emerging demand and supply factors, and recent trends in U.S. cross-border and affiliate trade for each industry. Chapter 6 summarizes the information presented and the views expressed at the ninth annual USITC services trade roundtable, hosted by the Commission on November 5, 2015. Appendix A provides a snapshot of recent services research conducted by Commission staff. Appendix B provides data tables for the figures used in this report. In addition, 2016 marks the first year that this report will be accompanied by web-based interactive charts, which allow users to explore trends in U.S. services exports and imports over time and by selected industries and countries. [Recent Trends 2016 Interactive data link](#).

## The U.S. Services Sector

Services industries account for a large majority of U.S. output and employment. In 2015, U.S. services industries accounted for 78 percent (or \$11.0 trillion) of U.S. private sector GDP and for 82 percent (or 91.8 million) of U.S. private sector full-time employees, compared to 22 percent and 18 percent, respectively, for the goods-producing sector.<sup>16</sup> Recent trends in the U.S. services sector have mirrored overall trends in the goods-producing sector. Services output

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<sup>14</sup> The BEA updates its international trade statistics for prior years as additional data become available, and occasionally revises the methodology and presentation of its statistics in order to improve their quality and comply with new international standards. For these reasons, care should be taken in comparing statistics in previous Recent Trends reports with currently published statistics. For more information, see USDOC, BEA, "The Comprehensive Restructuring," March 2014; USDOC, BEA, "Comprehensive Restructuring and Annual Revision," July 2014, 1–3.

<sup>15</sup> "Affiliate firms" includes both firms outside the United States that are owned by U.S. companies and firms located in the United States that are owned by foreign companies. Note that publication of the data on affiliate transactions lags publication of data on cross-border services trade. Analyses of affiliate transactions compare performance in 2013 with trends from 2009 through 2012.

<sup>16</sup> The goods-producing sector refers to agriculture, forestry, fishing, mining, construction, and manufacturing. USDOC, BEA, "Frequently Asked Questions," March 10, 2006.

slightly outpaced goods production in GDP, employment, and wage growth from 2010 to 2015, but goods production saw faster increases in labor productivity during the same period.<sup>17</sup>

## Global Services Trade

The United States remains highly competitive in the global services market. As the world's top exporter of services, the United States accounted for \$687.6 billion, or 14 percent, of global cross-border commercial services exports in 2014 (figure 1.1).<sup>18</sup> Other top single-country exporters included the UK and France, which accounted for \$337.2 billion (7 percent) and \$267.1 billion (5 percent), respectively.<sup>19</sup> Although most of the world's top 10 services exporters in 2014 were developed countries, China was the 5th-largest exporter (after Germany), and India ranked 8th (down from 6th in 2014). Overall, the top 10 exporting countries (including the United States) together accounted for approximately 52 percent of global cross-border services exports in 2014.<sup>20</sup>

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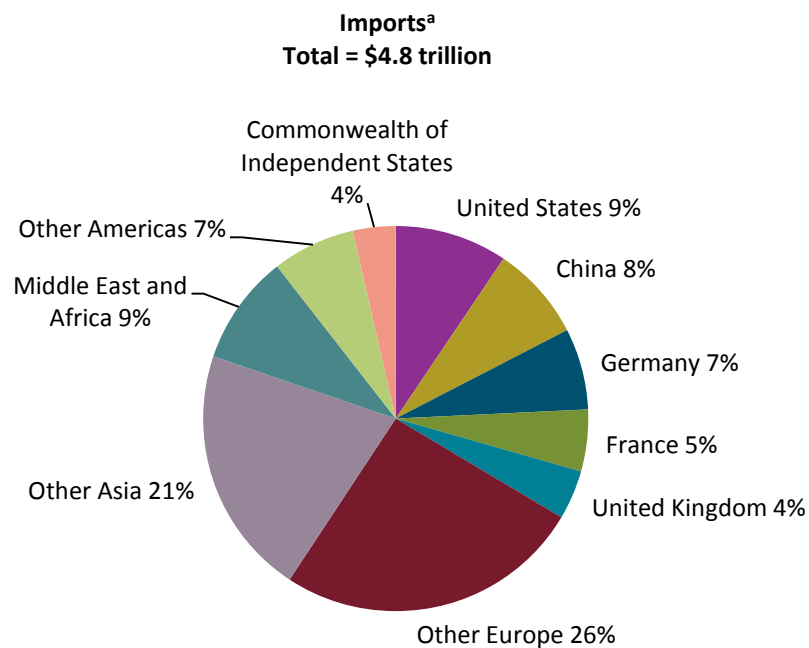
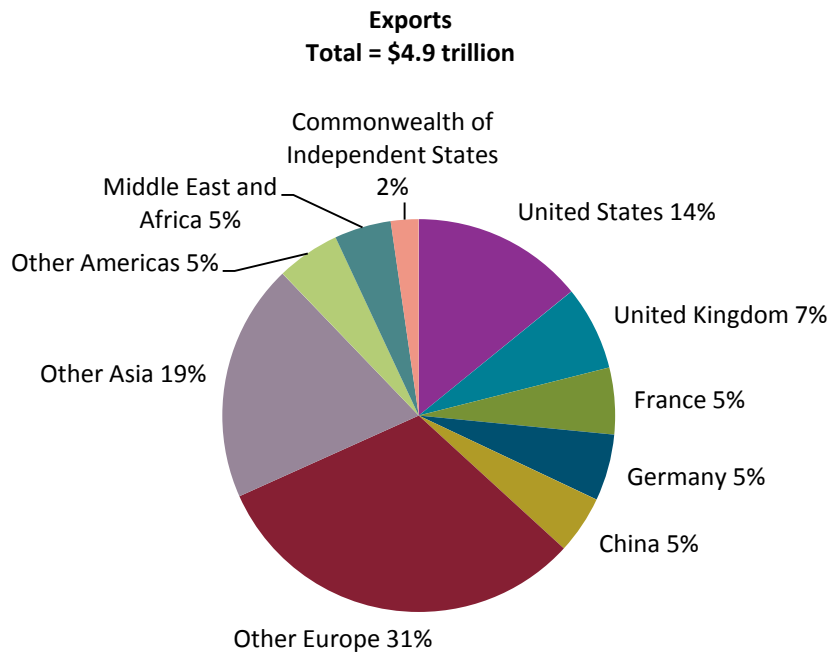
<sup>17</sup> USDOC, BEA, "Real Value Added by Industry," April 1, 2016; USDOC, BEA, table 6.5D, "Full-Time Equivalent Employees by Industry," April 1, 2016; USDOC, BEA, table 6.3D, "Wages and Salaries by Industry," August 3, 2016. Value added is a measure of an industry's contribution to GDP; it is the difference between the value of an industry's gross output and the cost of its intermediate inputs. Full-time equivalent employees (FTEs) equal the number of employees on full-time schedules plus the number of employees on part-time schedules converted to a full-time basis. The number of FTEs in each industry is the product of the total number of employees and the ratio of average weekly hours per employee for all employees on full-time schedules.

<sup>18</sup> This discussion draws on WTO trade data to help compare U.S. trends with those of other countries. The term "commercial services," used by the WTO, is roughly equivalent to "private services" used by the BEA—both refer to services offered by the private sector rather than the public sector. However, there are differences between the two values. These differences are the result of a lagged time period used for the WTO estimate and small differences in the activities captured by the two measures. USDOC, BEA representative, telephone interview by USITC staff, February 23, 2012.

<sup>19</sup> In 2014, services exports to other EU countries represented approximately 37 percent of total UK services exports, while French services exports to other EU countries accounted for about 54 percent of that country's total services exports the same year. EC, Eurostat Database (accessed June 22, 2016; USITC calculations).

<sup>20</sup> WTO, *International Trade Statistics*, table A8 (accessed March 1, 2016).

**Figure 1.1:** Global services: The United States led the world in cross-border exports and imports of commercial services in 2014



Source: WTO, International Trade Statistics 2015, tables A8 and A9 (accessed March 1, 2016). (See appendix table B.1.)

Notes: Excludes public sector transactions. The WTO includes the following countries under the Commonwealth of Independent States: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

<sup>a</sup>The value of global exports differs from that of global imports due to several factors, including time lags, differences in methodology, and other measurement errors.

The United States was also the world's largest cross-border services importer in 2014, with \$451.7 billion, or 9 percent, of global commercial services imports. China remained the 2nd-largest importer in 2014 with \$381.6 billion (8 percent), followed by Germany with \$326.4 billion (7 percent). India was the 8th-largest services importer (up from 9th in 2013). Overall, the top 10 importing countries accounted for almost 50 percent of global commercial services imports in 2014.<sup>21</sup>

The BEA publishes annual data on both U.S. cross-border trade and U.S. affiliate transactions in services, which together account for a substantial portion of the services provided through all four “modes of supply” specified in the General Agreement on Trade in Services (GATS) under the WTO (box 1.1). The BEA publishes these data by country and by industry, at the highest level of detail that its surveys allow. The bureau also publishes quarterly cross-border trade data in highly aggregated form.<sup>22</sup>

According to the BEA, “cross-border trade” occurs when suppliers in one country sell services to consumers in another country, with people, information, or money crossing national boundaries in the process.<sup>23</sup> Such transactions appear as exports and imports in a country’s balance of payments. Firms also provide services to foreign consumers through affiliates established in host (i.e., foreign) countries; the income generated through “affiliate transactions” may appear as direct investment income in the balance of payments.<sup>24</sup>

**Box 1.1:** Services Trade “Modes of Supply” under the WTO’s General Agreement on Trade in Services (GATS)

The GATS identifies four “modes of supply” for services trade—i.e., four ways that services can be traded:

**Mode 1** is cross-border supply. In this mode, a service is supplied by an individual or firm in one country to an individual or firm in another (i.e., the service crosses national borders). An example would be a digital file of a final architectural design emailed to a foreign client. Mode 1 under the GATS does not directly compare to BEA’s data for cross-border trade (see discussion below).

**Mode 2** is consumption abroad. In this mode, an individual from one country travels to another country and consumes a service in that country. An example would be foreign nationals visiting the United States for medical care.

**Mode 3** is commercial presence. In this mode, a firm based in one country establishes an affiliate in another country and supplies services from that locally established affiliate. An example would be a U.S.-

<sup>21</sup> WTO, *International Trade Statistics 2014*, 2014, table A9 (accessed March 1, 2016).

<sup>22</sup> Quarterly data on U.S. trade in services can be found in USDOC, BEA, Interactive Data, International Data, International Transactions.

<sup>23</sup> This definition is also consistent with the GATS classifications of the WTO.

<sup>24</sup> Income generated through affiliate transactions only appears as direct investment income in the balance of payments once it has been repatriated to the United States.

## Chapter 1: Introduction

based law firm providing legal services to citizens of a foreign country from its affiliated office located in that country.

**Mode 4** is the temporary presence of natural persons. In this mode, an individual service supplier from one country travels to another country on a short-term basis to supply a service there—for instance, as a consultant, contract employee, or intracompany transferee at an affiliate in the host country.<sup>a</sup> An example would be U.S.-based engineers traveling to a foreign country to help local staff on a construction project.

The BEA's data categories for services trade—i.e., cross-border trade and affiliate transactions—do not correspond exactly to the channels of service delivery described in the GATS.<sup>b</sup> The BEA notes that the GATS' mode 1 and mode 2 transactions, as well as some mode 4 transactions, generally are grouped together in the BEA's data on cross-border trade, while mode 3 transactions are included, with some exceptions, in the BEA's affiliate transactions data.<sup>c</sup>

<sup>a</sup> USDOC, BEA, *Survey of Current Business*, October 2009, 40–43, tables 1 and 2.

<sup>b</sup> For more information on the four modes of supply under the GATS, see WTO, "Chapter 1: Basic Purpose and Concepts," n.d. [https://www.wto.org/english/tratop\\_e/serv\\_e/cbt\\_course\\_e/c1s3p1\\_e.htm](https://www.wto.org/english/tratop_e/serv_e/cbt_course_e/c1s3p1_e.htm) (accessed July 19, 2016).

<sup>c</sup> The BEA only includes affiliate transactions between residents and nonresidents, while certain transactions that fall under mode 3 of the GATS could involve only residents of one country. USDOC, BEA, *U.S. International Economic Accounts: Concepts and Methods*, September 2014.

The channel of delivery that services providers use is primarily determined by the nature of the service. For example, financial services are generally supplied through affiliates located close to consumers. In contrast, audio visual services are predominantly traded across borders.<sup>25</sup> Regardless, affiliate transactions (i.e., services provided by U.S. affiliates abroad) remain the principal means of providing services to overseas markets (box 1.2).

### **Box 1.2:** The Rise of Affiliate Transactions

Since 1986, when the U.S. Department of Commerce began collecting statistics on U.S. services trade, the relative importance of cross-border trade and affiliate transactions has shifted significantly. In each of the 10 years from 1986 through 1995, U.S. cross-border exports of services exceeded sales by U.S. majority-owned foreign affiliates of U.S. firms. Since 1996, however, sales by U.S. firms' foreign affiliates have exceeded U.S. exports of cross-border services. In 2013, services supplied by U.S. firms' foreign affiliates abroad (\$1.32 trillion) were almost double the value of U.S. cross-border exports of services (\$664.9 billion). Similarly, services supplied by foreign-owned affiliates to U.S. residents have exceeded U.S. cross-border services imports since 1989. In 2013, the value of services supplied to U.S. residents by the U.S. affiliates of foreign companies (\$878.5 billion) was nearly twice the value of U.S. cross-border services imports (\$438.4 billion).<sup>a</sup>

The growing predominance of affiliate transactions largely reflects the global spread of service firms, facilitated by liberalization—the removal or lessening of barriers to trade—in investment and services.<sup>b</sup>

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<sup>25</sup> New developments in digital technology have allowed services, including financial services, which previously required person-to-person contact to be supplied digitally across borders. Chapter 3 discusses the effects of financial technology (or fintech) on banking services, while chapter 5 includes a discussion of the effects of innovations in securities services.



Liberalization first occurred in developed countries and has occurred more recently in a growing number of low- and middle-income countries.

<sup>a</sup> USDOC, BEA, *Survey of Current Business*, October 2015, 1–4; USDOC, BEA, table 2.1, “U.S. Trade in Services, by Type of Service,” October 15, 2015.

<sup>b</sup> Before 2004, retail banking services were not included in statistics measuring services supplied through foreign affiliates. The measurement of insurance services was also changed in that year. USDOC, BEA, *Survey of Current Business*, October 2015, 1.

## Cross-border Trade, 2014

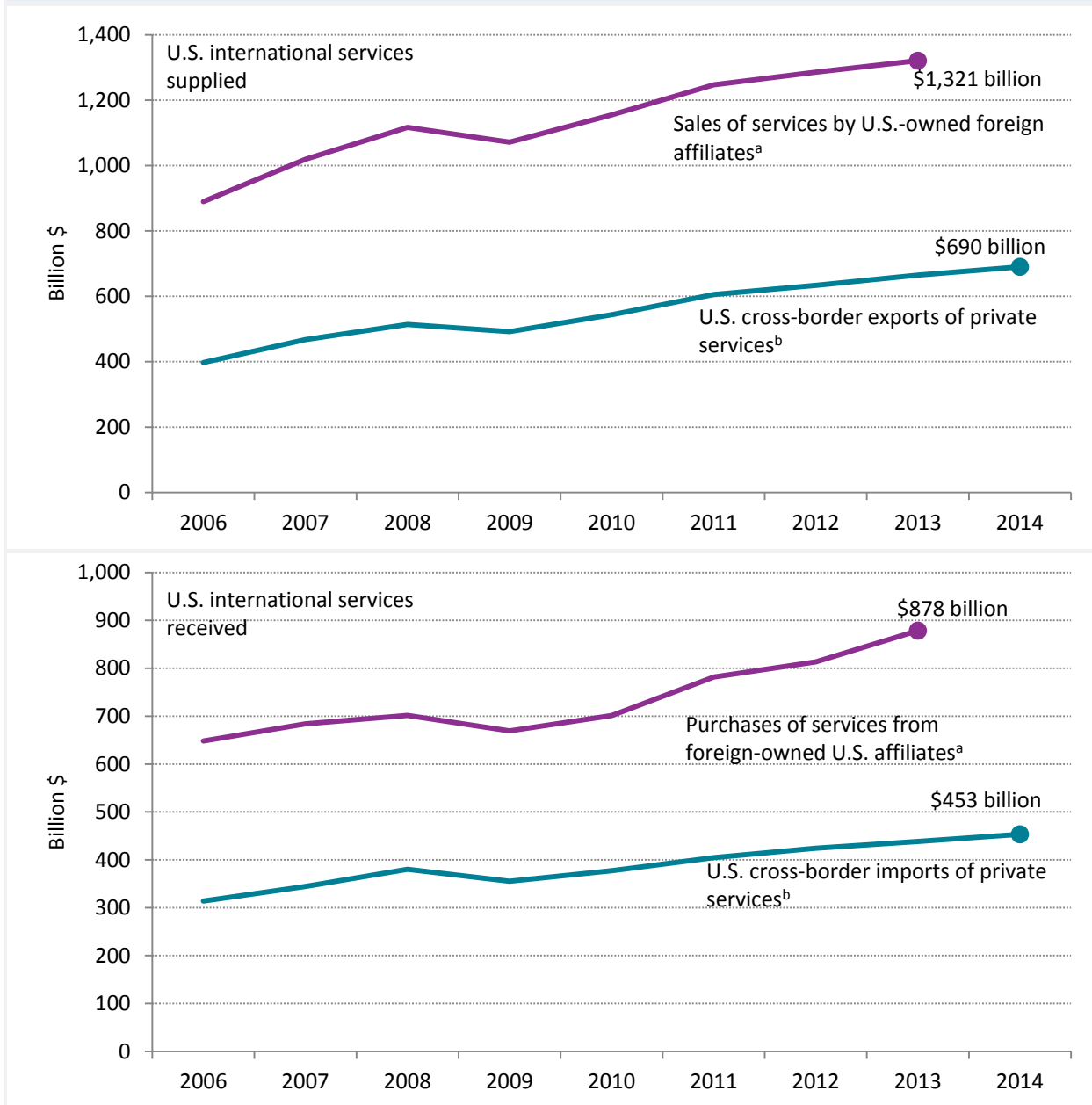
U.S. cross-border exports of private services<sup>26</sup> totaled \$690.1 billion in 2014, while U.S. imports totaled \$453.3 billion, resulting in a \$236.9 billion trade surplus (figure 1.2).<sup>27</sup> As in previous years, in 2014 travel services and passenger fares accounted for the largest share of U.S. services trade, together representing 32 percent of both exports and imports. Financial services constituted a smaller share, accounting for 15 percent of both exports and imports (figure 1.3) and resulting in a surplus of \$35.1 billion in 2014.

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<sup>26</sup> Cross-border services trade, as reported by the BEA, includes both private and public sector transactions. The latter principally reflect operations of the U.S. military and embassies abroad. However, because public sector transactions are not considered to reflect U.S. services industries’ competitiveness and may introduce anomalies resulting from events such as international peacekeeping missions, this report will focus solely on private sector transactions, except as noted.

<sup>27</sup> The data presented in this section are drawn from the most complete BEA publication of services data to date, the *Survey of Current Business* released in October 2015. Some data referenced in other sections for 2013 and 2014 have been updated since that publication, and are sourced from the BEA Interactive Tables with access dates reported. Preliminary data regarding services exports and imports for 2015 are discussed in a subsequent section; however, those data are still subject to revision and are not available for all industries and countries.

**Figure 1.2:** U.S. services: Sales and purchases of services through affiliate transactions are almost twice the value of cross-border trade in services

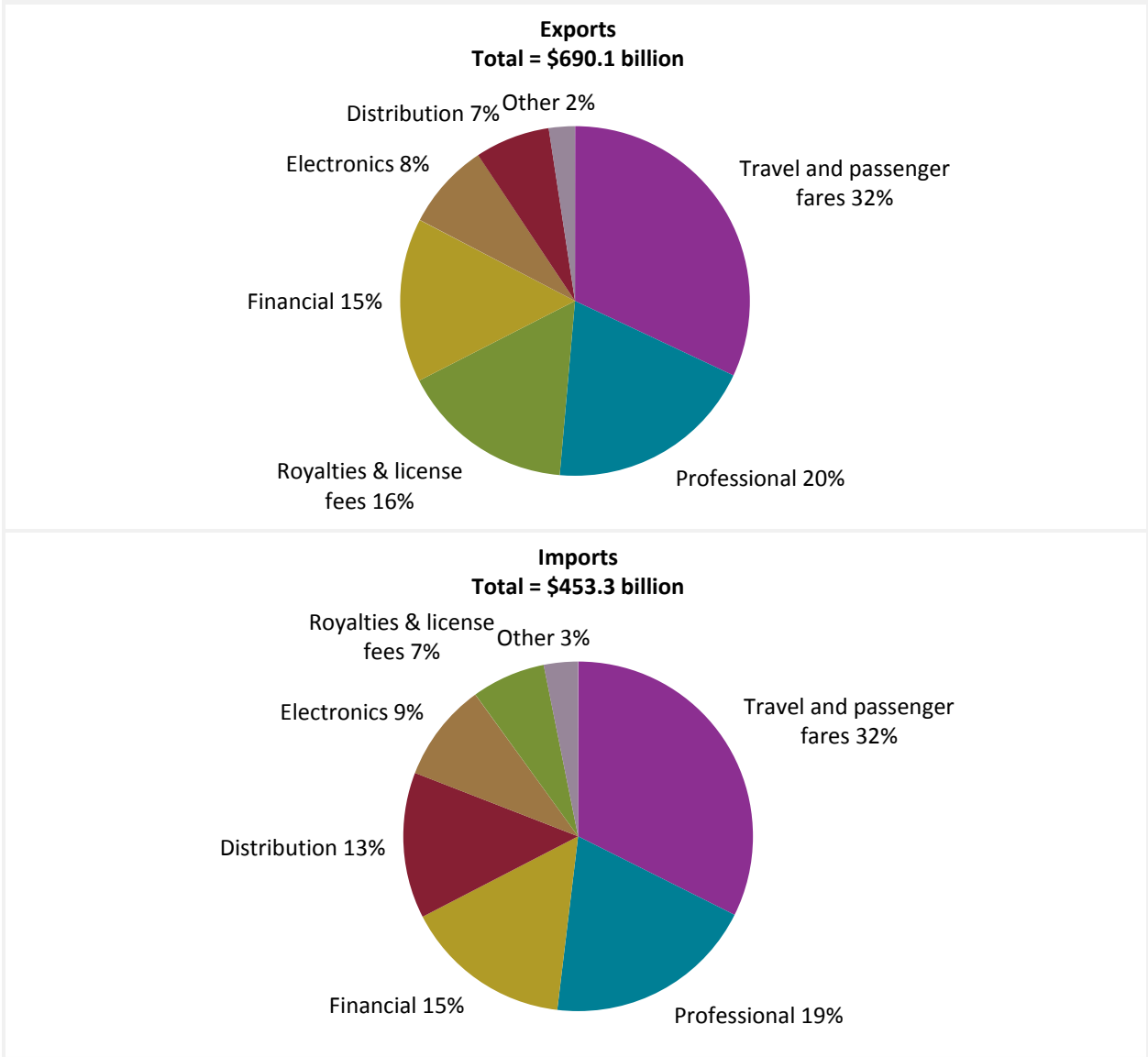


Source: USDOC, BEA, table 2.1, “U.S. Trade in Services, by Type of Service,” October 15, 2015; table 3.1: “Services Supplied to Foreign Persons by U.S. MNEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate,” October 15, 2015; and table 4.1, “Services Supplied to U.S. Persons by Foreign MNEs through Their MOUSA, by Industry of Affiliate and by Country of UBO,” March 4, 2016. (See appendix table B.2.)

<sup>a</sup> Data for affiliates are available only through 2013.

<sup>b</sup> Total cross-border exports and imports are based on revised 2014 data from the BEA; the most recent data for 2015 have not been included due to their preliminary nature.

**Figure 1.3:** U.S. services: Travel and passenger fares accounted for the largest share of U.S. cross-border trade in 2014



Source: USDOC, BEA, table 2.1., "U.S. Trade in Services, by Type of Service," October 15, 2015. (See appendix table B.3.)  
Notes: Excludes public-sector transactions. Total exports and imports by sector are based on the latest BEA data for which all sectors are available.

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In 2014, the value of U.S. cross-border services exports rose by 4 percent from 2013, which was down slightly from the previous year's increase (5 percent). Growth occurred in a number of services industries, led by professional services (10 percent); financial services (4 percent); and electronic services and travel services (both 3 percent).<sup>28</sup> Exports of distribution services also rose 2 percent, while other services exports declined 3 percent, driven by decreases in operating leasing services and construction. Concurrently, the value of U.S. services imports rose 3 percent to \$453.3 billion in 2014, virtually unchanged from the 3 percent growth reported the prior year. Imports grew the fastest in travel services (7 percent), followed by professional services (6 percent) and electronic services (5 percent). Imports declined in royalties and license fees (9 percent) and in financial services (3 percent), driven by decreases in other intellectual property services and insurance services, respectively.<sup>29</sup>

As in previous years, the majority of U.S. services industries had cross-border trade surpluses in 2014. Royalties and license fees had the largest surplus in 2014 (\$80.3 billion), followed by travel services (\$75.1 billion), professional services (\$46.4 billion), and financial services (\$35.1 billion). Distribution services was the only major sector with a cross-border services trade deficit (\$12.9 billion). However, several subsectors also recorded trade deficits, including insurance services (\$32.7 billion); computer services (\$9.1 billion); and accounting, auditing, and bookkeeping services (\$1.3 billion).<sup>30</sup>

Trade deficits occurred for several reasons.<sup>31</sup> The deficit in distribution services<sup>31</sup> largely reflects the deficit in U.S. merchandise trade and the payments of freight and port fees to transport those goods to the United States.<sup>32</sup> The deficit in insurance services is principally the result of U.S. primary insurers' payments to European and Bermudian reinsurers in return for their assuming a portion of large risks.<sup>33</sup> The deficit in computer services largely reflects U.S. firms offshoring many of these services to foreign providers, particularly those in India. For example, in 2014, the United States imported \$10.6 billion in computer services from India, a 7 percent increase over the previous year. Similarly, the deficit in accounting, auditing, and bookkeeping

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<sup>28</sup> USDOC, BEA, *Survey of Current Business*, October 2015, 2, table 2.1.

<sup>29</sup> Ibid.

<sup>30</sup> Ibid.

<sup>31</sup> BEA data on cross-border exports and imports of distribution services include data on air freight and airport services; sea freight and seaport services; and trade-related services. In 2014, the cross-border deficit in distribution services was driven by deficits in the sea freight, airport, and trade-related services categories.

<sup>32</sup> For example, Chinese shipments of manufactured goods to the United States typically exceed U.S. shipments of goods to China; payments to Chinese or other foreign shippers for transporting U.S. merchandise imports are recorded by the BEA as U.S. imports of transportation services.

<sup>33</sup> Reinsurance is a form of risk management whereby insurance companies buy insurance contracts from other insurers to protect themselves from unexpected large claims. Many reinsurers locate themselves in Bermuda due to the island's favorable tax policies.

services may also reflect the offshoring of certain internal operations to offset the U.S. industry's high labor costs.<sup>34</sup>

Major U.S. trading partners in services for 2014 have not changed significantly from 2013. A small number of developed countries continue to account for a large share of U.S. cross-border services trade. Canada, the UK, and Japan collectively received 25 percent of total U.S. cross-border services exports in 2014. Similarly, the UK (11 percent), Canada (7 percent) and Japan and Germany (6 percent each) supplied the largest shares of U.S. services imports. In 2014, the European Union (EU) accounted for 31 percent of U.S. services exports and 35 percent of U.S. services imports.<sup>35</sup>

## Cross-border Trade, 2015

Preliminary data for 2015 suggest a small increase in total U.S. services exports, while imports continued to grow at a higher but still modest rate that year. Annual services exports were reported to be \$730.6 billion in 2015, while annual services imports totaled \$467.1 billion in the same year (table 1.1).<sup>36</sup> As a result, in 2015, the United States recorded a services trade surplus of \$263.5 billion, down from the previous year.<sup>37</sup> Initial data also indicate that in 2015, the UK, Canada, and Japan remained the largest recipients of U.S. cross-border services exports, while the UK, Canada, and Germany (followed closely by Japan) were the largest sources of U.S. services imports.<sup>38</sup>

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<sup>34</sup> Morea, "Accounting Services in the U.S.," November 2013, 10. However, growth in offshoring has slowed in recent years as rising wages in major outsourcing destinations, such as India, have reduced foreign workers' competitive advantage. *Economist*, "India's Outsourcing Business," January 19, 2013.

<sup>35</sup> USDOC, BEA, *Survey of Current Business*, October 2015, 3, table 2.2.

<sup>36</sup> The data regarding exports and imports for 2015 discussed in this section are preliminary; the data do not contain breakdowns for all countries and certain industries, which are included in the data reported for 2014 referenced in the previous section. Year-on-year growth calculations in this section use data for 2014 which has been updated by the BEA as part of its regular release schedule, and may contain slight revisions from the figures published in the BEA's 2015 *Survey of Current Business*. The BEA is scheduled to publish its full report covering international trade in services in October 2016.

<sup>37</sup> USDOC, BEA, table 3.1, "U.S. International Trade in Services," June 16, 2016.

<sup>38</sup> USDOC, BEA, table 1.3, "U.S. International Trade in Services," July 19, 2016.

**Table 1.1:** U.S. private services exports and imports to the world, by category, 2015 (billion dollars)

Service industry	Exports 2015	Imports 2015
Travel and passenger fares	246.2	148.4
Royalties and license fees <sup>a</sup>	124.7	40.4
Financial services	119.6	39.5
Banking	74.2	37.3
Securities	28.2	32.0
Insurance	17.1	26.9
Professional and management consulting services	64.9	27.8
Technical, trade-related, and other business services <sup>b</sup>	35.2	72.9
Research and development services	34.5	47.8
Maintenance and repair services, n.i.e.	24.0	17.9
Air transport (excludes passenger fares)	23.0	7.3
Other	58.4	41.9
Total	730.6	467.1

Source: USDOC, BEA, table 3.1, "U.S. International Trade in Services," June 16, 2016.

Notes: Data for 2015 are preliminary. n.i.e. = not included elsewhere. Excludes public-sector transactions.

<sup>a</sup> Royalties and license fees (also called charges for the use of intellectual property, n.i.e.) includes processes, computer software, trademarks and franchise fees, audiovisual and related products, and other intellectual property.

<sup>b</sup> Technical, trade-related, and other business services includes construction, architectural and engineering services, waste treatment, operational leasing, trade-related, and other business services.

## Affiliate Transactions, 2013

In 2013, services supplied by U.S.-owned foreign affiliates<sup>39</sup> rose 3 percent to slightly more than \$1.3 trillion.<sup>40</sup> Distribution services—including wholesale trade, retail trade, and transportation and warehousing services—was again the category with the largest share of sales, with 31 percent of total services provided by U.S.-owned foreign affiliates (figure 1.4). Financial services ranked second, with 20 percent of affiliate transactions. The largest foreign purchasers of services from U.S.-owned foreign affiliates were the UK (14 percent), Canada (10 percent), Ireland (7 percent), and Japan (5 percent). The EU received 42 percent of total services supplied by U.S.-owned foreign affiliates in 2013.<sup>41</sup>

The value of services purchased from foreign-owned affiliates in the United States grew by 8 percent in 2013 to \$878.5 billion. This increase outpaced the 7 percent annual growth registered during 2009–12. Distribution services remained the largest category in 2013, representing 28 percent of purchases from foreign-owned affiliates in the United States, while financial services accounted for 21 percent. By country, Japanese-owned firms accounted for 17 percent, supplying the largest share of purchases in 2013, followed by UK- and German-owned affiliates (representing 14 percent each). French and Canadian firms rounded out the

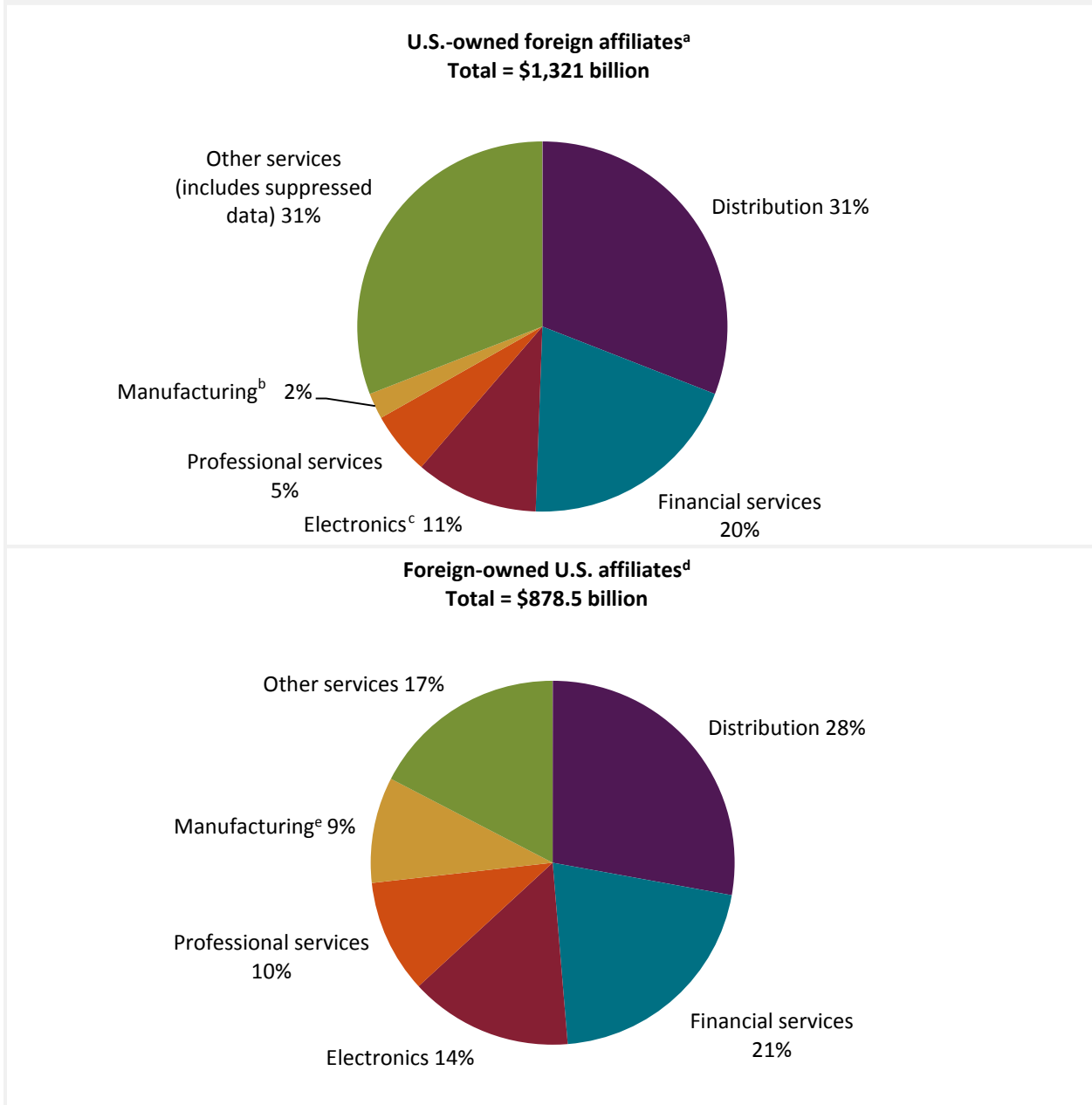
<sup>39</sup> U.S.-owned foreign affiliates are affiliates owned by a U.S. parent company and located abroad; conversely, foreign-owned U.S. affiliates are affiliates located in the United States and owned by foreign parent companies.

<sup>40</sup> The main source for this section is the USDOC, BEA, *Survey of Current Business*, October 2015.

<sup>41</sup> USDOC, BEA, *Survey of Current Business*, October 2015, 19–23, tables 8–10.2.

top five with 10 percent each. Overall, 51 percent of purchases in the United States from foreign-owned affiliates were from affiliates of EU-based parent firms.

**Figure 1.4:** U.S. services: Distribution accounted for the largest share of U.S. affiliate transactions in 2013



Source: USDOC, BEA, Table 3.1 “Services Supplied to Foreign Persons by U.S. MNEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate,” October 15, 2015, and table 4.1, “Services Supplied to U.S. Persons by Foreign MNEs through their MOUSA, by Industry of Affiliate and by Country of UBO,” March 4, 2016. (See appendix table B.4.)

<sup>a</sup> Services supplied by majority-owned foreign affiliates of U.S. parent firms.

<sup>b</sup> Includes ancillary services provided by goods manufacturers, such as computer hardware services. Data are underreported by the BEA to avoid disclosing individual company information.

<sup>c</sup> Data are underreported by the BEA to avoid disclosing individual company information.

<sup>d</sup> Services supplied by majority-owned U.S. affiliates of foreign parent firms.

<sup>e</sup> Includes ancillary services provided by goods manufacturers, such as computer hardware services.

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## Chapter 1: Introduction

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# Chapter 2

## Financial Services

### Overview

Financial services represent a broad range of sectors that facilitate monetary transactions, mobilize savings, allocate capital, and transform risk. Principal sectors include banking, insurance, and securities services. Well-developed financial services systems<sup>42</sup> promote economic efficiency, lower transaction costs, facilitate personal and commercial transactions, and direct savings to economically productive activities.<sup>43</sup> Although they account for a relatively small share of output in most countries (about 7 percent of GDP in the United States), financial services provide the economic infrastructure necessary for modern economies to function.<sup>44</sup> As such, financial services are essential to the production of nearly all goods and other services, and facilitate international trade. There is a strong positive connection between the strength of a country's financial system and its economic growth and stability.<sup>45</sup> The critical importance of financial services to the global economy is underscored by the fact that it is one of the few services industries that has international regulatory standards.

The depth of the 2008–09 global recession—which erased an estimated \$50 trillion in global wealth<sup>46</sup>—and the relatively slow pace of recovery afterwards resulted, in part, from systemic failures in the financial sector.<sup>47</sup> Strong linkages between financial services providers caused the crisis to spread quickly throughout the United States and the global economy. Seven years on, U.S. and global financial services firms' revenue growth is just now recovering to pre-crisis

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<sup>42</sup> The financial system includes the universe of financial services institutions, including the private firms and government regulators that comprise an economy's financial services sector.

<sup>43</sup> Well-developed banking and securities sectors are seen as lowering transaction costs and enhancing resource allocation, while insurance services encourage economic activity by mitigating risks and providing security to individuals, businesses, and communities. World Bank, "Financial Sector," World Bank Open Data, <http://data.worldbank.org/topic/financial-sector> (accessed May 12, 2016); United Nations Conference on Trade and Development (UNCTAD), "About the Insurance Program," <http://unctad.org/en/Pages/DIAE/Enterprise%20Development/Insurance/Insurance-about-the-Programme.aspx> (accessed June 4, 2016).

<sup>44</sup> Dobson, "Financial Services and International Trade Agreements," 2008, 290.

<sup>45</sup> For developed and developing countries. Gopalan, "Does Foreign Bank Entry Contribute to Financial Depth?" February 2015.

<sup>46</sup> Summers, "Economic Crisis and Recovery," March 13, 2009. Declines in U.S. income were estimated at \$6 trillion–\$14 trillion. Ball, "Long-Term Damage from the Great Recession," May 2015; Atkinson, Lattrell, and Rosenblum, "How Bad Was It?" July 2013, 2.

<sup>47</sup> For an in-depth analysis of the global financial crisis, see Financial Crisis Inquiry Commission, *Financial Crisis Inquiry Report*, January 2011.

levels.<sup>48</sup> However, financial services firms are facing challenges and disruptions from digital technologies, which are changing the way financial services are supplied and consumed. In addition, firms must deal with substantial new international and national regulatory measures that are aimed at averting another global financial crisis, but may also be inhibiting trade. In addition, the UK's referendum to exit the EU roiled global financial markets in the short term, and may have significant long-term consequences for the global financial sector.<sup>49</sup> Digital and regulatory challenges, briefly discussed below, are more deeply covered in the sector-specific chapters.<sup>50</sup>

# Digital Technologies Are Transforming Financial Services

Digital technologies and the Internet are changing the global financial system, altering the composition of financial activity, and challenging the dominance of large traditional suppliers.<sup>51</sup> This transformation is being driven by coinciding demand and supply factors. Demographic and behavioral changes from a new generation of digitally enabled consumers, who are increasingly using digital devices to conduct commercial transactions online, are challenging the sector.<sup>52</sup> Traditional financial services firms are also facing strong supply pressures from non-bank financial firms (fintech) that are capturing revenues through online channels.<sup>53</sup> One survey of high-level business leaders indicated that over 60 percent of financial services executives anticipate that their firms would be “moderately to massively disrupted” by digital technology in 2016.<sup>54</sup> Another survey, which revealed that nearly half of financial services executives viewed “digital disruption” as an existential threat to their firms, ranked financial services along with travel, media, and retail as the most threatened industries.<sup>55</sup>

Smartphones, in particular, are transforming the way U.S. and global consumers access financial services. According to the Federal Reserve, over half of U.S. smartphone owners used their

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<sup>48</sup> BCG, “Banking on Digital Simplicity,” May 2016, 8.

<sup>49</sup> The referendum occurred on June 23, 2016.

<sup>50</sup> Potential effects of the UK exit from the EU are discussed in chapter 3, textbox 3.2.

<sup>51</sup> WTO, “Financial Services: Developments in the Sector” (accessed June 7, 2016).

<sup>52</sup> BCG, “Banking on Digital Simplicity,” May 2016; Kenth, “Top Six Trends,” April 6, 2015. Some observers refer to the challenges and opportunities of digital technology as “digital disruption.” Such disruption can alter a firm’s or industry’s existing business models. In some cases, new digital technology can enhance the way businesses operate; in others, the new technology may cause them to exit the industry altogether.

<sup>53</sup> Financial firms are also facing competition from other traditional providers that are investing heavily in digital services to offer multichannel (online and in-person) services to financial services customers. Denecker, Gulati, and Niedekorn, “The Digital Battle,” August 2014.

<sup>54</sup> For consumer financial services. Grossman, “The Industries That Are Being Disrupted,” March 21, 2016.

<sup>55</sup> Bradley et al., “Digital Vortex,” June 2015, 3.

devices to access retail banking services in 2014.<sup>56</sup> One-third of U.S. consumers are now using mobile phones to make payments, using such nontraditional channels as PayPal, Square, and Google Pay.<sup>57</sup> In addition, private sector survey data for 2015 indicate that the share of banking conducted digitally (online and mobile) is surpassing all other channels, including branch banking and ATM transactions, in many global markets.<sup>58</sup>

Digital disruption is also occurring in the insurance industry, with activities such as underwriting and pricing increasingly being automated and moving to online platforms. These changes diminish the traditional advantages of size and scale.<sup>59</sup> Both large and small insurance firms are using social media, data analytics, and proprietary databases to access new customers, helping to transform the traditional business models of large dominant insurance providers.<sup>60</sup> Securities firms also face digital disruption from the increased availability of data and information online, including wealth management programs and online trading, which reduces demand for traditional securities intermediation services. Consumers seeking lower-cost alternatives are turning to a range of providers, including digitally based, nontraditional securities firms that have recently entered the market.<sup>61</sup> According to one report, one-fifth of new fintech firms have targeted the securities industry.<sup>62</sup>

## New Post-crisis Financial Regulations Are Impacting Large Firms and Trade

In the wake of the 2008–09 financial crisis, banks are facing increasing regulation, which raises their compliance costs, as well as a fragmented regulatory environment across markets that complicates trade in financial services. In an attempt to safeguard the global financial system, regulators in the United States and across the globe have introduced reforms meant to strengthen banks, insurance providers, and securities firms in the event of future instability. These rules have increased costs for financial institutions, particularly larger banking and securities firms, which now must devote more resources to comply with these regulations.<sup>63</sup> Insurance firms have also been affected, with new rules requiring them to hold more capital.<sup>64</sup>

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<sup>56</sup> Federal Reserve, “Consumers and Mobile Financial Services 2015,” March 2015, 1.

<sup>57</sup> McKinsey, “The Digital Battle That Banks Must Win,” August 2014.

<sup>58</sup> The digital share of banking transactions doubled from 2013 to 2015 and accounts for over half (54 percent) of all transactions, based on country surveys of banks in nine key financial centers. BCG, “Banking on Digital Simplicity,” May 2016.

<sup>59</sup> Deloitte, “Insurers on the Brink,” 2016, 5.

<sup>60</sup> IBISWorld, *Global Direct General Insurance Carriers*, January 2016, 8.

<sup>61</sup> Accenture, “Digital Disruptions in Investment Banking,” 2014, 1; BCG, “Global Capital Market 2015: Adapting to Digital,” 2015.

<sup>62</sup> BCG, “Global Capital Market 2015: Adapting to Digital,” 2015, 10.

<sup>63</sup> PricewaterhouseCoopers, *Smart Implementation: Reining in the Risk*, December 2012.

<sup>64</sup> Bank of America Merrill Lynch, “Navigating Solvency II and Basel III,” September 2012.

The variation in regulations across markets also makes trade more costly and complicated, since financial services firms need to comply with the different laws and regulations in each country where they operate.<sup>65</sup> Efforts by countries to harmonize rules or to engage in other forms of regulatory cooperation are beginning to address some of these concerns. However, the proliferation of trade agreements, investment treaties, and other arrangements with varying provisions for financial services may themselves introduce additional complications at the regional level. An example would be the need to reconcile differing measures concerning the transfer of financial data in the Trans-Pacific Partnership (TPP) agreement compared to previous agreements, such as the U.S.-Korea Free Trade Agreement.<sup>66</sup> A discussion of how financial services are treated in trade agreements is provided in box 2.1.

### **Box 2.1:** Financial Services in Trade Agreements

Developed countries often regard their securities services firms as internationally competitive, and in negotiating trade agreements they prioritize opening new markets to cross-border and affiliate financial services trade. However, while parties to an agreement usually share the broad goals of increased market access, financial services are difficult to liberalize. Attempts to do so usually require lengthy technical annexes just to achieve commitments that often fall short the financial services sector's goals.<sup>a</sup> For example, in many U.S. trade agreements, cross-border financial services liberalization is limited to a few subsectors such as reinsurance, auxiliary insurance services, and financial data processing.

These gaps remain because financial services are inseparable from complex domestic regulations, and negotiations over such regulations can raise deep technical challenges and political disagreements. Financial services involve many complex issues: the juridical form of banks; the role of monopolies and exclusive suppliers; public procurement and subsidies; transfers of financial information; access to payment and clearing systems; and interpretations of international supervisory standards (including treatment of tax evasion). They also touch on areas of fundamental state sovereignty, such as monetary and exchange rate policy and social insurance policy.

Typically, trade agreements will promote regulatory cooperation but affirm that domestic regulators have broad rights to protect investors and ensure systemic financial stability.<sup>b</sup> Many trade negotiation participants differ in their technical approaches to key regulatory issues, such as in distinguishing investment and commercial banking activities. This also applies to areas of regulation that affect financial services indirectly. For example, different attitudes towards data protection are one reason the

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<sup>65</sup> OECD, "Tackling Policy Fragmentations," June 9, 2016. These legal regimes include not only prudential financial regulations such as Dodd-Frank, but also laws covering bribery, money laundering, and data privacy (including forced data localization). A comprehensive set of global reforms, introduced by the Basel III Committee, has increased capital requirements and leverage ratios, with the largest and most connected banks expected to hold more liquid reserves. See chapter 3 of this report for a discussion of international banking standards under Basel III.

<sup>66</sup> The U.S.-Korea Free Trade Agreement contains provisions encouraging members to refrain from imposing restrictions on data flows, including those relating to financial services. By contrast, while the TPP contains stronger language prohibiting forced data localization, it specifically exempts financial services from this commitment. Elliott et al., "Assessing the Trans-Pacific Partnership," February 2016, 9; Meltzer, "The Internet, Cross-Border Data Flows," February 2013.

Trans-Pacific Partnership (TPP) agreement permits forced localization for financial data but not for nonfinancial data.<sup>c</sup>

Furthermore, for parties like the United States and the EU, financial services are regulated at the national and subnational levels. Even within countries, there are varying approaches to issues like foreign ownership and permitted activities. There is also a fine line between liberalizing capital movements and liberalizing services that involve international capital transactions. Trade agreements typically address the former while preserving the rights of governments to set policies on overall capital inflows and outflows. For instance, the General Agreement on Trade in Services (GATS) allows signatories to suspend their commitments in case of a balance-of-payments crisis, so long as such suspensions do not discriminate among WTO members.<sup>d</sup>

There are different international forums where parties discuss regulatory harmonization. Part of the context for the Transatlantic Trade and Investment Partnership (TTIP) negotiations is that the EU would like to include more regulatory issues in TTIP, but the U.S. government prefers venues like the G20 and the Financial Market Regulatory Dialogue.<sup>e</sup> Within countries there are disagreements between regulators and the private sector. For instance, in the United States the Securities Industry and Financial Markets Association (SIFMA) has expressed strong support for including financial regulatory coordination in TTIP.<sup>f</sup>

Financial services trade will likely continue to become more complicated and cross-jurisdictional, requiring more time and resources from negotiators in the future. At the same time, multinational regulatory cooperation will likely become more important as a long-term public good that can prevent arbitrage and “jurisdictional shopping,” thereby increasing global financial stability.<sup>g</sup>

<sup>a</sup> ITAC-10, *Advisory Committee Report*, December 3, 2015.

<sup>b</sup> Lang and Conyers, *Financial Services in EU Trade Agreements*, October 2014, 37.

<sup>c</sup> Treasury Secretary Jack Lew notes that U.S. financial regulators need this carve-out in order to access and review data that otherwise may be stored overseas. Guida, “Lew Defends Financial Services Data Carveout,” February 11, 2016. Localization refers to a country requiring data to be stored in computer systems located within its borders.

<sup>d</sup> IMF, “Reference Note on Trade in Financial Services,” September 3, 2010, 6.

<sup>e</sup> Puccio, *TTIP and Regulation of Financial Markets*, June 2015.

<sup>f</sup> SIFMA, “SIFMA Joins U.S. and EU Entities Urging TTIP,” February 21, 2016.

<sup>g</sup> Bickel, “Harmonizing Regulations in the Financial Services Industry,” 2015.

## U.S. Trade in Financial Services

Financial services was the third-largest category of U.S. services trade in 2015, accounting for almost 16 percent of both total U.S. cross-border services exports and imports.<sup>67</sup> In that year, U.S. financial services exports reached \$119.6 billion, down slightly from \$125.0 billion in 2014,

<sup>67</sup> USDOC, BEA, table 2.1, “U.S. Trade in Services, by Type of Service” (accessed June 20, 2016). Cross-border trade data on financial services encompass securities services, banking services, insurance services, and rental and leasing services (excluding real estate). Other aspects of financial services, such as retail banking, are reported as affiliate transactions and discussed separately. Banking, insurance, and securities are discussed in depth in chapters 3, 4, and 5, respectively.

while U.S. imports totaled \$72.9 billion, down from \$76.7 billion in 2014. U.S. financial services thus recorded a trade surplus of \$46.7 billion in 2015, down slightly from \$48.3 billion in 2014.<sup>68</sup>

In 2015, banking services (including financial management, credit card processing, and credit-related services, but excluding retail banking)<sup>69</sup> accounted for 62 percent (\$74.2 billion) of total U.S. financial services exports and 25 percent (\$17.9 billion) of imports, producing a trade surplus of \$56.4 billion (figure 2.1). By comparison, securities services (including brokerage, underwriting, and lending) made up 24 percent (\$28.2 billion) of total U.S. financial services exports and 10 percent (\$7.3 billion) of imports in the same year, rendering a surplus of \$20.9 billion.

The largest category of imports was insurance services (including direct insurance, reinsurance, and auxiliary insurance services). It represented 66 percent (\$47.8 billion) of financial services imports but only 14 percent (\$17.1 billion) of exports, resulting in a large trade deficit of \$30.6 billion. In 2014, the top three markets for U.S. exports of insurance services were Bermuda (20 percent), Canada (17 percent), and the UK (11 percent). By contrast, the UK (17 percent), Canada (7 percent), and Belgium-Luxembourg (4 percent) were the largest export markets for banking and securities services combined.<sup>70</sup>

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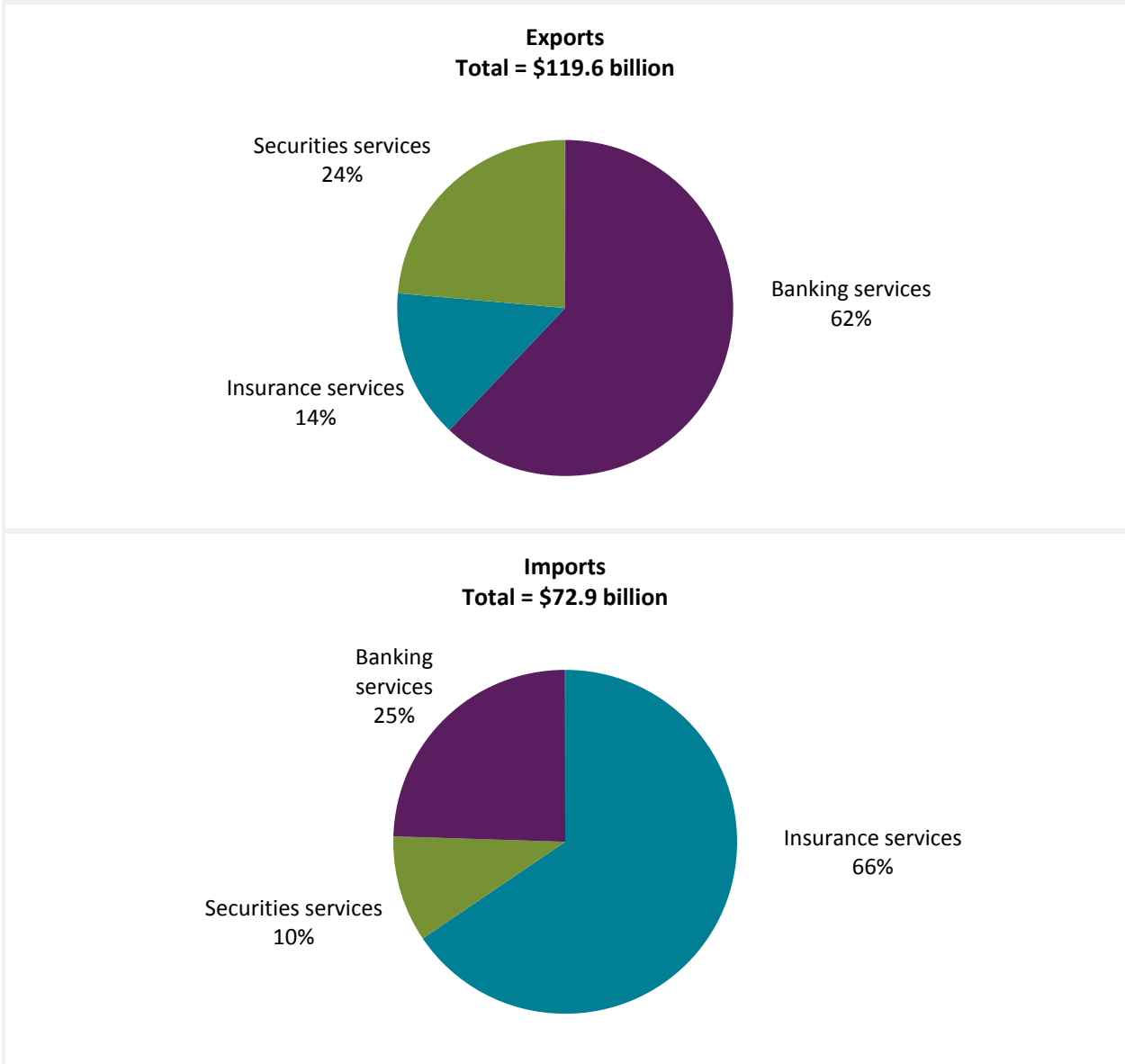
<sup>68</sup> USDOC, BEA, *Survey of Current Business*, October 2015, table 2.1, “U.S. Trade in Services, 2006–2014,” 1–2.

<sup>69</sup> The majority of U.S. trade in banking services occurs through foreign affiliates (GATS mode 3; see box 1.1). The BEA does not publish data on cross-border trade in retail banking services, although a small amount of trade may be occurring digitally through new financial technologies discussed in chapter 3.

<sup>70</sup> The BEA does not publish disaggregated data by country for trade in banking and security services, but does publish data by country for banking and securities combined.



**Figure 2.1:** U.S. financial services: Banking services led cross-border exports, and insurance services led cross-border imports of financial services in 2015



Source: USDOC, BEA, Interactive Data, International Data, International Services (accessed June 20, 2016). (See appendix table B.5.)

In 2013, the latest year for which sectoral data are available, U.S.-owned foreign affiliates (i.e., overseas affiliates of U.S. companies) supplied \$259.5 billion in financial services, or a 20 percent share of total foreign affiliate sales, representing the second-largest category of

services sold by U.S.-owned foreign affiliates after distribution services.<sup>71</sup> Within financial services, securities services accounted for the largest share of U.S.-owned foreign affiliate sales, at 39 percent (\$102.3 billion) (figure 2.2). Insurance also accounted for a significant share (25 percent or \$64.3 billion) of sales by U.S.-owned foreign affiliates in 2013, followed closely by banking services (21 percent or \$57.6 billion).<sup>72</sup>

Financial services purchased from foreign-owned U.S. affiliates (i.e., affiliates of foreign firms located in the United States) were valued at \$182.9 billion in 2013, or 21 percent of total services purchases. Insurance services represented the largest share of purchases from foreign-owned U.S. affiliates in financial services, totaling \$69.5 billion (38 percent), followed closely by securities services, at \$61.8 billion (34 percent), and banking services at \$44.9 billion (25 percent).<sup>73</sup>

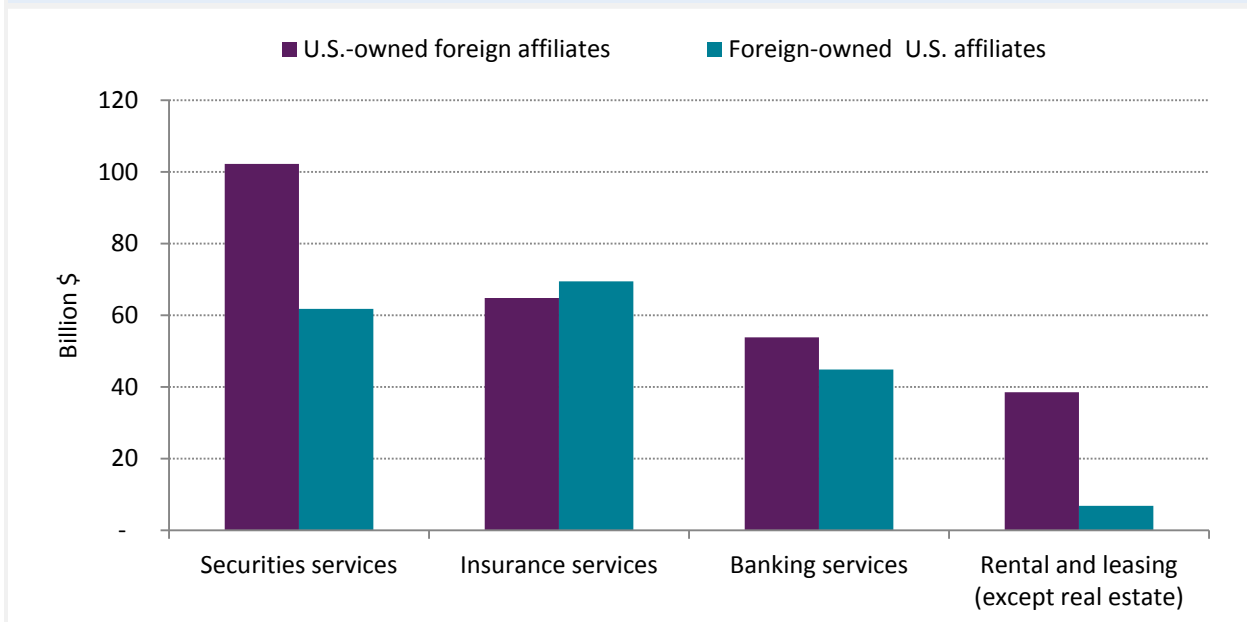
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<sup>71</sup> BEA reports U.S. affiliate data differently than cross-border data, due to discrepancies in data availability and company reporting standards. In addition, BEA may understate or exclude certain data segments, such as affiliate transactions, to avoid disclosing proprietary information of individual companies. Data on affiliate sales in financial services are disaggregated into the following four broad categories: depository credit intermediation (banking), finance (except depository institutions), rental and leasing services (excluding real estate), and insurance carriers and related activities. Further, the BEA disaggregates data on cross-border trade for financial services into four categories: securities brokerage, underwriting, and related services; financial management, financial advisory, and custody services; credit card and other credit-related services; and securities lending, electronic funds transfer, and other services. Data on insurance services are also divided into direct insurance, reinsurance, and auxiliary insurance services.

<sup>72</sup> USDOC, BEA, *Survey of Current Business*, October 2015, table 2.1. Rental and leasing services accounted for the remaining share of such sales (15 percent).

<sup>73</sup> USDOC, BEA, *Survey of Current Business*, October 2015. Rental and leasing services accounted for the remaining share of such purchases (9 percent).

**Figure 2.2:** U.S. financial services: Securities services were the largest category of financial services sales by foreign affiliates of U.S. firms in 2013, and insurance was the largest category of purchases from U.S. affiliates of foreign firms



Source: USDOC, BEA, Interactive Data, International Data, International Services (accessed April 28, 2016). (See appendix table B.6.)

## GDP, Employment, Labor Productivity, and Salaries

The contribution of U.S. private sector financial services to the U.S. private sector GDP (including goods and services) in 2015 was \$1.2 trillion, accounting for 8.7 percent of total U.S. private sector GDP (table 2.1).<sup>74</sup> Insurance and banking services each represented around one-third of financial services' contribution to U.S. private sector GDP in that year, followed by securities services (17.6 percent) and rental and leasing services (16.4 percent) (table 2.2). Rental and leasing services also registered the highest growth rate within financial services (9.4 percent) from 2014 to 2015, while securities services contracted slightly over the same period. However, from 2010 to 2014 both insurance and rental and leasing services increased at an average annual rate of 3.2 percent. From 2014 to 2015, total financial services grew by 2.6 percent, slightly slower than the U.S. private sector as a whole, and the average annual rate

<sup>74</sup> USDOC, BEA, "Real Value Added by Industry," 2015. By comparison, professional services accounted for 18.4 percent of total U.S. private sector GDP in 2014, while distribution services accounted for 16.7 percent; electronic services, 6.0 percent; and other services (including real estate), 27.9 percent.

## Chapter 2: Financial Services

**Table 2.1:** United States: GDP, FTEs, wage and salary accruals, and labor productivity, by goods and services industry, 2010, 2014–15

	2010	2014	2015	CAGR 2010–14	% change 2014–15
<b>GDP<sup>a</sup> (billion \$)</b>					
Private sector	12,650	13,715	14,094	2.0	2.8
Goods	2,780	2,997	3,091	1.9	3.2
Manufacturing	1,818	1,886	1,911	0.9	1.3
Nonmanufacturing	962	1,111	1,180	3.6	6.2
Services	9,870	10,719	11,003	2.1	2.7
Distribution services	2,132	2,320	2,371	2.1	2.2
Electronic services	744	874	939	4.1	7.5
Financial services	1,131	1,201	1,232	1.5	2.6
Professional services	2,348	2,541	2,630	2.0	3.5
Other services	3,516	3,784	3,831	1.9	1.3
<b>FTEs (1,000)</b>					
Private sector	100,074	110,823	112,239	2.6	1.3
Goods	18,398	20,075	20,395	2.2	1.6
Manufacturing	11,231	11,918	12,076	1.5	1.3
Nonmanufacturing	7,167	8,157	8,319	3.3	2.0
Services	81,676	90,748	91,844	2.7	1.2
Distribution services	21,691	24,698	23,931	3.3	-3.1
Electronic services	3,141	3,478	3,615	2.6	3.9
Financial services	6,003	6,281	6,413	1.1	2.1
Professional services	25,685	28,223	28,970	2.4	2.6
Other services	25,157	28,069	28,914	2.8	3.0
<b>Wages and salary accruals (\$ per FTE)</b>					
Private sector	51,906	56,395	58,726	4.1	2.1
Goods	57,252	62,636	64,140	2.4	2.3
Manufacturing	60,017	65,445	66,802	2.1	2.2
Nonmanufacturing	52,919	58,531	60,274	3.0	2.6
Services	50,701	55,015	57,524	4.6	2.1
Distribution services	43,798	45,361	49,292	8.7	0.9
Electronic services	86,626	100,693	103,515	2.8	3.8
Financial services	84,909	97,059	99,672	2.7	3.4
Professional services	58,706	63,860	65,861	3.1	2.1
Other services	35,833	39,544	40,886	3.4	2.5
<b>Labor productivity<sup>b</sup> (\$ per FTE)</b>					
Private sector	126,406	123,756	125,571	-0.5	1.5
Goods	151,103	149,290	151,557	-0.3	1.5
Manufacturing	161,873	158,248	158,248	-0.6	0.0
Nonmanufacturing	134,226	136,202	141,844	0.4	4.1
Services	120,843	118,118	119,801	-0.6	1.4
Distribution services	98,290	93,935	99,077	-1.1	5.5
Electronic services	236,867	251,294	259,751	1.5	3.4
Financial services	188,406	191,212	192,110	0.4	0.5
Professional services	91,415	90,033	90,784	-0.4	0.8
Other services	139,762	134,811	132,496	-0.9	-1.7

Source: USDOC, BEA, “Real Value Added by Industry,” April 1, 2016; USDOC, BEA, table 6.5D, “Full-Time Equivalent Employees by Industry,” April 1, 2016; USDOC, BEA, table 6.3D, “Wage and Salary Accruals per Full Time Equivalent Employee by Industry,” August 3, 2016.

Note: CAGR = compound annual growth rate.

<sup>a</sup>Real valued added by industry using 2009 chained dollars.

<sup>b</sup>Labor productivity, calculated by USITC staff, is GDP by industry divided by the number of FTEs.

**Table 2.2:** United States: GDP, FTEs, wage and salary accruals, and labor productivity, by services industry, 2010, 2014–15

	2010	2014	2015	CAGR 2010–14	% change 2014–15
<b>GDP<sup>a</sup> (billion \$)</b>					
Banking services	388	394	398	0.3	1.2
Insurance services	360	408	421	3.2	3.2
Rental and leasing services and lessor of intangible assets	162	184	202	3.2	9.4
Securities services	221	219	217	-0.2	-1.0
<b>FTEs (1,000)</b>					
Banking services	2,477	2,509	2,520	0.3	0.4
Insurance services	2,182	2,396	2,477	2.4	3.4
Rental and leasing services and lessor of intangible assets	486	512	527	1.3	2.9
Securities services	858	865	889	0.2	2.8
<b>Wages and salary accruals (\$ per FTE)</b>					
Banking services	64,318	75,626	80,162	6.0	4.1
Insurance services	73,512	82,511	85,117	3.2	2.9
Rental and leasing services and lessor of intangible assets	47,938	55,836	55,956	0.2	3.9
Securities services	194,277	223,812	221,447	-1.1	3.6
<b>Labor productivity<sup>b</sup> (\$ per FTE)</b>					
Banking services	156,641	157,035	157,937	0.1	0.6
Insurance services	164,986	170,284	169,964	0.8	0.2
Rental and leasing services and lessor of intangible assets	333,333	359,375	383,302	1.9	6.7
Securities services	257,576	253,179	244,094	-0.4	3.6

Source: USDOC, BEA, “Real Value Added by Industry,” April 1, 2016; USDOC, BEA, table 6.5D, “Full-Time Equivalent Employees by Industry,” April 1, 2016; USDOC, BEA, table 6.3D, “Wage and Salary Accruals per Full Time Equivalent Employee by Industry,” August 3, 2016.

Note: CAGR = compound annual growth rate.

<sup>a</sup> Real valued added by industry using 2009 chained dollars.

<sup>b</sup> Labor productivity, calculated by USITC staff, is GDP by industry divided by the number of FTEs.

of growth during 2010–14 for financial services was also below the average for the private sector.<sup>75</sup>

The financial services industry accounted for only 5.7 percent of total private sector employment in 2015, or 6.4 million full-time equivalent (FTE) employees.<sup>76</sup> Overall employment growth in the sector has been slow since the 2008–09 financial crisis, increasing 1.1 percent from 2010 to 2014 (slower than the 2.7 percent of the services industry as a whole). In 2015, employment was highest in banking services, with just over 2.5 million FTEs (39.3 percent of all financial services employees), and insurance services, with slightly less than 2.5 million FTEs (38.6 percent). Insurance services employment rose the fastest from 2014 to 2015

<sup>75</sup> Ibid.

<sup>76</sup> USDOC, BEA, table 6.5D, “Full-Time Equivalent Employees by Industry,” August 7, 2015. BEA defines full-time equivalent employees as the number of employees on full-time schedules, plus the number of part-time employees that would have been needed to complete all the hours of full-time work reported in a given dataset.

(3.4 percent), while in banking employment increased only 0.4 percent. Banking services and securities services employment also grew slowly (less than 1 percent) over the 2010–14 period.

Growth in labor productivity in financial services has been slow but positive, driven by a rise in productivity in rental and leasing services (measured as output in dollars per FTE).<sup>77</sup> It was one of only two industries to report growth in labor productivity from 2010 to 2014, rising at an average annual rate of 0.4 percent, behind electronic services (1.5 percent). However, from 2014 to 2015, labor productivity in financial services was outpaced by nearly every other sector, with productivity rising only 0.5 percent compared to 1.4 percent for services overall.<sup>78</sup> Average output per worker in financial services was \$192,110 in 2015, the second highest behind electronic services (\$259,751).<sup>79</sup> Among financial services workers, output per worker varied widely by industry, ranging from less than \$158,000 in banking services to over \$383,000 in rental and leasing services.

Despite high wages overall, wages in financial services grew slower than in other services industries over the 2010–14 period; they increased at an average annual rate of 2.7 percent, compared to 8.7 percent in distribution services. Wages in financial services reflected the industry's relatively higher labor productivity, with workers earning on average \$99,672 in 2015, nearly twice the average wage for the private sector as a whole (\$58,726). Within financial services, securities services had the highest average wage in 2015 at \$221,447. This was four times the lowest average wage, which was reported in rental and leasing services (\$55,956).<sup>80</sup> Overall, average wages in financial services grew by 3.4 percent between 2014 and 2015. This increase made financial services the category with the second-fastest growth after electronic services (3.8 percent) and placed it well ahead of the private sector average (2.1 percent).

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<sup>77</sup> Increased output in the rental and leasing sector is likely due to a recovery in home prices, while employment in this industry declined from 2009 to 2014, both of which contributed to an increase in labor productivity in that sector. USDOC, BEA, table 6.5D, "Full-Time Equivalent Employees by Industry," August 7, 2015.

<sup>78</sup> Productivity growth in the financial services sector is driven by several factors, including mergers and acquisitions by large financial firms, improvements in technology and human capital, and financial integration across markets. Balling et al., *Productivity in the Financial Services Sector*, 2009, 23, 89, 183.

<sup>79</sup> Average output per worker in the electronic services sector is generally higher due to the high levels of capital available per worker. For more on the electronic services sector, see USITC, *Recent Trends in U.S. Services Trade*, May 2014.

<sup>80</sup> Compensation other than wages, such as bonuses and other commissions, likely make up a large percentage of earnings for employees in the securities industry. But since they are not equally distributed, the large bonuses of a few employees can raise the average significantly. For example, excluding most types of bonuses, the mean annual wage for the securities and commodity contracts sector was \$104,500 in 2015, with higher wages concentrated in the managerial, legal, and sales occupations. USDOL, BLS, "Occupational Employment Statistics," May 2015.

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# Chapter 3

## Banking Services

### Summary

Banks provide vital services to businesses and consumers, enabling them to finance investment and to manage money and financial transactions. Demand for banking services generally tracks economic activity and development, so the demand for banking services is greatest in developed economies with large consumer markets. Since banking services are essential to the functioning of consumer markets, regulators around the world establish extensive rules to promote stability in this critical industry.

Today, rapid technological change and changing consumer preferences are transforming the way banking services are provided. Consumers increasingly prefer to conduct bank transactions digitally, prompting banks to offer e-banking services that allow customers to manage accounts without going to a physical bank branch. Financial technology—or “fintech”—firms are accelerating change in the banking industry by using digital (including mobile) technology to offer certain banking services more efficiently. Peer-to-peer (P2P) lenders,<sup>81</sup> for instance, connect lenders to borrowers via the Internet, forgoing the direct credit risk and associated regulatory scrutiny banks face when lending. At the same time, new regulations have been introduced in the wake of the global financial crisis. Designed to ensure the stability of the global financial system, the new rules are making certain banking services more costly to provide by requiring banks to set aside higher reserves against potential losses, which raises banks’ compliance costs. In addition, differences in new regulations and approaches across countries make it costlier for banks to operate in multiple markets, a trend that may negatively impact trade.

In 2015, U.S. cross-border exports of banking services totaled \$74.2 billion, a 5 percent decrease from 2014, while U.S. imports of banking services were \$17.9 billion (a 2 percent increase from 2014), resulting in a cross-border surplus of \$56.3 billion. Despite a 3 percent average annual growth rate during 2009–12, sales by foreign affiliates of U.S. banks decreased by 7 percent to \$53.9 billion in 2013. Major markets for sales of U.S. banking services continue to be the United Kingdom, Australia, Canada, China, and Germany. Purchases of banking services from U.S. affiliates of foreign banks also decreased during 2012–13, falling by 9 percent to \$44.9 billion.

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<sup>81</sup> Peer-to-peer means facilitated direct transactions.

## Introduction

In the U.S. official statistics for cross-border trade in goods and services, banking services are defined as fee-based commercial banking services. They include financial management and transaction services, advisory services, custody services, credit card services, and other credit-related services, such as trade finance activities. Deposit-taking and lending services are therefore excluded from the cross-border trade statistics shown below, but they are included in the estimates of foreign affiliate transactions and the industry analysis discussion presented later in this chapter.<sup>82</sup>

Deposit taking and lending generate the majority of banking revenues. Banks' gross earnings from these activities may be broadly represented by their net interest margin—i.e., the difference between the interest payments received on loan assets and the interest payments made to depositors and other providers of funding. Banks also generate revenues from other activities, such as charging fees on bank overdrafts or certain transactions. Further, banks routinely sell additional products and services, such as mortgages, credit cards, and other forms of financing to clients, all of which generate industry profits. Commercial and residential mortgages account for 52 percent of the global industry's products and services.<sup>83</sup>

Other major market segments include other business loans (23 percent), home equity and vehicle loans (12 percent), and other secured and unsecured consumer loans (8 percent).<sup>84</sup> Globally, individual consumers represent the largest source of industry revenue (46 percent), followed by corporate clients (30 percent) and government agencies (1 percent).<sup>85</sup> While corporations generally engage in higher-value banking activities, the size of the global consumer market accounts for its higher share of industry revenue.

## Market Conditions

The global retail and commercial banking industry generated revenue of \$2.1 trillion dollars in 2015, a 9 percent decrease from 2014.<sup>86</sup> This represents the first annual decrease in global industry revenue since the global financial crisis in 2008–09, when most major markets banks' revenue declined sharply. In the period spanning 2010 to 2015, bank revenue grew annually by

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<sup>82</sup> See box 3.3. For more detail on how financial services are measured by BEA, see USDOC, BEA, *U.S. International Economic Accounts: Concepts and Methods*, June 30, 2014, 10–13. For a description of how banks' foreign affiliate sales are calculated, see Koncz-Bruner and Flatness, "U.S. International Services," October 2009.

<sup>83</sup> IBISWorld, *Global Commercial Banking*, March 2016, 11.

<sup>84</sup> *Ibid.*

<sup>85</sup> *Ibid.*

<sup>86</sup> Revenue items include interest payments related to bank loan assets and fees charged for various transactions and advisory services. However, total assets, rather than total revenues, are a more useful measure of a bank's size, as they are the sum of all loan assets outstanding. IBISWorld, *Global Commercial Banking*, March 2016, 31.

1 percent.<sup>87</sup> Turbulent markets and trading losses largely explain the decline in revenues during the financial crisis, and the gradual nature of the recovery in economic activity in the post-crisis years has driven the slow growth in banking revenues seen more recently.<sup>88</sup>

Three regions account for over 70 percent of global bank assets: Europe, North Asia, and North America (figure 3.1).<sup>89</sup> While Europe continues to hold the largest percentage of assets, its share has declined since the end of the financial crisis.<sup>90</sup> The European banking sector faced significant instability following the financial crisis, triggering a sharp decline in the value of bank assets (including mortgage and property financing, commercial loans, and sovereign lending). Governments had to step in to support failing banks in several EU member states.<sup>91</sup> North America has likewise seen its share of global banking assets fall, from 23 percent in 2011 to 14 percent in 2014, due to the growth of the banking industry in North Asia.<sup>92</sup> Demand growth is also lower in North America than in other regions because the market for banking services is relatively mature.<sup>93</sup>

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<sup>87</sup> Calculations by USITC staff. IBISWorld, *Global Commercial Banking*, March 2016, 31.

<sup>88</sup> Gray, "US Banks Endure Biggest Drop in Revenues," April 19, 2016.

<sup>89</sup> North Asia includes China, South Korea, and Japan; it is defined as distinct from Southeast Asia. IBISWorld, *Global Commercial Banking*, March 2016, 16.

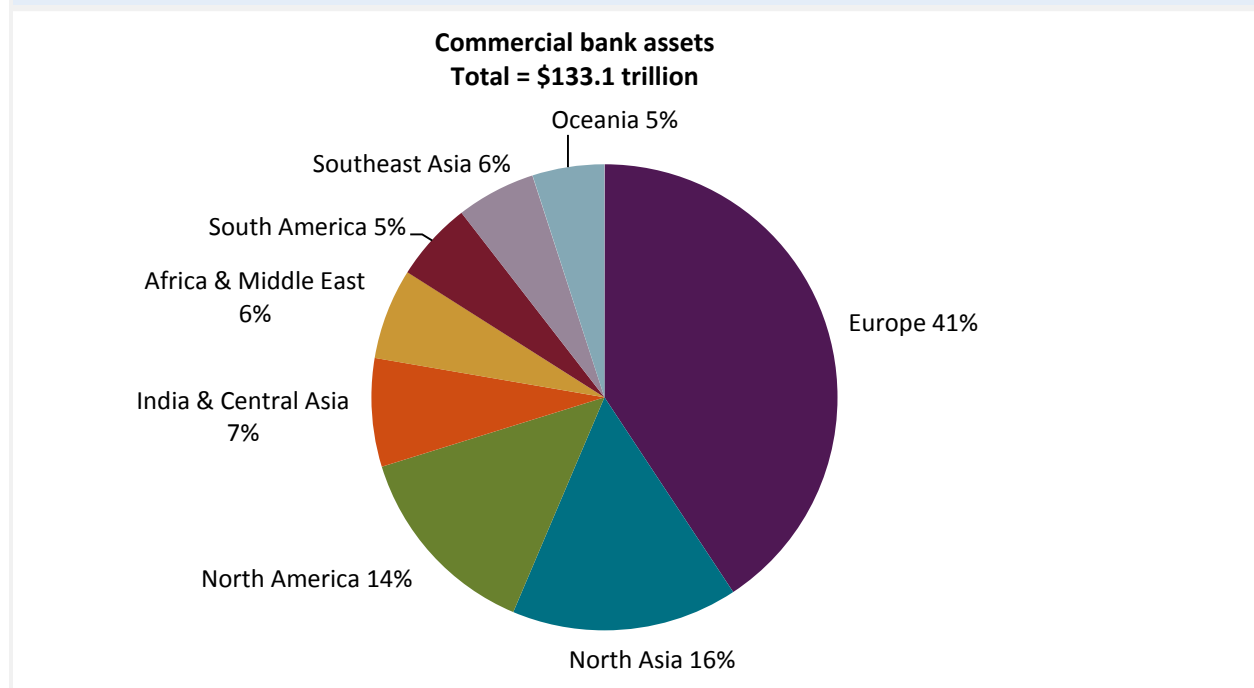
<sup>90</sup> Europe accounted for 47 percent of global assets in 2011. USITC, *Recent Trends in U.S. Services Trade*, July 2012, 3-3.

<sup>91</sup> IBISWorld, *Global Commercial Banking*, March 2016, 15.

<sup>92</sup> USITC, *Recent Trends in U.S. Services Trade*, July 2012, 3-3; IBISWorld, *Global Commercial Banking*, March 2016, 16.

<sup>93</sup> IBISWorld, *Global Commercial Banking*, March 2016, 16.

**Figure 3.1:** Banking Services: Europe had the largest share of bank assets by region in 2014



Source: IBISWorld, *Global Commercial Banking*, March 2016. (See appendix table B.7.)

The large increase in North Asia’s share of the global banking industry, as measured by the world’s leading banks, has been driven by strong growth in the Chinese banking industry. The region’s share of global bank assets increased from 6 percent in 2011 to 16 percent in 2014.<sup>94</sup> Chinese financial institutions dominate the list of the top 10 global banks by total assets, along with several European and Japanese banks and two U.S. banks in 2016 (table 3.1). Other U.S. banks fell just outside the top 10, with Wells Fargo at number 11 and Citigroup at number 13.<sup>95</sup> The growing significance of Chinese institutions reflects the rapid growth of the Chinese economy and large outflows of worldwide foreign direct investment from China in recent years. In each year since 2012, the Chinese banking industry has experienced double-digit annual growth in banking assets, which increased by 18 percent in 2012 and by 14 percent in both 2013 and 2014.<sup>96</sup>

<sup>94</sup> USITC, *Recent Trends in U.S. Services Trade*, July 2012, 3-3; IBISWorld, *Global Commercial Banking*, March 2016, 16.

<sup>95</sup> Banker, “Top 50 Banks in Top 1000 World Banks, 2016,” August 23, 2016.

<sup>96</sup> KPMG, *Mainland China Banking Survey 2015*, July 2015, 4.

**Table 3.1:** Ten largest global banks by total assets, 2016 (billion dollars)

Rank	Bank	Country	Total assets
1	ICBC	China	3,422
2	China Construction Bank	China	2,827
3	Agricultural Bank of China	China	2,741
4	Mitsubishi UFJ Financial Group	Japan	2,649
5	Bank of China	China	2,591
6	HSBC Holdings	UK	2,410
7	JPMorgan Chase & Co	United States	2,352
8	BNP Paribas	France	2,168
9	Bank of America	United States	2,147
10	Credit Agricole	Japan	1,847

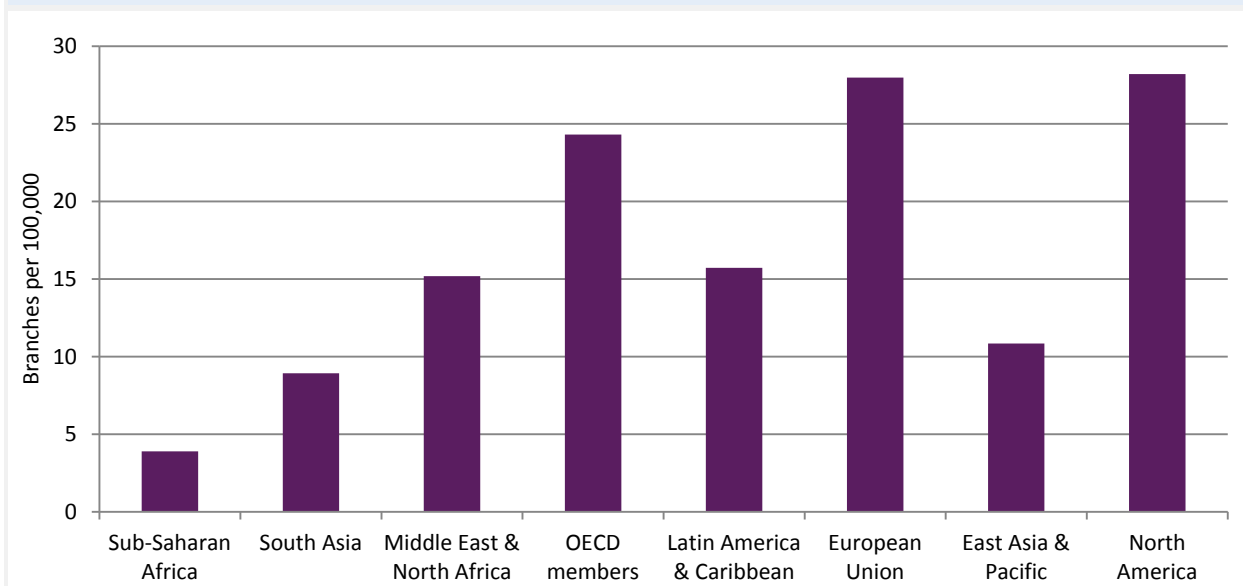
Source: Banker, "Top 50 Banks in Top 1000 World Banks, 2016," August 23, 2016.

However, even with the rapid growth in the past few years, China remains a comparatively underdeveloped banking market, with significant potential for future growth.<sup>97</sup> Elsewhere, low-income regions where only a small percentage of the population has a bank account, such as Southeast Asia and sub-Saharan Africa, represent the biggest potential growth opportunities for the banking sector. In countries that are members of the Organisation for Economic Co-operation and Development (OECD), the percentage of adults in 2014 with an account at a financial institution was 73 percent, while it was only 22 percent in low income countries.<sup>98</sup> A low number of bank branches per person indicates significant growth potential in sub-Saharan Africa, South Asia, Latin America and the Caribbean, as well as East Asia and the Pacific (figure 3.2).

<sup>97</sup> China represents a 12 percent share of the world's unbanked adults ("unbanked" refers to anyone not served by a bank or other financial institution), and China, India, and Indonesia together represent 55 percent of the world's unbanked adult population. McKinsey, "Weathering the Storm: Asia-Pacific Banking Review 2016," June 2016, 23. IBISWorld, *Global Commercial Banking*, March 2016, 16.

<sup>98</sup> World Bank, *Global Findex* (accessed May 2, 2016).

**Figure 3.2: Banking Services: Bank branch concentration was highest in North America and Europe in 2014**



Source: World Bank, World Development Indicators (accessed June 14, 2016). (See appendix table B.8.)

## E-Banking Allows Banks to More Effectively Reach Customers

Banks have been able to sustain revenue growth without expanding their network of brick and mortar branches through the adoption of innovative digital banking services, or “e-banking.”<sup>99</sup> These services allow banks to reach consumers more effectively, while limiting the physical infrastructure and human resource costs associated with expanding physical branches.<sup>100</sup> Globally, a transaction in a physical branch has been estimated to cost 43 times more than a transaction via mobile channels.<sup>101</sup> Consumers are increasingly opting to conduct their banking either online or through a mobile device.<sup>102</sup> Among people in the United States who have a mobile phone, the percentage reporting that they had used mobile banking increased from 22 percent in 2011 to 43 percent in 2015.<sup>103</sup>

Online and mobile banking will also drive the banking industry’s growth in developing nations; according to World Bank estimates, 2 billion adults around the world do not have access to

<sup>99</sup> Kelly, *The Digital Revolution in Banking*, 2014, 9.

<sup>100</sup> IBISWorld, *Global Commercial Banking*, March 2016, 4.

<sup>101</sup> KPMG, *Mobile Banking Report 2015*, July 2015, 22.

<sup>102</sup> According to a 2015 report from the Federal Reserve, in 2014 the most common way consumers interacted with their bank remained in-person at a branch. But 75 percent of consumers also reported using online banking services, and about one-third reported using mobile banking services. Federal Reserve, *Consumers and Mobile Financial Services 2015*, March 2015, 9.

<sup>103</sup> Federal Reserve, *Consumers and Mobile Financial Services*, March 30, 2016, 5.



financial services.<sup>104</sup> KPMG forecasts that the number of global mobile banking users will increase by 1 billion between 2014 and 2019; moreover, it predicts that adoption rates of mobile technology will be highest in the developing world, reaching 60 to 70 percent in India and China, respectively.<sup>105</sup> Increased use of mobile and digital technologies have already been important in Africa for expanding banking services to previously unbanked populations, and this trend is likely to continue.

## Emerging Supply and Demand Factors

Two key drivers—new technologies and tighter regulatory environments—are affecting the global banking industry and international trade in banking services. The following discussion outlines how the emergence of financial technology—or fintech—firms, and the global regulatory response to the 2008–09 financial crisis, are changing business models in the banking sector.

## Financial Technology

### Fintech Makes Significant Inroads in Financial Services

Fintech firms use digital technology and nontraditional, innovative business models to provide financial services to consumers. The emergence of these firms has the potential to fundamentally transform how banking services are provided globally.<sup>106</sup> Fintech firms focus on specific banking services, such as payments and transaction services, lending and financing, and account management, as well as non-banking services such as managing financial assets (figure 3.3).<sup>107</sup> Some examples of fintech firms are Xoom (money transfer), Square (payments), Mint (personal finance), and Lending Club (lending). The fintech sector has grown substantially since 2010, albeit from a small base; investment in fintech grew by 63 percent annually during 2010–14, while loan issuance expanded by 121 percent annually during the period (figure 3.4).<sup>108</sup> However, the global banking industry still dwarfs the fintech sector, with fintech firms accounting for less than 1 percent of total bank lending worldwide.<sup>109</sup>

<sup>104</sup> Global Findex Database (accessed May 17, 2016).

<sup>105</sup> KPMG, *Mobile Banking Report 2015*, July 2015, 1, 5; HV et al., “Weathering the Storm: Asia-Pacific Banking,” June 2016, 23.

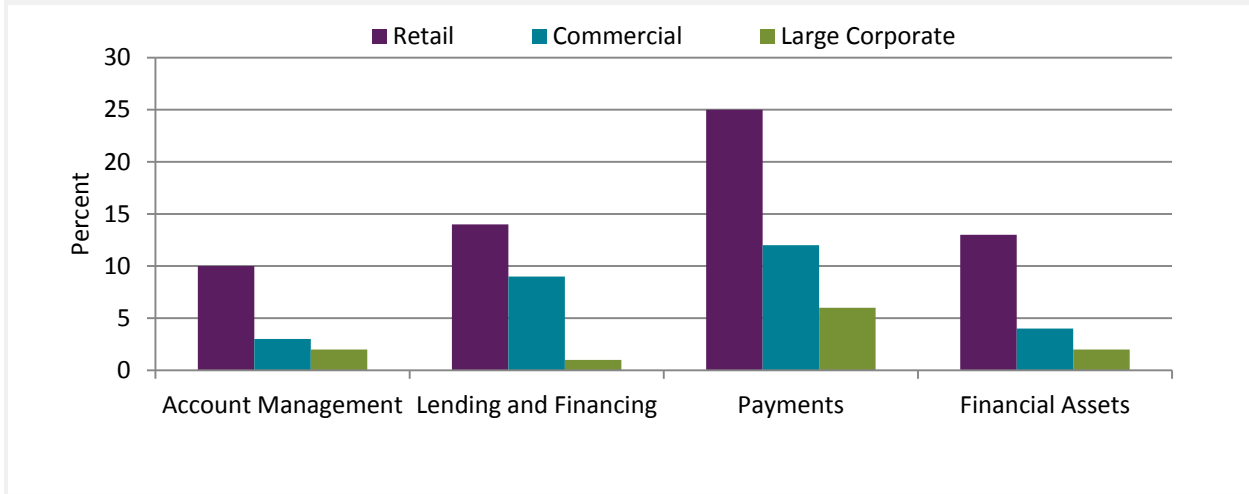
<sup>106</sup> WEF, *The Future of Fintech*, October 2015, 3.

<sup>107</sup> Industry representative, interview by USITC staff, Washington, DC, May 13, 2016.

<sup>108</sup> Compound annual growth rates. USITC calculations; Accenture, *Fintech and the Evolving Landscape*, 2016, 3; Morgan Stanley, *Can P2P Lending Reinvent Banking?* June 17, 2015.

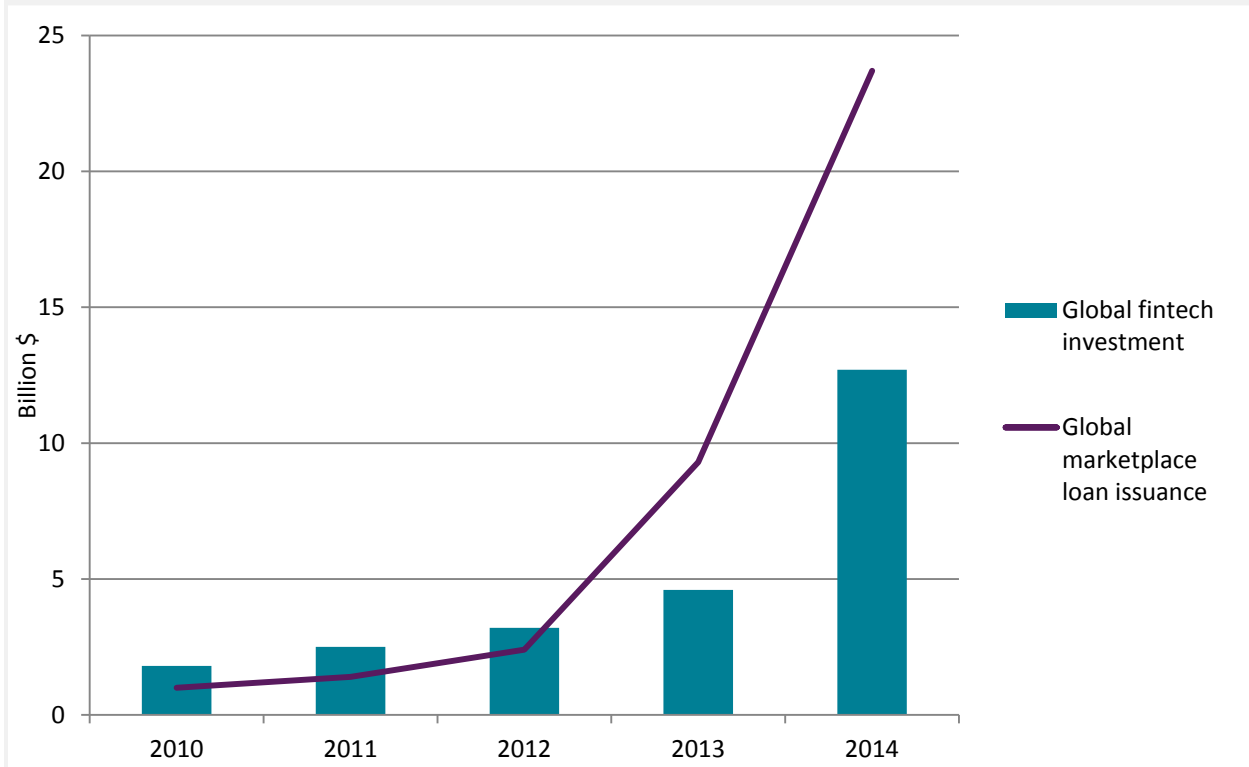
<sup>109</sup> WEF, *The Future of Fintech*, October 2015, 13.

**Figure 3.3:** Banking services: In 2015, global revenues for fintech firms were highest for payment transactions, followed by lending and financing



Source: McKinsey, “Cutting through the Fintech Noise,” December 2015, 2. (See appendix table B.9.)

**Figure 3.4:** Banking Services: Global investment and loan issuance in fintech grew rapidly after 2012



Source: Accenture, *Fintech and the Evolving Landscape*, 2016, 3; Morgan Stanley, *Can P2P Lending Reinvent Banking?* June 17, 2015. (See appendix table B.10.)

Fintech has the potential to both displace and augment traditional financial services—trends commonly referred to as competitive and collaborative fintech, respectively. The majority of new investment in 2015 was in competitive fintech (\$10.2 billion), but there has been strong

growth in collaborative fintech investments (\$8.0 billion). Investment in collaborative fintech ventures increased by 138 percent from 2014 to 2015, compared with an increase of just 23 percent for competitive fintech.<sup>110</sup> Certain financial services, such as payments, tend to produce competitive fintech, while others tend to produce collaborative fintech, such as wealth management. Other products, like lending, produce both collaborative and competitive fintech.<sup>111</sup> Fintech firms are growing in areas where an element of a traditional bank's business can be done more efficiently using new digital technology. A recent survey of traditional bankers found that 95 percent of respondents believe that part of their business could be lost to fintech firms by 2020.<sup>112</sup> However, others argue that by partnering with fintech firms, banks can modernize and improve their own service delivery.<sup>113</sup> An industry representative characterized the fintech segment as being built upon the existing financial system, complementing the efforts of the traditional banking sector.<sup>114</sup>

Some of the growth in fintech activity has been driven by firms' ability to operate in less highly regulated environments; however, the lack of regulatory oversight presents both advantages and disadvantages for fintech firms. Fintech firms face regulatory uncertainty because their business models are not necessarily covered by existing regulations, which were designed before the advent of digital technologies.<sup>115</sup> The U.S. regulatory system, designed to oversee a relatively stable retail banking industry, has struggled to adapt to the recent and rapid emergence of services offered by fintech firms. For example, U.S. P2P fintech lending firms are not deposit-taking institutions like traditional banks; instead, they serve as a platform to connect borrowers and lenders, so they are not subject to the same regulatory standards.<sup>116</sup> Regulators are aware of these trends and are attempting to adjust to this rapidly changing environment.<sup>117</sup>

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<sup>110</sup> Accenture, *Fintech and the Evolving Landscape*, 2016, 6.

<sup>111</sup> Ibid.

<sup>112</sup> PwC, *Blurred Lines*, March 2016, 18.

<sup>113</sup> Wisniewski, "These Startups Are Trying to Solve," October 13, 2015.

<sup>114</sup> Industry representative, interview by USITC staff, Washington, DC, May 13, 2016.

<sup>115</sup> Elliott, "Where Fin-Tech Is Struggling with Regulation," November 24, 2015.

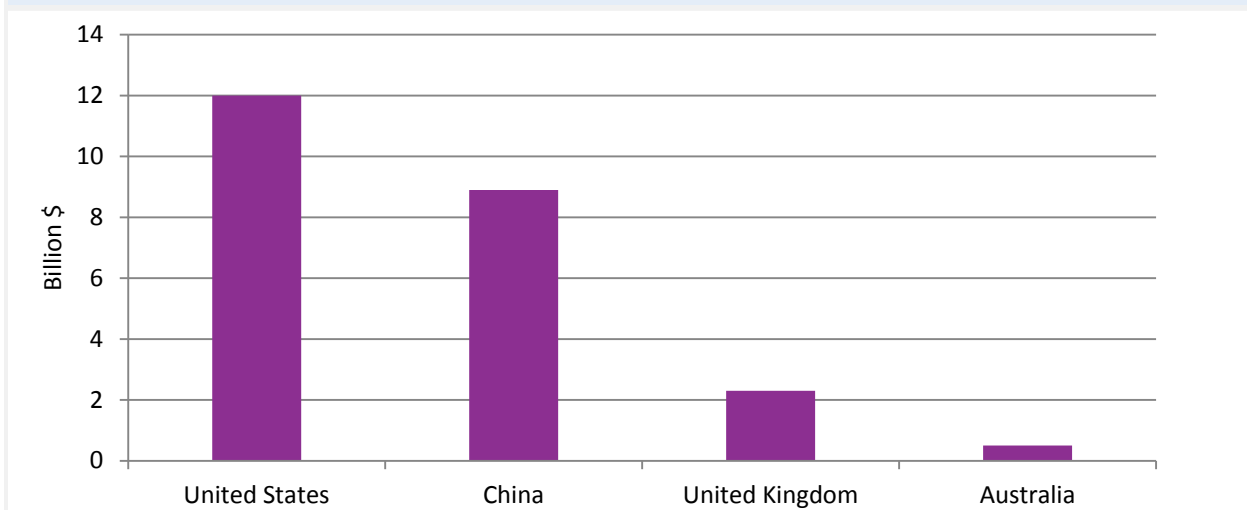
<sup>116</sup> Industry representative, interview by USITC staff, Washington, DC, May 13, 2016; Elliott, "Where Fin-Tech is Struggling with Regulation," November 24, 2015.

<sup>117</sup> For example, the U.S. Office of the Comptroller of the Currency (OCC) has released a paper outlining the OCC's framework for encouraging responsible innovation in financial services. The OCC defines responsible innovation to mean the use of new or improved financial products, services, and processes to meet the evolving needs of consumers, businesses, and communities in a way that is consistent with sound risk management and is aligned with the bank's overall business strategy. Details are currently being formulated. The agency included in its framework a request for input by industry, and those comments arrived in May 2016. OCC, *Supporting Responsible Innovation*, March 2016, 11. Similarly, the Treasury Department issued a May 10, 2016, white paper exploring how to address the regulatory challenges associated with online marketplace lending. U.S. Treasury, *Opportunities and Challenges in Online Marketplace Lending*, May 10, 2016.

## U.S. Fintech Firms Have a Competitive Advantage

The United States is a global leader in fintech, owing to its dominance in both financial services and digital technologies. In 2015, about two-thirds (61 of 94) of global fintech investment deals valued over \$50 million occurred in the United States, with Silicon Valley as the center of global fintech investment.<sup>118</sup> For example, in the P2P lending sector, U.S. firms accounted for over half of global fintech lending in 2014 (figure 3.5).

**Figure 3.5:** Banking Services: U.S. firms led global fintech lending in 2014



Source: Morgan Stanley, *Can P2P Lending Reinvent Banking?* June 17, 2015. (See appendix table B.11.)

U.S. fintech firms offer a broad array of financial services. For example, the U.S. firm Gro Solutions has pioneered a mobile-based bank account-opening process in the United States. An example of a collaborative U.S. fintech firm, iovation Inc., works with banks to detect fraud by tracking devices that try to open multiple accounts under different identities.<sup>119</sup> In the P2P lending sector, San Francisco-based SoFi was the first to use data analytics and algorithmic lending to issue student loans to students unlikely to default.<sup>120</sup> In wealth management services, Acorns is a fintech app that rounds up transactions to the nearest dollar and invests the balance in an exchange traded fund.<sup>121</sup>

<sup>118</sup> Accenture, *Fintech and the Evolving Landscape*, 2016, 4.

<sup>119</sup> Wisniewski, "These Startups Are Trying to Solve," October 13, 2015.

<sup>120</sup> Algorithmic lending involves making credit decisions based on whether a borrower fits certain criteria, without referencing a credit score. Kessler, "The Uberization of Banking," April 29, 2016.

<sup>121</sup> Rao, "PayPal Just Backed an Investment App," April 21, 2016.

## Fintech Eases Entry into Foreign Markets, but Challenges Remain

Fintech can provide banking services to consumers remotely over telecommunications networks without incurring the cost of establishing physical branches.<sup>122</sup> For example, fintech firms like Square and PayPal have become industry leaders in P2P mobile payments and remittances transactions (box 3.1).<sup>123</sup> These firms have quickly established a widespread international presence by leveraging digital technologies to connect service providers to customers without the need for branches in every target market.<sup>124</sup> On the lending side, an example of increased international reach is the U.S. fintech firm Finca, which has partnered with a U.S. analytics company to provide loans in East Africa.<sup>125</sup>

### Box 3.1: Fintech Is Fundamentally Reshaping Payments

Payments are a fundamental banking service, allowing consumers, businesses, and governments to complete transactions without the need for cash. Checks were one of the earliest forms of noncash payment,<sup>a</sup> and electronic payments began with the introduction of the first general-purpose credit card in 1966.<sup>b</sup> In the Internet era, the banks' market position has been sharply eroded, as fintech firms such as PayPal have introduced payment services on digital platforms. Recent industry surveys indicate that payment services are shifting to mobile payment platforms as consumers increasingly use their smartphones to shop. Banks and non-bank payment services providers are responding to this trend by increasing mobile and e-banking services.<sup>c</sup>

Global payments revenue in 2014 was \$1.7 trillion. North America accounted for 24 percent of this revenue, while the Asia-Pacific region accounted for 41 percent.<sup>d</sup> Of this amount, cross-border payments accounted for 13 percent (\$215 billion) of total payment revenue.<sup>e</sup> Business-to-business (B2B) transactions accounted for nearly 80 percent of cross-border payments revenue,<sup>f</sup> while consumer-to-consumer and consumer-to-business transactions make up a significantly smaller share of cross-border payments revenue. Non-bank payments firms, including fintech firms, capture almost 50 percent of all digital payments, including commercial transactions and P2P payments.<sup>g</sup>

The revenue for providing payments services is separately captured by the various participants in the supply chain: banks, credit card companies, digital platforms, and connection enablers. As credit card issuers, banks enable consumers to make payments to any merchant in the credit card network. Payments flow from consumers' bank accounts via the card-issuing bank to merchants' bank accounts, relying on an "open-loop" system of interbank cooperation and funds transfers, allowing merchants and customers with different banks to efficiently complete a payment.<sup>h</sup>

<sup>122</sup> KPMG, *Mobile Banking Report 2015*, July 2015, 22.

<sup>123</sup> Industry representative, interview by USITC staff, Washington, DC, May 13, 2016; BNY Mellon, *Innovation in Payments*, October 2015, 2.

<sup>124</sup> Square operates in Japan, the United States, Australia, and Canada, while PayPal operates in 203 markets. See the Square website, <https://squareup.com/help/us/en/article/4956-international-availability> (accessed June 8, 2016), and the PayPal website, <https://www.paypal.com/webapps/mpp/country-worldwide> (accessed June 8, 2016).

<sup>125</sup> Aglionby, "Fintech Takes Off in Africa," May 16, 2016.

## Chapter 3: Banking

However, electronic payments are in the midst of an evolution beyond the credit card networks created by banks in the second half of the last century, as digital platforms like PayPal provide secure networks for transactions. PayPal operates in 203 countries, allowing businesses and consumers to make secure transactions over the Internet.<sup>i</sup> In 2013, PayPal processed \$43.8 billion of payments over its network. Transactions among OECD members accounted for just under half of these financial flows, while China and the Latin American and Caribbean region received \$5.6 billion (13 percent) and \$1.6 billion (4 percent) of the flows over PayPal's network, respectively.<sup>j</sup>

Fintech firms are also introducing new ways to connect to digital payment platforms. For instance, the payment firm Square has introduced card readers that physically hook into cellphones, allowing anyone with a smartphone to accept a credit card payment, including individuals, entrepreneurs, and service providers like music teachers or gardeners.<sup>k</sup>

Innovation in payments also aims to execute credit card payments without the need for the consumer to physically have the card. "Digital wallet" services such as Apple Pay are responding to consumer demands for convenience.<sup>l</sup> PayPal is also moving towards a card-free payment system. Consumers can securely execute a transaction by using their PayPal credentials instead of entering credit card information (such as card number, card verification code, and expiration date) into each e-commerce platform. By expanding the security and frequency of transactions, these payment innovations increase bank revenues; banks charge fees associated with payments, and as payment volumes rise, so do revenues from those fees.<sup>m</sup>

The future evolution of payments will likely continue the cardless trend, aiming towards a "frictionless" payment experience. The transportation service, Uber, for example, already has removed the need for a card in payment: a consumer designates a credit card to be used for transactions once, and is able to complete subsequent transactions without needing to reenter the information or authorize a particular transaction.<sup>n</sup> Other payment providers are expanding their role beyond just payments to also providing consumers with a secure digital identity. Stronger digital identities reduce the risk of identity theft by allowing transactions to happen without the need to input sensitive card data onto numerous forms that are then stored by each firm, potentially exposing that information to a data breach. For example, American Express offers a service called AmEx Express Checkout where users can pay for Airbnb vacations simply by inputting the American Express login credentials and completing the payment that way.<sup>o</sup>

<sup>a</sup> Federal Reserve Board of San Francisco, "What Is the Fed: Payment Systems," n.d. (accessed June 2, 2016).

<http://www.frbsf.org/education/teacher-resources/what-is-the-fed/payment-services>

<sup>b</sup> A general-purpose credit can be used to make purchases at any establishment and is not tied to a particular firm or industry, like the Diners Club Card.

<sup>c</sup> Higginson, Krieger, and Zhang, "16 in 2016," October 2015, 17.

<sup>d</sup> McKinsey, *Global Payments 2015*, October 2015, 6.

<sup>e</sup> Ibid.

<sup>f</sup> Ibid.

<sup>g</sup> Ibid.

<sup>h</sup> PayPal website, <https://www.paypal.com/webapps/mpp/pay-online> (accessed June 3, 2016); Landers, "How FinTech Is Changing Business," January 7, 2016.

<sup>i</sup> OECD, *Economic and Social Benefits of Internet Openness*, 2016.

<sup>j</sup> Sienkiewicz, "Credit Cards and Payment Efficiency," August 2001, 4.

<sup>k</sup> Gulati, "Gauging the Disruptive Potential of Digital Wallets," May 2015.

<sup>l</sup> Kim, "5 Predictions for the Future of Payments," August 25, 2015.

<sup>m</sup> Wolf, "The Role of Payment Networks," May 11, 2016.

<sup>n</sup> Ibid.

<sup>o</sup> Ibid.

At the same time, U.S. entrants face competition from domestic firms in foreign markets. In China, for example, there are over 1,500 fintech P2P lenders. The largest of these, Lufax, a subsidiary of Ping An Insurance, was valued at \$10 billion when it went to the market to raise capital in early 2015.<sup>126</sup> In Singapore, UOB became the first Asian bank to partner with a fintech firm to provide funding for startups. Another Singaporean financial firm, DBS Bank, has developed its own predictive analytics software to identify fraud through a government-backed partnership for fintech research.<sup>127</sup> In other countries, some firms are even engaging in international P2P transactions, with the UK P2P lender, Funding Circle, connecting UK SMEs to U.S. lenders, for example.<sup>128</sup>

Further, the lack of transparent and stable regulations constrains trade in fintech services. Fintech firms that expand internationally must navigate the diverse regulatory regimes of each market in which they operate. Some countries, such as the UK, Australia, and Singapore, are constructing regulatory frameworks that seek to enable fintech firms to introduce new services quickly (often at their own risk), with the goal of positioning themselves as centers for fintech innovation.<sup>129</sup> For example, in Singapore, the Monetary Authority has created a regulatory “sandbox,” allowing innovative firms to introduce new financial services to the market without going through a complex regulatory approval process, and to assume the risk associated with offering a new product or service themselves.<sup>130</sup> However, government policies designed to promote fintech innovation are varied, and some countries have a longer track record than others.<sup>131</sup> While some larger, more established firms currently operate in multiple countries, most fintech startups have not even considered expanding into foreign markets, possibly because of the complexity of doing so.<sup>132</sup>

## Regulation and Trade in Banking Services

### Regulators Respond to the Financial Crisis

The global financial crisis of 2008–09 exposed serious weaknesses in the global financial system. In response, the G20 countries agreed to a new set of rules in 2010—informally called “Basel III”—to safeguard the global banking system.<sup>133</sup> These rules have had a significant effect on the

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<sup>126</sup> Clover, “China P2P Lender Banks on Social Media Usage,” August 30, 2015.

<sup>127</sup> Vasagar, “Singapore Banks Become a Hotbed for ‘Fintech,’” May 5, 2016.

<sup>128</sup> Alloway, “P2P Lender Bondora Targets Europe,” February 26, 2015.

<sup>129</sup> Vasagar, “Singapore Banks Become a Hotbed for ‘Fintech,’” May 5, 2016; Alloway, “P2P Lender Bondora Targets Europe,” February 26, 2015.

<sup>130</sup> Ibid.

<sup>131</sup> EY, *UK Fintech: On the Cutting Edge*, February 24, 2016, 11.

<sup>132</sup> Industry representative, interview by USITC staff, Washington, DC, May 13, 2016.

<sup>133</sup> BIS, *Tenth Progress Report*, April 2016; Alper and Egan, “Basel III Delinquents May Face Sanctions,” November 4, 2012.

industry, changing how banks assess credit and market risks and limiting some of the activities banks can engage in. Some regulators concede that tighter regulations since the crisis may be partially responsible for the global trend of “de-risking” whereby banks eliminate some business lines and classes of customers.<sup>134</sup> Additionally, differences in the way national banking regulators are implementing the new standards have complicated the regulatory landscape, raising compliance costs and making it harder for banks to operate internationally.<sup>135</sup> As banks pull back their involvement in foreign markets, both cross-border trade in banking services and the sales of foreign affiliates may be negatively affected.

The Basel III standards seek to strengthen the global banking system by improving the ability of the banking sector to withstand negative shocks.<sup>136</sup> According to the Basel Committee on Banking Supervision, the standards aim not only to improve how an individual country regulates its banking sector and manages systemwide risks, but also how to strengthen individual banks so they can withstand periods of distress. At the individual bank level, reforms focus on capital and liquidity. Increased capital standards mean that banks can absorb greater losses without losing viability. New liquidity standards ensure that banks can more easily fund short-term activities by selling their assets.<sup>137</sup> The Basel Committee states that these reforms aim to reinforce each other, with more stable individual banks contributing to a more stable banking system and a more stable system allowing banks to face more manageable risks. The Basel III standards also recognize a class of large, important banks which are subject to stricter regulation.<sup>138</sup> These systemically important financial institutions (or SIFIs) tend to be the ones that are the most engaged in trade, and country-specific variations of these rules can have a larger impact on trade.

### Regulations Differ from Country to Country

The United States enacted the Dodd-Frank Act of 2010 to rewrite financial regulations in order to improve banking stability. The act requires banks to maintain stronger balance sheets by holding increased capital and to create plans for orderly dissolution in case of trouble (these are also known as banks’ “living wills”). It also requires that U.S. deposit-taking institutions no longer engage in proprietary trading (whereby a bank uses its own money instead of deposits to make trades), an activity which could significantly increase the volatility of banks’ profits.<sup>139</sup> Furthermore, it provides mechanisms to close regulatory gaps that previously existed, such as

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<sup>134</sup> Tracy, “Policy Makers Defend Postcrisis Financial Regulation,” May 7, 2016.

<sup>135</sup> IRSG, “Regulatory Landscape” (accessed June 7, 2016).

<sup>136</sup> One example could be a recession that causes significant defaults. See BIS, “Basel III: International Regulatory Framework for Banks,” n.d. (accessed June 7, 2016).

<sup>137</sup> BIS, “Basel Committee on Banking Supervision,” n.d. (accessed June 7, 2016).

<sup>138</sup> Ibid.

<sup>139</sup> U.S. Treasury, *Dodd-Frank at Five Years*, July 2015, 11.



the Financial Stability Oversight Council, which serves as a coordinating mechanism for various regulators to communicate and promote the overall stability of the financial system.<sup>140</sup>

While these requirements meet the Basel III standards, several U.S. rules and regulations are stricter. For instance, the Federal Reserve requires a 6 percent leverage ratio for large institutions, as opposed to the 3 percent required by Basel III.<sup>141</sup> Additionally, the United States imposes higher capital standards on SIFIs, ranging from an additional 1 to 5 percent of total assets versus only 1 to 3 percent of total assets in Basel III.<sup>142</sup> The U.S. rules require large banks to either hold more capital or decrease their size.

In the UK—like the United States, a large exporter of banking services—similar reforms were instituted. UK retail banks will be required to hold a special capital buffer of as much as 3 percent of their assets, weighted for risk.<sup>143</sup> UK banking regulators also went beyond Basel III standards by developing and adopting rules on “ringfencing” retail banks, to separate the provision of consumer banking services from the more volatile trading activities of investment banks.<sup>144</sup> These rules would require larger banks to separate their investment and retail banking activities by 2019.<sup>145</sup> The separation would allow regulators to require higher capital buffers for the retail segment and minimize reliance on the investment bank for revenue.<sup>146</sup> Furthermore, the UK has introduced a Senior Managers Regime that names individual managers who must take personal responsibility for certain banking functions and could face criminal penalties in the event that the bank fails.<sup>147</sup>

As with the United States, these rules particularly affect the largest UK banks and could impact trade by increasing the costs to comply with regulations or by placing very large banks at a competitive disadvantage vis-à-vis other competitors. At the same time, the June 2016 referendum in the UK to exit the EU will likely affect both the UK and global financial services sectors (see box 3.2).

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<sup>140</sup> U.S. Treasury, *Dodd-Frank at Five Years*, July 2015, 13.

<sup>141</sup> Keats, “Are Tougher Regulations Helping or Hurting US Banks?” November 16, 2016.

<sup>142</sup> IIB, *2015 Global Survey*, October 2015, 111.

<sup>143</sup> FastFT, “BoE Sets Out Capital Rules for Ringfenced Banks,” May 26, 2016.

<sup>144</sup> These rules will have a similar effect to the Glass-Steagall Act. PRA, “The Implementation of Ring-fencing,” March 2016; *The Week*, “How Will the UK Bank Ringfence Work?” October 26, 2015.

<sup>145</sup> This is similar to Glass-Steagall, enacted in 1933 in response to the Great Depression. IIB, *2015 Global Survey*, October 2015, 98.

<sup>146</sup> *The Week*, “How Will the UK Bank Ringfence Work?” October 26, 2015.

<sup>147</sup> IIB, *2015 Global Survey*, October 2015, 99.

### **Box 3.2:** The Impact of Brexit on Financial Services

On June 23, 2016, the United Kingdom voted in a referendum to leave the European Union (“Brexit”).<sup>a</sup> This will likely have a significant impact on the UK’s financial services industry.

Industry clusters, such as financial services in London, are groups of interconnected companies that share knowledge, are close to clients, can access specialized labor and services inputs, and benefit from economies of scale.<sup>b</sup> The cluster of financial and related services firms in the UK generates \$300 billion in annual output and employs 2.2 million people,<sup>c</sup> and by some estimates makes London the top financial center in the world.<sup>d</sup> This industry is highly international: in 2014, the UK’s \$102 billion in insurance and financial services exports were equivalent to 3.4 percent of its GDP.<sup>e</sup> By contrast, such exports only accounted for 0.8 percent of GDP in the rest of the EU and 0.6 percent in the United States. Many foreign firms (including U.S. firms) have established financial operations in London and use it as a gateway to the European market.

The EU is the UK’s top market for financial services: it receives about one-third of the UK’s financial and insurance services exports and one-half of its cross-border bank lending.<sup>f</sup> In 2015, London had only 2.6 percent of the EU’s total jobs, but had 6.2 percent of the EU’s finance and insurance jobs, reflecting the high geographic concentration and tradability of these services.<sup>g</sup> And while the UK accounts for 18 percent of the EU’s GDP, it hosts 85 percent of the EU’s hedge fund assets and 64 percent of its private equity funds.<sup>h</sup>

This concentration is possible because EU membership provides UK-based financial firms (including foreign firms that have offices in the UK) with a “passport,” signifying mutual recognition of prudential standards. This allows financial firms to offer cross-border services and open branches across the EU.<sup>i</sup> Without such a passport, firms must get regulatory permissions for each country where they operate.

Before the referendum, several financial firms indicated that Brexit would likely cause them to shift resources from the UK to subsidiaries in the EU (e.g., in Dublin, Paris, or Frankfurt) in order to maintain access to their clients. HSBC said it may move up to 1,000 trading jobs to Paris, Morgan Stanley said it may move 1,000 jobs out of London, and JP Morgan said it may move up to 4,000 jobs out of the UK.<sup>j</sup>

There have been previous efforts to reduce London’s role in the EU’s financial system. In 2011, the European Central Bank required clearing houses that handled large volumes of euros to be located in Eurozone countries so it could better monitor trades and provide liquidity in a crisis. The UK challenged this policy, and in 2015 the EU General Court ruled that the UK could host such clearing houses, which process about \$1 trillion of euro-based trades per day. However, after the referendum, French president François Hollande reopened the issue by arguing that euro-denominated clearing must take place within the EU.<sup>k</sup>

Key questions that are frequently posed for the financial services industry after Brexit:

- Will the UK have a voice in designing future EU financial regulations, and will it have to abide by those regulations in order to access the EU market?
- Will the UK fall outside of the EU’s data protection and transfer regime?
- Will the UK lose preferential trade benefits (including provisions on financial services) that have been established by EU trade agreements with 53 other countries?

- As skilled labor is a key input to the financial sector, will new restrictions on the movement of people or the loss of workers through emigration erode London’s competitive position?
- How will ancillary industries like legal, accounting, and consulting services be affected?

The consequences for financial services will depend on new UK-EU arrangements, still to be negotiated. Possible arrangements include membership in the European Economic Area (like Iceland, Liechtenstein, and Norway), the European Free Trade Association (like Switzerland), or a customs union (like Turkey). The UK could also merely have World Trade Organization “most favored nation” status with respect to the EU, or the parties could draft a completely new trade agreement.<sup>l</sup> Notably, some of these arrangements require contributions to the EU budget and commitments to the free movement of people, both sensitive issues in the UK. Most arrangements do not provide access to the EU’s single market for financial services, and where access is provided it is contingent on the UK adopting EU regulations (without having any formal influence on such regulations).

In any scenario, London will likely retain competitive advantages in financial services by virtue of its legal system, business environment, and skilled labor, and the city will incentivize financial firms to stay. However, many firms are likely to wait and see what happens before making large new investments or hiring new employees in the UK, and in the meantime consider their options including shifting their operations to the EU.<sup>m</sup>

<sup>a</sup> “Leave” won by 52 percent to 48 percent, on a turnout of 72 percent (or more than 30 million voters).

<sup>b</sup> Porter, “Clusters and the New Economics of Competition,” 1998.

<sup>c</sup> TheCityUK, “Key Facts,” March 2016, 4.

<sup>d</sup> Yeandle, *Global Financial Centres Index 19*, March 2016. This index is based on business environment, human capital, financial sector development, infrastructure, and reputation. London is followed by New York and Singapore.

<sup>e</sup> World Bank, *World Development Indicators* (accessed July 5, 2016).

<sup>f</sup> IMF, *United Kingdom: Selected Issues*, June 17, 2016, 14.

<sup>g</sup> UK, ONS, *Workforce Jobs by Industry* (accessed July 5, 2016); Eurostat, *Employment by Sex, Age, and Economic Activity* (accessed July 5, 2016).

<sup>h</sup> TheCityUK, “A Guide to the EU Referendum,” May 2016, 4.

<sup>i</sup> Passporting applies to a variety of financial services, including operating trading platforms, regulating prospectuses for public offerings, managing and marketing collective investment schemes, and acting as central counterparties. International Organization of Securities Commissions, “IOSCO Task Force on Cross-Border Regulation,” 2014, 27.

<sup>j</sup> Arnold and Noonan, “Banks Begin Moving Some Operations Out of Britain,” June 26, 2016. For HSBC and Morgan Stanley, these numbers represent about 20 percent of staff employed in their London trading operations.

<sup>k</sup> Brunsdon and Chassany, “François Hollande Rules Out City’s Euro Clearing Role,” June 28, 2016.

<sup>l</sup> Kierzenkowski et al., “The Economic Consequences of Brexit,” April 2016.

<sup>m</sup> Barker, “City of London Has Lost Its Voice with Brexit,” June 26, 2016.

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In the EU, the Capital Requirements Directive 4 (CRD4) has been introduced to implement the Basel III standards, similar to Dodd-Frank in the United States.<sup>148</sup> Taking effect in January 2014, CRD4 brings the EU in line with the Basel III capital standards, but also creates a limit on bonuses that can be given to bankers.<sup>149</sup> Some sources view these restrictions on compensation as having the potential to undermine a bank's willingness to enter a foreign market due to concerns about recruiting top talent.<sup>150</sup> The EU has also undertaken additional rule-making regarding a broad overhaul of the European Financial Regulation and a framework for bank resolution.<sup>151</sup>

In November 2013, China issued new capital standards for banks, bringing Chinese standards generally in line with the Basel III requirements.<sup>152</sup> However, Chinese standards are also stricter than the Basel III standards when it comes to calculating risk.<sup>153</sup> Six of China's largest banks were unable to meet the strict capital standards, resulting in a waiver being issued by the Chinese regulator, the Chinese Banking Regulatory Commission.<sup>154</sup> On December 20, 2014, separately from its implementation of Basel III rules, China issued new rules providing greater market access for foreign banks wishing to enter the Chinese market.<sup>155</sup> In Hong Kong, where banks are regulated separately from mainland China, the Basel III regulations have additional impacts. The implementing rules require banks to hold certain types of domestic assets, such as government bonds, to withstand market volatility.<sup>156</sup> However, governments like Hong Kong simply do not issue the levels of debt often found in Western markets, making it difficult for banks to meet their regulatory liquidity requirements.<sup>157</sup> This difficulty could prevent some banks from establishing affiliates in markets like Hong Kong, diverting international trade in banking from those markets.

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<sup>148</sup> Banking in the UK has also been governed by regulations issued by the European Union (EU). However, the June 23, 2016, referendum in the UK exiting the EU will have profound institutional implications for the EU financial system. See box 3.2 on Brexit's implications for the financial services sector. It is estimated that EU-level directives account for about one-sixth of UK regulations. Morgan, "Financial Services Sector Implications," March 28, 2016; IIB, "2015 Global Survey," October 2015, 30, 31.

<sup>149</sup> BBC, "EU Tightens Up Bank Lending Rules," April 16, 2013.

<sup>150</sup> UK regulators maintain that their regime for bonuses is already effective and that the EU caps provided for under CRD4 could have a perverse effect on UK banking. BBC, "EU Tightens Up Bank Lending Rules," April 16, 2013.

<sup>151</sup> EC, "Economic Review of the Financial Regulation Agenda," May 5, 2014; EC, "EU Bank Recovery and Resolution Directive (BRRD)," April 15, 2014.

<sup>152</sup> CBRC, "Capital Rules for Commercial Banks," November 29, 2013.

<sup>153</sup> BIS, "Post-RCAP Follow-up Report," March 2015, 2.

<sup>154</sup> The waiver allowed the subject banks to use their own models to evaluate risk when calculating capital requirements. Zhu, "Six Chinese Banks Allowed to Use," April 24, 2014.

<sup>155</sup> IIB, *Global Survey 2015*, October 2015, 24.

<sup>156</sup> KPMG, *Hong Kong Bank Survey*, September 2012, 13.

<sup>157</sup> Ibid. For a more detailed discussion of how differences in the approaches of different national bank regulators affect international trade in banking services, see Norton Rose Fulbright, *Supervision of International Bank Branches*, n.d. (accessed June 7, 2016).

## Differences in Regulation Affect Trade in Banking Services

Most international trade in banking services occurs by using the commercial presence of a bank in a foreign market (mode 3).<sup>158</sup> As a highly regulated activity, banks face high costs demonstrating to regulators that they have complied with the various rules.<sup>159</sup> For the largest banks, compliance costs can amount to billions of dollars.<sup>160</sup> Large banks with experienced compliance departments are most easily capable of absorbing these costs, making larger banks more likely to provide services internationally. However, large banks are increasingly the focus of special regulatory rules designed to limit the potential for a large firm to introduce instability into the global financial system. These two trends serve to limit trade in banking services. In other words, while complex regulations may deter smaller banks from entering foreign markets, regulations that specifically target larger institutions reduce international activity by those banks that remain interested in operating in multiple countries.<sup>161</sup>

## Trade Trends

### Cross-border Trade

In 2015, U.S. cross-border exports of banking services totaled \$74.2 billion and cross-border imports totaled \$17.9 billion, creating a surplus of \$56.4 billion (figure 3.6) (box 3.3). The U.S. surplus in banking services declined by 6 percent from 2014 to 2015, reversing a trend of growing trade surpluses since 2010. The United States has registered a cross-border trade surplus in banking services each year from 2010 to 2015.

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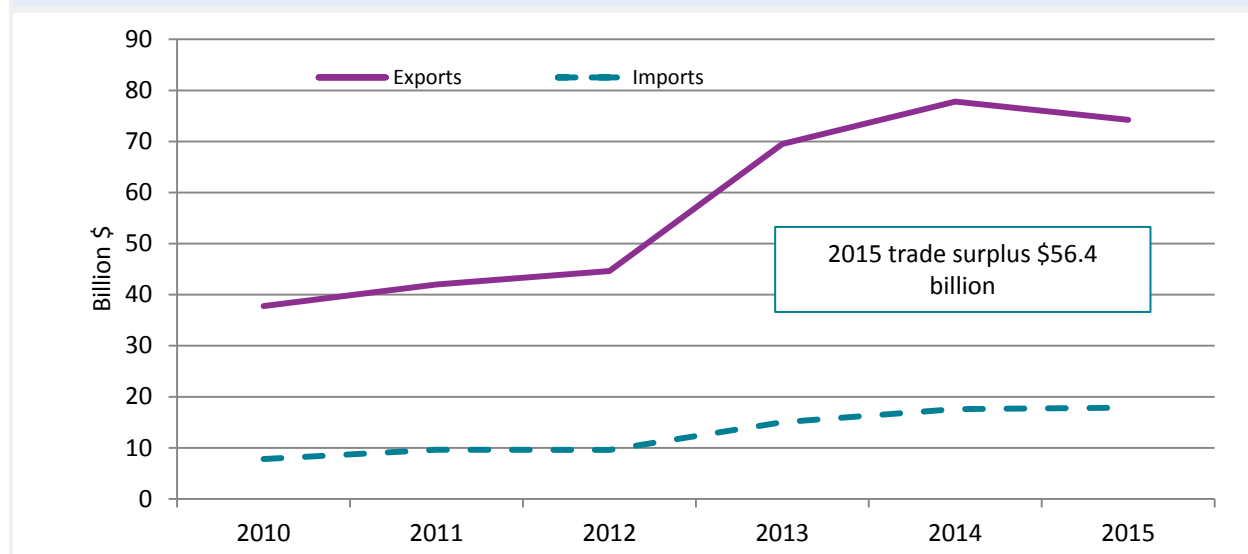
<sup>158</sup> See “Trade Trends” section.

<sup>159</sup> Noonan, “Banks Face Push Back,” May 28, 2015.

<sup>160</sup> Ibid.

<sup>161</sup> Conversely, new and more complicated rules may increase the likelihood that a bank will leave a particular market.

**Figure 3.6:** Banking services: U.S. cross-border trade in banking services resulted in a U.S. trade surplus each year during 2010–15



Source: USDOC, BEA, table 3.1, “U.S. International Trade in Services” (accessed June 16, 2016). (See appendix table B.12.)

Note: BEA conducted a benchmark survey that greatly increased the number of respondents reporting international trade flows of banking services. This increase is reported for the years 2013, 2014, and 2015, and is responsible for the sharp increase in flows between 2012 and 2013.

The recovery from the global financial crisis resulted in strong growth of U.S. exports of banking services since 2010. However, between 2014 and 2015, U.S. exports decreased by 5 percent, during a period of low interest rates and a rapidly changing regulatory environment, as discussed above. This decline can primarily be attributed to a decrease in exports of financial management, financial advisory, and custody services.

**Box 3.3:** An Explanation of BEA Data on Cross-Border Trade and Affiliate Transactions in Banking Services

Official data on cross-border trade in banking services are not available. BEA reports data for non-insurance financial services broken out into four categories:

- Financial management, financial advisory, and custody services
- Credit card and other credit-related services
- Securities brokerage, underwriting, and related services
- Securities lending, electronic funds transfer, and other services

The Commission reports the sum of the first two categories (financial management, financial advisory, and custody services, and credit card and other credit-related services) as cross-border trade in banking services while reporting the other two categories as securities services. Both banks and securities firms engage in all four classes of activity. However, the activities reported as banking services tend to be

dominated by banks, while those reported as securities services tend to be provided predominantly by securities firms.

Official data on affiliate transactions are not presented symmetrically. Sales by non-insurance U.S. majority-owned foreign affiliates are categorized as depository credit intermediation and other non-insurance financial services. However, purchases are only categorized as insurance and non-insurance financial services. Due to this asymmetry, affiliate transactions in banking services can only be addressed in the context of U.S. exports.

Both cross-border trade and affiliate transactions of banking services can be broken into imports and exports. For cross-border trade, a U.S. import occurs when a U.S. person purchases a banking service from a bank located in another country. Similarly, an export occurs when a foreign person in his or her home country purchases a banking service from a U.S. bank located in the United States. Affiliate transactions occur through the establishment, by a bank of one country, of a commercial presence in another country. A U.S. export occurs when a U.S. bank established in a foreign market sells banking services to a person of that country. Similarly, a U.S. import occurs when a U.S. person purchases a banking service from a foreign bank established in the United States.

U.S. imports of banking services increased by 2 percent from 2014 to 2015, compared to 17 percent growth from 2013 to 2014. U.S. imports of credit card and credit-related services are an increasingly important component of U.S. imports of banking services, growing at a rate of 4 percent from 2014 to 2015, compared to 1 percent for financial management, financial advisory, and custody services. The slowdown of U.S. imports of banking services from 2014 to 2015 is attributable to the same factors causing the slowdown in exports.

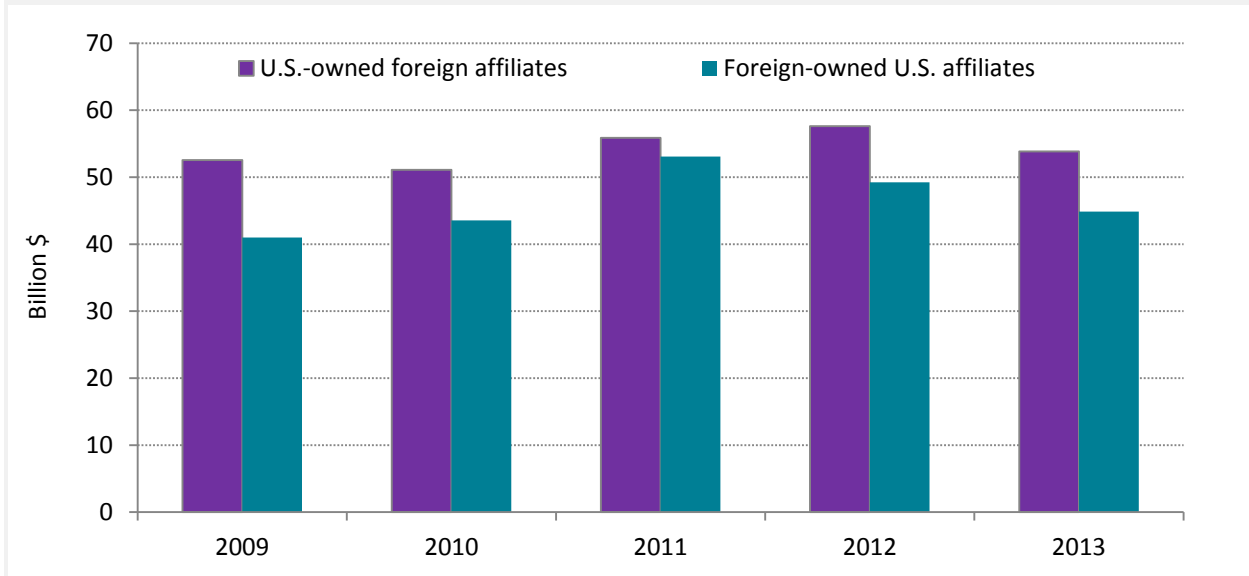
## Affiliate Transactions

Sales by U.S.-owned foreign affiliates (U.S. companies with a commercial presence in a foreign country) decreased by 7 percent from 2012 to 2013, compared to a compound annual growth rate (CAGR) between 2009 and 2012 of 3 percent (figure 3.7). Purchases from foreign-owned U.S. affiliates decreased 9 percent from 2012 to 2013, despite a CAGR of 6 percent during 2009–12. The decrease in affiliate transactions in U.S. banking services in recent years likely reflects the larger global trend (discussed above) for financial services providers of de-risking to comply with new capital requirements. In particular, services to foreign embassies, nonprofit organizations, and correspondent banking are particularly affected by this trend.<sup>162</sup>

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<sup>162</sup> Correspondent banking occurs when one financial institution maintains an account with a foreign financial institution to take advantage of financial services that may be performed more economically or efficiently by the foreign bank in its domestic market. FFIEC, “Correspondent Accounts (Foreign)—Overview,” Bank Secrecy Act/Anti-Money Laundering Infobase, [http://www.ffiec.gov/bsa\\_aml\\_infobase/pages\\_manual/olm\\_047.htm](http://www.ffiec.gov/bsa_aml_infobase/pages_manual/olm_047.htm) (accessed August 8, 2016); Durner and Shetret, *Understanding Bank De-Risking*, November 2015, 3.

**Figure 3.7:** Banking services: U.S.-owned foreign affiliate sales outpaced purchases from foreign-owned U.S. affiliates during 2009–13

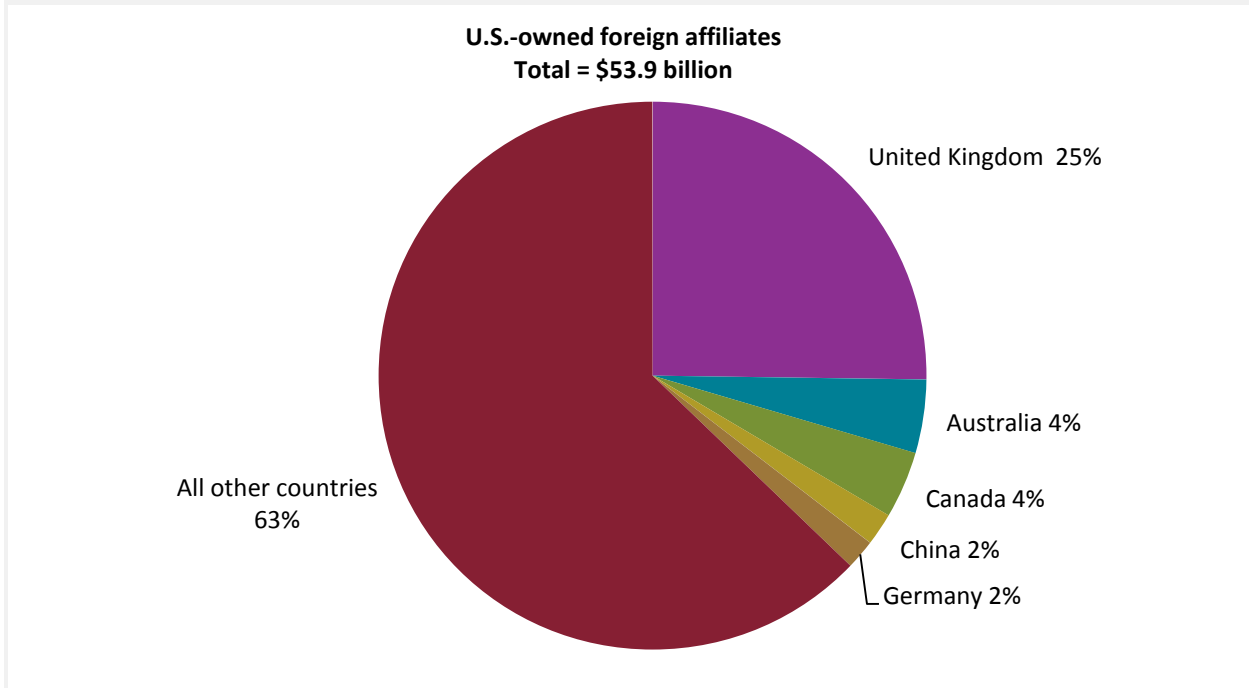


Source: USDOC, BEA, table 3.1, “Services Supplied to Foreign Persons by U.S. MNEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate,” and table 4.1, “Services Supplied to U.S. Persons by Foreign MNEs through Their MOUSA, by Industry of Affiliate and by Country of UBO” (both accessed March 3, 2016). (See appendix table B.13.)

In 2013, the UK was the largest purchaser of banking services sold through U.S.-owned foreign affiliates, purchasing \$13.6 billion (25 percent) of banking services (figure 3.8). Australia and Canada both accounted for about 4 percent of all U.S.-owned foreign affiliate sales, purchasing \$2.3 and \$2.1 billion, respectively. China (\$1.0 billion) and Germany (\$0.9 billion) rounded out the top five purchasers of banking services from U.S.-owned foreign affiliates in 2013.



**Figure 3.8:** Banking services: In 2013, the United Kingdom was the largest purchaser of banking services from U.S.-owned foreign affiliates



Source: USDOC, BEA, table 3.1, "Services Supplied to Foreign Persons by U.S. MNEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate," and table 4.1, "Services Supplied to U.S. Persons by Foreign MNEs through Their MOUSA, by Industry of Affiliate and by Country of UBO" (accessed March 3, 2016). (See appendix B.14.)

Note: Country-level data for foreign-owned U.S. affiliates of banking firms is limited and not included.

## Outlook

The outlook for banking services is positive. Demand for financial services generally tracks economic activity, and as the global economy continues to stabilize from the financial crisis and returns to growth, demand for financial services is expected to increase as well.<sup>163</sup> Despite weak performance in 2015, industry revenue is expected to grow modestly in 2016.<sup>164</sup> Beyond 2016, the banking industry is forecast to have revenues increase in the next five years. Similarly, industry assets are expected to increase.<sup>165</sup> However, new capital requirements could depress industry profits.<sup>166</sup>

Emerging economies are forecast to have strong growth in the coming years, and global banks have an opportunity to expand into these markets.<sup>167</sup> Growth in emerging economies is expected to come, in part, from high adoption rates for mobile banking technologies, which

<sup>163</sup> Rouzet et al., *Services Trade Restrictiveness Index (STRI)*, November 4, 2016, 6.

<sup>164</sup> Conerly, "Banking Forecast 2015," January 12, 2015.

<sup>165</sup> IBISWorld, *Global Commercial Banking*, March 2016, 7.

<sup>166</sup> Ibid.

<sup>167</sup> Ibid.

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allow banking services to be provided without costly networks of physical infrastructure.<sup>168</sup> The existence of developing countries with relatively young populations and good telecommunications networks implies that there will be exponential growth in the number of mobile banking customers over the next 5–10 years.<sup>169</sup>

The outlook is less certain when it comes to the challenges and opportunities posed by fintech. Fintech firms are offering innovative new services that are more efficient and less costly than those offered by traditional banks. Banks increasingly perceive fintech firms as partners in the delivery of banking services and have begun to collaborate with them, leveraging the banks' relationship with their customers while allowing the fintech firms to design and facilitate the customer interface.<sup>170</sup> If they are able to continue to embrace fintech and use innovative technology to enhance the delivery of banking services, banks will be in a stronger and better position to grow.<sup>171</sup>

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<sup>168</sup> KPMG, *Mobile Banking Report 2015*, July 2015, 3.

<sup>169</sup> *Ibid.*

<sup>170</sup> PwC, "Blurred Lines," March 2016, 29.

<sup>171</sup> Accenture, *Fintech and the Evolving Landscape*, 2016, 11.

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# Chapter 4

## Insurance Services

### Summary

The United States is the world’s largest insurance market. It accounted for 27 percent of total global premiums in 2014, a 2 percent increase over 2013.<sup>172</sup> U.S. insurance companies also held the most assets in 2014—\$5.2 trillion, on which they earned \$223.2 billion in net investment income.<sup>173</sup> U.S. insurers face both challenges and opportunities: they report that climate change is complicating the provision of coastal property insurance and crop insurance, and life insurers are struggling with low global interest rates that depress investment income. At the same time, cybersecurity insurance represents a new and rapidly growing market.

U.S. trade in insurance services through affiliates—sales by U.S.-owned affiliates in foreign markets, and purchases from foreign-owned affiliates in the United States—continues to exceed cross-border trade in insurance by a wide margin. The United States maintained a large deficit in cross-border insurance trade in 2015, though that deficit shrank to its lowest level since 2006. Similarly, purchases of insurance from U.S. affiliates of foreign firms have modestly exceeded sales by foreign affiliates of U.S. firms since 2011. Going forward, emerging markets will likely be the fastest-growing insurance markets, and the industry will continue to be shaped by regulatory changes, liberalization of trade barriers, and the introduction of new data analytics technologies, among other factors.

### Introduction

The insurance industry plays a critical role in the global economy by managing risk. Insurers underwrite financial risks—i.e., they accept liability and guarantee payment in case of loss—by selling life and non-life (property and casualty) products. They also provide services such as reinsurance (which transfers risk between insurance companies), marine and transportation insurance (which covers goods in transit), and insurance brokerage services (which package policies from multiple underwriters).<sup>174</sup>

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<sup>172</sup> Insurance Information Institute, “Top 10 Countries by Life and Nonlife Direct Premiums Written” (accessed May 9, 2016).

<sup>173</sup> OECD, OECD.Stat, Insurance Indicators (accessed May 25, 2016).

<sup>174</sup> There are also many new and innovative insurance products under development or growing quickly, such as pandemic insurance, insurance covering shared transportation and lodging services, and cybersecurity insurance (See Box 4.1).

The ability to purchase insurance encourages economic activity: it mitigates the risks of project failure for business owners, reduces social threats by offering consumer discounts for low-risk behavior, and increases the volume of investable funds by pooling the premiums of small investors. Revenues in the insurance industry are largely a product of collected premiums and investment income, minus claims paid to policy holders.

## Market Conditions

The total (life and non-life) world insurance market shrank by 4 percent in 2015 to \$4.6 trillion, as measured by total premiums.<sup>175</sup> The United States is the largest market by far; its \$552.5 billion in life premiums and \$763.8 billion in nonlife premiums together accounted for 29 percent of total premiums written globally (table 4.1). Japan, China, and the United Kingdom were the world's second-, third-, and fourth-largest insurance markets, accounting for 10 percent, 8 percent, and 7 percent of total world premiums, respectively. Japan's share of the world total has fallen from 13 percent in 2010, while China's share has risen from 5 percent in 2010.<sup>176</sup> China had the fastest 2015 growth rate: its \$386.5 billion in total 2015 premiums was 18 percent higher than in 2014. As people get wealthier they acquire more valuable property that can be insured, so the highest growth rates are likely to be in emerging markets like China for the foreseeable future. The ratio of life premiums to nonlife premiums varies among countries; in the United States, nonlife premiums accounted for 58 percent of total premiums in 2015, but in Japan they accounted for only 24 percent. Insurance penetration rates (the ratio of premiums written to GDP) also vary among countries, ranging from an estimated 3 percent in China to 13 percent in South Korea.<sup>177</sup>

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<sup>175</sup> Insurance Information Institute, "Top 10 Countries by Life and Nonlife" (accessed May 9, 2016).

<sup>176</sup> Insurance Information Institute, *International Insurance Fact Book 2012*, 2012.

<sup>177</sup> OECD, OECD.Stat, "Insurance Indicators" (accessed May 9, 2016).

**Table 4.1:** Top countries by direct premiums written, 2015

Country	Life premiums (billion \$)	Nonlife premiums (billion \$)	Total premiums (billion \$)	CAGR for total premiums, 2011–15	Percent of total world premiums	Total insurance penetration, 2014 (%)
United States	552.5	763.8	1,316.7	2	28.9	11.0
Japan	343.8	105.9	449.7	-9	9.9	7.2
China	210.8	175.7	386.5	15	8.5	3.2 <sup>a</sup>
United Kingdom	214.5	105.7	320.2	0	7.0	11.0
France	150.1	80.4	230.5	-4	5.1	9.3
Germany	96.7	116.5	213.3	-3	4.7	6.5
Italy	124.8	40.2	165.0	1	3.6	8.9
South Korea	98.2	55.4	153.6	4	3.4	12.6
Canada	49.3	65.6	115.0	-1	2.5	4.8 <sup>b</sup>
Taiwan	79.6	16.4	96.0	5	2.1	( <sup>c</sup> )

Sources: Insurance Information Institute, “Top 10 Countries by Life and Nonlife,” 2014; Insurance Information Institute, Archived Tables (accessed June 20, 2016); Insurance Information Institute, *International Insurance Fact Book 2013*, 2013, 6; OECD, OECD.Stat, “Insurance Indicators” (accessed May 9, 2016); Swiss Re, “Stronger Advanced Markets’ Performance Boosts Insurance Industry Growth,” June 24, 2015. CAGR = compound annual growth rate.

<sup>a</sup> Swiss Re estimate.

<sup>b</sup> 2013 value, most recent available.

<sup>c</sup> Not available.

Insurers earn money on both premiums and investments. In 2014, U.S. life insurers held \$3.8 trillion in assets and U.S. nonlife insurers held \$1.4 trillion (table 4.2). In the life sector, Japan and Germany were in second and third place, with Japan’s insurers holding \$2.9 trillion in assets and Germany’s holding \$1.2 trillion. For nonlife insurers, Germany and the UK were in second and third place, with \$578.0 billion and \$247.6 billion in assets, respectively. Investments by U.S. insurance companies grew by 4 percent compared to 2013 in both the life and nonlife sectors. In contrast, Japan’s life insurance investments fell 9 percent compared to 2013, and the UK’s nonlife insurance investments fell by 11 percent. Germany’s total investments remained largely unchanged.

Because of their longer duration, bonds remained the dominant asset. Among the top 10 countries by total investments held, the average asset allocation in the life insurance sector was 57 percent bonds, 15 percent stock market shares, and 27 percent other (including real estate and loans) in 2014. In the nonlife sector, asset allocation was 48 percent bonds, 14 percent equity shares, and 38 percent other investments. Large asset holdings allowed U.S. insurers to earn \$174.9 billion in net investment income in the life sector and \$48.4 billion in the nonlife sector in 2014.

**Table 4.2:** Top countries by investments of direct insurance companies, life and nonlife, 2014

Life						
Country	Total investments (billion \$)	% change 2013-14	Percent of investment in bonds	Percent of investment in shares	Percent of investment in other	Net investment income (billion \$)
United States	3,766.8	4.4	73.4	3.7	22.9	174.9
Japan	2,935.8	-9.2	67.8	8.2	24.0	89.5
Germany	1,191.1	0.0	40.0	3.3	56.7	55.1
United Kingdom	704.4	3.0	63.8	13.0	23.2	81.3
Netherlands	537.3	7.0	41.0	18.6	40.5	10.3
South Korea	484.0	7.6	54.4	4.5	41.1	19.1
France	409.8	-16.8	83.0	11.9	5.0	<sup>(a)</sup>
Denmark	307.8	1.9	36.2	49.2	14.6	<sup>(a)</sup>
Switzerland	295.2	-3.7	61.1	2.4	36.4	9.1
Sweden	287.7	-3.7	51.1	38.9	10.1	<sup>(a)</sup>
Nonlife						
Country	Total investments (billion \$)	% change 2013-14	Percent of investment in bonds	Percent of investment in shares	Percent of investment in other	Net investment income (billion \$)
United States	1,427.7	4.3	62.3	25.5	12.2	48.4
Germany	578.0	0.9	40.6	9.5	50.0	18.6
United Kingdom	247.6	-10.6	40.2	6.1	53.7	7.4
Japan	231.6	-6.0	32.5	29.4	38.1	4.3
France	205.2	-7.4	60.7	24.6	14.6	<sup>(a)</sup>
South Korea	149.7	15.4	37.3	3.8	58.8	5.1
Switzerland	122.3	-4.1	36.6	3.9	59.5	5.1
Netherlands	91.9	-9.2	43.6	7.7	48.7	1.5
Sweden	65.0	-8.8	55.1	30.6	14.3	<sup>(a)</sup>
Australia	48.5	-8.2	70.6	2.0	27.4	3.0

Source: OECD.Stat, "Insurance Indicators" (accessed May 25, 2016).

<sup>a</sup> Not available.

Berkshire Hathaway (United States), AXA (France), and Allianz (Germany) were the top three insurance companies by revenue in 2014 (table 4.3).<sup>178</sup> Berkshire Hathaway is the largest property and casualty insurer, while AXA is the largest life and health insurer.<sup>179</sup> While the list of top 10 global insurance firms has remained fairly constant over time, there have been some changes: since 2013, UnitedHealth Group (United States) and Zurich Insurance Group (Switzerland) have been replaced by Ping An Insurance (China) and Legal and General Group (UK). Notably, Japan Post Holdings (a life and health insurer) was the top insurance company by revenue as recently as 2011, but is now the fourth largest. Japan voted to privatize Japan Post in 2005, and it made an initial public offering in November 2015.<sup>180</sup> Since 2008, the Japan Post distribution network has sold insurance products by other insurers, such as Aflac.

<sup>178</sup> Insurance Information Institute, "Top 10 Global Insurance Companies by Revenues," 2014.

<sup>179</sup> Berkshire Hathaway holds several large insurance companies, including GEICO and Berkshire Hathaway Reinsurance Group.

<sup>180</sup> Hyuga, "Japan Post Shares Surge 29 Percent," November 3, 2015.



**Table 4.3:** Top global insurance companies by revenue, 2014 (billion dollars)

Firm	Country	2014 revenue	Industry
Berkshire Hathaway	United States	194.7	Property/casualty
AXA	France	161.2	Life/health
Allianz	Germany	136.8	Property/casualty
Japan Post Holdings	Japan	129.7	Life/health
Assicurazioni Generali	Italy	118.9	Life/health
Prudential plc	UK	99.0	Life/health
China Life Insurance	China	87.2	Life/health
Ping An Insurance	China	86.0	Life/health
Legal & General Group	UK	84.8	Life/health
Munich Re	Germany	81.7	Property/casualty

Source: Insurance Information Institute, "Top 10 Global Insurance Companies by Revenues," 2014.

## Emerging Supply and Demand Factors

The global insurance industry is adapting to challenges and opportunities presented by recent developments. The industry reports that climate change is increasing the risks associated with coastal property and crop insurance, while historically low global interest rates have created a difficult financing environment for life insurers. At the same time, the rising demand for cybersecurity insurance represents a promising market for a relatively new service (box 4.1). The following sections discuss these trends.

## Insurers' Reactions to Climate Change Concerns

The insurance industry is analyzing and adjusting its strategies to address the economic risks associated with climate change.<sup>181</sup> There is concern within the industry that these risks are potentially significant and growing.<sup>182</sup> This concern is exacerbated by the fact that coastal property is becoming more valuable, as high demand for real estate in coastal areas has driven rapid development and growth in population density there.<sup>183</sup>

In addition, government programs may complicate the risk picture for insurers. Governments have subsidized coastal development for decades; for example, the U.S. federal government has historically funded two-thirds of the costs of beach nourishment (transporting sand to

<sup>181</sup> Insurance Information Institute, "Climate Change," September 2014.

<sup>182</sup> Rising sea levels, warming temperatures, and changing rainfall patterns would affect the frequency and severity of floods, hurricanes, and droughts leading to higher risks for property and casualty insurers. Swiss Re, "Underinsurance of Property Risks," 2015, 10. Also see Munich Re, "Climate Change," n.d.; Lloyd's of London, "Coastal Communities and Climate Change," 2008; and AIG, "Climate Change: A Call for Weatherproofing the Insurance Industry," 2012. It should be noted that it is difficult to attribute any single weather event, which has several proximate causes, to a long-run phenomenon that affects the average frequency, intensity, and duration of such events. See National Academies Press, *Attribution of Extreme Weather Events*, 2016.

<sup>183</sup> To provide context for the value of property at risk, the exposure of one state insurance program, the Florida Hurricane Catastrophe Fund, exceeded \$2 trillion, as measured in 2010. GAO, *Natural Catastrophe Insurance Coverage Remains a Challenge*, April 16, 2010, 2, 19.

widen beaches) in its coastal communities,<sup>184</sup> and by one estimate, the government provides subsidized flood insurance at half the true-risk cost.<sup>185</sup> According to the U.S. Government Accountability Office (GAO), these government subsidies distort price signals in the private insurance market and prevent policy holders from facing the true costs of climate change risks.<sup>186</sup>

As with flood insurance, crop insurance is often subsidized by governments. In the United States, the U.S. Department of Agriculture (USDA) administers the federal crop insurance program, which in 2013 covered \$125 billion in property.<sup>187</sup> Farmers use insurance to manage weather-related risks to crop yields, which are affected by changes in average temperatures and rainfall patterns. However, coverage is typically based on production history, so if yields in some regions fall over time due to climate change, there may be fewer crops to insure. A greater risk may be market distortions that motivate farmers to plant in risky areas, thus raising the overall cost of crop insurance.<sup>188</sup>

Insurers have responded to climate-related risks in a variety of ways. Allstate canceled or did not renew coastal property policies in many Gulf Coast states in 2006–07, and reduced its homeowners' policies in Florida from 1.2 million to 400,000 after the extensive hurricane damage of the 2004–05 hurricane seasons.<sup>189</sup> Some insurers set similar targets, while others hollowed out their coverage of at-risk property by increasing deductibles and adding exclusions.<sup>190</sup> Last year, the SmarterSafer coalition (which includes Allianz, Liberty Mutual, and Swiss Re) released a report concluding that the United States should spend more on pre-disaster mitigation to prepare for changing climate conditions.<sup>191</sup> In one case, an insurer has gone further and alleged that governments are legally obliged to prepare for foreseeable climate change-related damage. In 2014, Illinois Farmers Insurance Co. filed class-action lawsuits against local governments near Chicago for failing to prepare for climate change-related increases in rainfall, although the lawsuits were dropped two weeks later.<sup>192</sup>

The potential effects of climate change on insurers are unclear as they may create both opportunities and challenges for the industry. Berkshire Hathaway's 2015 letter to shareholders suggests that property insurers may be resilient in the face of sudden increases in weather-related losses, since such insurance policies are typically written for one year and repriced

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<sup>184</sup> McNamara et al., "Climate Adaptation and Policy-Induced Inflation," March 25, 2015.

<sup>185</sup> Property Casualty Insurers Association of America, "True Market-Risk Rates for Flood Insurance," June 2011, 6.

<sup>186</sup> GAO, *Climate Change: Better Management of Exposure*, October 2014, 11.

<sup>187</sup> *Ibid.*

<sup>188</sup> *Ibid.*

<sup>189</sup> Mills, "Responding to Climate Change," 2007, 2. Also see Conley, "Gathering Storm," September 18, 2007.

<sup>190</sup> Insurance Journal, "Allstate Adds Maryland Coast to Its 'No New Business' List," December 22, 2006.

<sup>191</sup> SmarterSafer, *Bracing for the Storm*, April 2015.

<sup>192</sup> Book, "Farmers Insurance Withdraws Class Action," June 16, 2014.

annually to reflect changing exposures. The annual repricing means that higher risks translate quickly into higher premiums. For that reason, the potential growth in the cost and frequency of climate change-related losses may increase the size and maintain the profitability of insurance companies.<sup>193</sup>

The industry faces challenges in measuring and managing complex risks;<sup>194</sup> for example, weather-related losses can be correlated at very high values (like as when severe flooding follows a hurricane).<sup>195</sup> These phenomena make risk models much more difficult to calibrate,<sup>196</sup> as even a slight increase in the number or impact of severe weather events can severely reduce the resilience of insurers.<sup>197</sup> Dr. Robert P. Hartwig, former president of the Insurance Information Institute, said in early 2016, “It’s not presently possible . . . to take the output of climate change models and apply them to insurance pricing.” Furthermore, according to

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<sup>193</sup> Berkshire Hathaway, “2015 Letter to Shareholders,” 2015. Excerpts from the statement by Chairman and CEO Warren Buffet follow (25–26):

“It seems highly likely to me that climate change poses a major problem for the planet. I say ‘highly likely’ rather than ‘certain’ because I have no scientific aptitude and remember well the dire predictions of most ‘experts’ about Y2K. It would be foolish, however, for me or anyone to demand 100% proof of huge forthcoming damage to the world if that outcome seemed at all possible and if prompt action had even a small chance of thwarting the danger. . . .

“Up to now, climate change has *not* produced more frequent nor more costly hurricanes nor other weather-related events covered by insurance. As a consequence, U.S. super-cat rates have *fallen* steadily in recent years, which is why we have backed away from that business. If super-cats become costlier and more frequent, the likely—though far from certain—effect on Berkshire’s insurance business would be to make it larger and more profitable.”

“As a citizen, you may understandably find climate change keeping you up nights. As a homeowner in a low-lying area, you may wish to consider moving. But when you are thinking only as a shareholder of a major insurer, climate change should not be on your list of worries.”

<sup>194</sup> According to Christopher Smy at Marsh, the world’s largest insurance broker, insurers’ risk is about probable loss, frequency, and severity, and insurers do not necessarily have to label it. McCann, “Hot Topic,” March 23, 2016.

<sup>195</sup> Additionally, in the loss distributions associated with climate change, the most extreme losses are orders of magnitude greater than the second most extreme losses. Correlation of multiple losses in a probability distribution is called tail dependence, while probability distributions showing an abnormally high probability of catastrophic losses are known as fat tails. Kousky and Cooke, “Climate Change and Risk Management,” February 2009. Also see Weitzman, “Fat-Tailed Uncertainty,” 2011.

<sup>196</sup> Property insurers typically model recurrence intervals for losses—for example, “one-in-200” year losses—equal to the costliest losses they are likely to cover, with a probability of 99.5 percent. They use these estimates to set prices and decide how much capital to hold. So the business model of a typical insurance company depends heavily on how the 99.5 percent curve is calculated. Mackenzie, “Buffett’s Climate Certainty,” March 7, 2016.

<sup>197</sup> Many catastrophic weather events over the previous decade (for example, Hurricane Katrina, Superstorm Sandy, floods in Thailand) were thought of as rare and infrequent. But Standard and Poor’s analysts estimated that if the last decade is typical (i.e., if this rate of catastrophic losses is the new normal), then the actual “one-in-250-year” loss is about 50 percent higher than the “one-in-250-year” loss currently estimated by reinsurers. S&P, “Climate Change Could Sting Reinsurers,” September 3, 2014.

Hartwig, the amount of capital available to insure against natural disasters is at its highest in industry history.<sup>198</sup>

Developing countries are typically considered growth markets for insurers because of their rising wealth and low insurance penetration rates. Moreover, developing countries are also disproportionately vulnerable to potential effects of climate change. For example, countries in South and Southeast Asia are highly exposed to flooding risks in coastal areas, while sub-Saharan African countries are highly exposed to risks of crop failure from drought.<sup>199</sup> Insurance is an input to economic growth in these situations; for example, one study finds that farmers in Ghana make more productive investments in their farms if they have the opportunity to purchase rainfall insurance.<sup>200</sup>

If insurance is unavailable or unaffordable, individuals and firms will be unable to hedge against risks, inhibiting economic growth. However, there are a number of promising public and private efforts to provide climate risk insurance for developing countries as part of an overall adaptation plan. For example, the G7 Climate Risk Insurance Initiative aims to provide 400 million people in developing countries with increased access to insurance coverage against the impacts of climate change by 2020,<sup>201</sup> and many individual insurers and reinsurers (including Allianz, AIG, Munich Re, and Swiss Re) have offered microinsurance products against the risks of drought throughout the developing world, including in India, Ethiopia, Kenya, and Mali.<sup>202</sup> Such programs would likely increase subsidized exports of insurance services from countries like the United States, Japan, and the UK to developing countries.

## The Impact of Low Global Interest Rates on the Insurance Sector

Low global interest rates are challenging the financial models of life insurance firms. Life insurers accept premium payments from customers, invest that income in financial assets, and then pay out money to meet claims. Their profits, and their decisions on how to set prices, are based on the investment income they make during the period between receipts and payments—i.e., the spread between what is earned during the period that premiums are invested and what is paid when claims are due.<sup>203</sup> The solvency of life insurers depends on the

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<sup>198</sup> McCann, “Hot Topic,” March 23, 2016.

<sup>199</sup> IPCC, *Climate Change 2014*, 2014, 382, 1218.

<sup>200</sup> Karlan et al., “Agricultural Decisions after Relaxing Credit,” December 2013.

<sup>201</sup> UNFCCC, “G7 Climate Risk Insurance Initiative,” n.d.

<sup>202</sup> Mills, “From Risk to Opportunity,” 2009, 37; Geneva Association, “The Insurance Industry and Climate Change,” July 2009, 87-88; Swiss Re, “Insuring the Frontier Markets,” 2016, 6-10.

<sup>203</sup> Insurance companies have a perpetual and rolling investment portfolio, so they depend on the profits made on a spread of assets over time.

yields returned on high-quality long-term assets, which in turn depend on the interest rates set by central banks.

Since the 2008–09 financial crisis, central banks have kept interest rates at record low levels, as the global economy has suffered a mismatch between excess savings and insufficient investment opportunities. The benchmark 10-year U.S. Treasury yield has dropped from nearly 5 percent in 2007 to 2 percent in 2016. Countries representing nearly a quarter of the global economy actually have negative interest rates, meaning banks must pay to hold deposits with the central bank. For example, the European Central Bank pushed short-term policy interest rates below zero in June 2014, and the Bank of Japan adopted negative interest rates in January 2016.<sup>204</sup>

A sustained period of low interest rates threatens the solvency and stability of life insurers. Many life insurers' risk scenarios did not anticipate that interest rates would drop to such low levels and remain there.<sup>205</sup> For example, several years ago one insurance company priced its life policies under the assumption that premium investments would earn 7.5 percent, but the firm now expects a 4 percent yield on its investments.<sup>206</sup> One survey found that the net portfolio yield across the entire life insurance industry fell from 6 percent in 2006 to 5.3 percent in 2011.<sup>207</sup> Future payments to policy holders are contractually guaranteed, so an unforeseen drop in investment income can create a critical mismatch between assets and liabilities.

Interest rates also affect life insurers because the present value of expected future earnings is used by regulators to determine the amount of capital they must keep in reserve. If the value of expected earnings falls, insurers are required by statute to keep more capital in reserve. The current low-interest-rate environment is helping to drive the rise in total reserves held by the life insurance industry, which increased from \$2.0 trillion in 2006 to \$2.9 trillion at the end of 2013.<sup>208</sup> High reserve requirements protect insurers against insolvency, but they also lock up capital that could otherwise be put to productive use.

In response, life insurers are adjusting the asset mix of their investment portfolios. Insurers such as MetLife are increasingly purchasing swaps and derivatives to hedge against interest rate risk.<sup>209</sup> One possibility is that the low-interest-rate environment may push life insurers into

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<sup>204</sup> Wolf, "Negative Rates Are Not the Fault," April 12, 2016.

<sup>205</sup> U.S. Treasury, FIO, *Annual Report on the Insurance Industry*, September 2015.

<sup>206</sup> Scism, "Low Rates Are Tormenting Insurers," March 20, 2016. Negative interest rates mean that depositors, like private banks, are charged for keeping their money in accounts at central banks. Central banks have adopted negative interest rates in recent years in an attempt to encourage banks to lend more money and take more risks in order to stimulate the economy.

<sup>207</sup> NAIC and the Center for Insurance Policy Research, *State of the Life Insurance Industry*, August 2013, 143.

<sup>208</sup> NAIC and the Center for Insurance Policy Research, "Low Interest Rates," February 2016.

<sup>209</sup> Scism, "Low Rates Are Tormenting Insurers," March 20, 2016.

higher-yielding but riskier assets, a behavior sometimes called “gambling for redemption.”<sup>210</sup> A recent report found that life insurers increased their investments in lower-rated bonds and nontraditional, illiquid assets such as private equity between 2010 and 2014.<sup>211</sup> The attempt to maximize yields is pro-cyclical (its value moves in the same direction as the economy) and can increase macroeconomic risks. Regulators are concerned about such strategies; life insurers are required to back their obligations with safe assets, but the definition of “safe” is often broad, enabling insurers to invest in complex and atypical assets while staying within regulatory parameters.<sup>212</sup> The Organisation for Economic Co-operation and Development (OECD) reports that in 2014, life insurers in Japan, Israel, and Greece were especially active in shifting their investments into higher-risk assets.<sup>213</sup> If this strategy is successful it will improve their global competitiveness, but they also may be more vulnerable to market reversals.

**Box 4.1: Cybersecurity Insurance Is Growing Rapidly**

Cybersecurity insurance is a relatively new market but one that is growing rapidly, reflecting firms’ increasing concerns about their vulnerability to cyber threats. Cyberattacks have increased in frequency and severity in recent years. In 2015, over 736 million records were exposed in data breach incidents,<sup>a</sup> and one estimate puts the annual cost of global cybercrime at \$400 billion.<sup>b</sup>

Over the past few years, companies like Home Depot, Target, Anthem, and Sony have experienced high-profile, costly cyberattacks. Target’s 2013 data breach cost the company an estimated \$264 million.<sup>c</sup> For companies, the highest cost of cyberattacks is business lost due to reputational damage, although costs of detection and crisis management are also significant. One survey found that the average cost of a data breach in 2015 was \$4 million per company; that figure is higher for companies in healthcare, education, pharmaceuticals, and finance.<sup>d</sup> Another 2015 survey estimated that the average cost of a data breach was as much as \$4.8 million for large businesses and as much as \$476,000 for small ones.<sup>e</sup>

Insurers have responded to the growing demand for cybersecurity insurance. Global premiums in this segment totaled about \$2.5 billion in 2014, according to one estimate, and could grow to \$7.5 billion by 2020.<sup>f</sup> Most major corporate insurers currently offer some form of cyber insurance, although many will not write policies for more than \$100 million.<sup>g</sup> In one survey of publicly traded companies, a majority of businesses reported having some form of cybersecurity insurance; 91 percent of such companies had data restoration insurance, while 54 percent had expense reimbursement insurance.<sup>h</sup> The supply of, and demand for, cybersecurity insurance is currently concentrated in the United States, but Europe’s market is expanding quickly, and regulatory changes that require greater data protection are expected to drive growth in Asia.<sup>i</sup>

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<sup>210</sup> Antolin, Schich, and Yermo, “The Economic Impact of Protracted Low Interest Rates,” 2011.

<sup>211</sup> Conning, “Life Insurance Industry Investments,” November 2015.

<sup>212</sup> Haltom, “Reaching for Yield,” July 2013. This regulatory situation is evolving: for example, Prudential, MetLife, and AIG have been designated “systemically important financial institutions,” and regulators are still determining how that designation will affect capital requirements. Furthermore, the EU introduced a new regulatory framework called Solvency II in early 2016, which sets new capital requirements and includes rules on how life insurers identify and monitor risk. Gray, “US Life Insurers Shaken by Rock-Bottom Rates,” March 2, 2016.

<sup>213</sup> OECD, *Global Insurance Market Trends 2015, 2016*, 17.

Policies are typically offered only after extensive review of the client’s cybersecurity controls, and payouts generally require companies to take adequate steps to protect their data. However, many data breaches are caused by well-known vulnerabilities. The JPMorgan Chase Corporate Challenge website was recently breached through an SQL injection vulnerability that has been on a public list of top 10 web vulnerabilities for the past decade.<sup>j</sup> In 2012, the Federal Trade Commission (FTC) alleged that the Wyndham Worldwide hotel chain had violated the FTC Act (which prohibits unfair commercial practices) by not using reasonable data security measures such as firewalls and encryption; the company’s out-of-date software had been hacked three times in 2008 and 2009, resulting in \$11 million of fraudulent charges.<sup>k</sup> This changing landscape creates uncertainty about claims.

The growing cybersecurity insurance market faces other challenges. A lack of actuarial data on cyber threats makes it difficult to model risks. These data limitations are exacerbated by the fact that many companies are reluctant to report or share information on breaches. The Department of Homeland Security hosted a 2014 workshop on cybersecurity insurance, and the participants voiced support for a shared repository of information on cyber incidents to help address this issue.<sup>l</sup> Regulators are also getting involved, as the Securities and Exchange Commission is considering measures that would require publicly owned companies to disclose information about data breaches.<sup>m</sup>

<sup>a</sup> Risk-Based Security, “2015 Reported Data Breaches Surpasses All Previous Years,” February 2, 2016.

<sup>b</sup> CSIS, *Net Losses: Estimating the Global Cost of Cybercrime*, June 2014.

<sup>c</sup> Finkle, “Cyber Insurance Premiums Rocket after High-Profile Attacks,” October 12, 2015.

<sup>d</sup> Ponemon Institute, *2015 Cost of Data Breach Study*, May 2015.

<sup>e</sup> PWC and Info Security Europe, *2015 Information Security Breaches Survey*, 2015. Converted from British pounds to U.S. dollars by USITC staff.

<sup>f</sup> PwC, *Insurance 2020 and Beyond*, 2015.

<sup>g</sup> Finkle, “Cyber Insurance Premiums Rocket after High-Profile Attacks,” October 12, 2015.

<sup>h</sup> Veracode and NYSE, “Cybersecurity and Corporate Liability in the Boardroom,” November 5, 2015.

<sup>i</sup> Kirkpatrick, “Cyber Policies on the Rise,” October 2015.

<sup>j</sup> Veracode and NYSE, “Cybersecurity and Corporate Liability in the Boardroom,” November 5, 2015.

<sup>k</sup> *Harvard Law Review*, “FTC v. Wyndham Worldwide Corp.,” February 10, 2016.

<sup>l</sup> DHS, “Insurance for Cyber-Related Critical Infrastructure Loss,” July 2014.

<sup>m</sup> Bennett, “SEC Weighs Cybersecurity Disclosure Rules,” January 14, 2015.

## Trade Trends

### Cross-border Trade

The United exported \$17.1 billion and imported \$47.8 billion in insurance services in 2015 (a decrease of 1 percent and 8 percent, respectively, from the previous year), resulting in a large cross-border trade deficit (figure 4.1) (box 4.2). However, while exports have grown steadily at an average annual rate of 5 percent since 2010, imports have contracted: 2015 imports were about three-quarters of their 2010 level. This is mostly driven by shrinking imports of reinsurance services (i.e., insurance purchased by insurance firms to manage risk), which fell from \$56 billion in 2010 to \$42 billion in 2015. As a result, the U.S. cross-border trade deficit in insurance services is at its lowest level since 2006. All categories of insurance exports and

imports have nearly doubled since 2005, and reinsurance exports have nearly tripled, reflecting ongoing globalization in this industry.<sup>214</sup>

**Figure 4.1:** Insurance services: U.S. cross-border trade in insurance services resulted in a large but shrinking U.S. trade deficit each year during 2010–15



Source: USDOC, BEA, table 3.1, “U.S. International Trade in Services” (accessed June 6, 2016). (See appendix table B.15.)

**Box 4.2:** Understanding BEA Data on Cross-border Trade and Affiliate Transactions in Insurance Services

The BEA publishes cross-border trade data for direct insurance services (which include life insurance, property and casualty insurance, and freight insurance) and auxiliary insurance services (which include commissions, brokerage services, consulting services, and actuarial services), as well as reinsurance. Trade in insurance services is calculated as the sum of premium income (adjusted for normal losses), investment income, and income from auxiliary services. Estimates of normal losses are calculated by averaging the difference between total premiums and losses over several years. The BEA also estimates the investment income that insurance firms earn based on their reserves, and categorizes it under insurance premium supplements. Auxiliary insurance services include earnings from the provision of actuarial, agency, brokerage, claims adjustment, and salvage administration services, as well as commissions.

In 2008, the BEA changed the way it calculates affiliate transactions in insurance services, revising its estimates to reflect “services supplied through affiliates” rather than “sales of services.” The BEA’s newer measure is more similar to output than to sales value. Much like cross-border trade data, these affiliate data incorporate sales (again adjusted for normal losses) and premium supplements.<sup>a</sup>

<sup>a</sup> USDOC, BEA, *Survey of Current Business* 88, no. 10 (October 2008), 34–35.

In 2014, Bermuda was the top U.S. trade partner for insurance services, accounting for 20 percent of U.S. exports and 46 percent of U.S. imports (figure 4.2). The \$22.9 billion of

<sup>214</sup> U.S. Treasury, FIO, *Annual Report on the Insurance Industry*, June 2013, 38.



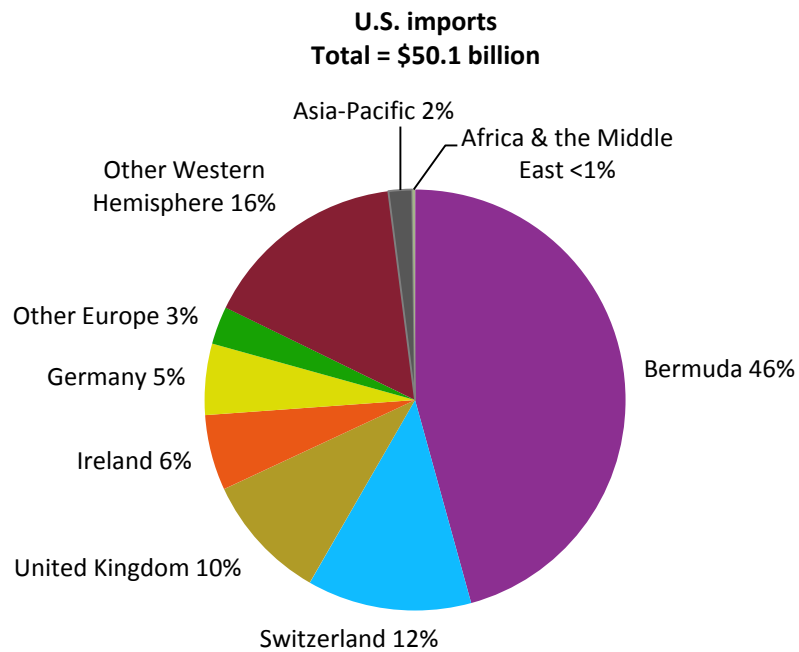
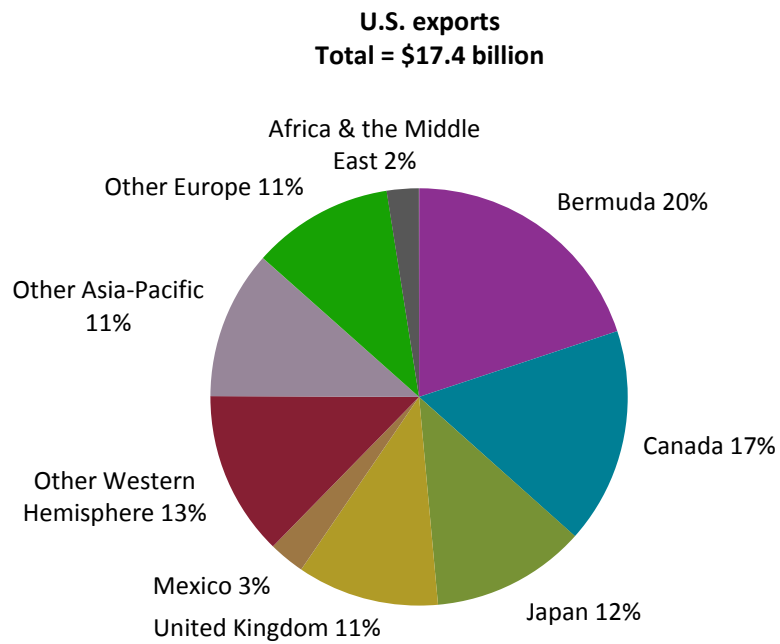
insurance imported from Bermuda (almost all of which was reinsurance) exceeded imports from the 10 next-largest trade partners combined. Bermuda's outsized role is largely due to its low tax rates and light regulations, which have motivated insurance companies to locate and make transactions in that country. Canada, Japan, the UK, and Australia are also significant export markets for U.S. insurers, accounting for 17 percent, 12 percent, 11 percent, and 5 percent of exports, respectively (figure 4.3). Canada purchased 32 percent of U.S. direct insurance exports, and both Japan and the UK purchased more reinsurance services than Bermuda. Switzerland, the UK, Ireland, and Germany accounted for 13 percent, 10 percent, 6 percent, and 5 percent of U.S. insurance imports, respectively.

The United States runs an insurance trade surplus with Japan and Canada, and a trade deficit (generally driven by reinsurance) with its other major trading partners. The pattern of U.S. reinsurance imports tracks the location of the world's top reinsurance firms, which include PartnerRe and Everest (Bermuda), Swiss Re and Zurich Insurance Group (Switzerland), Lloyd's of London (UK), XL + Caitlin (Ireland), and Munich Re and Hannover Re (Germany).<sup>215</sup>

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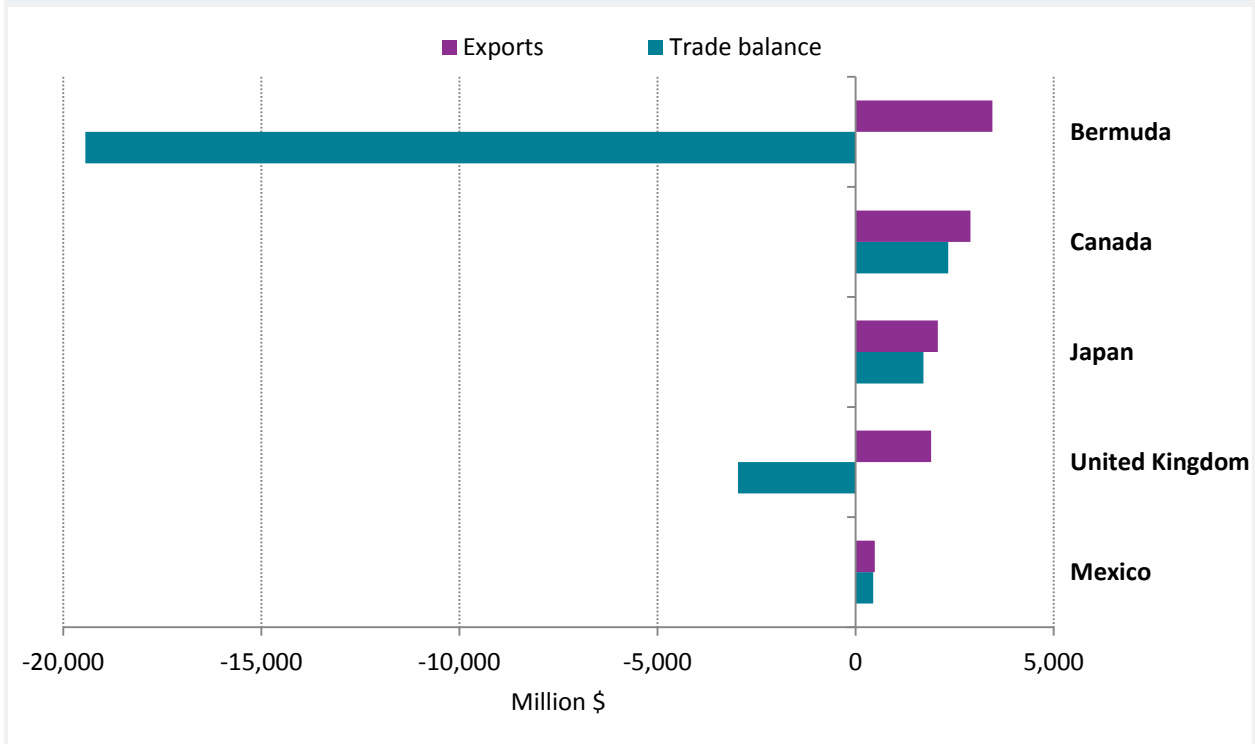
<sup>215</sup> Direct insurance sales and reinsurance sales may be correlated to the extent that direct insurance firms purchase reinsurance on a fixed percentage of insurance sold, but reinsurance is also purchased for a variety of other risk management reasons.

**Figure 4.2:** Insurance services: Bermuda was the leading market for U.S. cross-border exports and imports of insurance in 2014



Source: USDOC, BEA, table 2.2., "U.S. Trade in Services, by Type of Service and by Country or Affiliation" (accessed March 4, 2016). (See appendix table B.16.)

**Figure 4.3:** Insurance services: In 2014, the United States had its largest cross-border insurance trade deficit with Bermuda



Source: USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation" (accessed March 4, 2016). (See appendix table B.17.)

## Affiliate Transactions

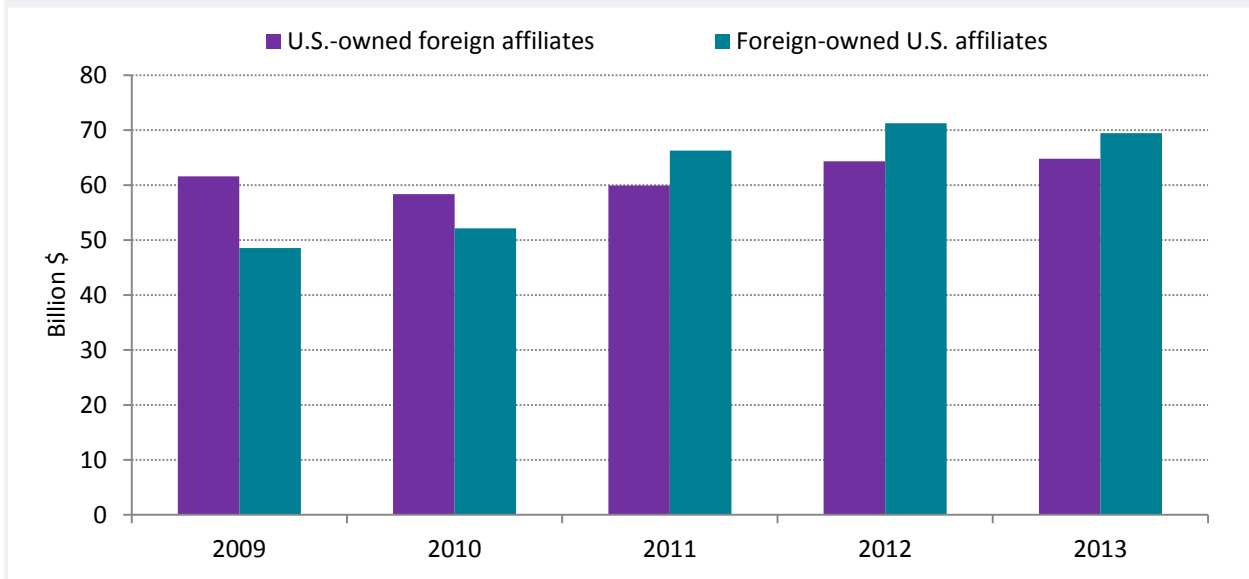
In 2013, the United States sold \$64.8 billion in insurance services through its overseas affiliates and purchased \$69.5 billion of insurance from local affiliates of foreign-owned firms,<sup>216</sup> resulting in a trade deficit of \$4.7 billion (figure 4.4).<sup>217</sup> Total sales by foreign affiliates of U.S. insurers have stayed nearly constant since 2008, growing at an average annual rate of 1 percent. However, this figure masks a redistribution of U.S. insurance sales: while affiliate sales in Canada and Europe shrank at an average annual rate of 5 percent and 1 percent respectively, affiliate sales in Japan and Latin America grew by 11 percent and 6 percent respectively. Purchases from U.S. affiliates of foreign insurers shrank by 3 percent from 2012 to 2013, but overall growth since 2008 has been strong, with U.S. purchases increasing at an

<sup>216</sup> In many countries, cross-border insurance trade is restricted by regulators due to the difficulty of evaluating the solvency of foreign insurance companies. Most cross-border sales of insurance services are to large corporations operating in global markets. In contrast, foreign affiliates are licensed locally and subject to the full supervision of local insurance regulators, and therefore face fewer restrictions. USITC, *Property and Casualty Insurance Services*, March 2009, 3-1.

<sup>217</sup> The 2013 trade deficit was 33 percent smaller than in 2012. Note that mode 3 sales had exceeded mode 3 purchases as recently as 2010.

average annual rate of 8 percent. This growth has been driven by purchases from affiliates of Canadian firms (which increased at an average annual rate of 12 percent) and European firms (4 percent), while purchases from affiliates of Latin American firms have fallen at an average annual rate of 13 percent.

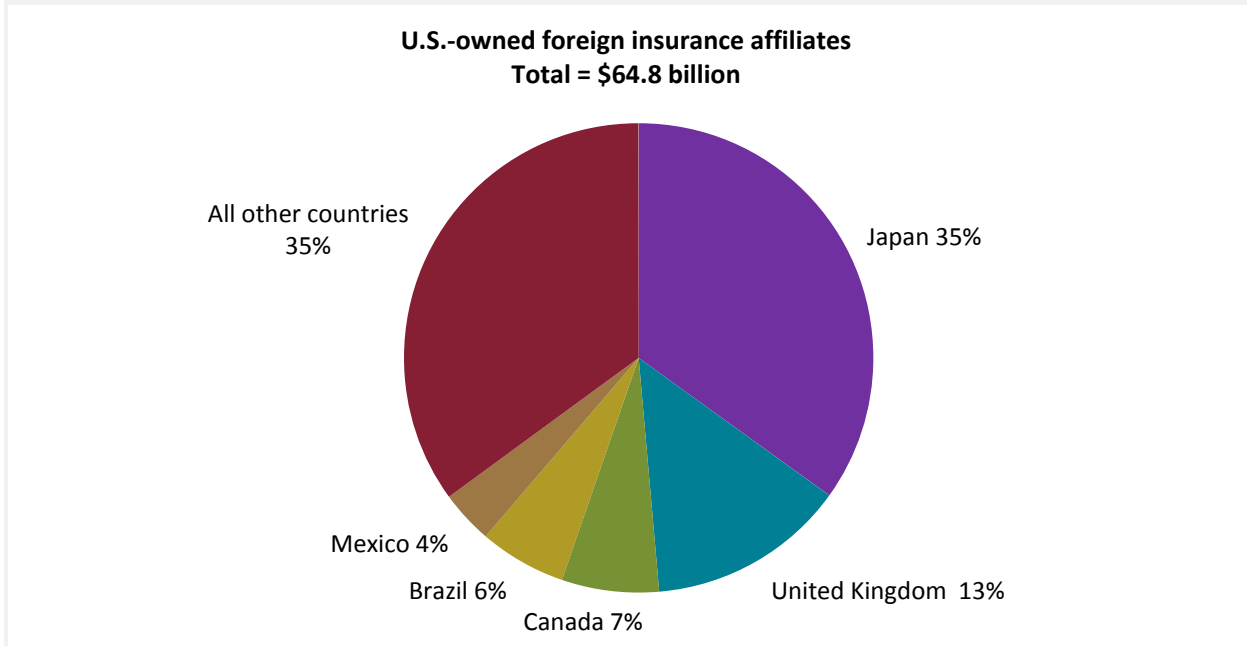
**Figure 4.4:** Insurance services: Since 2011, services purchased from U.S. affiliates of foreign-owned insurance firms have exceeded services supplied by foreign affiliates of U.S.-owned insurance firms



Source: USDOC, BEA, table 3.1, “Services Supplied to Foreign Persons by U.S.MNEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate,” and table 4.1 “Services Supplied to U.S. Persons by Foreign MNEs through Their MOUSA, by Industry of Affiliate and by Country of UBO” (both accessed March 4, 2016). (See appendix table B.18.)

Japan was the top market for sales by U.S.-owned foreign insurance affiliates in 2013, accounting for 35 percent of total sales (figure 4.5), while the UK and Canada accounted for 13 percent and 7 percent, respectively. Canadian firms accounted for 19 percent of purchases from foreign-owned U.S. insurance affiliates in 2013. Due to the limited availability of country-by-country data, it is necessary to look at earlier years to identify other top sources of U.S. affiliate purchases: the UK accounted for 13 percent of affiliate purchases in 2012, and Japan accounted for 1 percent of affiliate purchases in 2011.

**Figure 4.5:** Insurance services: Japan was the largest market for services supplied by foreign affiliates of U.S.-owned insurance firms in 2013



Source: USDOC, BEA table 3.1, "Services Supplied to Foreign Persons by U.S. NMEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate" (accessed March 4, 2016). (See appendix table B.19.)

Note: Country-level data for U.S. affiliates of foreign-owned insurance firms are limited and thus are not included.

## Outlook

Emerging markets will likely remain the drivers of growth in the insurance industry, especially for property and casualty insurance. Swiss Re notes that insurance premium growth tends to track GDP growth at low income and high income levels, but at middle income levels, premiums grow faster than income.<sup>218</sup> This will motivate insurers to increase their operations in emerging markets, although in some of these markets insurance penetration may be hampered by other factors, such as economic weakness or political instability. Insurers will also face decisions on whether to enter and operate in such markets through solo entry, partnerships, or acquisitions. Those decisions will be determined by the regulatory landscape, ease of integration, and desirability of established local platforms, among other considerations.

International trade agreements that cover insurance, such as the negotiated but not yet ratified Trans-Pacific Partnership, may create more opportunities for increasing cross-border and affiliate insurance trade.<sup>219</sup> International expansion is also being encouraged by regulatory harmonization taking place in other arenas; for example, the ASEAN Insurance Integration Framework intends to liberalize the cross-border supply of marine and transportation

<sup>218</sup> Swiss Re, "Insuring the Frontier Markets," 2016, 3.

<sup>219</sup> USITC, *Trans-Pacific Partnership Agreement*, May 2016, 362.

insurance.<sup>220</sup> Further, some countries may open their insurance markets autonomously; the China Insurance Regulatory Commission is encouraging foreign insurers by allowing investors to have ownership stakes in multiple insurance companies, and India recently increased the foreign ownership limit in domestic insurance firms from 26 percent to 49 percent.<sup>221</sup>

The operations of insurance companies will also be affected by regulatory changes. The EU is introducing the Solvency II insurance regulatory regime, which will establish new capital requirements, review risk management frameworks, and mandate transparency and disclosure. The goal is to improve resilience and efficiency in the industry, but it could alter competitive dynamics; for example, higher capital requirements may discourage U.S. insurance firms from establishing or maintaining affiliates in the EU.<sup>222</sup> In emerging markets, regulations that introduce or enforce compulsory insurance, such as motor third-party liability coverage, medical insurance, or unemployment insurance, may boost demand.

Better data analytics (the discovery and interpretation of patterns in data) and predictive modeling techniques may improve risk management. This is especially important for new markets like cybersecurity insurance (see box 4.1) and in contexts where the rate of catastrophes may be changing, such as climate change. Additionally, the availability of large volumes of data may facilitate precise identification of individual risk profiles, which may help insurers to better match risks and market their services to consumers. The temptation for insurance companies is to differentiate individuals with high personal risk and charge them higher prices.<sup>223</sup> However, many countries have various antidiscriminatory regulations in place (such as the 1970 Fair Credit Reporting Act and 1964 Civil Rights Act in the United States), but the increasing use of big data analytics could motivate additional privacy and customer protection regulations.<sup>224</sup>

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<sup>220</sup> Dezan Shira and Associates, "Understanding Financial Integration in ASEAN," April 27, 2016.

<sup>221</sup> EY, *2015 Global Insurance Outlook*, 2015, 13.

<sup>222</sup> FitchRatings, "Fitch: Solvency II Could Increase US (Re) Insurer Opportunities," March 17, 2016.

<sup>223</sup> FTC, *Big Data*, January 2016, i.

<sup>224</sup> CEA, *Big Data and Differential Pricing*, February 2015, 16.

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# Chapter 5

## Securities Services

### Summary

The United States remained the world's largest securities services market in 2014; it accounted for 52 percent of total stocks traded worldwide and 46 percent of global investment banking revenues. Six of the top 10 investment banks are headquartered in the United States. U.S. affiliate trade in securities services continues to exceed U.S. cross-border trade in securities services, and the United States runs a sizable trade surplus in both types of trade (\$28 billion and \$40 billion, respectively).

As in recent years, the securities industry will continue to be shaped by new regulations and by evolving demands for financial assets. Securities services firms are currently exploring a new ledger-keeping technology called blockchains and navigating China's emerging financial market.

### Introduction

Securities are financial instruments, such as company stocks and government bonds, that are bought and sold on capital markets, thereby transferring capital from savers to users. Many services are used to manage and trade securities, including debt and equity underwriting services, financial advisory services, dealing and brokerage, proprietary trading, and asset management services.

Securities services are provided by intermediaries between issuers (companies, governments, and state-owned enterprises) and investors (both individuals and institutional investors, such as mutual funds, pension funds, and insurance companies). The major providers of these services are large global investment banks, such as J.P. Morgan and Goldman Sachs, which broker securities transactions and help companies raise capital (e.g., by taking on the risks of equity or debt issuance, locating investors, and arranging mergers and acquisitions). These are joined by asset managers who help individuals and institutions invest their savings over particular time horizons. Many securities services firms are part of larger "universal banks" that also provide commercial and retail banking services, such as Citigroup and Bank of America Merrill Lynch.

The activities of securities services firms have changed since the 2008–09 financial crisis led to increased regulation of the industry. Firms are now required to hold more capital and be more rigorous and transparent in risk management, while firms designated as "systemically important financial institutions" are subject to especially strict oversight. Some activities are

now banned; for example, in the United States the Volcker Rule prohibits deposit-taking banking institutions from engaging in proprietary trading (that is, trading financial instruments with a firm's own money, rather than on behalf of clients). These rules aim to reduce volatility and systemic risk, although they may also lower profits in the industry.<sup>225</sup>

## Market Conditions

The total value of stocks traded globally in 2014 was \$74.8 trillion, equal to 102 percent of world gross domestic product (GDP) (table 5.1).<sup>226</sup> This represented 17 percent growth over stocks traded globally in 2013; while growth rates varied for individual countries, all regions except Latin America and the Caribbean saw significant growth. However, changes in the value of stocks traded reflect changes in both the number and prices of shares, so it is important to note that the value changes shown below do not distinguish between price changes and volume changes. The United States accounted for more than half of stocks traded in 2014 by value, followed by China at 31 percent and Japan at 12 percent. (Starting in 2009, China surpassed Japan in the value of stocks traded.) These three countries also led the rankings of countries by stocks traded as a percentage of GDP. Notably, stocks traded in the United States were equivalent to 224 percent of U.S. GDP, while other countries were closer to the global average.

**Table 5.1:** Top countries by value of stocks traded

Country	Stocks traded, 2014 (billion \$)	Stocks traded, 2014 (% of GDP)	CAGR, 2010–14	Total fund assets, 2015 (billion \$)	Net sales of funds, 2015 (billion \$)
United States	39,000	223.8	2.0	17,752	353
China	12,000	115.5	9.8	1,263	470
Japan	4,840	105.3	3.2	1,329	233
United Kingdom	2,360	78.9	-7.4	1,578	10
Italy	2,060	96.0	32.6	208	11
Canada	1,340	75.3	-1.1	890	82
South Korea	1,280	91.0	-5.9	343	29
Germany	1,270	32.8	-3.9	1,800	150
France	1,170	41.3	-3.5	1,832	24
Spain	992	71.8	-7.8	275	27
World	74,800	102.3	1.7	37,191	1,950

Source: World Bank, World Data Indicators (accessed May 9, 2016); ICI, *2016 Investment Company Fact Book*, 2016.

Note: CAGR = compound annual growth rate.

Globally, the amount of assets under management has grown at a compound annual growth rate of 9 percent since 2011, but changed little between 2014 and 2015: there were \$37.1 trillion in assets under management in 2014, and \$37.2 trillion in 2015. In the fourth quarter of 2015, equity funds accounted for 43 percent of total assets under management,

<sup>225</sup> Noonan, "Investment Banks' Return on Equity Declines," February 21, 2016.

<sup>226</sup> World Bank, World Development Indicators (accessed May 9, 2016). The total value of stocks traded indicates the overall activity and development level of financial markets.



while bond funds, mixed funds, and money market funds accounted for 21 percent, 14 percent, and 14 percent, respectively.<sup>227</sup> The United States held nearly half of these assets, mostly in the form of equity funds (\$9.9 trillion) and bond funds (\$3.8 trillion). While the countries with the most assets under management are largely identical to the countries with the most stocks traded, Luxembourg and Ireland are also significant asset markets, partly due to their tax and regulatory environments; they held 10 percent and 6 percent of global assets, respectively.<sup>228</sup> Globally, net sales of funds reached \$2.0 trillion in 2015, a 9 percent increase over 2014. China had the highest net sales, at \$470 billion, followed by the United States at \$353 billion.<sup>229</sup>

Global investment banking revenues grew by 6 percent in 2014 to \$81.6 billion, led by high growth in the European Union (EU) and BRIC markets, although revenues were still short of their 2007 peak of \$89.8 billion (figure 5.1).<sup>230</sup> The five largest investment banks (J.P. Morgan, Goldman Sachs, Bank of America Merrill Lynch, Morgan Stanley, and Citi) are all based in the United States, but have significant operations around the world; each holds between 5 percent and 7 percent of global market share (table 5.2).<sup>231</sup> The top 10 investment banks together have nearly half of the total market share, and the list of the largest investment banks is unchanged from previous years. Many of these investment banks have faced steep fines recently: since 2015, J.P. Morgan has agreed to pay \$300 million to settle allegations about conflicts of interest;<sup>232</sup> Bank of America has agreed to pay \$180 million to settle a lawsuit about manipulating foreign exchange rates;<sup>233</sup> and Goldman Sachs has agreed to a civil settlement of \$5 billion to resolve claims regarding sales of mortgage securities.<sup>234</sup> However, these settlements have not altered the market position of these large investment banks.

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<sup>227</sup> ICI, “Worldwide Regulated Open-End Fund Assets and Flows,” March 22, 2016.

<sup>228</sup> Luxembourg and Ireland do not tax the income or capital gains of mutual funds organized under the EU’s Undertakings for Collective Investment in Transferable Securities Directive, except for Luxembourg’s annual “taxe d’abonnement” (subscription tax). Carne, *UCITS Guide for Investment Managers*, August 2014, 16.

<sup>229</sup> Net sales are calculated as total sales minus total redemptions, plus net exchanges (i.e., shareholders transferring money between different funds).

<sup>230</sup> SIFMA, *2015 Factbook*, 2015, 74. BRIC = Brazil, Russia, India, and China.

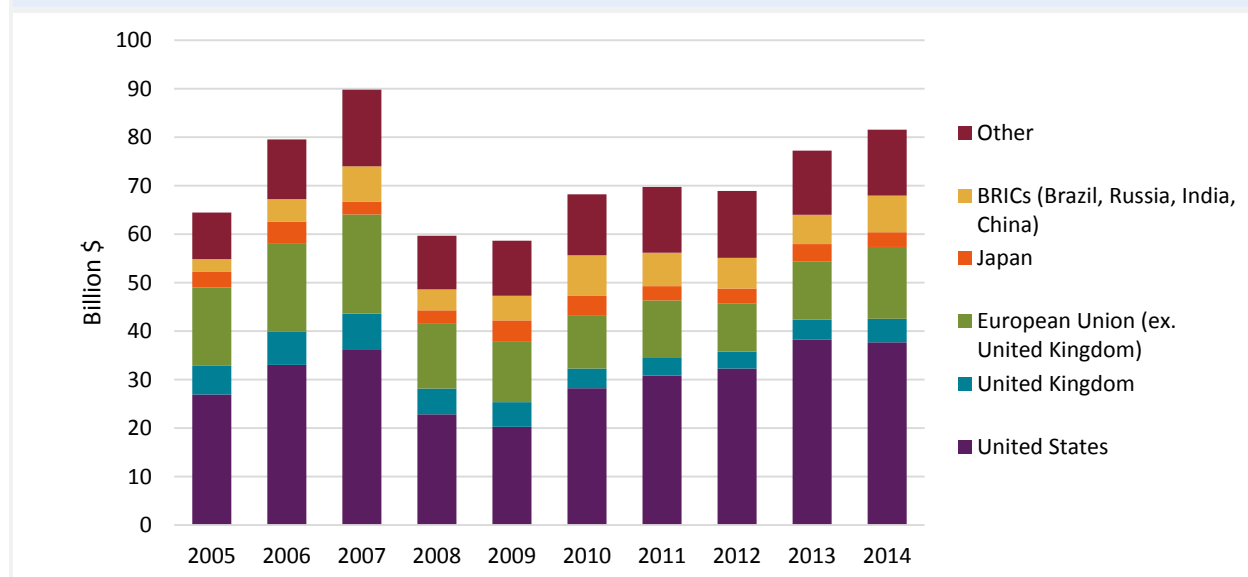
<sup>231</sup> Thomson Reuters, “Global Investment Banking Review,” 2015.

<sup>232</sup> Robinson and Weinberg, “J.P. Morgan Admits It Didn’t Tell Clients,” December 18, 2015.

<sup>233</sup> Schoen, “Seven Years On from Crisis,” April 30, 2015.

<sup>234</sup> Goldstein, “Goldman to Pay up to \$5 Billion,” January 14, 2016.

**Figure 5.1:** Securities services: Global investment banking revenues grew in 2014 but are still below their 2007 peak



Source: SIFMA, *2015 Factbook*, 2015, 74. (See appendix table B.20.)

**Table 5.2:** Top investment banks by fees, 2015

Firm	Country	2015 fees (billion \$)	Growth %, 2014–15	Market share %
J.P. Morgan	United States	6.0	-5.6	6.9
Goldman Sachs	United States	5.9	6.4	6.8
Bank of America Merrill Lynch	United States	5.4	-2.6	6.2
Morgan Stanley	United States	5.0	-4.9	5.8
Citi	United States	4.2	-6.8	4.8
Deutsche Bank	Germany	3.4	-18.3	4.0
Credit Suisse	Switzerland	3.3	-11.8	3.8
Barclays	UK	3.3	-11.4	3.8
Wells Fargo & Co	United States	2.1	-9.5	2.5
UBS	Switzerland	1.9	-12.0	2.2

Source: Thomson Reuters, “Global Investment Banking Review,” 2015.

## Emerging Supply and Demand Factors

Three key developments in the global securities industry are new technologies, emerging markets, and international negotiations. The following sections discuss the ongoing impact of blockchains and the growth in China’s securities industry.

### Blockchains

Blockchains are a new ledger-keeping technology that can help address an enduring problem in digital financial transactions, that of “double-spending.” Physical money is rivalrous, meaning that it cannot be in two places at once: if a buyer hands a \$20 bill to a seller, that bill has passed

from the possession of one person to another. In contrast, a digital record of money in an online account is pure information, and is easily manipulated or reproduced. Digital transactions involve the transfer of a record from a buyer to a seller, but there are no physical limits on how many times, or to how many merchants, that record can be transferred. A functioning digital financial system requires a trustworthy record of how money is spent, to ensure that money used in one transaction has not already been used somewhere else. This is usually accomplished by centralized record keepers. For example, individuals and businesses rely on their banks to maintain accurate records of their holdings and transactions. But reliance on a single entity creates risks that they may be deliberately untruthful, hacked, or manipulated.

Blockchains can mitigate these risks. They are decentralized databases that record valid, time-stamped financial transactions, allowing users to quickly make and verify transactions without a central authority. Blockchains give each user in the currency system a partial copy of the entire chain, which makes it difficult for a malicious actor to tamper with it. While a centralized ledger can be hacked at a single point, a distributed ledger is held by multiple nodes (or participants), making it resistant to manipulation. Consequently, blockchain records are nearly immutable. This may limit risk and improve productivity in the financial services industry.<sup>235</sup>

Blockchains were pioneered by the developers of bitcoin, a decentralized, open-source digital currency first released in January 2009. In bitcoin's blockchain, every 10 minutes all bitcoin transactions are recorded as a "block," with a consensus identifier (or "proof of work") that is then linked to all previous blocks in the chain. The blockchain is updated with a new transaction only if more than half of all users agree that that transaction has taken place.<sup>236</sup> Public keys (i.e., pieces of information that help encrypt and decrypt algorithms) allow the buyer and the seller to identify the money transfer.

While blockchains originated with the development of bitcoin, they are a distinct technology with applications beyond digital currencies. For example, one promising aspect of blockchains is that they may reduce accounting and compliance costs. Currently, settling trades is expensive and time-consuming: it is not fully automated, and financial firms often hold capital against transactions. By one estimate, blockchains could reduce up to 30 percent of annual back-office costs by 2021, including trade clearance and settlement, custody, books and records, and reconciliation costs.<sup>237</sup> Last year these costs totaled an estimated \$54 billion globally.

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<sup>235</sup> Norton Rose Fulbright, "Financial Institutions and Blockchain Technology," March 2016.

<sup>236</sup> In theory a malicious user could gain control of 51 percent of the network's computational power and manipulate the blockchain, although they would not be able to alter historical transactions. Developers and regulators are aware of the "51 percent attack" problem and are working on safeguards.

<sup>237</sup> Crowe, "What Is Blockchain?" March 5, 2016.

These potential savings are driving investment in blockchains. Goldman Sachs, Citi, and J.P. Morgan are funding Digital Asset Holdings, a blockchain startup, in an effort to develop common standards and protocols.<sup>238</sup> The New York Stock Exchange has invested in Coinbase, a digital asset exchange company, and NASDAQ is using technology from the blockchain infrastructure provider Chain for its private share-trading market.<sup>239</sup> New firms like Symbiont are exploring the use of “smart contracts,” or logical executions whereby blockchain transactions automatically trigger the execution of a contract, to underpin securities transactions.<sup>240</sup>

Investments in blockchain technology are primarily happening in countries like the United States with large and sophisticated securities markets. If blockchains successfully reduce accounting and compliance costs, this will add to the competitive advantages enjoyed by financial firms in such countries. However, blockchains also have the potential to lower costs and fees in countries with underdeveloped financial services infrastructures. Some advocates note that the blockchain-based bitcoin system could facilitate low-cost remittances and provide decentralized global bank accounts to otherwise excluded individuals.<sup>241</sup>

Fundamentally, blockchains attempt to provide trustworthy records, which have applications beyond finance. For example, Honduras recently announced a plan to develop a blockchain-based land registry,<sup>242</sup> and this year Estonia decided to secure its health records with blockchain technology.<sup>243</sup> The technology is still young and will need further development (as well as approval by regulators), but could ultimately have a significant impact on global trade in securities services.

## China’s Growing Securities Market

In recent years China’s financial sector has been in a state of flux. The Shanghai Composite, the world’s fifth-largest stock market by market capitalization, has experienced extraordinary volatility: it rose by 250 percent from 2013 to 2015, but then fell by 30 percent between June 2015 and July 2015, a correction equal to nearly \$4 trillion (including a one-day drop of nearly \$700 billion).<sup>244</sup> This volatility corresponded with an influx of inexperienced investors, who were seeking returns in the stock market in response to a slowdown in both economic

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<sup>238</sup> Stafford, “Blockchain Initiative Backed by 9 Large Investment Banks,” September 15, 2015.

<sup>239</sup> Stafford and Bullock, “Nasdaq to Step Up Blockchain Trials,” May 26, 2015.

<sup>240</sup> Rizzo, “Why Symbiont Believes Blockchain Securities,” August 25, 2015.

<sup>241</sup> Scott, “How Can Cryptocurrency and Blockchain Technology Play a Role?” February, 2016.

<sup>242</sup> Chavez-Dreyfuss, “Honduras to Build Land Title Registry,” May 15, 2015.

<sup>243</sup> Allison, “Guardtime Secures over a Million Estonian Healthcare Records,” March 3, 2016.

<sup>244</sup> Noble, “Why Are China’s Stock Markets So Volatile?” July 2, 2015.

growth and real estate appreciation.<sup>245</sup> It also correlated with growth in margin lending, or stock market investment using borrowed money. The state-controlled China Securities Finance Corporation, which lends money to securities brokerages that in turn support margin lending, helped push margin loans to a peak of 14 percent of China's stock market, compared to 6 percent in the United States.<sup>246</sup>

However, trades in any direction are a revenue source, so these stock market losses weren't correlated with revenue losses in China's securities industry. Many securities firms earn a significant portion of their income from brokerage fees; by one estimate, brokerage services accounted for 42 percent of the 2014 revenue of securities firms in China.<sup>247</sup> Transaction volumes in China have grown rapidly: in 2015, bond issuance increased by 62 percent,<sup>248</sup> while turnover in the stock markets exceeded the value of shares traded in the United States.<sup>249</sup> Largely due to these high transaction volumes, revenue in China's securities industry rose to an estimated \$45 billion in 2015, a 154 percent increase over 2014.<sup>250</sup>

China's financial market is still small relative to its economy: the value of shares available for trading is equivalent to 25 to 35 percent of the country's GDP, compared to 150 percent in the United States.<sup>251</sup> Additionally, there are still inefficiencies and opacities in the emerging market that present opportunities for financial analysts and firms using quantitative trading strategies.<sup>252</sup> These factors, combined with ongoing structural reforms and inexpensive valuations, make many investors bullish on China's financial sector.<sup>253</sup>

They also make China attractive to foreign securities firms. Opportunities for foreign securities firms in China have expanded in recent years as China has liberalized its financial sector. The country's World Trade Organization (WTO) accession boosted inflows of foreign capital and introduced new financial services for Chinese consumers.<sup>254</sup> China has limited the pace of liberalization—for example, by restricting foreign ownership in joint-venture securities firms (currently the ceiling is 49 percent). But it has also established a Qualified Foreign Institutional Investor (QFII) program which allows certain foreign institutional investors to buy a set amount of renminbi-denominated shares in the Shanghai and Shenzhen stock exchanges. As of October

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<sup>245</sup> By one estimate, over 60 percent of Chinese investors lack a high school diploma. Das, "China's Stock Market Crash: Part 2," November 18, 2015.

<sup>246</sup> Das, "China's Stock Market Crash: Part 2," November 18, 2015.

<sup>247</sup> KPMG, "Mainland China Securities Survey 2015," October 2015, 6.

<sup>248</sup> *Economist*, "Risky Returns," May 7, 2016.

<sup>249</sup> Kim, "Chinese Stock Market Turnover Surges to Record," May 28, 2015.

<sup>250</sup> IBISWorld, "Securities Brokerage and Transaction Services in China," December 2015, 5.

<sup>251</sup> Das, "China's Stock Market Crash: Part 1," November 11, 2015.

<sup>252</sup> *Economist*, "Risky Returns," May 7, 2016.

<sup>253</sup> Nishizawa, "Goldman Sachs Still Bullish on China Stocks," September 2, 2015.

<sup>254</sup> At the same time, domestic banks lost both rich clients and senior executives to foreign firms. Stichele, *Critical Issues in the Financial Sector*, March 2004.

2015, a QFII quota of \$79 billion had been granted to 277 foreign institutions, including such U.S. firms as J.P. Morgan Chase, Matthews International Capital Management, and Oppenheimer Funds.<sup>255</sup>

China's financial markets are controlled by the state in a way that few other financial markets are.<sup>256</sup> After the mid-2015 collapse, the Chinese government made it an official policy to boost stock prices. Regulators heavily restricted short selling of stocks, barred major shareholders from selling shares for six months, and launched investigations into alleged short sellers, while the state-controlled Securities Association of China coordinated the purchase of shares by large brokerage firms.<sup>257</sup> In response to recent capital flight—an estimated \$1 trillion flowed out of the country in 2015—China has limited the channels through which renminbi can leave, including suspending outbound investment programs that allowed Chinese investors to buy foreign securities.<sup>258</sup> Additionally, requirements that foreign technology companies give source code and encryption keys to the China Banking and Regulatory Commission may make it difficult for foreign financial firms to operate in the country.<sup>259</sup> These interventions and other factors have sown ambivalence among some foreign investors. For example, Hong Kong-based China Merchants Securities (CMS) Asset Management (H.K.) Co. Ltd. and the Swedish financial group Skandinaviska Enskilda Banken both reduced their demand for Chinese securities in early 2016.<sup>260</sup>

In the years ahead, China will likely allow more competition in the industry. In 2010 it let large securities firms offer margin trading,<sup>261</sup> and in 2015 it permitted investors to open multiple accounts without closing existing accounts, which made it cheaper for customers to transfer accounts between firms.<sup>262</sup> The 2015 Administrative Measures on Issuance and Trading of Corporate Bonds, a set of rules adopted by the China Securities Regulatory Commission, allowed corporate bonds to be issued and traded through more channels.<sup>263</sup> And the country will likely permit derivatives and other financial products to be traded on securities exchanges.<sup>264</sup> Evidence for increased competition is suggested by the fact that the average brokerage fee for securities firms fell by 13 percent from 2013 to 2014, at the same time as

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<sup>255</sup> Prasad, "China's Economy and Financial Markets," April 27, 2016.

<sup>256</sup> Noble, "Why Are China's Stock Markets So Volatile?" July 2, 2015.

<sup>257</sup> Das, "China's Stock Market Crash: Part 2," November 18, 2015.

<sup>258</sup> Weinland, "China Halts Overseas Investment Scheme," February 28, 2016.

<sup>259</sup> As of 2015 those regulations have been temporarily suspended. USCIB, "Business Urges China to Halt," April 15, 2015.

<sup>260</sup> Weinland, Sender, and Wildau, "Foreign Funds Cut Quotas in China Investment Scheme," February 3, 2016.

<sup>261</sup> IBISWorld, *Securities Brokerage and Transaction Services in China*, December 2015, 5.

<sup>262</sup> KPMG, *Mainland China Securities Survey 2015*, October 2015, 38.

<sup>263</sup> Ibid.

<sup>264</sup> IBISWorld, *Securities Brokerage and Transaction Services in China*, December 2015, 6.

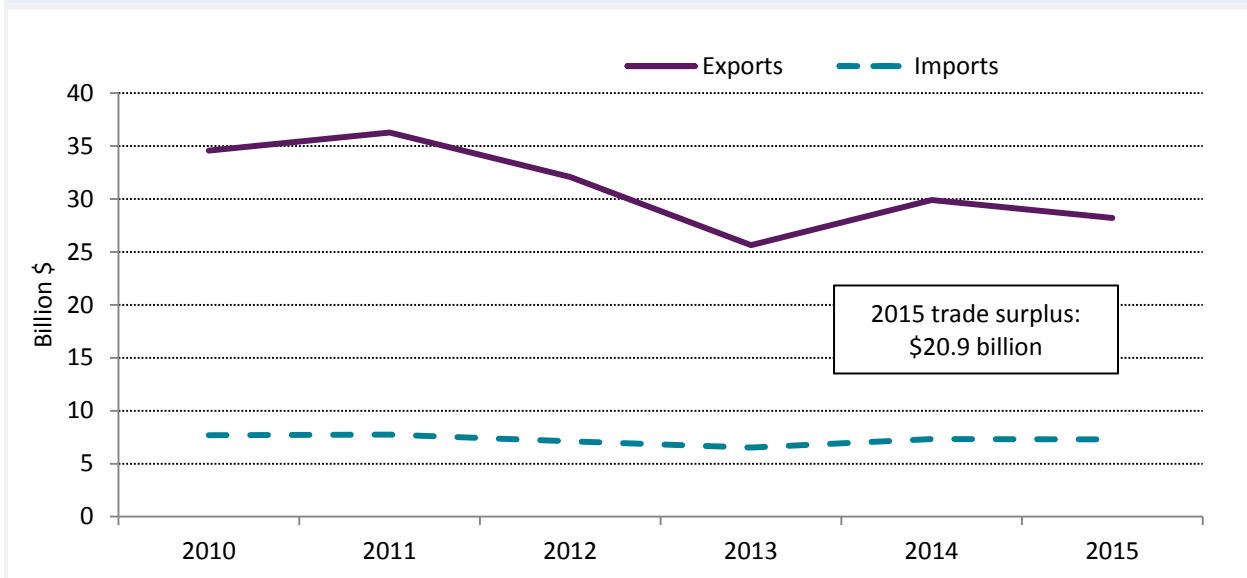
industry revenue increased by 34 percent.<sup>265</sup> These reforms may help address distortions in the incentives and governance structures of China’s financial markets, but the timing and sequencing will determine whether lenders and investors face a hard landing.<sup>266</sup>

## Trade Trends

### Cross-border Trade

The United States consistently runs a large cross-border trade surplus in securities services. In 2015, the United States exported \$28.2 billion of securities services, which included \$11.8 billion of brokerage and underwriting services and \$16.4 billion of securities lending and electronic funds transfer services (figure 5.2).<sup>267</sup> The United States imported \$7.2 billion of securities services, comprising \$4.4 billion of brokerage and underwriting services and \$2.8 billion of lending and electronic funds transfer services. The cross-border trade surplus in 2015 was \$20.9 billion.

**Figure 5.2:** Securities services: U.S. cross-border trade in securities services resulted in a U.S. trade surplus each year during 2010–15



Source: USDOC, BEA, table 3.1, “U.S. International Trade in Services” (accessed June 6, 2016). (See appendix table B.21.)

<sup>265</sup> Ibid.

<sup>266</sup> Mitchell and McGee, “World Bank Warns China to Reform,” July 1, 2015.

<sup>267</sup> Brokerage services execute orders to purchase or sell equity securities. Underwriting services buy and resell newly issued securities. Securities lending services arrange loan terms and conditions, monitor collateral, and provide guarantees against default. Electronic funds transfer services electronically transfer money or financial assets received directly from, or paid directly to, foreign persons.

Securities services exports declined by 6 percent between 2014 and 2015, remaining well below their 2011 peak of \$36.3 billion. Exports of lending and electronic funds transfer services have increased steadily over time, with an annual growth rate of 5 percent during 2010–14, suggesting the growing use of electronic payment technology and e-commerce. However, exports of brokerage and underwriting services have decreased by 10 percent annually during 2010–14. Imports of securities services have also stagnated. Between 2014 and 2015 they grew by less than 1 percent, leaving total imports at about two-thirds of their 2007 levels. Brokerage and underwriting imports had a steady 2010–14 growth rate of 4 percent annually, but lending and electronic funds transfer imports decreased by 7 percent annually during the same period. Overall, revenues in the U.S. securities industry declined by \$95 billion between 2007 and 2015.<sup>268</sup>

This stagnation, however, is not due to slowing trade in securities themselves. In 2014, foreign holdings of U.S. securities reached an all-time high of \$16.4 trillion, while U.S. holdings of foreign securities reached an all-time high of \$9.6 trillion.<sup>269</sup> Annual 2009–13 growth was strong at just under 11 percent for foreign holdings of U.S. securities and just over 11 percent for U.S. holdings of foreign securities. In the past, international trade in securities services tended to move in parallel with cross-border purchases of securities, reflecting the intermediary role of financial firms that facilitate sales. However, more securities are being moved across borders with less cross-border activity by brokerage firms.

Securities and securities services are mostly traded between countries with well-established financial centers and large markets, such as the United States, the UK, and Japan. Some small countries also figure prominently, such as the Cayman Islands, Bermuda, and Luxembourg, because they play a custodial role for third-country purchases of U.S. securities due to their friendly tax and regulatory regimes. For example, if a German investor purchases a U.S. security and places it in the custody of a bank in the Cayman Islands, it would be recorded as a U.S. security held by the Cayman Islands.<sup>270</sup> The foreign countries that held the most U.S. securities in 2014 were Japan, China, and the Cayman Islands, while the United States held the most foreign securities from the UK, the Cayman Islands, and Canada.<sup>271</sup>

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<sup>268</sup> Hoffman, *Investment Banking and Securities Dealing in the U.S.*, November 2015, 39.

<sup>269</sup> U.S. Treasury, Annual Cross-U.S. Border Portfolio Holdings (accessed March 31, 2016).

<sup>270</sup> U.S. Treasury, "Frequently Asked Questions Regarding the TIC System" (accessed March 31, 2016).

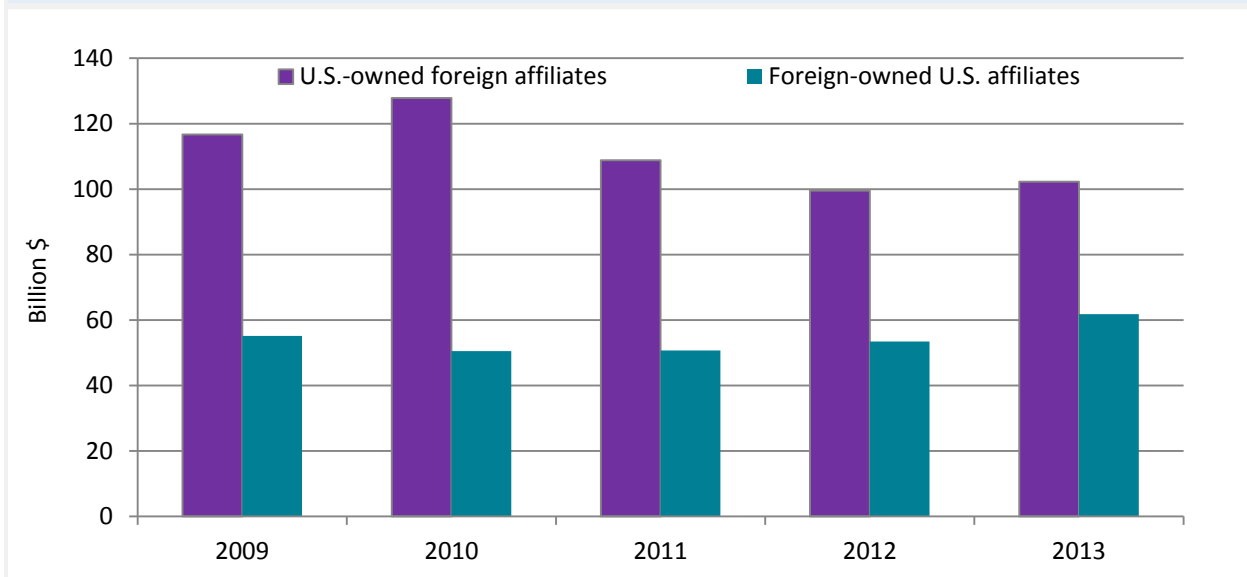
<sup>271</sup> U.S. Treasury, Treasury International Capital System (accessed March 31, 2016).



## Affiliate Transactions

Securities services are traded at much larger volumes through affiliates than through cross-border trade. In 2013, foreign affiliates of U.S. firms sold \$102 billion of securities services abroad, while purchases from U.S. affiliates of foreign firms totaled \$62 billion (figure 5.3). Compared to 2012, this represents 3 percent growth in exports by U.S. affiliates abroad and 16 percent growth in imports from U.S. affiliates of foreign firms. While sales by foreign affiliates of U.S. firms have not yet climbed back to their 2010 peak of \$128 billion, the 2013 purchases from U.S. affiliates of foreign firms represented an all-time high.

**Figure 5.3:** Securities services: Services supplied by foreign affiliates of U.S.-owned firms, and services purchased from U.S. affiliates of foreign-owned firms, both increased slightly in 2013

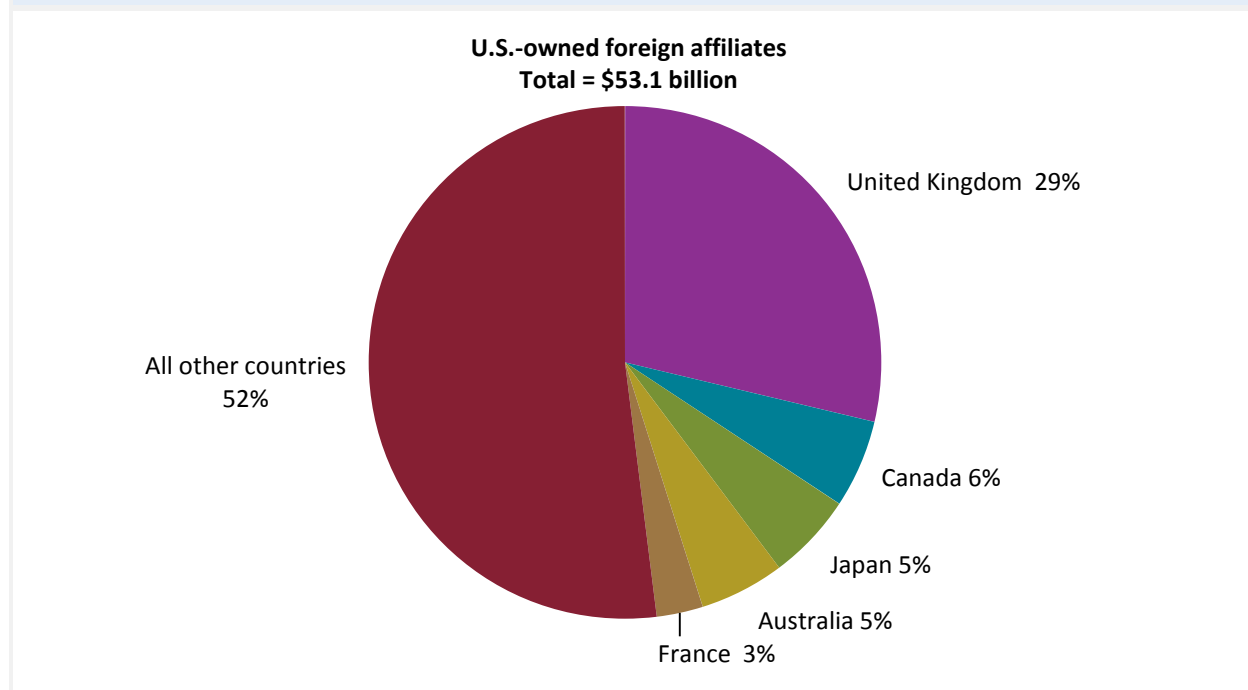


Source: USDOC, BEA, table 3.1, “Services Supplied to Foreign Persons by U.S.MNEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate,” and table 4.1, “Services Supplied to U.S. Persons by Foreign MNEs through Their MOUSA, by Industry of Affiliate and by Country of UBO” (both accessed April 28, 2016). (See appendix table B.22.)

The UK bought the most securities services from foreign affiliates of U.S. firms in 2013, accounting for \$29 billion (or 29 percent) of U.S. exports (figure 5.4); these sales accounted for more than half of total sales to Europe. Canada and Japan were also significant markets, accounting for 6 percent and 5 percent of affiliate sales, respectively. Sales in the UK were robust, but were still down by \$11 billion compared to 2009, and the UK’s share of U.S. exports fell from 35 percent in 2009 to 29 percent in 2013. During the same period, the Asia-Pacific region’s share of affiliate sales grew from 23 percent to 27 percent.

It is not clear which countries account for the largest shares of U.S. affiliate purchases of securities services, as the BEA does not currently report country-specific data on purchases of non-banking financial services from U.S. affiliates of foreign firms.

**Figure 5.4:** Securities services: The United Kingdom was the largest market for securities services supplied by U.S.-owned foreign affiliates in 2013



Source: USDOC, BEA, table 3.1, "Services Supplied to Foreign Persons by U.S. NMEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate" (accessed March 4, 2016). (See appendix table B.23.)

Note: Country-level data for foreign-owned U.S. affiliates of banking firms are limited and thus are not included.

**Box 5.1:** Understanding Data on Cross-border Trade and Affiliate Transactions in Securities Services

The Bureau of Economic Analysis (BEA) at the U.S. Department of Commerce tracks cross-border trade in total financial services on a country-by-country basis. The BEA also breaks financial services down into the following subcategories, which are recorded at the level of total exports and total imports (i.e., not country by country):

- Brokerage
- Underwriting and private placement
- Credit card and other credit-related
- Financial management
- Financial advisory and custody
- Securities lending, electronic funds transfer, and other

These services do not divide cleanly into "banking" and "securities" services, but the USITC characterizes brokerage, underwriting, securities lending, and electronic funds transfer as securities services, while financial management, advisory, and credit card and credit-related services are characterized as banking services. These data encompass explicit fees or commissions, but many financial services include implicit payments as well: for example, the difference between the buying and the selling price of a financial

asset, or the service charge embedded in the interest rate offered to a depositor. The value of these unpriced financial services (sometimes called “Financial Intermediation Services Indirectly Measured”) is only partly captured by BEA data.<sup>a</sup>

The BEA also tracks financial services supplied abroad through foreign affiliates of U.S.-owned firms, and financial services supplied in the United States by affiliates of foreign-owned firms. These services are tracked for some individual countries, but country-level data are often suppressed to avoid disclosing financial information of individual companies.

The U.S. Treasury reports data on international trade in securities themselves, which are related to securities services but are distinct. The Treasury International Capital (TIC) data-reporting system measures gross U.S. purchases of foreign long-term securities (government and corporate bonds as well as company stocks) and gross foreign purchases of U.S. long-term securities, measured by the market value of portfolio holdings. The TIC system uses monthly and quarterly cross-border data as reported by banks and broker dealers, annual surveys of cross-border holdings of short- and long-term securities, and quarterly positional data reported by other financial institutions.<sup>b</sup>

<sup>a</sup> Whichard and Borga, “Selected Issues in the Measurement,” June 2002, 47. Also see Hood, “Research Spotlight,” November 2013.

<sup>b</sup> Bertaut, Griever, and Tryon, “Understanding U.S. Cross-Border Securities Data,” 2006, A60; U.S. Treasury, “Frequently Asked Questions Regarding the TIC System,” n.d. (accessed March 31, 2016).

## Outlook

The global securities services industry is seeing increased demand for low-cost, passively managed index funds. These funds have portfolios that automatically reflect the components of a market index, such as the S&P 500, and therefore do not require managers who actively buy and sell securities (and charge fees for doing so). Between 1975 and 2015, index fund assets grew from \$11 million to \$4 trillion,<sup>272</sup> and since 2007 assets in passive funds have grown four times faster than those in actively managed funds.<sup>273</sup> This growth is partly driven by the recent underperformance of actively managed funds as compared to index funds: one study found that 99 percent of actively managed U.S. equity funds underperformed the S&P 500 over the past decade.<sup>274</sup> This was true of hedge funds in particular—the average hedge fund gained 3 percent in 2014, while the S&P 500 index rose by 11 percent—despite typically charging high fees of 2 percent on assets (regardless of performance) plus 20 percent of fund profits.<sup>275</sup> Leading firms in the passively managed index fund industry, such as State Street, Vanguard, and BlackRock, will likely benefit from continued demand for index funds. However, the concentration of capital has implications; for instance, the shift to passive investment has driven up the valuation premium of stocks that happen to be included in indexes like the S&P

<sup>272</sup> Udland, “The Incredible Rise of the \$4 Trillion,” January 4, 2016.

<sup>273</sup> Mooney, “Passive Funds Grow 230 Percent to \$6 Trillion,” May 29, 2016.

<sup>274</sup> Ung, Fernandes, and Hahn, “SPIVA Europe Scorecard,” 2015.

<sup>275</sup> Ritholtz, “The Most Fascinating Investing Paradox,” February 12, 2015.

500 relative to comparable stocks that fall outside the index.<sup>276</sup> High demand could in time lead to overvaluation, underperformance, and eventual migration back toward other assets, but unless and until such a reversal takes place, the growth of index fund assets is expected to continue. Indeed, new rules that hold some financial advisors to a fiduciary standard (which will discourage them from recommending expensive products with high commissions) should attract even more money into index funds in the years ahead.<sup>277</sup>

The securities industry and the global economy have been shaped in recent years by high demand for safe assets, a trend that may continue. Safe assets, usually defined as securities with low market and credit risk and high liquidity, are generally supplied by developed-country governments; U.S. Treasuries are the most significant type of safe asset, accounting for 45 percent of central government securities rated AAA or AA.<sup>278</sup> The high global demand for safe assets is largely driven by emerging economies with high savings rates and few available savings vehicles. Additionally, pension funds, endowments, and other financial institutions are often constrained by rules that require them to invest in safe assets. Demand has outstripped supply in recent years, pushing yields on government bonds to historical lows; more than \$3 trillion in such bonds have negative nominal interest rates, meaning investors are losing money on their loans to governments.<sup>279</sup> A continued imbalance between the demand for and supply of safe assets could lead to short-term volatility spikes, asset bubbles, and a lack of liquidity in key markets.<sup>280</sup> It also creates incentives for securities firms to create seemingly safe financial instruments by engineering tranches from risky loans.<sup>281</sup>

The regulatory environment for securities firms continues to evolve. In the United States, the 2010 Dodd-Frank Act established several new organizations, including a Financial Stability Oversight Council that monitors the stability of “too big to fail” securities firms, a Consumer Financial Protection Bureau that seeks to prevent predatory lending, and an Office of Credit Ratings that oversees credit ratings agencies.<sup>282</sup> The Basel III accord, a voluntary regulatory framework endorsed by the G20 countries, imposes new capital requirements, leverage ratios, and liquidity thresholds on the securities industry. The European Market Infrastructure

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<sup>276</sup> Alster, “The Ease of Index Funds Comes with Risk,” October 9, 2015.

<sup>277</sup> *Economist*, “Index We Trust,” June 11, 2016.

<sup>278</sup> Fitch Ratings, “The Return of Safe Assets,” January 2016.

<sup>279</sup> Plender, “Who’s Fooling Whom in Haven Asset Hunt?” March 3, 2015.

<sup>280</sup> IMF, *Global Financial Stability Report*, April 2012, 113.

<sup>281</sup> Caballero and Farhi, “On the Role of Safe Asset Shortages,” August 11, 2014. A tranche is a portion or slice of a pool of securities.

<sup>282</sup> Dodd-Frank has largely been implemented, but as of 2015, 32 percent of the required rulemakings had not yet been finalized. Davis Polk, “Dodd-Frank Progress Report,” 2015.

Regulation establishes protocols for derivative contracts, and the EU's Credit Rating Agency Regulation requires disclosure of the relationships between issuers and ratings agencies.<sup>283</sup>

These new regulations have required securities firms to raise large amounts of new capital. The 31 holding companies supervised under the Federal Reserve's Comprehensive Capital Analysis and Review program—a group that includes J.P. Morgan Chase, Goldman Sachs, Morgan Stanley, and Citi, among others—have added \$641 billion in capital since 2009 to meet regulatory requirements.<sup>284</sup> Regulations impose costs on firms, which to an extent are passed on to the broader economy. A 2012 IMF paper estimated that new capital and liquidity regulations would increase lending rates in Europe, Japan, and the United States by 18 basis points, 8 basis points, and 28 basis points respectively, as compared to a baseline scenario.<sup>285</sup> Furthermore, a 2015 survey found substantial “compliance fatigue” among employees of financial services firms who struggle to keep up with evolving regulations.<sup>286</sup> However, the costs of new regulations are countered by the benefits of a more resilient financial system with lower probabilities of crises and recessions. Going forward, regulators will likely continue to finalize and implement these new rules, while facing pressure from the securities industry to be flexible in their application and enforcement.<sup>287</sup>

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<sup>283</sup> Segoviano et al., “Securitization: The Road Ahead,” January 2015, 12.

<sup>284</sup> Federal Reserve, *Comprehensive Capital Analysis and Review 2015*, March 2015, 2.

<sup>285</sup> Elliott, Salloy, and Santos, “Assessing the Cost of Financial Regulation,” September 2012. A basis point is 0.01 percent.

<sup>286</sup> Thomson Reuters, “Thomson Reuters Annual Cost of Compliance Survey,” May 13, 2015.

<sup>287</sup> Brush and Hamilton, “Wall Street Banks Have Basel's Ear in Pushback,” April 1, 2016.

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# Chapter 6

## Services Roundtable

The Commission hosted its ninth annual Services Roundtable on November 5, 2015.<sup>288</sup> Commissioner Rhonda Schmidlein moderated the first half of the discussion, and Chairman Meredith Broadbent moderated the second half. The Commission regularly holds these roundtables to encourage discussion among individuals from government, industry, and academia about important issues affecting services trade. This year's event focused on the evolution and effectiveness of services trade provisions in existing trade agreements as well as the impact of digital technologies on the cross-border provision and liberalization of services.

### Evolution and Effectiveness of Services Trade Provisions

The roundtable began with an assessment of the progress being made in recent free trade agreements. One participant observed that the development of digital technologies has required trade agreements to tackle new issues such as e-commerce and cross-border data flows. This prompted other panelists to note the importance of the negative list approach, which requires the liberalization of all discriminatory measures in covered sectors unless specific exceptions are listed. As one attendee explained, the negative list approach allows agreements to capture unforeseen developments in covered sectors; the attendee went on to describe the importance of negative lists in minimizing ambiguity surrounding market access provisions, particularly when dealing with new technologies. Another panelist concurred, stating that a negative list approach allows innovation to continue while still creating space for exceptions based on legitimate regulatory purposes.

Increased transparency was identified by several panelists as one of the principal benefits provided by free trade agreements. The transparency chapter in the Trans-Pacific Partnership (TPP) will have a positive impact on services trade, one participant suggested. Another noted the importance of the TPP for the commitments it contains on consultation and public comment; these processes would allow governments to react to new developments in services markets while providing firms with the transparency and accountability they need to operate.

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<sup>288</sup> The Services Roundtable is an off-the-record event. As such, its participants are not named in this summary, and no transcript is available to the general public.

Other specific provisions in the TPP and other trade agreements were also referenced as being particularly important for services. One participant noted that many current laws and regulations affecting the provision of services exist behind borders, where governments may act more favorably toward domestic firms. According to the participant, this tendency increases the importance of enforcing the national treatment provisions found in many trade agreements, which deter discriminatory treatment and provide for investments in new markets. The commitments on data flows contained in the Trans-Pacific Partnership (TPP) agreement were praised by another panelist, who noted that they appear to be the most comprehensive yet in any trade agreement. Additionally, a participant noted that the TPP contains innovations in its e-commerce chapter that ensure the free flow of data across borders for most services industries.

The subject of trade agreements' impact on services attracted a number of other observations. One participant proposed that while trade agreements may not be liberalizing applied policies as much as they are binding governments to the policies that already exist, these agreements do create an environment in which services firms can operate with greater certainty about the type of treatment they will receive. Another attendee suggested that trade agreements have importance beyond their specific provisions. This attendee stated that TPP may become an anchor in a rules-based system of trade that brings additional countries such as Japan and Vietnam into free trade agreements with the United States, and that it allows for the possibility of future entry by other important economies in Asia. Finally, a panelist observed that the Safe Harbor framework,<sup>289</sup> while not a free trade agreement, was a model of regulatory cooperation for countries that allowed data to flow back and forth between the United States and the European Union (EU).

Participants also discussed a number of challenges posed by trade agreements. One panelist asserted that negative lists could raise issues involving governments' ability to regulate in the public interest and not on economic grounds. Another attendee pointed out the difficulty of limiting the number or extent of exceptions in trade agreements, since governments want to preserve their regulatory authority and may be less willing to make commitments without certain exceptions. Participants also noted that the administrative practices for implementing commitments in trade agreements vary widely among countries; those practices could lead to differences between the text of the agreement and how the rules translate into practice. Finally, another panelist raised the issue of whether newer services posed any greater regulatory challenges than those services that existed when the agreements were originally

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<sup>289</sup> The Safe Harbor framework was an agreement between the United States and the European Union (EU) in which U.S. firms agreed to abide by EU data privacy rules in return for the ability to transfer data across borders. The framework was struck down by the European Court of Justice in late 2015 and a replacement agreement, the EU-U.S. Privacy Shield, was announced in July 2016.

negotiated. For example, many exceptions contained in article 14 of the General Agreement on Trade and Tariffs (GATT) agreement in 1947 were repurposed in 1994 for the General Agreement on Trade in Services (GATS).

Turning specifically to the TPP, several participants highlighted issues with the agreement that could prove challenging for trade in services. One attendee indicated that some firms are concerned by the lack of a commitment in the TPP restricting mandatory data localization for financial services. Another participant said that the exceptions Malaysia negotiated for its financial services sector in the TPP could set a precedent that may encourage other countries to request similar exceptions in future trade agreements. Additionally, one panelist expressed the view that the growing complexity of trade agreements like the TPP was undermining their effectiveness in liberalizing trade. As an example, this panelist suggested that differing rules of origin in various trade agreements create complications for retailers with global supply chains.

In addition to addressing specific problems contained in trade agreements, several participants suggested alternative ways to facilitate trade in services. One attendee stated that trade agreements with binding rules might act as a baseline for liberalization, while regulatory cooperation could be used to move forward on issues where less consensus exists among trading partners. The attendee stated that this was necessary to balance limited exceptions to trade agreement commitments with the need of governments to maintain their ability to regulate. Another participant noted that mutual recognition agreements—such as those in which parties agree to recognize the licenses held by professionals in certain services sectors—were a form of cooperation on trade issues that is worth exploring further in the future. Lastly, a panelist proposed using the World Trade Organization as a forum for regulatory cooperation where administrative support would be given to countries who wanted to participate.

## The Impact of Digital Technologies on Services Trade and Liberalization

The second half of the roundtable began with an assessment of the impact of services-related TPP provisions on digital technologies and trade in services. One panelist stated that TPP commitments on the free flow of data and the prohibition on data localization requirements were key provisions for facilitating digital trade. Another participant added that these provisions on data flows represented a major innovation in services trade regulation. Additionally, this participant said that while provisions on some electronic cross-border transactions have been included in some form in trade agreements since 1994, provisions covering issues related to e-commerce and data flows are a new innovation in the TPP. One attendee also connected the free flow of data with growth in small and medium-sized enterprises (SMEs), noting that as services like insurance become automated through

digitalization, SMEs are able to access these services more efficiently. The attendee then stated that introducing data localization requirements cuts off these gains of efficiency for SMEs.

As mentioned earlier, another panelist suggested that the TPP fell short in addressing financial services regulation, noting in particular that there was no prohibition on data localization for financial services. This panelist also stated that for financial services in particular, there should be a balance between maintaining safeguards for protecting consumer data and the liberalization of trade. A second participant added that an additional challenge in financial services liberalization is determining whether data privacy laws offer the same level of protection and are enforced similarly across countries.

The potential impact of the Trade Facilitation Agreement (TFA) and the Trade in Services Agreement (TISA) was assessed by participants later in the discussion. One participant stated that the TPP was able to establish a higher standard for trade in services than the TFA, since the TPP includes fewer parties (12) than the TFA (which was negotiated through the World Trade Organization and has been ratified by 90 WTO members).<sup>290</sup> This participant observed that the TFA should lead to improvements in customs procedures if the countries involved take the agreement seriously. Another attendee expressed the view that the TISA represented a new negotiating model for trade agreements—one that, unlike the Doha Round model, no longer relies on an exchange of concessions. The attendee also stated that TISA membership could set the standard for services trade, giving Mauritius, which agreed to join the TISA negotiations, as an example of the appeal of these new trade agreements.

Participants also considered some of the challenges U.S. firms may face when exporting services abroad, in particular for the e-commerce sector. One panelist stated that one challenge for e-commerce SMEs is that overseas consumers may begin to order products online before these firms can create a strategy to sell products internationally. Another participant explained that although Chinese firms see e-commerce as an opportunity, other developing economies see U.S. e-commerce providers as a threat to domestic firms. This participant cited as an example an incremental increase in paperwork for low-value shipments in many developing economies, which adds to the cost of trade. As a result, this participant observed, developing countries may need to be convinced that e-commerce can benefit local producers by giving them a platform to sell globally.

Finally, roundtable participants discussed measurement issues, from current practices for measuring digital technology exports to future challenges for measurement. One attendee noted that technology-enabled trade in services is growing faster than the ability to measure it. The attendee cited trends in services trade growth, where more services are becoming tradable

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<sup>290</sup> As of July 28, 2016. WTO, “Peru, Saudi Arabia ratify Trade Facilitation Agreement,” July 28, 2016.



due to technology advances. Statistically, however, services continue to account for only about one-fifth of total trade, and this could be an indication that the trade data may be failing to fully capture technologically enabled services activity. A second participant raised the question how digital services such as social media sites, which do not charge a fee to users, are captured in official service statistics beyond advertising revenue. A third panelist confirmed that although these activities have some value, they do not show up in statistics outside of advertising and royalties, and there is no clear methodology for including them in future statistical accounts.

As a specific challenge, a participant gave the example of measuring information technology (IT) capacity: initially seen as an investment, IT capacity is increasingly categorized as a consumption expenditure due to advances in cloud computing. Another attendee observed that it is unclear how to measure the services component of value added when creating a product, such as a microchip, which is designed in the United States and then manufactured in other countries. A third participant stated that international standards for measuring trade in services were released by the International Monetary Fund in 2009, but there have been problems applying these changes to trade statistics. Additionally, a panelist pointed out that digital technology enables some firms to sell their services across borders without having to establish affiliates in foreign countries. This ability can create discrepancies in trade statistics, depending on whether the services are purchased directly by a foreign national and if a U.S.-owned foreign affiliate is incorporated in the country where the services are delivered.

These issues, in turn, complicate efforts to measure the impact of trade agreements on services: several participants remarked on the difficulties of quantifying the economic effects of certain restrictions in seeking to determine what types of policy environments enable services trade. While one attendee pointed out the lack of detail or clarity in official services trade data—in particular for digital services—another observed that services trade statistics have become more detailed in recent years and that the frequency of publication has increased. Panelists also highlighted the importance of resources such as indexes of services trade restrictiveness published by the Organisation for Economic Co-operation and Development and the World Bank for services research.

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# **Appendix A**

## **Summary of Selected Services Research**



# Selected Services Research

This appendix provides summaries and links to recent Commission reports that feature topics in services trade. With the exception of the Executive Briefings on Trade, these reports were prepared under section 332(g) of the Tariff Act of 1930 (19 U.S.C. § 1332(g)) in response to requests from the U.S. Trade Representative, the House Committee on Ways and Means, and/or the Senate Committee on Finance.

## Services-related Reports and Investigations

- *Trans-Pacific Partnership Agreement: Likely Impact on the U.S. Economy and on Specific Industry Sectors*
- *Economic Impact of Trade Agreements Implemented under Trade Authorities Procedures, 2016 Report*
- *Overview of Cuban Imports of Goods and Services and Effects of U.S. Restrictions*
- *Trade and Investment Policies in India, 2014–2015*

## Executive Briefings on Trade

- “Factors Affecting Growth In Ghana’s Services Economy”
- “South Africa Is a Leading Producer and Supplier of Services in Africa”
- “Sub-Saharan African Travel Services Trade”
- “Transport Corridors Have Improved Trade in Sub-Saharan Africa, but Issues Remain”
- “Trends in U.S. Health Travel Services Trade”
- “Factors Contributing to the Rapid Growth of Mauritius’ Services Economy”
- “World Bank Indicators Suggest That Sub-Saharan African Countries Are Open to Services Trade”
- “Mobile Money in Kenya”
- “The Undersea Cable Boom in Sub-Saharan Africa”
- “The Impact of Brexit on Financial Services”

## *Journal of International Commerce and Economics* Articles

- “Green Building Services”

## Staff Publications and Working Papers

- “Services Trade Restrictions and Company Profits: Telecommunications”

## Services-related Reports and Investigations

### Trade and Investment Policies in India, 2014–2015

James Stamps, project leader

Investigation No. 332-550, Publication 4566, September 2015

<https://www.usitc.gov/publications/332/pub4566.pdf>

#### Abstract

This report by the U.S. International Trade Commission (Commission), *Trade and Investment Policies in India, 2014–2015*, reviews significant changes made to India’s trade and investment policies by the government of Narendra Modi since he took office in May 2014. It also describes changes to policies identified in *Trade, Investment, and Industrial Policies in India: Effects on the U.S. Economy* (hereafter India 2014), a December 2014 report by the Commission. Both reports were requested by the U.S. House Committee on Ways and Means and the U.S. Senate Committee on Finance.

The Modi government made significant changes to certain barriers to trade and investment described in India 2014. The Modi government also announced several new trade and investment-related policies between May 2014 and July 2015. The Commission found significant changes or new policies in four areas: foreign direct investment; tariffs and customs procedures; local-content requirements, particularly concerning information and communications technology goods; and standards and technical regulations.

U.S. industry representatives and other observers viewed some of the policy changes described in this report as promising from the standpoint of U.S. trade and investment opportunities in India; other policies, as less so. The Modi government enacted no new laws to address intellectual property rights (IPR)-related barriers. However, U.S. industry representatives report that the Modi government has shown more interest in improving IPR policy transparency and more willingness to engage with the United States in this area than Indian governments in the past.

# Overview of Cuban Imports of Goods and Services and Effects of U.S. Restrictions

Heidi Colby-Oizumi, project leader

Investigation No. 332-552, Publication 4597, March 2016

<https://www.usitc.gov/publications/332/pub4597.pdf>

## Excerpt from the Executive Summary

This report examines Cuban imports of goods and services from 2005 to the present; the effects of U.S. restrictions on trade with and travel to Cuba; and Cuban nontariff measures, institutional and infrastructural factors, and other barriers that may inhibit or otherwise affect the ability of firms to conduct business in and with Cuba. It also presents a qualitative and quantitative sectoral analysis of potential U.S. exports of goods and services to Cuba in the event that U.S. restrictions are lifted and Cuban import barriers are reduced.

Both U.S. trade restrictions and Cuban import barriers heavily inhibit trade between the two countries. U.S. restrictions on trade with and travel to Cuba have reportedly shut U.S. suppliers out of a market in which they could be competitive on price, quality, and proximity. Inability to offer credit, to travel to or invest in Cuba, and to use funds sourced and administered by the U.S. government are cited as the most problematic U.S. restrictions. In addition, Cuban nontariff measures and other factors may limit U.S. exports to and investment in Cuba if U.S. restrictions are lifted. These include Cuban government control of trade and distribution, legal limits on foreign investment and property ownership, and politically motivated decision making regarding trade and investment.

Absent U.S. restrictions, U.S. exports in several sectors would likely rise somewhat in the short term, with prospects for larger increases in the longer term, subject to changes in Cuban policy and economic growth. U.S. exports could rise further if Cuban import barriers were lowered.

Cuba's services imports are quite small relative to its services exports. Cuba's surplus in services trade, owing to strong exports of medical and tourism services, is a crucial source of the foreign currency required to sustain the country's high import levels. While Cuba's tourism sector will likely continue to grow in coming years, and U.S. regulations on U.S. participation in Cuba's telecommunications and financial services sectors have eased, these areas are characterized by heavy state control, and thus are unlikely growth sectors for U.S. exports in the near term. However, in the medium to long term, these and other services sectors may prove to have significant potential for U.S. exports of services, as well as for exports of goods to support the provision of these services.

# Trans-Pacific Partnership Agreement: Likely Impact on the U.S. Economy and on Specific Industry Sectors

Jose Signoret, project leader

Investigation No. TPA-105-001, USITC Publication 4607, May 2016

<https://www.usitc.gov/publications/332/pub4607.pdf>.

## Excerpt from the Executive Summary

In accordance with section 105(c) of the Bipartisan Congressional Trade Priorities and Accountability Act of 2015, this report, by the U.S. International Trade Commission (Commission or USITC), assesses the likely effects of the Trans-Pacific Partnership Agreement (TPP, TPP Agreement, or the agreement) on the U.S. economy as a whole and on specific industry sectors. It encompasses TPP's impact on the United States' gross domestic product (GDP), exports, and imports; U.S. aggregate employment and employment opportunities; the production, employment, and competitive position of U.S. industries likely to be significantly affected by TPP; and the interests of U.S. consumers. The report also reviews other assessments of TPP's economic effects available in the literature, and discusses areas of consensus and divergence between the Commission's analyses and conclusions and those in the literature reviewed.

Among broad sectors of the U.S. economy, agriculture and food would see the greatest percentage gain relative to the baseline projections; output would be \$10.0 billion, or 0.5 percent, higher by year 15. The services sector would benefit, with a gain of \$42.3 billion (0.1 percent) in output. Output in manufacturing, natural resources, and energy would be \$10.8 billion (0.1 percent) lower with the TPP Agreement than it would be compared with baseline estimates without the agreement.

The Commission's model estimates that output for the U.S. services sector under TPP would be \$42.3 billion higher (a 0.1 percent increase) relative to the 2032 baseline level; employment would also be 0.1 percent higher. U.S. exports of services to TPP partner markets would be 10.8 percent (\$16.6 billion) higher than the baseline estimate, but exports to non-TPP countries would be 1.9 percent (\$11.8 billion) less than the baseline estimate. Overall, global U.S. services exports would be 0.6 percent (\$4.8 billion) higher, relative to baseline estimates. Exports in two services sectors would be lower than the baseline under TPP; these are sectors that would not experience significant liberalization under TPP, so the model assumes that economic resources would shift away from them, towards sectors that would be liberalized under the agreement.



At the same time, overall U.S. services imports are estimated to be 1.2 percent higher (\$7 billion) than the baseline estimate.

# Economic Impact of Trade Agreements Implemented under Trade Authorities Procedures, 2016 Report

Tamar Khachaturian and David Riker, project leaders

Investigation No. 332-555, USITC Publication 4614, June 2016

<https://www.usitc.gov/publications/332/pub4614.pdf>

## Excerpt from the Executive Summary

This report assesses the economic impact on the United States of U.S. trade agreements implemented under trade authorities procedures since 1984. Its scope includes the multilateral Uruguay Round agreements as well as 15 U.S. bilateral and regional trade agreements. The report analyzes many of the diverse effects of the trade agreements, including effects on international trade in goods and services, consumers, labor markets, international investment, receipts for intellectual property, and the trade position of small and medium-sized enterprises (SMEs).

The Commission's economic analysis finds that in 2012 U.S. bilateral and regional trade agreements increased U.S. aggregate trade, expanding it by about 3 percent. They also increased U.S. real GDP and U.S. employment, expanding these by less than 1 percent (\$32.2 billion and 159,300 fulltime equivalent employees, respectively). In addition, these agreements increased bilateral trade with partner countries by 26.3 percent. The Commission's analysis of agreements that focus on specific industries but include many partners, such as the Information Technology Agreement, show that they have had larger impacts on trade in their targeted industries than do bilateral agreements that cover many sectors.

The trade agreements analyzed here have affected the U.S. economy in many different ways, including gains to consumers through lower prices and greater product variety, increased receipts for intellectual property, and a positive effect, on average, on U.S. bilateral merchandise trade balances with partner countries. Case studies highlight several types of agreement provisions that have impacted U.S. industries. Ranging from avocados to steel and to express delivery services, the case studies show that while in most instances trade agreements have generated gains, in others they have led to negative outcomes.

## Executive Briefings on Trade

### **“Mobile Money in Kenya”**

Eric Forden, June 2015

[https://www.usitc.gov/publications/332/executive\\_briefings/fornden\\_mobile\\_money\\_kenya\\_june2015\\_0.pdf](https://www.usitc.gov/publications/332/executive_briefings/fornden_mobile_money_kenya_june2015_0.pdf)

M-Pesa—the M stands for “mobile,” while pesa means “money” in Swahili—was launched in Kenya as the world’s first mobile money service in 2007. Mobile money services, which allow users to conduct financial transactions using mobile phones (cellphones), have given Kenya’s “un-banked” population a safe and easy way to transfer funds and pay for goods and services. Over the past seven years, mobile money services have grown very rapidly in Kenya due to several factors unique to its market, including an effective marketing strategy, high mobile penetration rates, strong demand for domestic remittances, and limited regulation.

### **“The Undersea Cable Boom in Sub-Saharan Africa”**

Eric Forden, June 2015

[https://www.usitc.gov/publications/332/executive\\_briefings/fornden\\_submarine\\_cables\\_june2015.pdf](https://www.usitc.gov/publications/332/executive_briefings/fornden_submarine_cables_june2015.pdf)

During 2009–12, seven fiber-optic undersea cable systems were installed on the seabed around the east and west coasts of sub-Saharan Africa (SSA). Many observers hope these cables’ telecommunications transmission capacity will stimulate demand for Internet services (and promote economic growth) in the region. However, in the near term several factors will likely restrain demand for these services among the general population, including low per capita income, low levels of computer/smartphone ownership, and poor-quality domestic networks. Instead, during this period the main beneficiaries of SSA’s cables will likely be large domestic companies and multinational corporations operating in Africa.

### **“Factors Contributing to the Rapid Growth of Mauritius’ Services Economy”**

Jennifer Baumert Powell, July 2015

[https://www.usitc.gov/publications/332/executive\\_briefings/powell\\_mauritian\\_services\\_economy\\_7-14-15.pdf](https://www.usitc.gov/publications/332/executive_briefings/powell_mauritian_services_economy_7-14-15.pdf)

Several factors have contributed to the recent growth of the Mauritian services sector, including government efforts to promote economic diversification, a favorable business climate, and solid infrastructure. The services sector is a large and growing component of the Mauritian economy. A favorable business environment and business-friendly regulations have contributed to the growth of Mauritius’ services sector. Certain Mauritian services industries

have experienced, or may experience, very rapid growth due to favorable business conditions, regulations, and government initiatives targeting these industries.

### **“World Bank Indicators Suggest That Sub-Saharan African Countries Are Open to Services Trade”**

Cynthia Payne, July 2015

[https://www.usitc.gov/publications/332/executive\\_briefings/payne\\_africa\\_stri.pdf](https://www.usitc.gov/publications/332/executive_briefings/payne_africa_stri.pdf)

Despite significant differences in the size, composition, and regulation of their economies, most of the 23 sub-Saharan African (SSA) countries included in the World Bank’s Services Trade Restrictions Database have overall STRI scores similar to those posted by higher-income countries. Like high-income countries, many SSA countries included in the database have overall and industry-specific STRI scores in the “virtually open” range, suggesting that SSA countries typically maintain low barriers to services trade.

### **“Trends in U.S. Health Travel Services Trade”**

Art Chambers, August 2015

[https://www.usitc.gov/publications/332/executive\\_briefings/chambers\\_health-related\\_travel\\_final.pdf](https://www.usitc.gov/publications/332/executive_briefings/chambers_health-related_travel_final.pdf)

U.S. trade in health travel services (often called “medical tourism”) has grown steadily in recent years; exports (i.e., travelers coming to the United States) have doubled, and imports (U.S. travelers going abroad) have increased almost ninefold from a low base in the early 2000s. Despite rising costs, the U.S. health system continues to attract foreigners because of its high-quality services and its closeness to large patient markets. At the same time, more Americans are seeking more affordable care abroad, even if they must pay for their expenses out of pocket. The two most important barriers to increasing cross-border trade in health services are visa restrictions for travelers from certain countries entering the United States and a lack of coverage by many U.S. health insurers for treatments provided abroad.

### **“Factors Affecting Growth in Ghana’s Services Economy”**

Jennifer Baumert Powell, October 2015

[https://www.usitc.gov/publications/332/executive\\_briefings/powell\\_ghana\\_ebot10-15-2015.pdf](https://www.usitc.gov/publications/332/executive_briefings/powell_ghana_ebot10-15-2015.pdf)

The Ghanaian government has actively encouraged the development of the country’s services sector, whose rapid expansion has broadened overall economic growth and contributed to low unemployment in Ghana. Services account for almost half of Ghanaian gross domestic product (GDP) and a substantial share of Ghanaian trade. Favorable government actions and relative political and economic stability have helped support strong growth and earnings in several

Ghanaian service industries. However, infrastructure weaknesses and other issues hinder business activity in these same services industries and limit their contribution to growth in other sectors.

**“South Africa Is a Leading Producer and Supplier of Services in Africa”**

George Serletis, October 2015

[https://www.usitc.gov/publications/332/executive\\_briefings/sa\\_services\\_ebot10\\_16.pdf](https://www.usitc.gov/publications/332/executive_briefings/sa_services_ebot10_16.pdf)

South Africa is a diversified and well-developed middle-income country and the second-largest economy in Africa after Nigeria. Yet it also suffers from high unemployment, income inequality, and poverty. Services accounted for over two-thirds of the nation’s output in 2013. While most of South Africa’s economic sectors have grown slowly since the global recession in 2008–09, services posted double-digit growth. As a financial, transportation, retail, and business services hub for the sub-Saharan African region, South Africa is a vital supplier of infrastructure and business services that are key to national and regional economic growth.

**“Sub-Saharan African Travel Services Trade”**

Art Chambers, October 2015

[https://www.usitc.gov/publications/332/executive\\_briefings/chambers\\_africa\\_travel\\_ebot\\_fin\\_al.pdf](https://www.usitc.gov/publications/332/executive_briefings/chambers_africa_travel_ebot_fin_al.pdf)

The share of Sub-Saharan Africa (SSA) in the world tourism market is small but growing, up from 2.4 percent of total arrivals for all transportation modes in 1990 to 3.3 percent in 2010. Over the last eight years, SSA exports of travel services (including personal travel, business travel, and travel for health and education purposes) have risen steadily, while import growth has been more volatile owing to currency fluctuations. South Africa is the largest exporter of travel services, while Nigeria is the largest importer; the United States and the European Union (EU) are the largest sources of travelers (for all purposes) to SSA. Investment in hotels in SSA is rising to meet potential demand expansion driven by both overseas tourism and growth in the African middle class; however, relatively costly transportation and lodging compared to other global destinations, as well as perceived political instability, pose challenges for future growth.

**“Transport Corridors Have Improved Trade in Sub-Saharan Africa, but Issues Remain”**

Joann Peterson, October 2015

[https://www.usitc.gov/publications/332/executive\\_briefings/peterson\\_ebot\\_ssa\\_transit\\_corridors\\_1014.pdf](https://www.usitc.gov/publications/332/executive_briefings/peterson_ebot_ssa_transit_corridors_1014.pdf)

Infrastructure improvements in the transport corridors of sub-Saharan Africa (SSA) have led to growth in the region’s international trade; however, these gains are partially offset by corruption and lack of regulatory oversight at customs checkpoints. For transport corridors to successfully foster trade in the region, SSA countries should continue to reform customs procedures. In fact, some researchers suggest that customs reform is just as important to facilitating trade and corridor performance in SSA as is the continued improvement of the region’s transport infrastructure.

**“The Impact of Brexit on Financial Services”**

Isaac Wohl, October 2016

[https://www.usitc.gov/sites/default/files/publications/332/executive\\_briefings/wohl\\_brexit\\_and\\_financial\\_services\\_final.pdf](https://www.usitc.gov/sites/default/files/publications/332/executive_briefings/wohl_brexit_and_financial_services_final.pdf)

London is the financial center of Europe, and its financial services industry generates large amounts of international trade. Several financial firms in London have indicated they may shift resources from the UK to subsidiaries in the EU in order to retain access to their clients, but the consequences for financial services will depend on new UK-EU arrangements to be negotiated. In any scenario, London will likely retain competitive advantages in financial services by virtue of its legal system, business environment, and skilled labor, and the city will incentivize financial firms to stay. However, many firms have indicated that they will wait and see what happens before making new investments or hiring new employees in the UK, and in the meantime will prepare to move some of their operations to the EU.

## Journal of International Commerce and Economics Articles

### “Green Building Services”

Jennifer Baumert Powell, October 2015

[https://www.usitc.gov/publications/332/journals/vol\\_iii\\_article3\\_green\\_building\\_services.pdf](https://www.usitc.gov/publications/332/journals/vol_iii_article3_green_building_services.pdf)

#### Abstract

Green building services include construction, architecture, engineering, and related activities aimed at creating sustainable structures using environmentally responsible processes and materials. While the concept of building a structure to complement its surrounding environment is not new, there has been a sharp increase in the demand for green buildings and green retrofits in recent years. This trend can be linked to several factors, including a growing interest in cutting the costs associated with operating a structure, government regulations and incentives, and environmental concerns, among others.

Available evidence suggests that U.S. exports and overseas sales of green building services are currently small. However, U.S. firms are internationally competitive, and growth in world markets offers substantial opportunities to green building firms that aim to provide their services abroad. This overview of the U.S. and global markets for green building services discusses factors that affect supply and demand for sustainable structures; examines trade in green building services as a component of overall trade in construction, architectural, and engineering services; and considers the outlook for the green building industry.

#### Staff Publications and Working Papers

### “Services Trade Restrictions and Company Profits: Telecommunications”

Tamar Khachaturian, November 2015

[https://www.usitc.gov/publications/332/id\\_042telecommunication\\_final\\_0.pdf](https://www.usitc.gov/publications/332/id_042telecommunication_final_0.pdf)

#### Abstract

This paper examines the effect of trade barriers on telecommunications companies' profit margins using both one-step and two-step estimation methods. Its main finding is that barriers to entry inflate the profits of incumbent companies, a result which is fairly robust across estimation methods. Additionally, there is some evidence that the effect of trade policies on

## Appendix A: Summary of Selected Services Research

firm profits is related to firm characteristics. However, further research is necessary to improve modeling of profits in the telecommunications industry.

### **Forthcoming Research:**

*332 Investigations*

***The Economic Effects of Significant U.S. Import Restraints: Ninth Update, 2015***

*Investigation No. 332-325, December 2016 (tentative)*



# **Appendix B**

## **Data Tables for Figures**



**Table B.1:** Global services: The United States led the world in cross-border exports and imports of commercial services in 2014 (million dollars)<sup>291</sup>

Country/region	Exports	Country/region	Imports
Americas		Americas	
United States	687,600	United States	451,700
Other Americas	254,300	Other Americas	332,600
Total Americas	941,900	Total Americas	784,300
Europe		Europe	
United Kingdom	337,200	Germany	326,400
France	267,100	France	247,900
Germany	266,200	United Kingdom	196,900
Other Europe	1,531,200	Other Europe	1,230,200
Total Europe	2,401,700	Total Europe	2,001,400
Asia/Pacific		Asia/Pacific	
China	232,500	China	381,600
Other Asia	951,300	Other Asia	1,002,400
Total Asia	1,183,800	Total Asia	1,384,000
Middle East and Africa	226,500	Middle East and Africa	440,700
Commonwealth of Independent States	111,400	Commonwealth of Independent States	171,900
Total exports	4,865,600	Total imports <sup>292</sup>	4,782,400

Source: WTO, International Trade Statistics 2015. Table A8, "World Exports of Commercial Services by Region and Selected Economy, 2004–2014." [https://www.wto.org/english/res\\_e/statis\\_e/its2015\\_e/appendix\\_e/a08.xls](https://www.wto.org/english/res_e/statis_e/its2015_e/appendix_e/a08.xls) (accessed April 1, 2016) and Table A9, "World Imports of Commercial Services by Region and Selected Economy, 2004–2014."

[https://www.wto.org/english/res\\_e/statis\\_e/its2015\\_e/appendix\\_e/a09.xls](https://www.wto.org/english/res_e/statis_e/its2015_e/appendix_e/a09.xls) (accessed April 1, 2016).

Notes: Excludes public-sector transactions.

**Table B.2:** U.S. services: Sales and purchases of services through affiliate transactions are almost twice the value of cross-border trade in services

Year	Services supplied by U.S. firms' foreign affiliates	Services supplied by U.S. affiliates of foreign firms	U.S. cross-border exports	U.S. cross-border imports
2006	890	648	398	314
2007	1,019	684	467	344
2008	1,117	702	514	380
2009	1,072	669	492	355
2010	1,155	701	544	377
2011	1,247	782	606	404
2012	1,286	813	634	424
2013	1,321	878	665	438
2014			690	453

Source: USDOC, BEA, International Data, interactive tables, Table 2.1, "U.S. Trade in Services, by Type of Service," table 3.1, "Services Supplied to Foreign Persons by U.S. MNEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate," and Table 4.1, "Services Supplied to U.S. Persons by Foreign MNEs through Their MOUSA, by Industry of Affiliate and by Country of UBO," March 4, 2016.

<http://www.bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=6&isuri=1&6210=4&6200=160>.

Notes: Data for affiliates are available only through 2013. Total cross-border exports and imports are based on revised 2014 data from the BEA; the most recent data for 2015 have not been included due to their preliminary nature.

<sup>291</sup> The WTO includes the following countries under the Commonwealth of Independent States: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Ukraine, and Uzbekistan.

<sup>292</sup> The value of global exports differs from that of global imports due to several factors, including time lags, differences in methodology, and other measurement errors.

**Table B.3:** U.S. services: Travel and passenger fares accounted for the largest share of U.S. cross-border trade in 2014 (million dollars)

Services industry	Exports	Imports
Travel and passenger fares	220,757	145,677
Professional services	134,010	87,617
Royalties and license fees	110,949	30,670
Financial services	104,707	69,599
Electronics	55,299	40,957
Distribution	47,784	60,719
Other	16,622	14,214
Total	690,128	449,453

Source: USDOC, BEA, Interactive Data, International Data, International Services, Table 2.1., "U.S. Trade in Services, by Type of Service," October 15, 2015.

<http://www.bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=6&isuri=1&6210=4&6200=160>.

Note: Excludes public-sector transactions. Total exports and imports by sector are based on the latest BEA data for which all sectors are available.

**Table B.4:** U.S. services: Distribution accounted for the largest share of U.S. affiliate transactions in 2013 (million dollars)

Services industry	Services supplied by foreign affiliates of U.S. firms <sup>293</sup>	Purchases from U.S. affiliates of foreign firms <sup>294</sup>
Distribution services	408,558	244,698
Financial services	259,460	182,924
Electronic services <sup>295</sup>	141,869	127,188
Professional services	72,441	88,336
Manufacturing <sup>296</sup>	30,138	82,562
Other services (includes suppressed data)	408,409	152,763
Total	1,320,875	878,471

Source: USDOC, BEA, Table 3.1 "Services Supplied to Foreign Persons by U.S. MNEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate," October 15, 2015, and Table 4.1, "Services Supplied to U.S. Persons by Foreign MNEs through Their MOUSA, by Industry of Affiliate and by Country of UBO," Interactive tables: International Data, International Services, March 4, 2016.

<http://www.bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=6&isuri=1&6210=4&6200=231>.

**Table B.5:** U.S. financial services: Banking services led cross-border exports, and insurance services led cross-border imports of financial services in 2015 (million dollars)

Services industry	Exports	Imports
Banking services	74,245	17,870
Securities services	28,215	7,292
Insurance services	17,142	47,772
Financial services total	119,602	72,934

Source: USDOC, BEA, Interactive Data, International Data, International Services Table 2.1., "U.S. Trade in Services, by Type of Service." International Data, Interactive tables: October 15, 2015.

<http://www.bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=6&isuri=1&6210=4&6200=160>.

<sup>293</sup> Services supplied by majority-owned foreign affiliates of U.S. parent firms.

<sup>294</sup> Services supplied by majority-owned U.S. affiliates of foreign parent firms.

<sup>295</sup> Data are underreported by the BEA to avoid disclosing individual companies' information.

<sup>296</sup> Includes ancillary services provided by goods manufacturers, such as computer hardware services.

**Table B.6:** U.S. financial services: Securities services were the largest category of financial services sales by foreign affiliates of U.S. firms in 2013, and insurance was the largest category of purchases from U.S. affiliates of foreign firms (billion dollars)

Services industry	Services supplied by foreign affiliates of U.S. firms <sup>297</sup>	Purchases from U.S. affiliates of foreign firms <sup>298</sup>
Securities services	102	62
Insurance services	65	69
Banking services	54	45
Rental and leasing (except real estate)	39	7

Source: USDOC, BEA, Table 3.1 "Services Supplied to Foreign Persons by U.S. MNEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate," October 15, 2015, and table 4.1, "Services Supplied to U.S. Persons by Foreign MNEs through Their MOUSA, by Industry of Affiliate and by Country of UBO," March 4, 2016.

<http://www.bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=6&isuri=1&6210=4&6200=231>.

**Table B.7:** Banking Services: Europe had the largest share of bank assets by region in 2014

Region	Percent
Europe	41
North Asia	16
North America	14
India and Central Asia	7
Africa and Middle East	6
South America	5
Southeast Asia	6
Oceania	5

Source: IBISWorld, Global Commercial Banking, March 2016.

**Table B.8:** Banking Services: Bank branch concentration was highest in North America and Europe in 2014

Region	Branches per 100,000
Sub-Saharan Africa	4
South Asia	9
Middle East and North Africa	15
OECD members	24
Latin America and Caribbean	16
European Union	28
East Asia and Pacific	11
North America	28

Source: World Bank, World Development Indicators, <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators> (accessed June 14, 2016).

**Table B.9:** Banking services: In 2015, global revenues for fintech firms were highest for payment transactions, followed by lending and financing (percent)

Industry	Account management	Lending and financing	Payments	Financial assets
Retail	10	14	25	13
Commercial	3	9	12	4
Large corporate	2	1	6	2

Source: McKinsey, "Cutting through the Fintech Noise," December 2015, 2. <https://www.febelfin.be/en/cutting-through-fintech-noise-markers-success-imperatives-banks>.

<sup>297</sup> Services supplied by majority-owned foreign affiliates of U.S. parent firms.

<sup>298</sup> Services supplied by majority-owned U.S. affiliates of foreign parent firms.

**Table B.10:** Global investment and loan issuance in fintech grew rapidly after 2012 (billion dollars)

Year	Global Fintech investment	Global marketplace loan issuance
2010	1	2
2011	1	3
2012	2	3
2013	9	5
2014	24	13

Source: Accenture, “Fintech and the Evolving Landscape,” 2016, 3; Morgan Stanley, “Can P2P Lending Reinvent Banking?” June 17, 2015. <http://www.fintechinnovationlablondon.co.uk/fintech-evolving-landscape.aspx>.

**Table B.11:** Banking Services: U.S. firms led global fintech lending in 2014 (billion dollars)

Country	Lending
United States	12
China	9
United Kingdom	2
Australia	1

Source: Morgan Stanley, “Can P2P Lending Reinvent Banking?” June 17, 2015. <http://www.morganstanley.com/ideas/p2p-marketplace-lending>.

**Table B.12:** Banking services: U.S. cross-border trade in banking services resulted in a U.S. trade surplus each year during 2010–15 (billion dollars)

	2010	2011	2012	2013	2014	2015
Exports	38	42	45	69	78	74
Imports	8	10	10	15	18	18
Trade balance	30	32	35	54	60	56

Source: USDOC, BEA Table 2.1, “U.S. Trade in Services, by Type of Service.” Interactive tables: International Data. <http://bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=2&isuri=1&6210=1> (accessed June 16, 2016).

Note: BEA conducted a benchmark survey that greatly increased the number of respondents reporting international trade flows of banking services. This increase is reported for the years 2013, 2014, and 2015, and is responsible for the sharp increase in flows between 2012 and 2013.

**Table B.13:** Banking services: U.S.-owned foreign affiliate sales outpaced purchases from foreign-owned U.S. affiliates during 2009–13 (billion dollars)

Year	U.S.-owned foreign affiliates	Foreign-owned U.S. affiliates
2009	53	41
2010	51	44
2011	56	53
2012	58	49
2013	54	45

Source: USDOC, BEA, table 3.1, “Services Supplied to Foreign Persons by U.S. MNEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate,” and table 4.1, “Services Supplied to U.S. Persons by Foreign MNEs through Their MOUSA, by Industry of Affiliate and by Country of UBO,” Interactive tables: International Data. <http://bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=2&isuri=1&6210=1> (both accessed March 3, 2016).

**Table B.14:** Banking services: In 2013, the United Kingdom was the largest purchaser of banking services from U.S.-owned foreign affiliates (million dollars)

Country	
United Kingdom	13,586
Australia	2,332
Canada	2,126
China	1,033
Germany	947
All other countries	33,827
Total	53,851

Source: USDOC, BEA, table 3.1, "Services Supplied to Foreign Persons by U.S. MNEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate," and table 4.1, "Services Supplied to U.S. Persons by Foreign MNEs through Their MOUSA, by Industry of Affiliate and by Country of UBO," Interactive tables: International Data.

<http://bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=2&isuri=1&6210=1> (accessed March 3, 2016).

**Table B.15:** Insurance services: U.S. cross-border trade in insurance services resulted in a large but shrinking U.S. trade deficit each year during 2010–15 (billion dollars)

	2010	2011	2012	2013	2014	2015
Exports	14	15	17	17	17	17
Imports	61	56	56	53	52	48
Trade balance	-47	-41	-39	-37	-35	-31

Source: USDOC, BEA, Table 2.1, "U.S. International Trade in Services," Interactive Data, International Data, International Transactions. <http://bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=2&isuri=1&6210=1> (accessed June 16, 2016).

**Table B.16:** Insurance services: Bermuda was the leading market for U.S. cross-border exports and imports of insurance in 2014 (million dollars)

Country/region	Exports	Country/region	Imports
Bermuda	3,452	Bermuda	22,893
Canada	2,898	Switzerland	6,319
Japan	2,074	United Kingdom	4,874
United Kingdom	1,906	Ireland	2,909
Mexico	484	Germany	2,733
All other		All other	
Other Western Hemisphere	2,208	Other Europe	1,459
Other Asia-Pacific	1,996	Other Western Hemisphere	7,888
Other Europe	1,901	Asia-Pacific	906
Africa and the Middle East	431	Africa and the Middle East	105
Total all other	6,536	Total all other	10,358
Total	17,350	Total	50,086

Source: USDOC, BEA, table 2.2., "U.S. Trade in Services, by Type of Service and by Country or Affiliation," Interactive Data, International Data, International Transactions.

<http://bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=2&isuri=1&6210=1> (accessed March 4, 2016).

**Table B.17:** Insurance services: In 2014, the United States had its largest cross-border insurance trade deficit with Bermuda (million dollars)

Country	Exports	Trade balance
Bermuda	3,452	-19,441
Canada	2,898	2,338
Japan	2,074	1,713
United Kingdom	1,906	-2,968
Mexico	484	444

Source: USDOC, BEA, table 2.2., "U.S. Trade in Services, by Type of Service and by Country or Affiliation," Interactive Data, International Data, International Transactions.

<http://bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=2&isuri=1&6210=1> (accessed March 4, 2016).

**Table B.18:** Insurance services: Since 2011, services purchased from U.S. affiliates of foreign-owned insurance firms have exceeded services supplied by foreign affiliates of U.S.-owned insurance firms (million dollars)

	2009	2010	2011	2012	2013
U.S.-owned foreign affiliates	61,609	58,379	59,942	64,346	64,805
Foreign-owned U.S. affiliates	48,568	52,141	66,284	71,272	69,456

Source: USDOC, BEA, table 3.1, "Services Supplied to Foreign Persons by U.S.MNEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate," and table 4.1 "Services Supplied to U.S. Persons by Foreign MNEs through Their MOUSA, by Industry of Affiliate and by Country of UBO," Interactive Data, International Data, International Transactions.

<http://bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=2&isuri=1&6210=1> (both accessed March 4, 2016).

**Table B.19:** Insurance services: Japan was the largest market for services supplied by foreign affiliates of U.S.-owned insurance firms in 2013 (million dollars)

Country	
Japan	22,644
United Kingdom	8,849
Canada	4,338
Brazil	3,889
Mexico	2,369
All other countries	22,716
Total	64,805

Source: USDOC, BEA, Table 3.1, "Services Supplied to Foreign Persons by U.S.MNEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate," Interactive Data, International Data, International Transactions.

<http://bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=2&isuri=1&6210=1> (both accessed March 4, 2016).

**Table B.20:** Securities services: Global investment banking revenues grew in 2014 but are still below their 2007 peak (million dollars)

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
United States	26,955	33,048	36,288	22,848	20,266	28,246	30,834	32,288	38,310	37,712
United Kingdom	5,888	6,906	7,316	5,305	5,094	4,052	3,628	3,514	4,065	4,851
European Union (excluding United Kingdom)	16,141	18,219	20,480	13,504	12,445	11,010	11,900	9,956	11,962	14,798
Japan	3,227	4,439	2,671	2,639	4,410	3,971	2,915	3,045	3,620	3,059
BRICs (Brazil, Russia, India, China)	2,655	4,617	7,266	4,345	5,089	8,388	6,908	6,318	6,043	7,539
Other	9,606	12,319	15,784	11,045	11,369	12,566	13,552	13,790	13,249	13,596

Source: SIFMA, "2015 Factbook," 2015, 74. <http://www.sifma.org/newsroom/2016/sifma-joins-us-and-eu-entities-urging-http-to-include-full-coverage-of-financial-services-to-address-market-fragmentation/>.



**Table B.21:** Securities services: U.S. cross-border trade in securities services resulted in a U.S. trade surplus each year during 2010–15 (billion dollars)

	2010	2011	2012	2013	2014	2015
Exports	35	36	32	26	30	28
Imports	8	8	7	7	7	7
Trade balance	27	29	25	19	23	21

Source: USDOC, BEA, Table 3.1, “Services Supplied to Foreign Persons by U.S.MNEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate,” Interactive Data, International Data, International Transactions.

<http://bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=2&isuri=1&6210=1> (both accessed March 4, 2016).

**Table B.22:** Securities services: Services supplied by foreign affiliates of U.S.-owned firms, and services purchased from U.S. affiliates of foreign-owned firms, both increased slightly in 2013 (million dollars)

	2009	2010	2011	2012	2013
U.S.-owned foreign affiliates	116,713	127,847	108,821	99,538	102,261
Foreign-owned U.S. affiliates	55,173	50,496	50,689	53,430	61,791

Source: USDOC, BEA, table 3.1, “Services Supplied to Foreign Persons by U.S.MNEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate,” and table 4.1, “Services Supplied to U.S. Persons by Foreign MNEs through Their MOUSA, by Industry of Affiliate and by Country of UBO,” Interactive Data, International Data, International Transactions.

<http://bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=2&isuri=1&6210=1> (both accessed April 28, 2016).

**Table B.23:** Securities services: The United Kingdom was the largest market for securities services supplied by U.S.-owned foreign affiliates in 2013 (million dollars)

Country	
United Kingdom	29,382
Canada	5,672
Japan	5,581
Australia	5,487
France	2,995
All other countries	53,144
Total	102,261

Source: USDOC, BEA, table 3.1, “Services Supplied to Foreign Persons by U.S. NMEs through Their MOFAs, by Industry of Affiliate and by Country of Affiliate,” Interactive Data, International Data, International Transactions.

<http://bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=2&isuri=1&6210=1> (accessed March 4, 2016).

Note: Country-level data for foreign-owned U.S affiliates of banking firms are limited and thus are not included.

