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International Trade Commission

Recent Trends in U.S. Services Trade:

2025 Annual Report

July 2025
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United States International Trade Commission

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Preface

This report is the 29th in a series of annual reports on recent trends in U.S. services trade published by the U.S. International Trade Commission. The purpose of this report is to apprise Congress and the President of global industry trends, regional developments, and competitiveness issues related to trade in services. Services represent the largest part of the U.S. economy, and the United States runs a significant surplus in services trade. This report was self-instituted in response to congressional interest in establishing a systematic means of examining and reporting on developments in services trade, by services sector, and with leading U.S. trading partners. The Commission instituted the investigation producing this series of reports under section 332(b) of the Tariff Act of 1930.[1] These reports draw on discussions with representatives from industry, academia, and international organizations as well as published sources to inform the Commission's legislative and executive branch requestors and the public.

[1] 19 U.S.C. § 1332(b). On August 27, 1993, the Commission instituted Investigation No. 332-345, *Annual Reports on U.S. Trade Shifts in Selected Industries*. On December 20, 1994, the Commission expanded the scope of the annual *Trade Shifts* report to include more detailed coverage of services industries. The Commission began publishing *Recent Trends in U.S. Services Trade* as a separate report in 1997.

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Abbreviations and Acronyms

Terms	Definitions
AI	artificial intelligence
ALSP	alternative legal services provider
BCG	Boston Consulting Group
BE-120	*Benchmark Survey of Transactions in Selected Services and Intellectual Property with Foreign Persons*
BEA	Bureau of Economic Analysis (USDOC)
BERD	business enterprise research and development
BIM	building information modeling
BLS	Bureau of Labor Statistics (USDOL)
BPM6	*Balance of Payments and International Investment Position Manual, Sixth Edition*
COVID-19	coronavirus disease 2019
CPA	certified public accountant
EY	Ernst & Young
FAST	free advertising-supported streaming television
FTE	full-time equivalent
GATS	General Agreement on Trade in Services
GDP	gross domestic product
GenAI	generative artificial intelligence
IBC	international branch campus
IMF	International Monetary Fund
IP	intellectual property
IRA	Inflation Reduction Act
IT	information technology
ML	machine learning
MNE	multinational enterprise
NAICS	*North American Industry Classification System*
NYU	New York University
PwC	PricewaterhouseCoopers
R&D	research and development
RRF	Recovery and Resilience Facility
RPA	robot process automation
STEM	science, technology, engineering, and mathematics
STRI	Services Trade Restrictiveness Index
SVOD	subscription video-on-demand
tech	technology
UAE	United Arab Emirates
UK	United Kingdom
USDOC	U.S. Department of Commerce
USDOL	U.S. Department of Labor
USITC	U.S. International Trade Commission

Terms	Definitions
USTR	Office of the U.S. Trade Representative
WTO	World Trade Organization

Executive Summary

This year's report examines recent trends in U.S. services trade and competitive conditions in the global services market in chapter 1, with a focus on professional services starting in chapter 2. It describes recent developments in the U.S. and global markets for major professional services sectors, including legal, architectural and engineering, accounting and auditing, education, management consulting, advertising, and research and development (R&D) services. Important emerging trends in global trade for these professional services are described in chapters that highlight two overarching themes. Chapter 3 illustrates a supply-side theme that is relevant for many professional services: how skills gaps and the introduction of artificial intelligence (AI) technologies are affecting the competitiveness of professional services suppliers. Chapter 4 focuses on how changing demographics (including aging and income growth) in advanced and emerging markets, businesses' ongoing digitalization, and the move by many manufacturing firms to reorganize their supply chains in the wake of the coronavirus disease 2019 (COVID-19) pandemic are driving demand for certain professional services.

Trade in services falls into two categories: cross-border transactions, and transactions with U.S.-owned or foreign-owned affiliates. In 2023, the United States continued to be the world's largest exporter and importer of services, with cross-border services exports totaling $993.8 billion (or 12.7 percent of global services exports) and imports totaling $722.7 billion (or 10.0 percent of global services imports). Sales of services by foreign affiliates of U.S.-owned firms totaled $2.1 trillion in 2022 (the latest year available); purchases of services from U.S. affiliates of foreign-owned firms totaled $1.5 trillion.

Report Highlights

The United States Continues to Run a Trade Surplus in Both Cross-Border Services Trade and Foreign Affiliate Sales

In 2023, U.S. cross-border services exports exceeded imports, resulting in a trade surplus of $271.1 billion. The largest U.S. cross-border trade surpluses were in the professional services and financial services categories. The largest market for U.S. services exports in 2023 was the United Kingdom (UK), followed by Canada, Ireland, Switzerland, and UK overseas territories (including the British Virgin Islands, the Cayman Islands, Montserrat, and the Turks and Caicos Islands). In that same year, the largest source of U.S. services imports was the UK, followed by Canada, Germany, Mexico, and India.

Similarly, in 2022, sales of services by U.S.-owned foreign affiliates exceeded purchases from foreign-owned U.S. affiliates by $596.3 billion. Overall, the UK was the largest market for services sales by U.S.-owned foreign affiliates, followed by Ireland and Canada. Affiliates of German-owned firms accounted for the largest share of services purchased from all foreign-owned affiliates in the United States, followed by U.S. affiliates owned by Canadian firms and UK firms.

Professional Services Accounted for 38 Percent of U.S. Cross-Border Services Exports and 29 Percent of Imports in 2023

Professional services accounted for $378.2 billion of U.S. cross-border services exports in 2023, or 38.1 percent of total U.S. services exports, and $184.7 billion, or 29.3 percent, of imports, resulting in a cross-border surplus of $193.5 billion. The top markets for U.S. cross-border exports of professional services were Ireland, Switzerland, and Canada. The top sources of imports were the UK, India, and Canada. In 2022, foreign professional services affiliates of U.S.-owned companies recorded services sales of $176.5 billion, accounting for 8.3 percent of total U.S. affiliate sales of services. Purchases of services from U.S. professional services affiliates of foreign-owned companies totaled $171.2 billion, or 11.3 percent of total U.S. affiliate purchases of services.

Tax-Advantaged Markets Attract R&D Services Spending and Trade

Trends in international trade in R&D services reflect the geographic pattern of spending on both basic and applied R&D by firms in R&D-intensive sectors such as technology, health care, and manufacturing, as well as the impact of firms' global tax strategies. The largest destinations for U.S. R&D services exports are similar to, but not exactly aligned with, countries where total domestic R&D spending is high and where U.S.-owned foreign affiliates spend the most on R&D activities.[2] Varying taxation levels for R&D and intellectual property assets among the major destinations for U.S. exports is the other important driver of R&D services trade flows. Global R&D spending was $2.5 trillion in 2022, led by the United States, China, and Japan.

In 2022, Amazon, Meta, and Alphabet were the firms with the most global R&D spending ($73.2 billion, $35.3 billion, and $28.8 billion, respectively). U.S. cross-border exports of R&D services totaled $118.9 billion in 2023; imports totaled $57.3 billion. R&D services affiliate trade (foreign affiliate sales and purchases) is typically much smaller than cross-border trade. In 2022, sales by foreign R&D services affiliates of U.S.-owned firms totaled $12.4 billion and purchases from U.S. R&D affiliates of foreign-owned firms totaled $6.7 billion. The top destinations for U.S. R&D exports, like Ireland and Switzerland, have effective tax rates that encourage local R&D expenditures and the use of domestic and imported intellectual property.

[2] Statistics on foreign affiliate spending on R&D capture both spending on R&D services imports (including from the United States) and domestic spending on R&D in the country where the affiliate is located.

Professional Services Firms Are Integrating AI into Their Supply Models to Lower Costs and Address Skills Gaps

In recent years, professional services suppliers have moved to adopt new technologies to improve productivity, lower costs, and address increased constraints in skilled labor supply in their sectors. This has led to large changes in business models in some sectors. For example, the proliferation of legal technology has altered the legal services industry landscape through the growth of lower-priced and more technically sophisticated alternative legal services providers, legal technology companies, and client use of legal technology. In turn, law firms have increasingly adopted legal technology, and the use of AI tools specifically by law firms has gained momentum. U.S. firms supplying legal services in foreign markets are at the forefront of using technology integration to increase efficiency and maintain or enhance their competitive positions. At the same time, they are facing increasingly complex regulatory environments in certain countries, which makes it difficult to be competitive in those markets.

Architectural and engineering services are labor intensive, and in recent years, firms in this industry have been affected by higher labor costs and inflation. Architectural and engineering firms have also had difficulties in hiring and retaining skilled workers, and in response some are offering benefits like mentorship and internship opportunities, as well as flexible work schedules. New technologies like AI, building information modeling, and drones are increasingly used for design, risk assessment, 3D modeling, and other applications. One recent survey found that almost 50 percent of architectural and engineering firms are now using AI. This may reduce labor costs and increase productivity, though it also may require extensive upskilling and raise issues like plagiarism.

Global accounting firms are maintaining competitiveness by employing new technologies and outsourcing or offshoring (relocating services overseas) to improve productivity and lower costs. Accounting firms are automating and importing lower-skilled tax and auditing functions to lower the cost of supplying these services where revenue growth is likely to be limited. At the same time, they are seeking to drive revenue growth through higher-value advisory services. For example, in the United States, accounting services firms' revenue has steadily increased over the past five years, despite reductions in staffing due to resignations and retirements among other factors. Firms in this sector continue to leverage digital tools like robot process automation, cloud computing, and data analytics to improve efficiency. Accounting and auditing firms recognize that the implementation of AI and generative AI (GenAI) technologies will likely be a competitiveness factor going forward in part because these tools can accelerate the automation of lower-value tax and auditing functions.

Changing Demographics and Digitalization Affect Demand for Professional Services

Demand for professional services reflects changing demographics, including aging populations and rising incomes, and ever-expanding digitalization in the United States and foreign markets in recent years. For example, international students have been a growing constituency for U.S. colleges and

universities over the past five years, with particularly large numbers of students from India and China studying in California and New York. At the same time, the enrollment of U.S. students in colleges and universities, which increased steadily from 1980 to 2010, has started to decline, with 2 million fewer students in 2022–23 compared to 2010–11. Some institutions are responding by both cutting costs and trying to attract more international students. Digital provision of education services, including cross-border, has been growing in recent years. The use of massive open online courses increased dramatically in March 2020 because of COVID-19 pandemic-related lockdowns and prompted instructors and institutions to quickly acquire and learn digital technologies. Following the resumption of in-person instruction, some universities started to offer combinations of synchronous (real-time) and asynchronous (self-paced) classes. International branch campuses have also expanded recently, especially in China and the United Arab Emirates (UAE), though some have struggled to attract students or funding and have been forced to close.

Clients increasingly want management consulting services that incorporate AI and other new technologies, which has driven traditional strategy consulting firms to shift from the previous focus on human capital to investing significantly in building expertise in technology areas. Moreover, large multinational enterprises like MasterCard and Pfizer have launched "insourced" consulting practices with expanded internal capacities, further shaping demand for the services of traditional management consulting companies. At the same time, established firms providing management consulting services have been affected by rising competition from information technology firms and small niche companies, as well as the emergence of freelance consulting platforms. Changes in demand have also motivated management consulting firms to offer a broader range of tailored and customized services and to move toward value-based pricing instead of hour-based pricing.

The advertising services industry has been experiencing a sharp decline in demand for linear television content and a sharp rise in demand for video streaming services content. This industry also continues to see growing demand from the increased use of social media platforms, as indicated by growth in subscriber bases and digital advertising spending. Digital advertising firms are increasingly using AI technologies to target consumers more effectively and create relevant content more quickly.

Finally, the Commission held its annual Services Roundtable on October 30, 2024. Participants discussed how widespread workforce gaps and aging demographics are affecting U.S. services, how some graduates of U.S. schools and universities are struggling to find employment within the first two years, and how AI is expected to augment or replace many tasks in professional services.

Chapter 1
Introduction

This report, *Recent Trends in U.S. Services Trade* (*Recent Trends*), published annually by the U.S. International Trade Commission (Commission or USITC), examines trends in U.S. services trade, the global services market, and competitive conditions, both in the aggregate and in selected industries. In addition, each year *Recent Trends* focuses on a specific category of services.[3] This year, the report focuses on professional services, including accounting and audit services, advertising services, architectural and engineering services, education services, legal services, management consulting services, and research and development (R&D) services. Professional services were last covered in the 2021 report.[4]

This report is organized into five chapters. Chapter 1 gives an overview of the domestic U.S. services sector, global cross-border trade in services, and U.S. services trade (both cross-border and affiliate transactions) by services sector.[5] It also provides a description of the data sources used throughout the report. Chapter 2 offers an overview of trends in cross-border trade, as well as foreign affiliate sales and purchases in the professional services category. Chapter 2 also looks in detail at the data and drivers of trade trends in R&D services.

Chapters 3 and 4 identify important and emerging trends in selected subsectors of professional services. Chapter 3 focuses on how skills gaps, job openings and employment limits, and the introduction of new artificial intelligence (AI) technologies are creating both disruptions and opportunities that affect the competitiveness of suppliers of professional services. Chapter 4 focuses on the effects of changing demographics, including aging and income growth, in many advanced and emerging markets; businesses' ongoing digitalization; and the move by many manufacturing firms to reorganize their supply chains in the wake of the global pandemic on the demand for and patterns of trade in professional services. Finally, chapter 5 summarizes the views expressed by participants at the Commission's 18th annual Services Roundtable, held on October 30, 2024.

The report also includes three appendixes. Appendix A summarizes recent services-related Commission publications and staff research. Appendix B presents underlying data for the figures included in this report. Appendix C provides information on how the Commission categorizes services data from the Bureau of Economic Analysis (BEA) at the U.S. Department of Commerce (USDOC). Additionally,

[3] Beginning in 2013, *Recent Trends* has rotated its coverage on an annual basis among these four services industry categories.

[4] USITC, *Recent Trends in U.S. Services Trade: 2021 Annual Report*, April 2021. Three other services categories are usually covered in a four-year rotation: digital and electronic services, distribution services, and financial services (last covered in 2022, 2023, and 2024, respectively). For a comprehensive listing of the services that comprise the broader service categories of professional services, digital and electronic services, distribution services, and financial services, see appendix C.

[5] "Cross-border" refers to U.S. exports and imports of services; "affiliate transactions" refers to services supplied and received by multinational enterprises through their majority-owned affiliates; see box 1.1 below.

interactive figures and tables associated with this report are available on the Commission's website, allowing users to explore U.S. services trade trends over time and for selected industries and countries.[6]

Data Sources, Categories, and Limitations

Data on trade in services are more limited than data on trade in goods, partly because of the lack of U.S. customs data on services trade. As a result, this report relies on a variety of sources to present a comprehensive picture of trade in services. Official U.S. services trade data used in this report come from the BEA, which publishes annual data on both cross-border trade and affiliate transactions. These annual data are produced from a combination of surveys of U.S. firms; other administrative data sources, such as financial reports from the U.S. Department of State; and data from non-U.S. government sources.[7] Cross-border trade and foreign affiliate transactions cover a vast majority of total U.S. services trade via all four modes of supply specified in the World Trade Organization's (WTO's) General Agreement on Trade in Services (GATS).[8] Box 1.1 explains the four modes of supply for services trade.

Box 1.1 Modes of Supply for Services Trade Under the World Trade Organization's General Agreement on Trade in Services

The General Agreement on Trade in Services identifies four modes of supply for services trade, or four ways in which trade in services is most commonly measured.[a]

Mode 1 is cross-border supply. In this mode, an individual or firm in one country supplies a service to an individual or firm in another country (i.e., the service crosses national borders). An example is a firm emailing (i.e., exporting) a digital file of an architectural design to a foreign client. This mode also captures transportation services, such as a ship delivering goods from a port in one country to a port in another country.

Mode 2 is consumption abroad. In this mode, an individual from one country travels to another country and consumes a service in that country. For example, a U.S. export of tourism service occurs when a foreign tourist purchases souvenirs, food, and lodging while vacationing in the United States.

Mode 3 is commercial presence. In this mode, a firm based in one country establishes a local affiliate in another country and supplies services through that affiliate. An example is a U.S.-based retailer establishing a local affiliate in a foreign country for the purpose of selling products to consumers in that market as well as consumers in other countries.

Mode 4 is the temporary presence of natural persons. In this mode, an individual from one country travels short term to another country to supply a service—for instance, as a consultant, contract

[6] Interactive figures can be found at: https://www.usitc.gov/publications/industry_econ_analysis_332/2025/recent_trends_us_services_trade_2025_annual_report.

[7] For a list of the data the BEA uses to compile trade in services statistics, see USDOC, BEA, "U.S. International Economic Accounts: Concepts and Methods," June 2024, 17–19.

[8] Annex 1B, GATS, Art. 1(1–2) (April 15, 1994); WTO, "Basic Purpose and Concepts," accessed September 26, 2024.

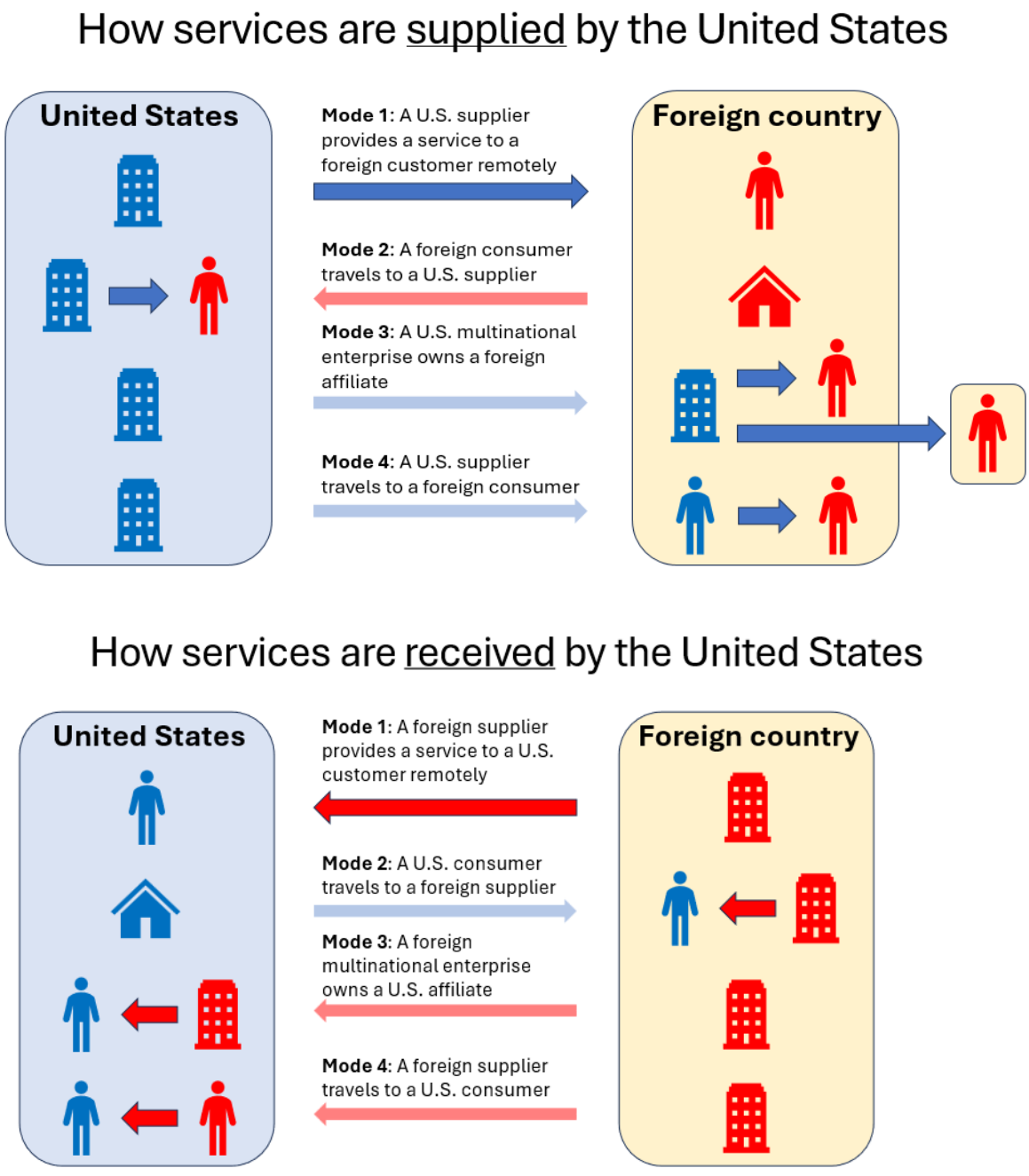
employee, or intracompany transferee at a foreign affiliate. An example is a U.S.-based airplane technician traveling abroad to service or repair an aircraft.

[a] Annex 1B, GATS, Art. 1(1–2) (April 15, 1994); WTO, "Basic Purpose and Concepts" accessed September 26, 2024.

Figure 1.1 summarizes how U.S. services are exported and imported via these four modes of supply, as well as how the modes are differentiated in BEA data.[9]

[9] After income generated through affiliate transactions has been repatriated to the United States, it appears as direct investment income in the U.S. balance of payments. USDOC, BEA, *U.S. International Economic Accounts*, June 2024, 123.

Figure 1.1 Modes of supply and demand in U.S. services trade



Source: USDOC, BEA, "The Basics of How International Services Are Supplied and Received," October 19, 2022.
Note: A U.S. multinational enterprise that owns a foreign affiliate can provide services to customers in that country and customers in other countries. Mode 2 services involve consumers traveling abroad, whereas Modes 1, 3, and 4 involve services suppliers traveling or operating abroad.

As defined by the BEA, cross-border services trade occurs when suppliers in one country sell services to consumers in another country, with people, information, or money crossing national borders. GATS

mode 1 and mode 2 transactions, as well as some mode 4 transactions, are generally grouped together in BEA data on cross-border trade. Firms also provide services to foreign consumers through affiliates established in host (i.e., foreign) countries,[10] and after income generated through affiliate transactions has been repatriated to the United States, it appears as direct investment income in the U.S. balance of payments.[11] These mode 3 transactions are included, with some exceptions, in BEA affiliate transactions data.[12]

This report focuses on BEA "private services" data.[13] As a result, the export and import data presented throughout this report exclude government transactions, which primarily consist of services supplied in support of operations of the U.S. military and U.S. embassies in foreign countries.

Aggregated data on cross-border trade in services appear in the balance of payments statistics published quarterly for the United States by the BEA and annually in the WTO's global services trade data.[14] The term "commercial services" used in WTO services trade data is roughly equivalent to the term "private services" used in BEA services trade data.[15] Like BEA cross-border trade data, WTO cross-border trade data roughly correspond to modes 1, 2, and 4, as specified in GATS.[16]

The BEA also uses survey data to publish more detailed annual statistics for cross-border services trade and foreign affiliate transactions of the United States. These data are sorted by partner country and by industry at the finest level of detail that BEA survey and confidentiality policies allow.[17] Statistics on cross-border trade and foreign affiliate transactions are available for several subcategories of professional services: advertising, architectural and engineering, accounting and audit, education, legal, management consulting, R&D, and waste treatment services. More information on the data coverage for professional services is available in chapter 2.

Beginning in 2009, the BEA began efforts to restructure its international trade data following the release by the International Monetary Fund (IMF) of *Balance of Payments and International Investment Position*

[10] USDOC, BEA, *U.S. International Economic Accounts*, June 2024, 264.
[11] USDOC, BEA, *U.S. International Economic Accounts*, June 2024, 123.
[12] USDOC, BEA, *U.S. International Economic Accounts*, June 2024, 265. Some statistics on services supplied through mode 4 may also be commingled with statistics on compensation of employees. Similarly, services supplied by employees that have been temporarily transferred to foreign affiliates may appear in foreign affiliate sales rather than cross-border statistics. The channel of delivery that service providers use is determined primarily by the nature of the service. For example, retail services are generally supplied through affiliates but transportation services are generally supplied through cross-border trade.
[13] In BEA data, "private services" include all (total) services excluding the category government goods and services, not included elsewhere.
[14] WTO, "Trade in Commercial Services," accessed September 26, 2024; USDOC, BEA, table 1.1, "U.S. International Transactions," September 19, 2024.
[15] BEA private services are the same as the WTO's commercial services in aggregate. The WTO, however, defines services according to the fourth (1977) and fifth (1993) editions of the IMF's *Balance of Payments and International Investment Position Manual*; the BEA defines them according to the sixth version (2009) of this manual. WTO, "Technical Notes," accessed September 26, 2024; USDOC, BEA, *U.S. International Economic Accounts*, June 2024.
[16] WTO, *World Trade Statistical Review 2023*, 2023.
[17] Data are suppressed for certain industries or sectors for which disclosure could potentially reveal confidential information about individual companies. USDOC, BEA, *U.S. International Economic Accounts*, June 2024, 24, 248–49.

Manual, Sixth Edition (BPM6), which provides a statistical framework on balance of payments and international investment data. The BEA implemented changes to gradually bring U.S. services trade statistics in line with the BPM6, expanding detail in its international trade in services statistics starting in 2014 and continuing through 2022.[18] In 2022, the BEA updated its *Benchmark Survey of Transactions in Selected Services and Intellectual Property with Foreign Persons* (BE-120 survey) covering selected services and intellectual property with foreign persons.[19]

The BEA collects and publishes survey-based statistics in two different ways. For cross-border services trade, the BEA collects data based on the type of service traded. For services supplied through affiliates, the BEA collects data based on the affiliates' primary industry.[20] As a result, comparability at the sector level between statistics for cross-border trade and foreign affiliate sales is limited. For example, a firm like Deloitte would likely report cross-border trade data for different segments of its business, such as legal and management consulting services, but will typically be classified in its affiliate transactions as an "accounting, auditing, and bookkeeping" service provider.[21] As a result, any foreign affiliate sales of its legal services could appear under the accounting, auditing, and bookkeeping services category, rather than the legal services category, in BEA affiliate transactions data.[22]

This report uses the latest available services trade data for each source described above. As of the time this report was prepared, WTO cross-border trade in services data were available through 2023. Annual data on cross-border trade from the BEA were available through 2023 (with preliminary data available for 2024); however, BEA data on affiliate transactions were available through only 2022. Accordingly, data on market conditions for each specific industry covered in this report may span different years.

U.S. Services Sector

The services sector is the largest sector of the U.S. economy, and the United States is the world's top cross-border exporter and importer of services.[23] In real value-added terms, U.S. private service-

[18] USDOC, BEA, *U.S. International Economic Accounts*, June 2024, 10–15.
[19] USDOC, BEA, *2022 Benchmark Survey of Transactions*, August 2022. The BEA conducts Benchmark Surveys (BE-10 and BE-12) every five years to collect information from all services trading companies.
[20] USDOC, BEA, *U.S. International Economic Accounts*, June 2024, 253.
[21] Deloitte, "Corporate Law," accessed February 3, 2025; "Accounting and Reporting Services," accessed March 27, 2025; "Global Office Locations," accessed March 27, 2025.
[22] Affiliate transactions are reported by industry rather than type of product, and the affiliate transaction data include ancillary services provided by firms in the agriculture, manufacturing, and mining industries. USDOC, BEA, *U.S. International Economic Accounts*, June 2024, 242.
[23] WTO, "Trade in Commercial Services," accessed September 26, 2024.

supplying industries contributed $16.5 trillion, or 82.3 percent, to U.S. gross domestic product (GDP) in 2023.[24] By comparison, goods-producing industries contributed $3.7 trillion, or 18.3 percent.

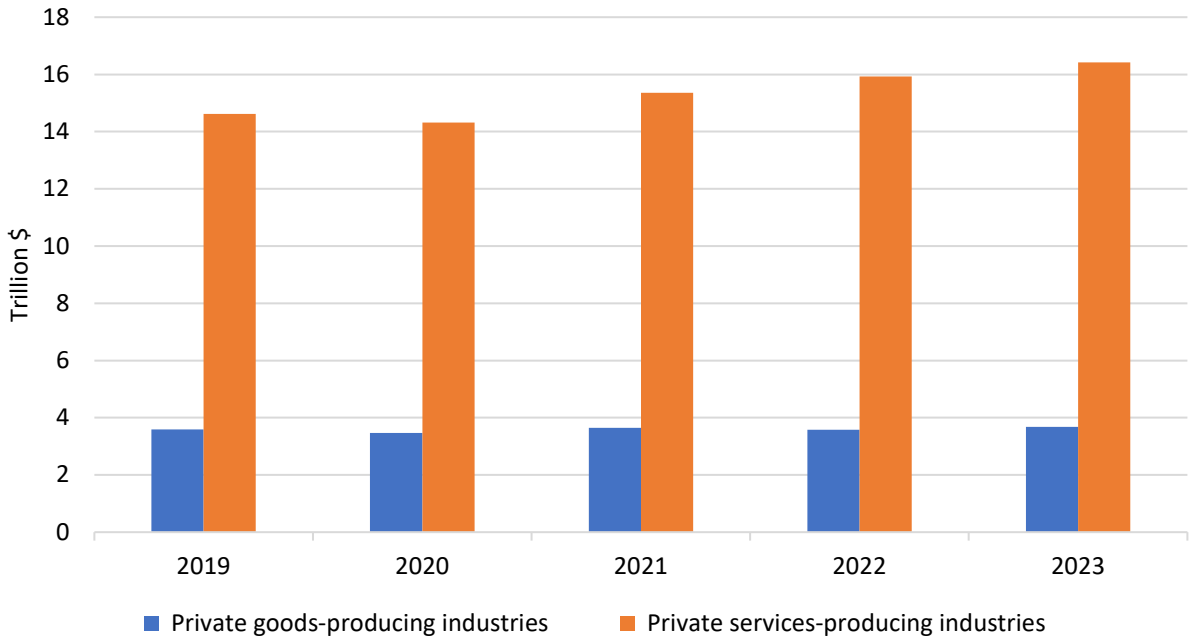
Services-supplying industries also supplied the majority of full-time equivalent (FTE) employees in the U.S. economy in 2023, with private services industries encompassing 102.7 million FTE employees, or 70.3 percent of total employees.[25] Goods-producing industries, by contrast, accounted for private employment of 22.3 million FTE employees, or 15.3 percent of total employees.

Between 2019 and 2023, real value added by private U.S. services-supplying industries increased by 13.0 percent from $14.6 trillion to $16.4 trillion (figure 1.2). In contrast, real value added by private goods-producing industries increased by 2.1 percent, from $3.6 trillion to $3.7 trillion. The number of FTE employees in U.S. services-supplying industries increased by 4.2 percent from 2019 through 2023, whereas employment in goods-producing industries increased by 2.1 percent during the same period.[26]

[24] USDOC, BEA, "Real Value Added by Industry," September 26, 2024; USDOC, BEA, table 6.5D, "Full-Time Equivalent Employees by Industry," September 27, 2024. Real value added is a measure of an industry's contribution to GDP and is the difference between the value of an industry's gross output and the cost of intermediate inputs, adjusted for inflation. Services-supplying industries include utilities; wholesale trade; retail trade; transportation and warehousing; information; finance, insurance, real estate, rental, and leasing; professional and business services; educational services, health care, and social assistance; and arts, entertainment, recreation, accommodation, and food services. Goods-producing industries include agriculture, forestry, fishing, and hunting; mining; construction; and manufacturing. These percentages are based on the private sector only; for totals including the U.S. government, U.S. services represented 72.9 percent of total value added and goods represented 16.2 percent. Because of rounding, these numbers may not add to 100 percent.
[25] USDOC, BEA, table 6.5D, "Full-Time Equivalent Employees by Industry," September 27, 2024.
[26] USDOC, BEA, table 6.5D, "Full-Time Equivalent Employees by Industry," September 27, 2024.

Figure 1.2 Real value added by U.S. industry, 2019–23

In trillions of dollars. Underlying data for this figure can be found in appendix B, table B.1.



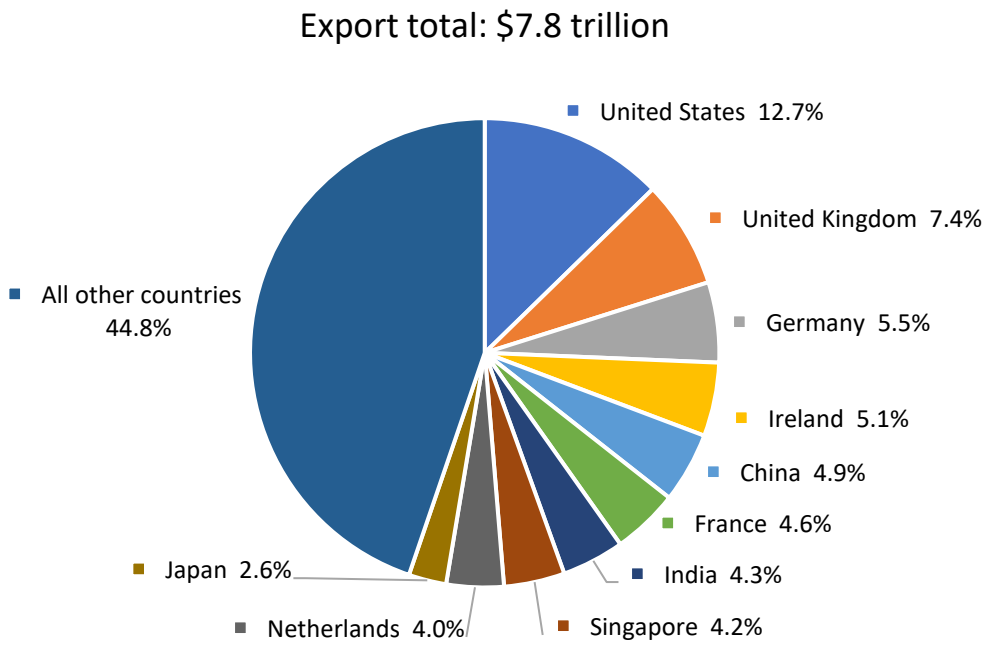
Source: USDOC, BEA, "Real Value Added by Industry," September 26, 2024.
Notes: Estimates are inflation-adjusted 2017 dollars. Private goods-producing industries include agriculture, forestry, fishing, and hunting; mining; construction; and manufacturing. Private services-producing industries include private utilities; wholesale trade; retail trade; transportation and warehousing; information; finance, insurance, real estate, rental, and leasing; professional and business services; educational services, health care, and social assistance; arts, entertainment, recreation, accommodation, and food services; and other services, except government services.

Global Services Trade

The United States was the world's largest cross-border exporter of commercial services in 2023, supplying 12.7 percent of global services exports. Other leading services exporters were the United Kingdom (UK) (7.4 percent), Germany (5.5 percent), Ireland (5.1 percent), and China (4.9 percent) (figure 1.3).

Figure 1.3 Global services: cross-border exports of commercial services, by country, 2023

In percentages. Underlying data for this figure can be found in appendix B, table B.2.

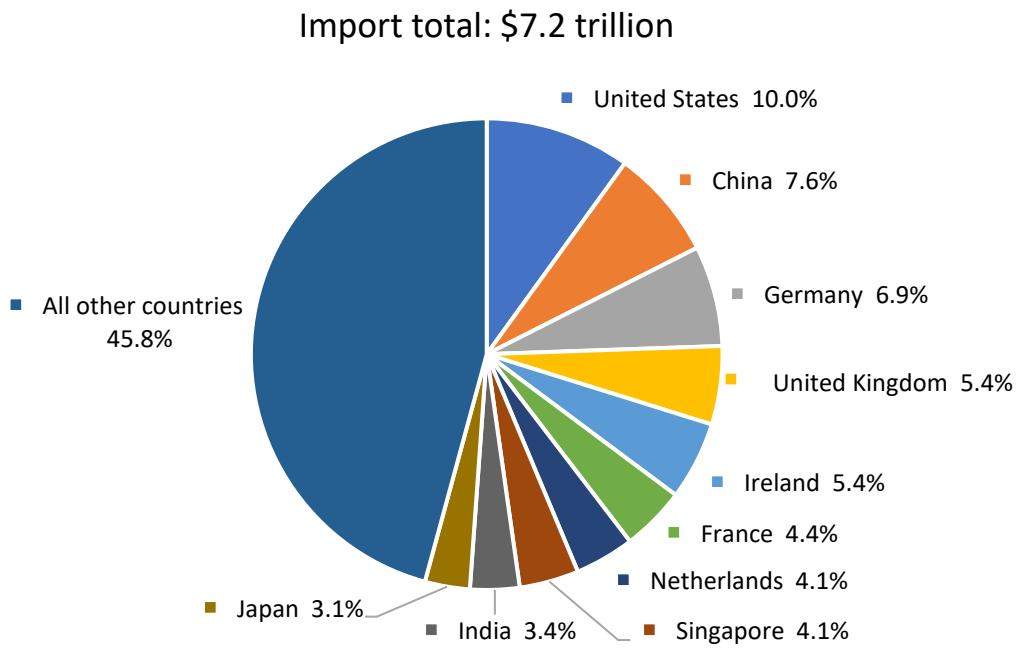


Source: WTO, "Trade in Commercial Services," accessed September 26, 2024.
Notes: Exports of commercial services exclude public sector transactions. Because of rounding, shares may not add to 100 percent.

The United States was also the largest global importer of services in 2023, representing 10.0 percent of total cross-border services imports. As shown in figure 1.4, other leading importers of commercial services included China (7.6 percent), Germany (6.9 percent), the UK (5.4 percent), and Ireland (5.4 percent).

Figure 1.4 Global services: cross-border imports of commercial services, by country, 2023

In percentages. Underlying data for this figure can be found in appendix B, table B.3.



Source: WTO, "Trade in Commercial Services," accessed September 26, 2024.
Notes: Imports of commercial services exclude public sector transactions. Because of rounding, shares may not add to 100 percent.

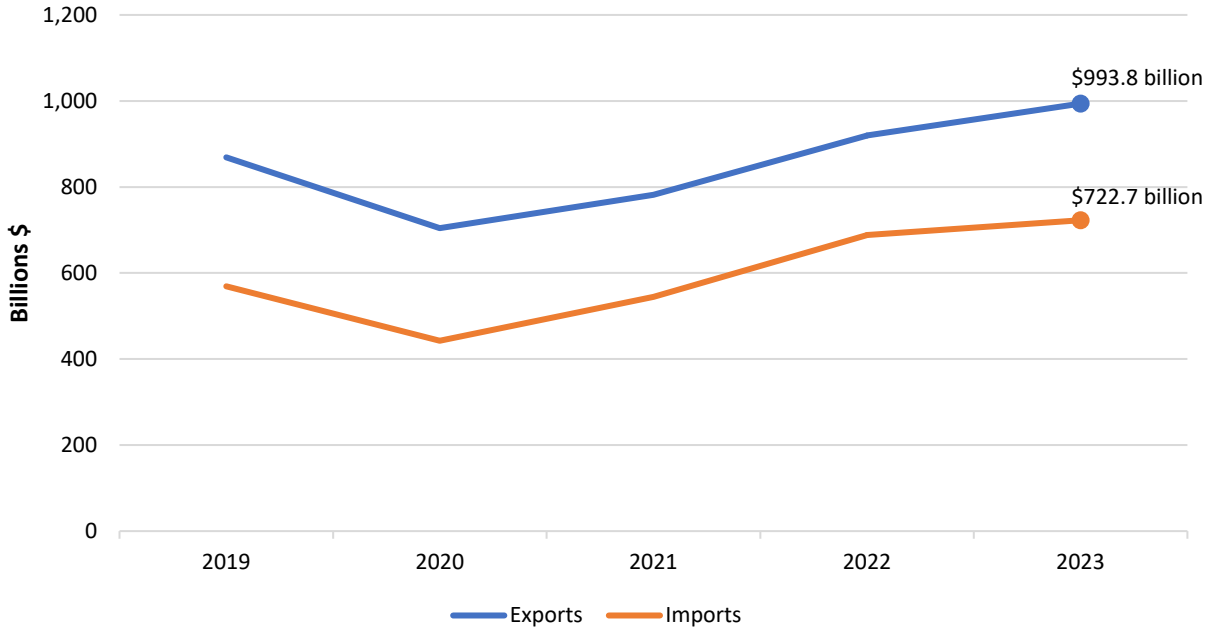
U.S. Cross-Border Services Trade

In 2023, the United States had a cross-border trade surplus of $271.1 billion and was the largest net exporter of commercial services by a wide margin.[27] In 2023, U.S. cross-border services exports increased by 8.1 percent from $919.8 billion in 2022 to $993.8 billion, continuing a rebound started in 2021 from a COVID-19 pandemic-related low of $704.3 billion in 2020. U.S. imports of services increased by 5.0 percent from $688.3 billion in 2022 to $722.7 billion in 2023 (figure 1.5).

[27] USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Figure 1.5 U.S. private services: cross-border exports and imports, 2019–23

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.4.



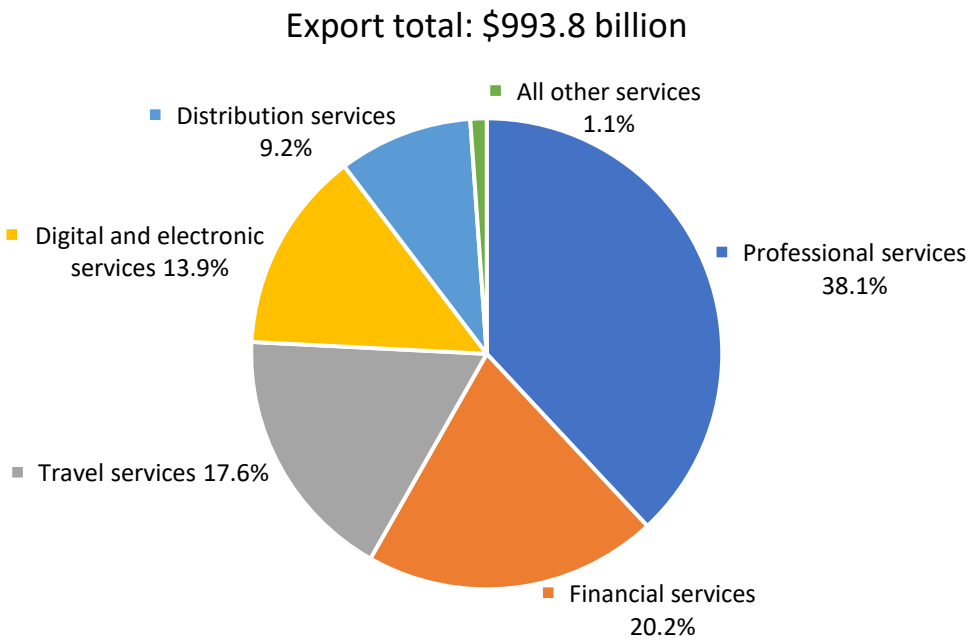
Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

In 2023, professional services continued to compose the largest share of U.S. cross-border services exports, while travel services composed the largest share of imports.[28] As shown in figure 1.6, cross-border exports of professional services during 2023 totaled $378.2 billion, or 38.1 percent of total U.S. cross-border services exports, followed by financial services ($200.4 billion; 20.2 percent) and travel services ($174.8 billion; 17.6 percent).

[28] For a comprehensive listing of the services that comprise the broader service categories of professional services, digital and electronic services, distribution services, and financial services, see appendix C.

Figure 1.6 U.S. private services: cross-border exports, by category, 2023

In percentages. Underlying data for this figure can be found in appendix B, table B.5.

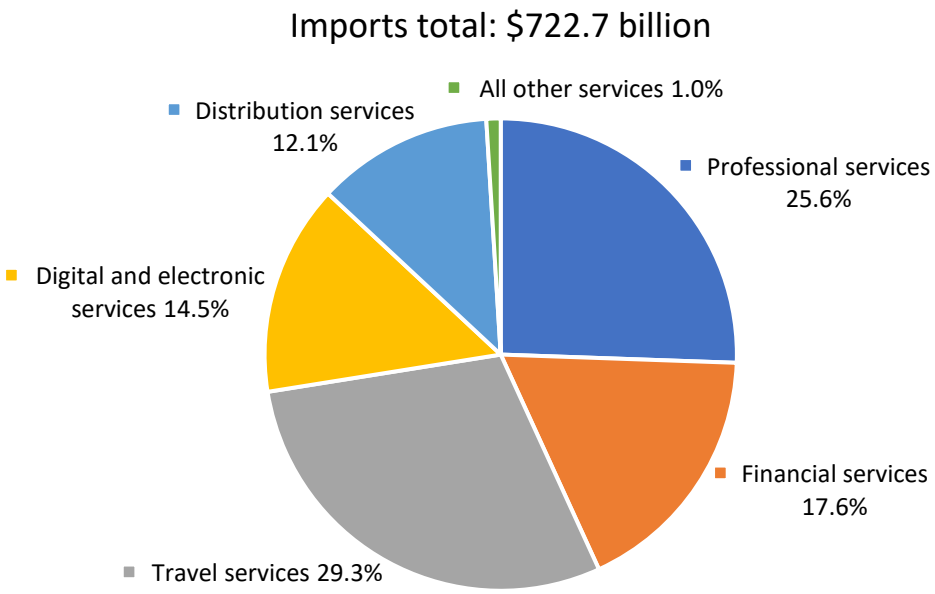


Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
Note: Because of rounding, shares may not add to 100 percent.

U.S. cross-border imports of travel services accounted for $211.8 billion, or 29.3 percent of total U.S. cross-border imports in 2023, followed by professional services ($184.7 billion; 25.6 percent) and financial services ($127.3 billion; 17.6 percent); see figure 1.7.

Figure 1.7 U.S. private services: cross-border imports, by category, 2023

In percentages. Underlying data for this figure can be found in appendix B, table B.6.



Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
Note: Because of rounding, shares may not add to 100 percent.

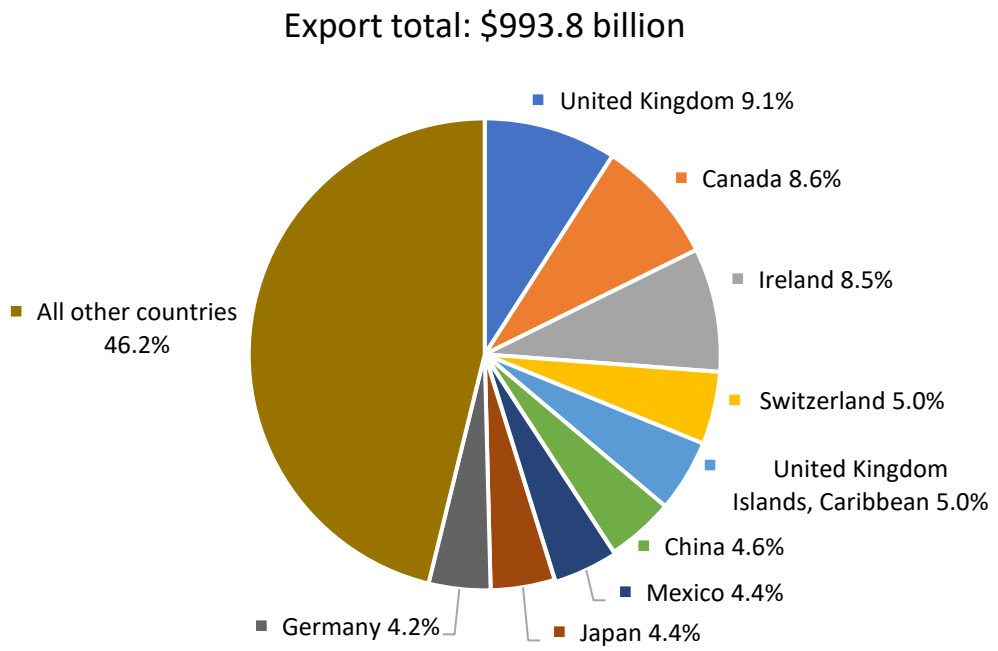
In 2023, all U.S. services categories except travel services recorded a cross-border trade surplus, with the largest surplus in professional services ($193.5 billion), followed by financial services ($73.1 billion) and digital and electronic services ($33.2 billion).[29] The distribution services category registered a deficit in 2022 ($28.1 billion) but a surplus in 2023 ($4.3 billion).

In 2023, the UK was the largest recipient of U.S. cross-border private services exports, totaling $90.4 billion, or 9.1 percent of total U.S. services exports.[30] Other leading recipients of U.S. services exports included Canada ($85.4 billion; 8.6 percent), Ireland ($84.3 billion; 8.5 percent), and Switzerland ($49.6 billion; 5.0 percent); see figure 1.8.

[29] USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
[30] USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.

Figure 1.8 U.S. private services: cross-border exports, by country, 2023

In percentages. Underlying data for this figure can be found in appendix B, table B.7.

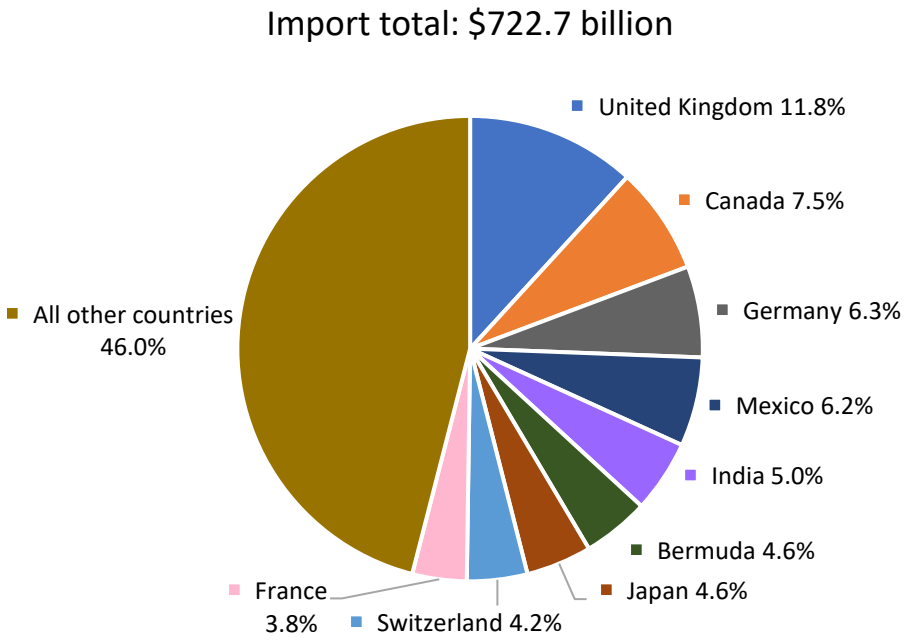


Source: USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.
Notes: Exports of commercial services exclude public sector transactions. Because of rounding, shares may not add to 100 percent. The BEA category "United Kingdom Islands, Caribbean" includes the following UK overseas territories: the British Virgin Islands, the Cayman Islands, Montserrat, and the Turks and Caicos Islands.

In 2023, the largest source of U.S. private services imports was the UK ($85.2 billion; 11.8 percent), followed by Canada ($54.0 billion; 7.5 percent), Germany ($45.8 billion; 6.3 percent), and Mexico ($44.8 billion; 6.2 percent); see figure 1.9.

Figure 1.9 U.S. private services: cross-border imports, by country, 2023

In percentages. Underlying data for this figure can be found in appendix B, table B.8.



Source: USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.
Notes: Imports of commercial services exclude public sector transactions. Because of rounding, shares may not add to 100 percent.

Cross-Border Trade: Preliminary 2024 Data

In addition to the cross-border trade data presented above for 2023, preliminary cross-border services trade data are also available for 2024 using aggregated services categories. Preliminary data on U.S. cross-border services trade for 2024 show that total private services exports were 8.3 percent higher in 2024 compared to 2023 (table 1.1). During this period, the most notable increases were in travel and passenger fares (for which exports increased by 12.3 percent); telecommunications, computer, and information services (12.2 percent); and insurance services (10.6 percent). In contrast, personal, cultural, and recreational services saw a 14.8 percent decrease in exports between 2023 and 2024.[31]

[31] USDOC, BEA, table 3.1, "U.S. International Trade in Services," March 20, 2025.

Table 1.1 Total U.S. private cross-border services exports (preliminary), by category, 2023–24
In billions of dollars. n.i.e. = not included elsewhere.

Services category	2023	2024	change (%)
Travel and passenger fares	225.9	253.6	12.3
Financial services	175.5	190.7	8.7
Professional and management consulting services	150.4	163.5	8.7
Telecommunications, computer, and information services	70.6	79.3	12.2
Research and development services	54.8	53.7	−1.9
Technical, trade-related, and other business services	48.0	50.2	4.7
Air transport (excludes passenger fares)	36.0	39.1	8.6
Personal, cultural, and recreational services	30.7	26.2	−14.8
Insurance services	25.0	27.6	10.6
Sea transport	19.8	20.5	3.8
Other services, n.i.e.	157.1	172.2	9.6
Total cross-border exports	993.8	1,076.6	8.3

Source: USDOC, BEA, table 3.1, "U.S. International Trade in Services," March 20, 2025.

Preliminary data on U.S. cross-border services imports in 2024 also show significant increases and were 8.8 percent higher in 2024 compared to 2023 (table 1.2). "Other services not included elsewhere" posted the largest growth in imports (20.6 percent), followed by insurance services (15.2 percent), air transport services (13.1 percent), and travel and passenger fares (10.8 percent). In contrast, financial services imports decreased slightly, by 2.5 percent.

Table 1.2 Total U.S. private cross-border services imports (preliminary), by category, 2023–24
In billions of dollars. n.i.e. = not included elsewhere.

Services category	2023	2024	change (%)
Travel and passenger fares	224.0	248.1	10.8
Financial services	62.7	61.1	−2.5
Professional and management consulting services	74.1	80.9	9.3
Telecommunications, computer, and information services	60.1	60.4	0.5
Research and development services	33.6	35.8	6.7
Technical, trade-related, and other business services	37.5	39.6	5.8
Air transport (excludes passenger fares)	28.9	32.7	13.1
Personal, cultural, and recreational services	33.0	34.9	5.7
Insurance services	64.6	74.4	15.2
Sea transport	44.4	46.4	4.6
Other services, n.i.e.	59.8	72.1	20.6
Total cross-border imports	722.7	786.6	8.8

Source: USDOC, BEA, table 3.1, "U.S. International Trade in Services," March 20, 2025.

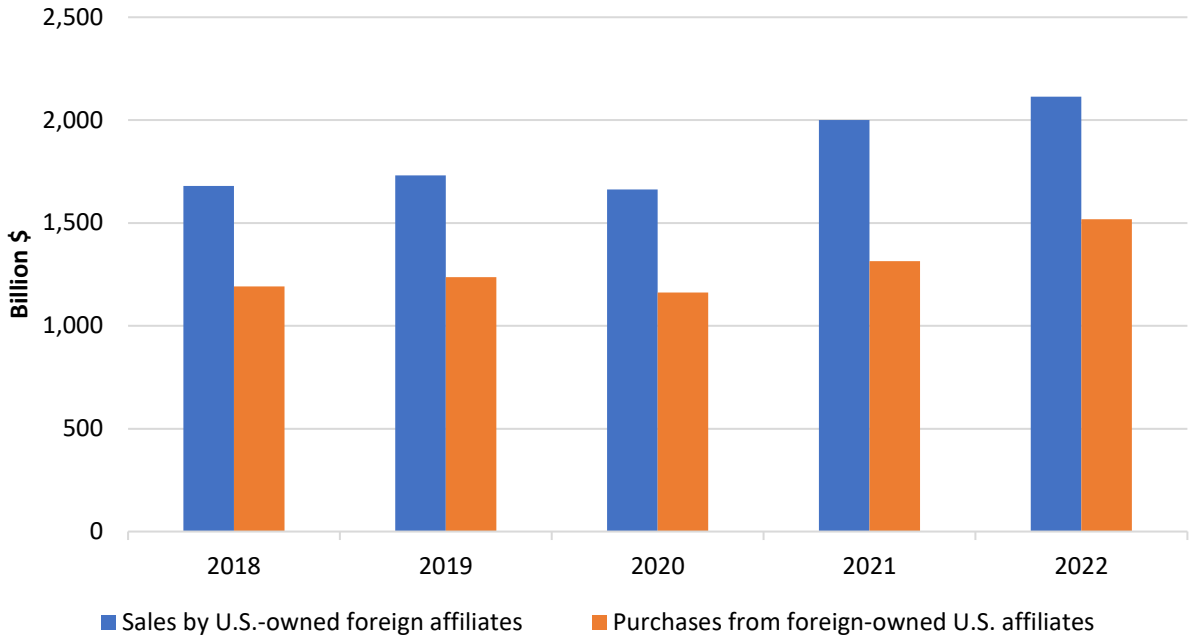
Affiliate Transactions

Sales of services by the affiliates of U.S. companies abroad exceeded purchases within the United States from the affiliates of foreign companies in every year from 2018 through 2022, the last year for which

such data are available.[32] Sales of U.S. affiliates abroad increased from $1.7 trillion in 2018 to $2.1 trillion in 2022 (figure 1.10). Similarly, purchases from the affiliates of foreign firms in the United States grew from $1.2 trillion in 2018 to $1.5 trillion in 2022. Like affiliate sales, affiliate purchases also declined slightly in 2020.[33]

Figure 1.10 U.S. services: affiliate sales and purchases, 2018–22

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.9.



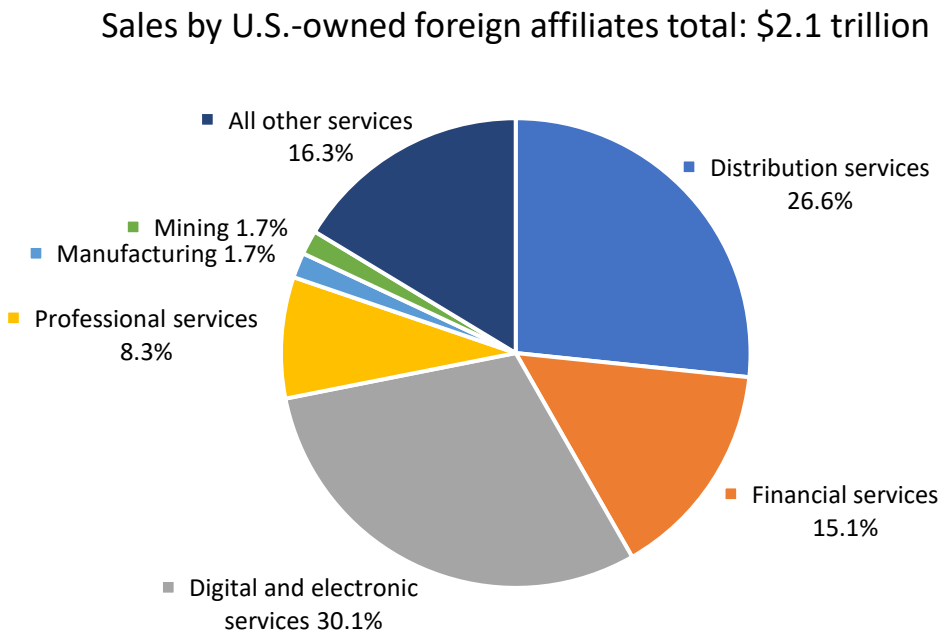
Sources: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024; USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Notes: MNEs = multinational enterprises. Sales by U.S.-owned foreign affiliates include services supplied by majority-owned foreign affiliates of U.S. parent firms. Purchases from foreign-owned U.S. affiliates include services supplied by majority-owned U.S. affiliates of foreign parent firms.

In 2022, digital and electronic services accounted for the largest share of U.S.-owned foreign affiliates sales, amounting to $637.4 billion, or 30.1 percent of total foreign affiliate sales, followed by distribution services ($563.3 billion; 26.6 percent) and financial services ($319.2 billion; 15.1 percent); see figure 1.11.[34] The top markets for the sales of services through U.S. affiliates abroad were the UK ($346.6 billion), Ireland ($227.9 billion), and Canada ($164.3 billion).[35]

[32] For affiliate transactions, sales of services by U.S. affiliates abroad are treated as services exports and purchases from the affiliates of foreign firms in the United State are treated as services imports.
[33] USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024; USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
[34] For a comprehensive listing of the services that compose the broader service categories of financial services, professional services, digital and electronic services, and distribution services, see appendix C.
[35] USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024.

Figure 1.11 U.S. services: affiliate sales by U.S.-owned foreign affiliates, by industry, 2022

In percentages. Underlying data for this figure can be found in appendix B, table B.10.



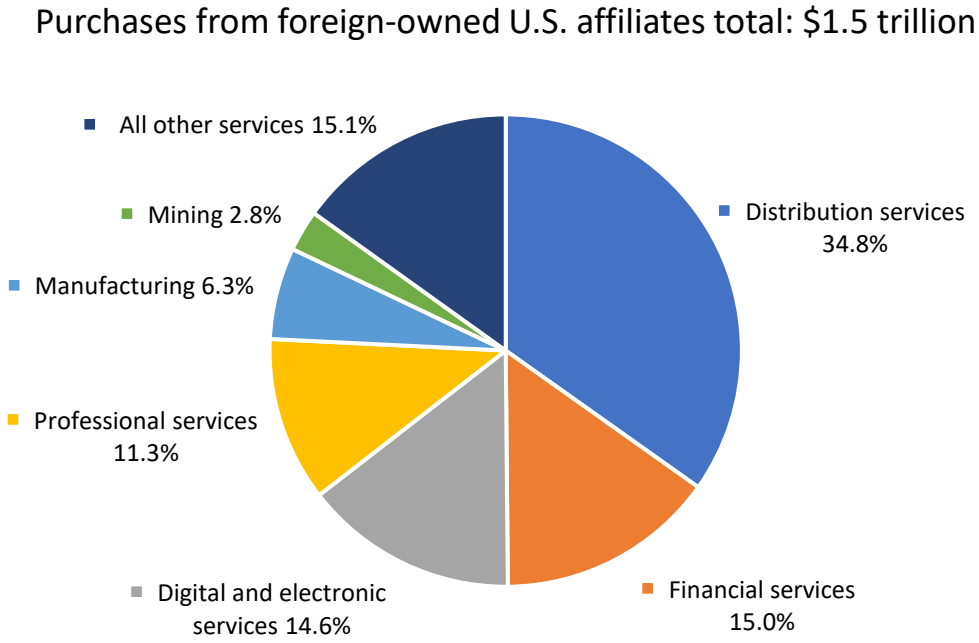
Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024.
Notes: MNEs = multinational enterprises. Professional services are underreported because health care and social assistance services data are suppressed. "Manufacturing" includes ancillary services provided by goods manufacturers. Other services include services supplied by majority-owned foreign affiliates of U.S. parent firms. Distribution services, digital and electronic services, professional services, and all other services are underreported because of suppression of data. Because of rounding, shares may not add to 100 percent.

Digital and electronic services accounted for the largest share of purchases from foreign-owned affiliates in the United States in 2022, with such purchases totaling $637.4 billion, or 30.1 percent of total foreign affiliate purchases. In that same year, distribution services represented $563.3 billion (26.6 percent) of total affiliate purchases, whereas financial services totaled $319.2 billion (15.1 percent); see figure 1.12. German companies with U.S.-based affiliates were the largest source of foreign affiliate purchases in 2022 ($205.6 billion), followed by Canadian-owned affiliates ($188.5 billion) and UK-owned affiliates ($188.1 billion).[36]

[36] USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.

Figure 1.12 U.S. services: purchases from foreign-owned U.S. affiliates, by industry, 2022

In percentages. Underlying data for this figure can be found in appendix B, table B.11.



Source: USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Notes: MNEs = multinational enterprises. Digital and electronic services and all other services are underreported because of the suppression of data. "Manufacturing" includes ancillary services provided by goods manufacturers. "All other services" includes ancillary services provided in the mining, agriculture, and other sectors, as well as suppressed data. Beginning with the 2018 *Recent Trends in U.S. Services Trade* report, software publishing was reallocated from "All other services" to "Digital and Electronic Services" to better reflect the industry composition. Therefore, digital and electronic services data in this report, and in all *Recent Trends* reports published in 2018 and later, cannot be directly compared with such data in USITC reports published before 2018. Because of rounding, shares may not add to 100 percent.

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Chapter 2
Professional Services

Overview

Professional services comprise a wide range of activities that typically require highly skilled labor. Specialists in this industry often require specific degrees, licenses, or credentials to operate within their respective fields—such as accounting, legal, architecture, engineering, health care, and education.[37] Sectors within professional services such as accounting may also be subject to local and national regulations to guarantee legal and ethical services provision.[38] These requirements ensure that only qualified specialists offer such services, though they may also limit market entry, particularly across borders where requirements may differ. International trade in professional services typically includes cross-border trade predominantly through digital means or via the movement of persons, and the transactions of affiliated firms.[39] Consumers of professional services consist of individuals, businesses, and governments. Households, for example, rely on professional services for social services such as education and health care. Businesses and governments require professional services for business operations and administrative infrastructure such as accounting services, legal services, management consulting services, and research and development (R&D) services.

Within professional services, this report focuses primarily on R&D services, legal services, architectural and engineering services, accounting and audit services, education services, management consulting services, and advertising services.[40] This chapter begins with a presentation of U.S. cross-border trade and affiliate transactions in professional services over the last five years of available data, followed by detailed sector-specific industry and trade trends. Concluding the chapter, a special topic section provides a closer look at global trends in the provision of and trade in R&D services, a large and growing category of professional services.

Cross-Border Exports and Imports

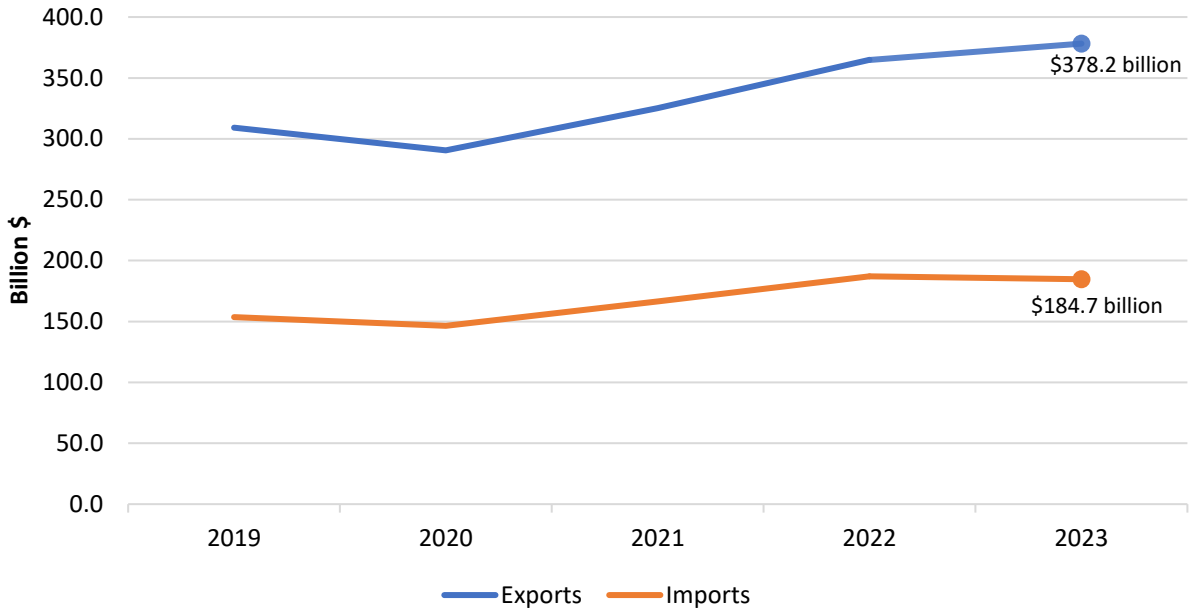
In 2023, U.S. cross-border exports of professional services (including travel services for the purposes of education and health care) totaled $378.2 billion following a period of moderate growth since 2020

[37] UNCTAD, *Trade and Development Aspects of Professional Services and Regulatory Frameworks*, November 25, 2004, 7–8.
[38] Govdysh, *Professional, Scientific and Technical Services in the US*, September 2024, 3.
[39] Mann, "Measuring Trade in Services by Mode of Supply," August 2019, 10. See box 1.1 for more information on services trade modes of supply.
[40] The overall professional services statistics presented in chapters 1 and 2 contain other services—such as health care, scientific and technical consulting, and maintenance and repair services not included elsewhere—which are not discussed separately. See appendix C for a listing of services sectors included in professional services cross-border trade and affiliate services transactions data.

(figure 2.1).[41] Unlike some other services sectors, professional services trade overall experienced a slight decline in 2020 because of the COVID-19 pandemic, but quickly recovered by 2021. Compared to 2019, professional services exports in 2023 grew by 22.3 percent, accounting for 38.1 percent of total cross-border services trade ($993.8 billion). Top export destinations for professional services in 2023 included Ireland ($55.9 billion), Switzerland ($35.3 billion), Canada ($25.9 billion), and the Netherlands ($25.2 billion) (figure 2.2).

Figure 2.1 Professional services: U.S. cross-border exports and imports, 2019–23

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.12.

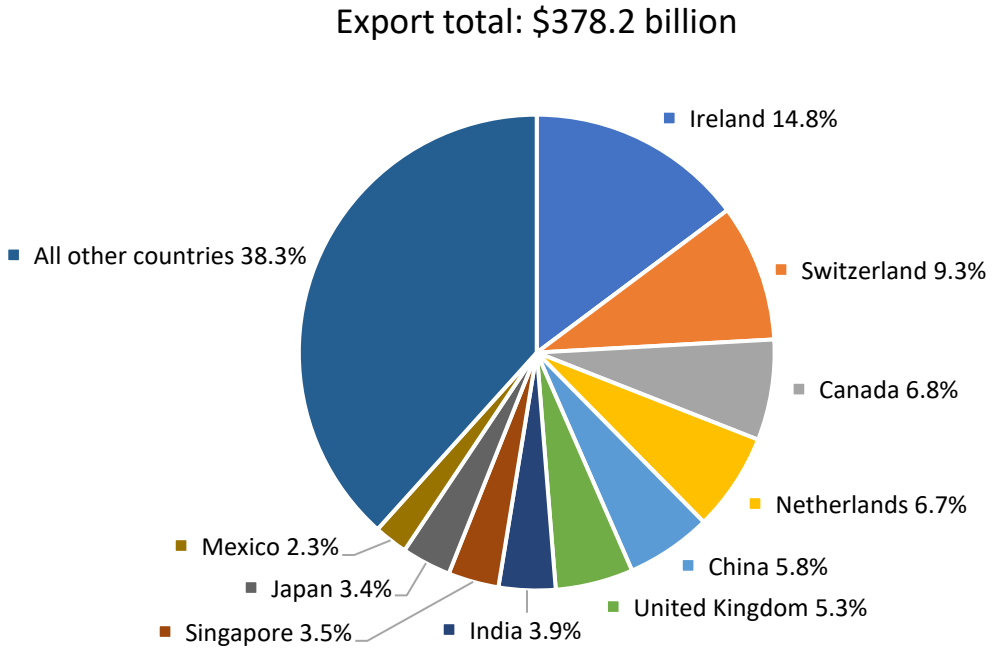


Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
Note: Total imports and exports include services for education and health care as defined in appendix C, table C.2.

[41] Cross-border trade in travel services for the purposes of education and health care are categorized within professional services trade as "related travel services" throughout this report. See appendix table C.2 for a listing of service sectors included in professional services cross-border trade data.

Figure 2.2 Professional services: U.S. cross-border exports, by country, 2023

In percentages. Underlying data for this figure can be found in appendix B, table B.13.

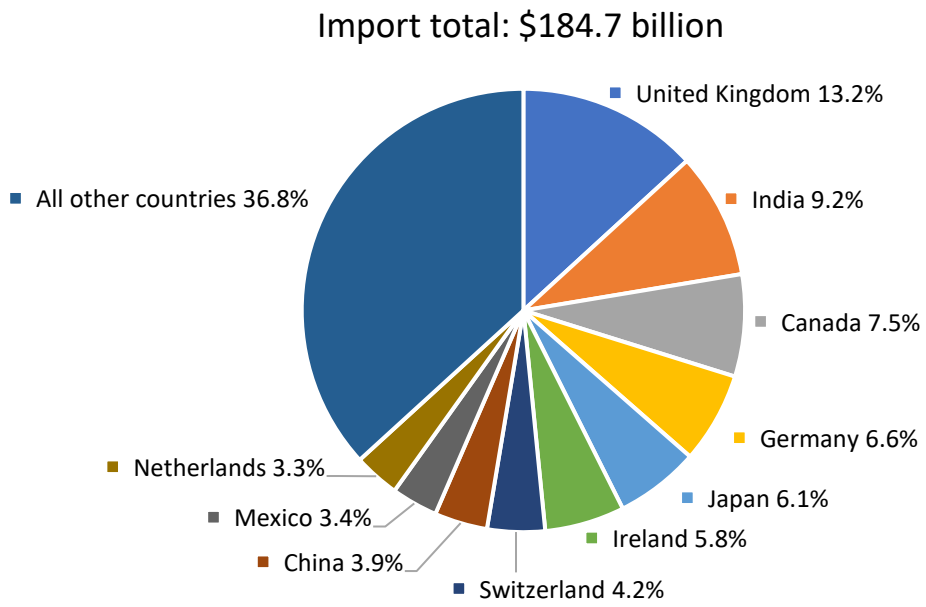


Source: USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.
Notes: Because of rounding, shares may not add to 100 percent. Total exports include services for education and health care as defined in appendix C, table C.2.

Professional services imports (including related travel services) totaled $184.7 billion in 2023, resulting in a $193.5 billion surplus in U.S. professional services trade. Although U.S. imports of professional services slightly decreased in 2023 after substantial growth in 2022, imports were 20.2 percent higher in 2023 compared to the 2019 level. By 2023, imports of professional services accounted for 29.3 percent of total cross-border services trade ($722.7 billion). Top source countries for professional services imports that year included the United Kingdom (UK) ($24.4 billion), India ($16.9 billion), Canada ($13.8 billion), and Germany ($12.3 billion) (figure 2.3).

Figure 2.3 Professional services: U.S. cross-border imports, by country, 2023

In percentages. Underlying data for this figure can be found in appendix B, table B.14.



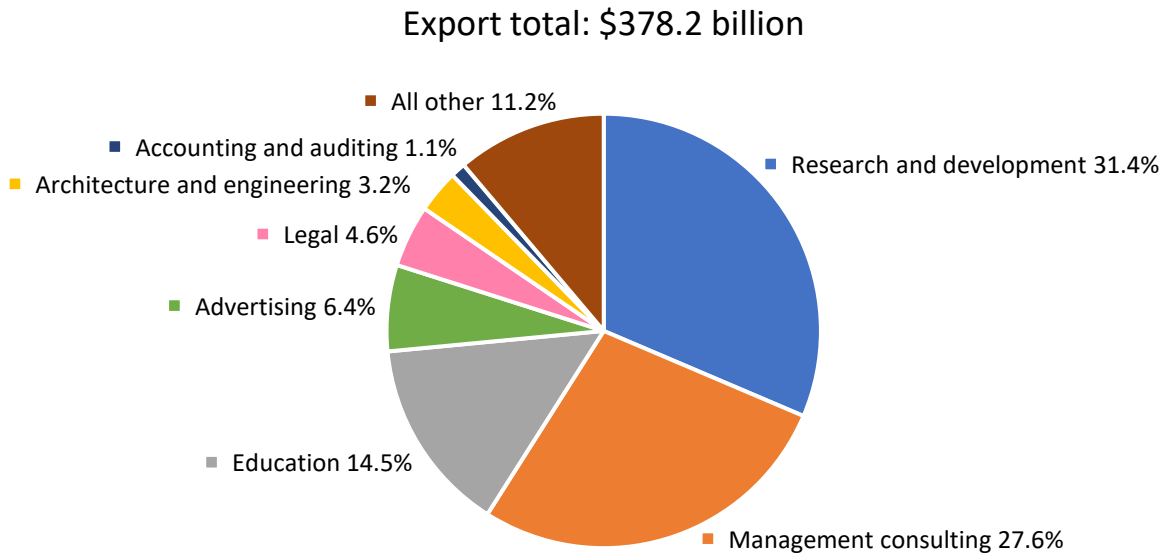
Source: USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.
Notes: Because of rounding, shares may not add to 100 percent. Total imports include services for education and health care as defined in appendix C, table C.2.

The largest category of cross-border trade in professional services was R&D services, which accounted for 31.4 percent of all U.S. professional cross-border services exports in 2023 (figure 2.4).[42] Management consulting services (27.6 percent) and education services (14.5 percent) were the next-largest categories and jointly with R&D services comprised 73.5 percent of all professional services exports that year.[43] Education services include travel services for education (i.e., individuals traveling to the United States to attend U.S. schools), which were the vast majority of U.S. education services exports (over 90 percent in 2023).[44] Similarly, R&D services, management consulting services, and education services were the largest sources of imports, representing 67.5 percent of U.S. professional services imports in 2023 (figure 2.5).

[42] In addition to R&D services such as work undertaken on a systematic basis to increase the stock of knowledge, this category includes associated license fees for use of intellectual property outcomes of R&D (i.e., patents, industrial processes, and trade secrets). See appendix C, table C.2 for a listing of service sectors included in professional services cross-border trade data.
[43] Management consulting services include business consulting and public relations services. See Management Consulting in this chapter. See appendix C, table C.2 for a listing of service sectors included in professional services cross-border trade data.
[44] The remaining cross-border education services fall under personal, cultural, and recreational services. See Education Services in this chapter. USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.

Figure 2.4 Professional services: U.S. cross-border exports, by industry, 2023

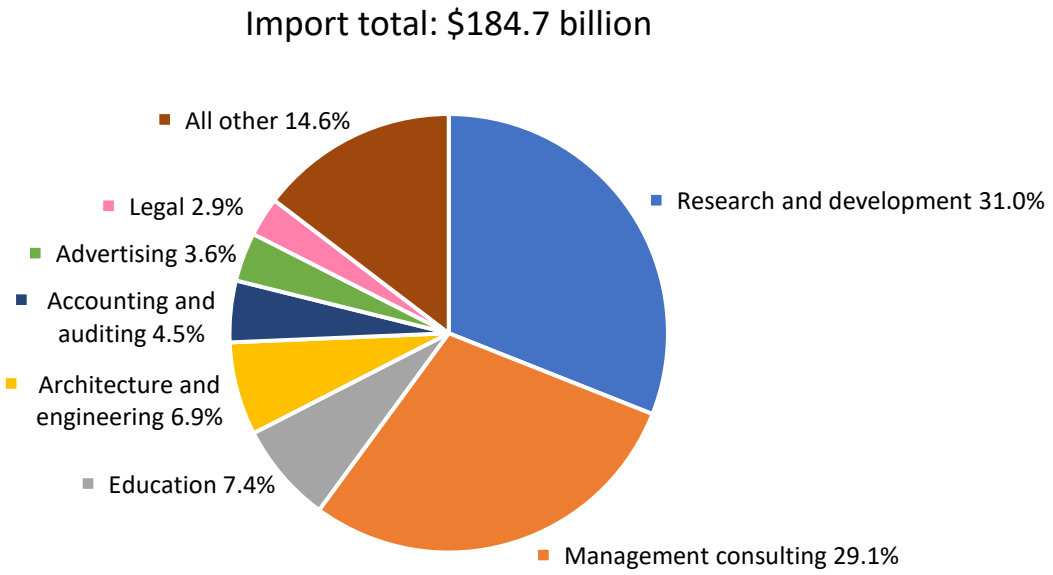
In percentages. Underlying data for this figure can be found in appendix B, table B.15.



Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
Notes: Because of rounding, shares may not add to 100 percent. Research and development (R&D) services include licenses for the outcomes of R&D. Education includes related travel services. See appendix C, table C.2 for a listing of service sectors included in professional services cross-border trade data.

Figure 2.5 Professional services: U.S. cross-border imports, by industry, 2023

In percentages. Underlying data for this figure can be found in appendix B, table B.16.



Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
Notes: Because of rounding, shares may not add to 100 percent. Research and development (R&D) services include licenses for the outcomes of R&D. Education services include related travel services. See appendix C, table C.2 for a listing of service sectors included in professional services cross-border trade data.

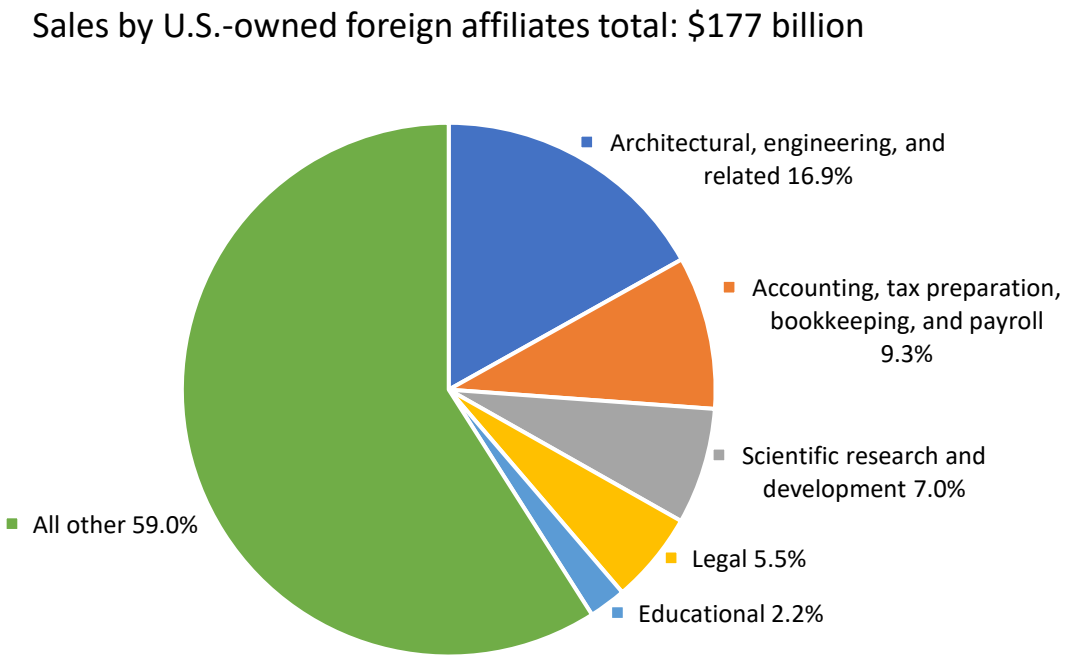
Affiliate Transactions

In contrast to trade patterns for other services sectors, affiliate transactions by professional services firms are generally smaller than cross-border trade flows.[45] In 2022, the latest year for which such data are available, sales of professional services by U.S.-owned foreign affiliates abroad totaled $176.5 billion, representing 8.3 percent of total affiliate sales.[46] According to available data, architectural, engineering, and related services accounted for the largest share of U.S.-owned foreign affiliate sales (16.9 percent) in 2022, followed by accounting, tax preparation, bookkeeping, and payroll services (9.3 percent); scientific R&D services (7.0 percent); and legal services (5.5 percent) (figure 2.6).[47]

[45] As outlined in chapter 1, these two types of trade flows are not directly comparable due to differences in how services are categorized in BEA cross-border trade and foreign affiliate transaction data. See appendix C for a listing of services included in the professional services cross-border trade and affiliate services transactions data.
[46] USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024. Professional services affiliate sales in 2019 and 2022 are underreported because health care and social assistance data are suppressed by the BEA to avoid disclosing individual company information.
[47] Advertising and related services and management, scientific, and technical consulting services also likely represented a substantial share of sales by U.S.-owned foreign affiliates abroad in 2022, but data for these sales have been suppressed by the BEA to avoid disclosing individual company information. In addition to data for advertising and management consulting services foreign affiliate sales, data for specialized design services and health care and social assistance services are also suppressed by the BEA in 2022.

Figure 2.6 Professional services: sales of U.S.-owned foreign affiliates, by industry, 2022

In percentages. Underlying data for this figure can be found in appendix B, table B.17.



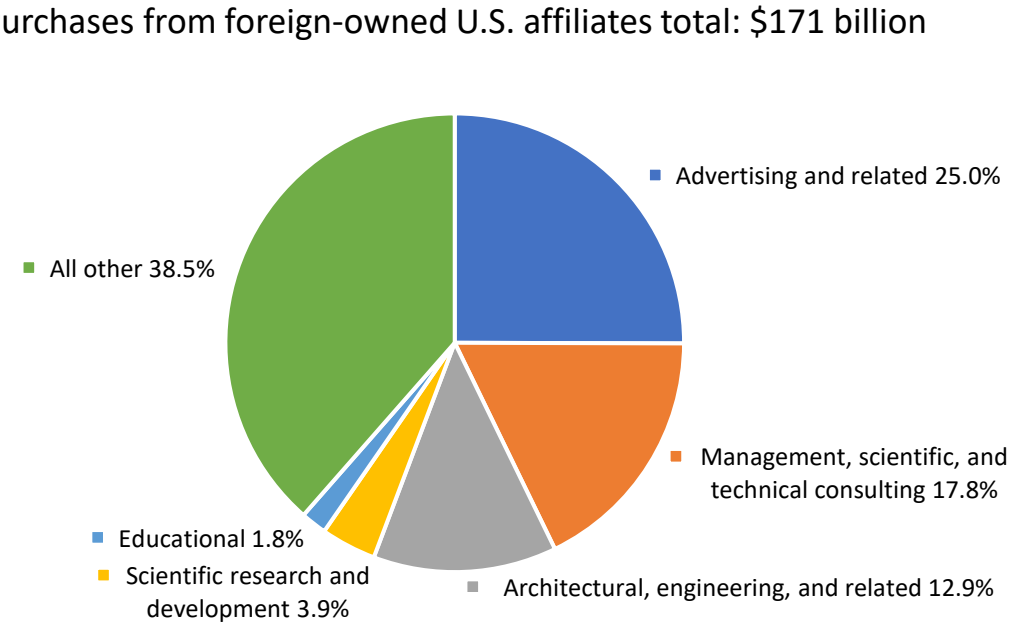
Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024.
Notes: MNEs = multinational enterprises. Because of rounding, shares may not add to 100 percent. Of the professional services categories discussed in this report, data on advertising and related services and management, scientific, and technical consulting are suppressed in 2022 to avoid disclosure of individual company data. These sectors are included in the "All other" category.

Purchases from affiliates of foreign-owned companies located in the United States totaled $171.2 billion in 2022, representing 11.3 percent of total affiliate purchases.[48] Of the professional services categories discussed in this report, advertising and related services represented the largest share of purchases from foreign-owned U.S. affiliates (25.0 percent) in that year, followed by management, scientific, and technical consulting services (17.8 percent) and architectural, engineering, and related services (12.9 percent) (figure 2.7).

[48] Professional services affiliate purchases are underreported in 2018 and 2019 because waste management and remediation services data are suppressed by the BEA to avoid disclosing individual company information. USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.

Figure 2.7 Professional services: purchases from foreign-owned U.S. affiliates, by industry, 2022

In percentages. Underlying data for this figure can be found in appendix B, table B.18.



Source: USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Notes: MNEs = multinational enterprises. Because of rounding, shares may not add to 100 percent. Purchases of legal services and accounting, tax preparation, bookkeeping, and payroll services both represent less than 1.0% of total purchases from foreign-owned U.S. affiliates, and therefore have been included in the "All other" category.

Professional Services by Sector: Background and Trade Trends

This section provides background and presents U.S. trade trends for the major subcategories of professional services included in this report. Legal, architecture and engineering, and accounting and auditing services are further covered in chapter 3. Management consulting, advertising, and education services are further discussed in chapter 4. Additional details on services trade—including data on the industry composition of U.S. services trade with major trading partners and data on U.S. trade in services industries not covered in this report—are available in the interactive figures associated with this report on the Commission's website.[49]

Legal Services

U.S. trade data for legal services are defined either by the industry classification that law firms fall under (which is the case for sales by affiliates) or by the type of service offered by companies (which is the case for cross-border trade). Although both definitions are broad and include the provision of services across

[49] Interactive figures are available at: https://www.usitc.gov/publications/industry_econ_analysis_332/2025/recent_trends_us_services_trade_2025_annual_report.

a variety of specific fields of law, international trade in legal services typically involves business and international law fields.[50]

Industry Overview

Attorneys and law firms engaging in international trade typically provide legal advisory services supporting international transactions or business operations, along with other matters involving international law, their home country's law, and third-country law. At the same time, domestic law practice, which pertains to host country law (or the law of the country receiving the service), is widely subject to trade barriers.[51] In particular, foreign entry restrictions often affect domestic law practice (i.e., local qualification requirements to own a law firm) and interact with other barriers such as nationality or residency requirements (to practice domestic law) or impediments to recognizing foreign qualifications.[52]

In 2023, the global legal services market was valued at $746 billion.[53] The market grew by 4.3 percent from 2022 to 2023, faster than the 3.5 percent average annual growth seen during 2019–23. The United States accounted for 48.0 percent of global revenue in 2023, followed by Europe at 23.8 percent and the Asia-Pacific region at 15.4 percent.[54] The UK supplied the largest share within Europe (32.4 percent), while China accounted for the largest share within the Asia-Pacific region (62.6 percent).[55]

The U.S. legal services market grew by 1.4 percent between 2022 and 2023 to $357.8 billion, slower than the global market in the same period. However, the U.S. market grew by an average annual rate of 3.7 percent during 2019–23, similar to global revenue growth in the sector, and the U.S. share of global revenue remained steady over the period.[56]

Firms in the United States and the UK accounted for 92 of the world's 100 top-grossing legal firms. The top five firms globally were all U.S. firms (table 2.1).[57] The top five firms had a varied presence across

[50] The industry classification corresponds to *North American Industry Classification System* (NAICS) 5411: Legal Services. See USDOC, BEA, *Guide to Industry Classifications for International Surveys 2022*, 2022, 82; USDOC, BEA, *Quarterly Survey of Transactions*, 2022, 24; Grosso et al., *Services Trade Restrictiveness Index (STRI)*, November 4, 2014, 7.
[51] Grosso et al., *Services Trade Restrictiveness Index (STRI)*, November 4, 2014, 7; OECD, *OECD Services Trade Restrictiveness Index (STRI)—Legal Services 2023*, January 2024, 3.
[52] OECD, *OECD Services Trade Restrictiveness Index (STRI)—Legal Services 2023*, January 2024, 3; OECD, *Services Trade Restrictiveness Index Simulator*, accessed January 27, 2025.
[53] MarketLine, a UK company that provides business information services, calculates regional market value using the total revenue received (including all applicable taxes) by law firms for services rendered. For more information, including on geographic definitions, see MarketLine, *MarketLine Industry Profile Global Legal Services*, February 2024, 7, 9.
[54] MarketLine, *Global Legal Services Market Summary*, February 2024, 9–10.
[55] MarketLine, *Asia-Pacific (APAC) Legal Services Market Summary*, February 2024, 10; *Europe Legal Services Market Summary*, February 2024, 10.
[56] In 2019, the United States accounted for 47.5 percent of global revenue (compared with 48.0 percent in 2023, as noted above). MarketLine, *United States (US) Legal Services Market Summary*, February 2024, 9; *MarketLine Industry Profile Global Legal Services*, February 2024, 9.
[57] *American Lawyer*, "The 2024 Global 200 Ranked by Revenue," September 17, 2024.

countries (ranging from 6–43 countries) and percentage of lawyers in the United States (ranging from 17–81 percent).[58]

Table 2.1 Top five global legal firms ranked by revenue, fiscal year 2023
In billions of dollars, numbers of countries, and percentages.

Firm	Country where firm has most lawyers	Total revenue, FY 2023 (billion $)	Countries in which firm has offices	Share of lawyers in base country (%)
Kirkland & Ellis	United States	7.2	6	81
Latham & Watkins	United States	5.7	14	67
DLA Piper	United States	3.8	31	34
Baker McKenzie	United States	3.3	43	17
Skadden, Arps, Slate, Meagher & Flom	United States	3.3	11	72

Source: *American Lawyer*, "The 2024 Global 200 Ranked by Revenue," September 17, 2024; *American Lawyer*, "The 2024 Global 200 Ranked by Head Count," September 16, 2024.
Note: The Global 200 rankings list the country where each firm has the most lawyers. This usually coincides with the firm headquarters but may not be the case when firms have alternate structures. DLA Piper and Baker McKenzie are two such firms with alternate organizational structures.

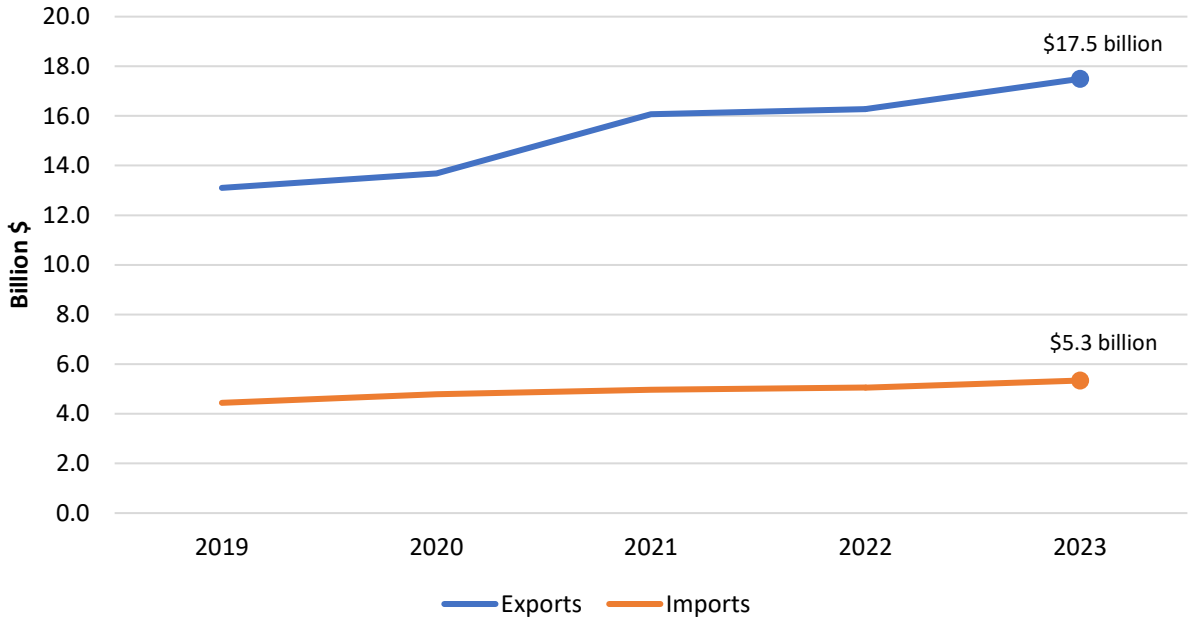
Cross-Border Trade

During 2019–23, U.S. cross-border exports of legal services increased at an annual rate of 7.7 percent on average, from $13.1 billion in 2019 to $17.5 billion in 2023 (figure 2.8). U.S. imports of legal services increased as well at an average annual rate of 4.7 percent, from $4.4 billion in 2019 to $5.3 billion in 2023. The top destination for legal services exports was the UK at $3.7 billion in 2023, followed by Canada ($1.7 billion) and Germany ($1.1 billion). Top sources for legal services imports in 2023 were the UK ($2.2 billion), Japan ($607 million), Canada ($284 million), and Germany ($280 million).[59]

[58] *American Lawyer*, "The 2024 Global 200 Ranked by Head Count," September 16, 2024.
[59] USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.

Figure 2.8 Legal services: U.S. cross-border exports and imports, 2019–23

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.19.



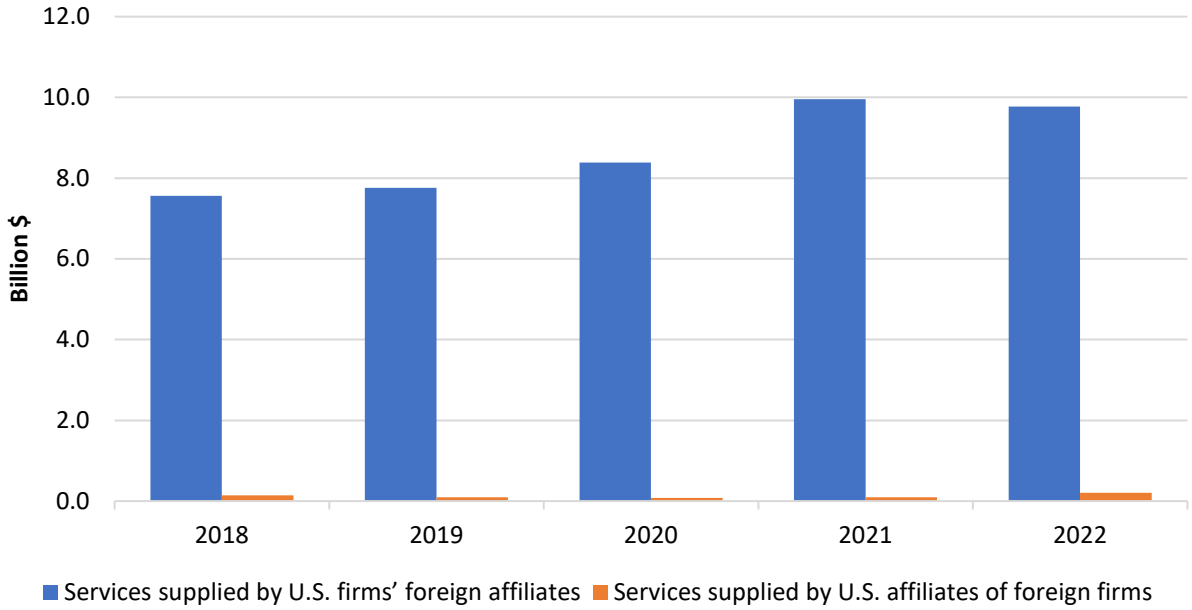
Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Affiliate Transactions

Sales of legal services by affiliates of U.S. companies in foreign countries increased each year from $7.6 billion in 2018 to $10.0 billion in 2021, then slightly decreased to $9.8 billion in 2022 (figure 2.9). Significantly smaller than foreign affiliate sales, purchases of legal services from U.S. affiliates of foreign firms declined between 2018 and 2020 to a period low of $80 million in 2020. In subsequent years, purchases increased to $204 million in 2022 and were 44.7 percent higher compared to 2018.

Figure 2.9 Legal services: U.S. affiliate sales and purchases, 2018–22

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.20



Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024; USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Note: MNEs = multinational enterprises.

Outlook

According to one forecast, the U.S. legal services market is projected to increase at a slower pace in 2025–28 relative to 2019–23.[60] As discussed in chapter 3, U.S. law firms have adapted their business models using new technologies and have closed offices in China because of regulatory and market conditions. Among other projections, according to reporting from Citi Wealth and Hildebrandt Consulting, U.S. law firms are expected to continue adopting technology to enhance the delivery of their services and growing or scaling back practice areas and investments in foreign markets, depending on their growth potential.[61]

Architectural and Engineering Services

Architects provide design and planning services for the construction and renovation of various types of structures and buildings; engineers employ engineering principles and the laws of science in the design and development of structures, systems, and processes, in addition to machines, instruments, and

[60] MarketLine, *Global Legal Services Market Summary*, February 2024, 9, 11; *United States (US) Legal Services Market Summary*, February 2024, 9, 11. On an average annual growth basis, the global growth forecast for 2025–28 is slightly higher (4.0 percent) compared to 2019–23 (3.5 percent) but the U.S. forecast for 2025–28 is lower (2.3 percent) compared to 2019–23 (3.7 percent). These forecasts appear to apply to the legal industry as defined by law firms.

[61] Citi Wealth and Hildebrandt Consulting, *2025 Citi Hildebrandt Client Advisory*, December 5, 2024, 8.

materials.[62] Key consumers of architecture and engineering services include the construction industry; government; retailers; mining firms; utilities; schools and universities; the entertainment and recreation industry; and additional entities that need designs for buildings and other structures, spaces, and processes. As such, demand for architecture and engineering services depends heavily on factors that affect customers' willingness and ability to finance construction, infrastructure, and industrial projects.[63]

Industry Overview

During 2019–23, a slight decrease in revenues earned by U.S. architects (from $55.6 billion to $54.2 billion) and a small increase in global architecture revenues (from $253.0 billion to $260.8 billion) yielded an overall decline in the U.S. share of the global architecture market from 22.0 percent to 20.8 percent. By comparison, revenues earned by U.S. engineering firms grew during the period, from $324.7 billion in 2019 to $350.3 billion in 2023. However, faster growth in global engineering revenues (from $1.5 trillion to $1.8 trillion) also led to a decreasing U.S. market share in this industry segment. Specifically, U.S. engineering firms accounted for 19.1 percent of global revenues in 2023, down from 21.5 percent in 2019.[64]

In 2024, IBISWorld identified Gensler (headquartered in the United States), Nikken Sekkei Ltd. (Japan), AECOM (United States), and Perkins and Will Inc. (United States) as the world's top architects in terms of revenue, and U.S. firms Jacobs Engineering Group Inc., AECOM, and Fluor Corporation as the world's top engineering firms. Each of these firms accounts for less than 1 percent of global revenues in its respective industry, pointing to low levels of market concentration.[65] Separately, *Engineering News-Record* indicates that two U.S.-based firms—Jacobs Solutions Inc. and AECOM—rank among the world's five leading earners of design revenues (table 2.2).[66]

[62] Blau, *Engineering Services in the US—Market Size (2004–2031)*, July 2016; Morea, *Architects in the US—Market Research Report (2015–2030)*, June 2016; Census, "2012 NAICS Definition: 541310 Architectural Services," accessed January 22, 2025.
[63] Blau, *Engineering Services in the US—Market Size (2004–2031)*, July 2016; Morea, *Architects in the US—Market Research Report (2015–2030)*, June 2016.
[64] USITC calculations based on IBISWorld, *Architects in the US*, November 2024; *Engineering Services in the US*, August 2024; *Global Architectural Services*, June 2024; *Global Engineering Services*, May 2024.
[65] IBISWorld, *Global Architectural Services*, June 2024; *Global Engineering Services*, May 2024.
[66] *Engineering News-Record*'s list of leading design firms includes entities that provide architectural, engineering, planning, environmental, geospatial, and geotechnical engineering services, among others. Adolphus and Keller, "The Top 225 International Design Firms," September 2, 2024, 69.

Table 2.2 Top five global design firms by revenue, 2023
In billions of dollars and percentages.

Firm	Headquarters location	Revenue, 2023 (billion $)	Revenue growth 2022–23 (%)
Power Construction Corp. of China	China	22.3	12.5
China Energy Engineering Corp. Ltd.	China	16.8	11.6
Jacobs Solutions, Inc.	United States	12.7	10.3
WSP Global Inc.	Canada	9.1	9.2
AECOM	United States	8.7	7.8

Source: Adolphus and Keller, "The Top 225 International Design Firms," 69; Adolphus et al., "The Top 225 International Design Firms," 48; USITC calculations.

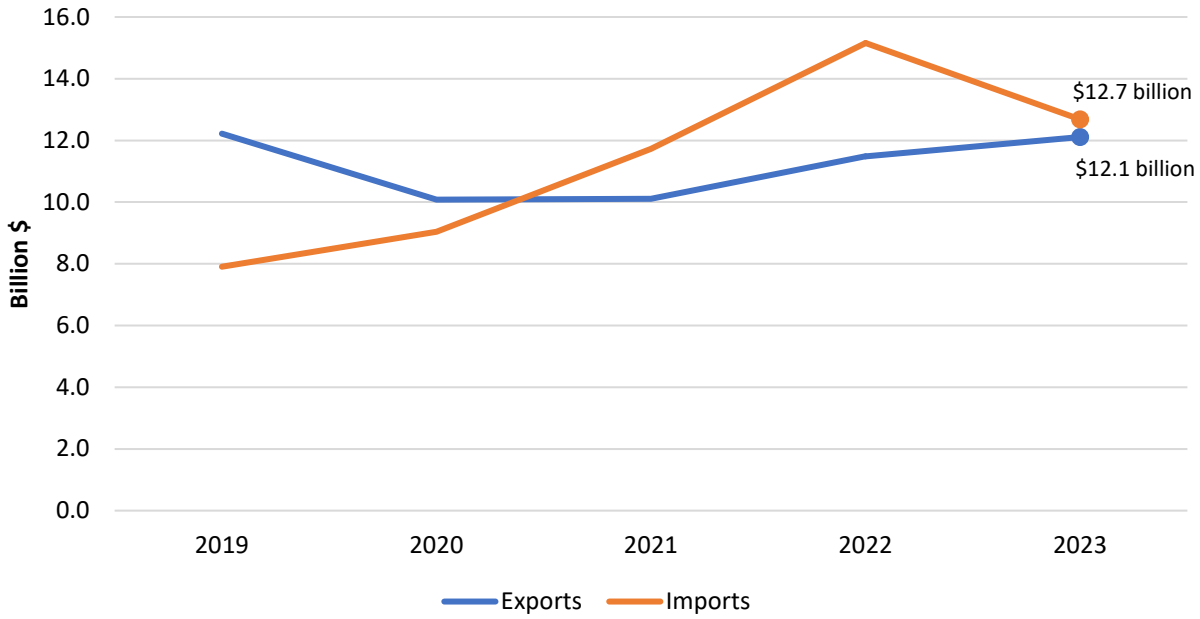
Cross-Border Trade

Between 2019 and 2023, U.S. cross-border exports of architecture and engineering services (including scientific and other technical services) fluctuated, declining by 17.5 percent to $10.1 billion in 2020, then later increasing to $12.1 billion in 2023 (figure 2.10).[67] Engineering services exports remained relatively flat during 2019–23, contributing 91.9 percent of architecture and engineering services exports and totaling $11.1 billion in 2023. Architecture services, which comprised 5.2 percent of U.S. exports of architecture and engineering services in 2023, fell from $890 million in 2019 to $627 million in 2023. U.S. cross-border imports of architecture and engineering services increased substantially from $7.9 billion in 2019 to $15.2 billion in 2022, before decreasing by 16.3 percent to $12.7 billion in 2023. The vast majority of these imports were engineering services (97.5 percent in 2023), which grew from $7.7 billion in 2019 to $12.4 billion in 2023.[68]

[67] Except where noted, data throughout this chapter on cross-border trade and affiliate transactions in architectural and engineering services include scientific and other technical services because detailed data are suppressed by the BEA to protect confidentiality.
[68] USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Figure 2.10 Architectural, engineering, scientific, and other technical services: U.S. cross-border exports and imports, 2019–23

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.21.



Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
Note: Architectural and engineering services include scientific and other technical services because detailed data are suppressed by the BEA to protect confidentiality.

In 2023, Mexico was the leading export destination for architecture and engineering services, totaling $2.3 billion in 2023, followed by the UK ($1.0 billion) and Germany ($468 million). Top sources of architecture and engineering services imports were Mexico ($2.1 billion), India ($2.0 billion), and Germany ($1.6 billion) in 2023.[69]

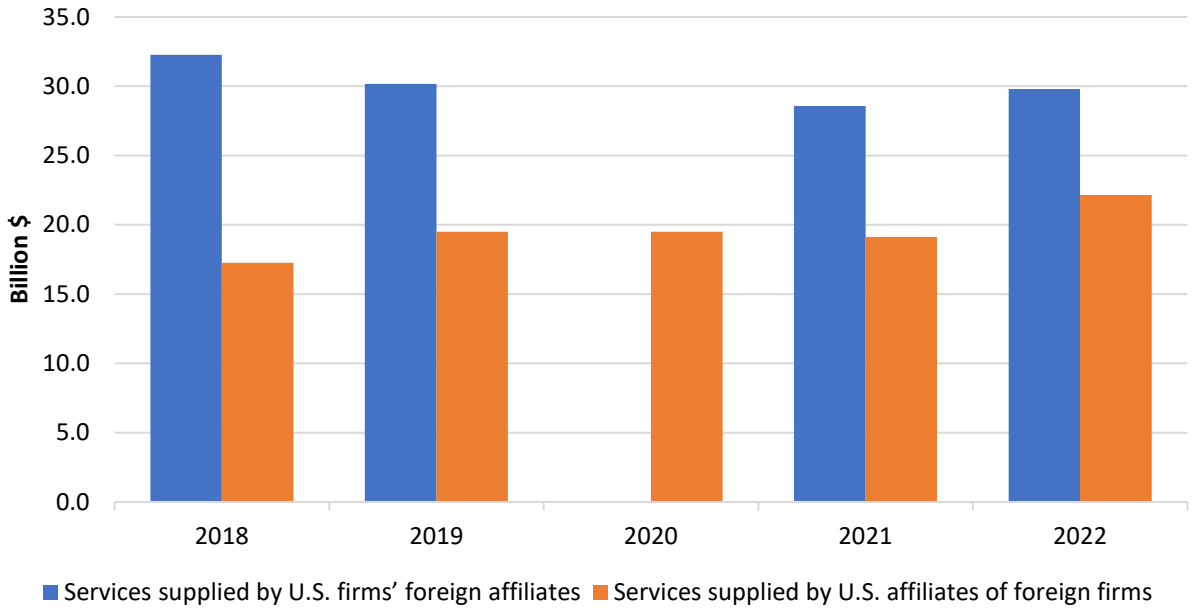
Affiliate Transactions

Architecture and engineering services supplied by foreign-based affiliates of U.S. firms decreased from $32.3 billion in 2018 to $28.6 billion in 2021 before increasing by 4.3 percent to $29.8 billion in 2022 (figure 2.11). Purchases from U.S.-based affiliates of foreign firms in this sector rose by 15.7 percent to $22.2 billion in 2022 after being relatively stable between 2019 and 2021.

[69] USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.

Figure 2.11 Architectural, engineering, and other technical services: U.S. affiliate sales and purchases, 2018–22

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.22.



Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024; USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Notes: MNEs = multinational enterprises. Data for architectural, engineering, and related services supplied by U.S. affiliates of foreign firms in 2020 are suppressed by the BEA to protect confidentiality.

Outlook

Over the next five years, factors such as lower interest rates, government infrastructure funding, and growth in residential construction are expected to have a positive effect on demand for architecture and engineering services.[70] The architecture and engineering workforce is expected to grow, with IBISWorld data suggesting that employment in the U.S. and global architectural services industries would increase at average annual rates of over 2 percent during 2025–30 and 2025–29, respectively.[71] IBISWorld also projects that employment in the U.S. and global engineering services industries would increase at rates of 1.3 percent and 1.0 percent, respectively, from 2025–30.[72] In a recent survey of engineering leaders, more than half of respondents reported that they intend to expand outsourcing in the near term, an approach used by many firms to fill skills gaps.[73] Rising construction activity in certain South American, Asian, and Middle Eastern countries is expected to increase opportunities for large architectural firms in the near future. Further, urbanization will reportedly boost global architectural services demand, with increasing population density forecast to spur demand for certain types of structures—such as thin

[70] IBISWorld, *Architects in the US*, November 2024; *Engineering Services in the US*, August 2024.
[71] IBISWorld did not provide projections for the global architectural services industry for 2030.
[72] USITC calculations based on IBISWorld, *Architects in the US*, November 2024; *Engineering Services in the US*, August 2024; *Global Architectural Services*, June 2024; *Global Engineering Services*, May 2024.
[73] IBISWorld, *Engineering Services in the US*, August 2024.

skyscrapers[74]—in developed-country cities.[75] One source projected that engineering markets in China and India would experience particularly rapid growth and that the global engineering industry would be impacted by production shifts to South America, Asia, and Eastern Europe.[76]

Accounting and Auditing Services

Firms use accounting services to report financial data in a consistent and compliant format—for financial reporting, government records, and tax filings—and to demonstrate financial health to investors and banks. Small companies especially rely on accounting firms to complete routine financial reporting tasks, including financial statement and balance sheet preparation, tax preparation, and payroll and bookkeeping. Firms specifically rely on accounting firms to conduct audits that assess whether their financial situation has been accurately reported.[77] The goal of auditors is to verify that financial statements fairly represent the financial position of a company, assess the accuracy of a firm's internal control systems, and provide tax consultation services, which help companies comply with tax regulations and minimize their tax burdens.[78] These services are particularly valuable to companies that operate in multiple tax jurisdictions.[79]

Industry Overview

IBISWorld estimates that global accounting revenue grew by 1.6 percent in 2024 to $627.1 billion, slower than the 2.5 percent annual growth rate from 2019 to 2024.[80] Although accounting revenue remained relatively flat in 2020, the industry was able to increase revenue from 2019 to 2024 largely because of a 6.0 percent increase in 2022.[81] The United States accounted for 29.8 percent of global market value in 2023, followed by Germany (18.7 percent), the UK (12.4 percent), China (7.6 percent), and Japan (1.8 percent).[82] The largest global accounting firms operate as international "networks" composed of national firms that are legally separate. These local accounting firms act more like franchises than affiliates because they are locally owned but use a common brand.[83] Deloitte, PricewaterhouseCoopers (PwC),

[74] Thin skyscrapers are characterized by their slender profiles and substantial height, which are intended to increase ventilation, views, and light in a minimal footprint. Skyscrapers World, "The Rise of Thin Skyscrapers," February 6, 2025.
[75] IBISWorld, *Global Architectural Services*, June 2024.
[76] IBISWorld, *Global Engineering Services*, May 2024.
[77] Since the 1930s, audits have been required for public companies in the United States, as well as for many privately held firms seeking external financing. Turner and Morse, "Reforms of the Auditing Profession," December 28, 2020; Blanco et al., "Financial Statements Required for Securities Offerings," July 1, 2024.
[78] Boulay Group, "Guide to Public Company Auditing," February 2021, 2-3; Thomson Reuters, "Auditing in Accounting," January 12, 2023.
[79] Boulay Group, "Guide to Public Company Auditing," February 2021, 2; PKC Management Consulting, "Auditing for International Businesses," May 29, 2024.
[80] IBISWorld, *Global Accounting Services*, May 2024, 15.
[81] This growth in 2022 was likely due to a post-pandemic rebound including increased corporate dealmaking. IBISWorld, *Global Accounting Services*, May 2024, 69; *Scottish Financial News*, "PwC Announces Record Global Revenues of $50bn," October 4, 2022; Foley and O'Dwyer, "Deloitte Revenues Hit Record," September 8, 2022.
[82] MarketLine, *Global Accountancy*, February 2024, 12.
[83] Large global accounting networks continue to consolidate or are considering the consolidation of the national companies in their network. Foley, "US Accounting Firms Rethink Global Networks," July 30, 2024.

Ernst & Young (EY), and KPMG are the largest firms in the industry, collectively known as the "Big Four" and generate nearly 34 percent of global revenue (table 2.3).

Table 2.3 Top five global accounting networks by revenue, 2024
In billions of dollars and percentages.

Firm	Headquarters	Revenue 2024 (billion $)	Market share (%)
Deloitte	United Kingdom	67.2	10.7
PricewaterhouseCoopers	United Kingdom	55.4	8.8
Ernst & Young	United Kingdom	51.2	8.2
KPMG	Netherlands	38.4	6.1
BDO	Belgium	15	2.4

Sources: USITC calculations based on IBISWorld, *Global Accounting Services*, May 2024, 51, 53, 67; MarketLine, *Global Accountancy*, February 2024, 23; BDO, "2024 Global Financial Results," December 18, 2024; Caines, "Robust Growth for KPMG," 2024; Deloitte, "Deloitte 2024 Global Impact Report," September 12, 2024, 5; Lloyd, "EY Reports Global Revenue," EY, October 17, 2024; PwC, "Financials," October 2024.

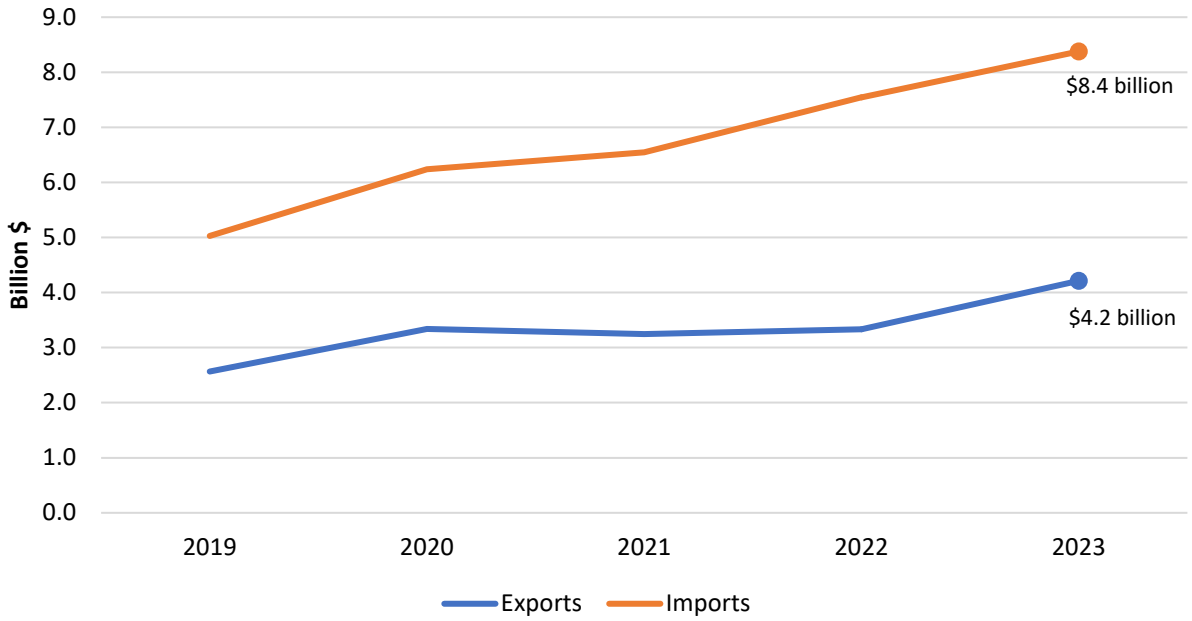
Cross-Border Trade

In 2023, U.S. cross-border exports of accounting and auditing services increased by 26.4 percent to $4.2 billion after remaining relatively flat during 2020–22 (figure 2.12). U.S. cross-border imports of accounting and auditing services, however, grew each year throughout 2019–23 at an average annual rate of 13.8 percent, from $5.0 billion in 2019 to $8.4 billion in 2023. Top export destinations for accounting and auditing services in 2023 included Canada ($468 million), Switzerland ($272 million), and the Netherlands ($154 million). For imports, top source countries included India ($1.8 billion), the UK ($1.3 billion), and Canada ($667 million) in 2023.[84]

[84] USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.

Figure 2.12 Accounting and auditing services: U.S. cross-border exports and imports, 2019–23

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.23.



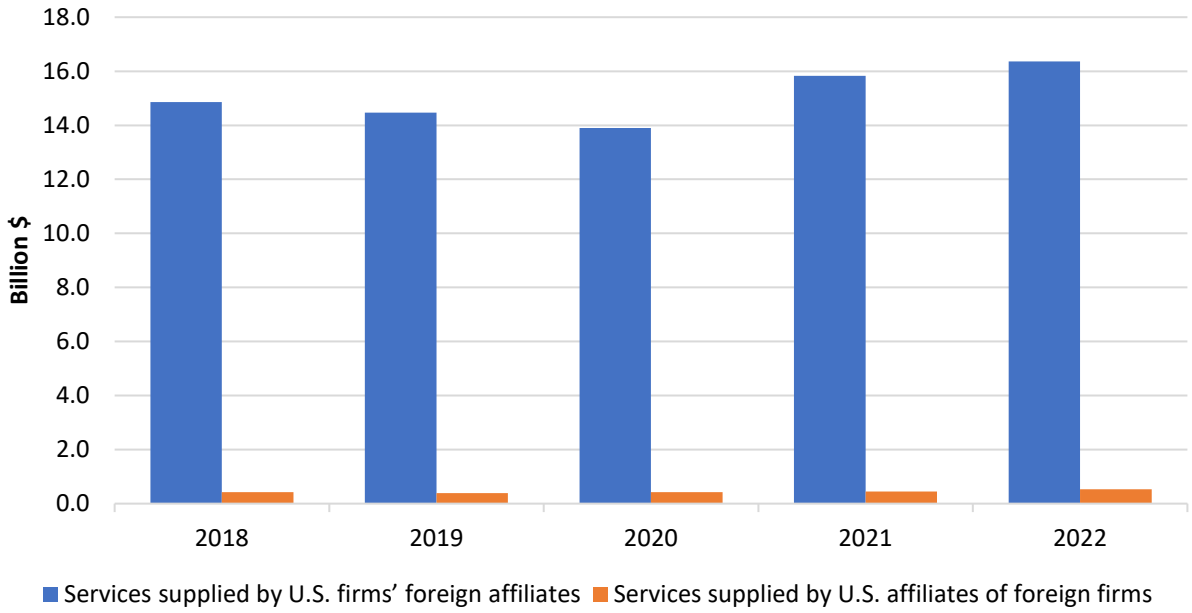
Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Affiliate Transactions

During 2018–20, accounting and auditing services supplied by affiliates of U.S. companies in foreign countries decreased by 6.3 percent to a period low of $13.9 billion in 2020, before recovering in 2021 to $15.8 billion (figure 2.13). By 2022, foreign affiliate sales of accounting and auditing services grew to $16.4 billion, 10.1 percent higher compared to 2018. Although considerably smaller than foreign affiliate sales, purchases of accounting and auditing services from U.S. affiliates of foreign firms increased 25.8 percent during the period, from $427 million in 2018 to $537 million in 2022.

Figure 2.13 Accounting and auditing services: U.S. affiliate sales and purchases, 2018–22

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.24.



Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024; USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Note: MNEs = multinational enterprises.

Outlook

According to IBISWorld, global accounting revenue is expected to continue growing at a rate of 2.0 percent annually from 2025 to 2030.[85] This projected growth is due to several factors, including greater internet usage around the world, increased global incomes, and the expansion of the customer base to include more businesses from lower-income economies.[86] According to one industry representative, the accounting industry is projected to be characterized by higher productivity (through digitization, automation, and outsourcing), the increased provision of consulting services (discussed further in chapter 3), and the continued implementation of artificial intelligence (AI) and generative AI (GenAI) technologies.[87]

Education Services

In this report, education services are defined as formal academic instruction at primary, secondary, and post-secondary programs at educational institutions.[88] This report focuses on education services

[85] USITC calculations based on IBISWorld, *Global Accounting Services*, May 2024, 69.
[86] IBISWorld, *Global Accounting Services*, May 2024, 15, 24.
[87] Raghunathan, "Five Trends That Will Redefine Finance and Accounting," January 7, 2025. AI refers to the application of advanced algorithms such as machine learning (ML) in accounting services and processes. GenAI technologies use sophisticated large-content ML models to generate high-quality original output such as text and images. Zewe, "Explained: Generative AI," November 9, 2023.
[88] USDOC, BEA, *U.S. International Economic Accounts*, June 2024, 103.

provided by post-secondary institutions, primarily because international students studying at colleges and universities represent the vast majority of international trade in education services. The share of international students enrolled in U.S. online programs or at the branch campuses of U.S. universities, for example, represents a very small share of total international students.[89]

Industry Overview

In 2023, the global market for education services, measured by total revenues earned by colleges and universities, was estimated at $1.0 trillion, up 7.9 percent over the previous year.[90] During that year, the United States was the largest global market for education services, accounting for 23.6 percent of total global revenues. Other large global markets included China (20.7 percent), Japan (6.0 percent), Germany (4.7 percent), and India (3.2 percent). All other country markets accounted for less than 3.0 percent of global revenues, respectively, in 2023.[91] At the global level, the education services industry is highly fragmented along national lines due to the sheer number of universities—estimated to be more than 25,000 institutions in over 100 countries—and the fact that most universities earn the majority of their revenue in home-country markets.[92] Nonetheless, the largest universities worldwide, measured by enrolled students in 2024, include Indira Ghandi National Open University (India, 7.1 million students), National University (Bangladesh, 2.1 million students), Anadolu University (Türkiye, 2.0 million students), California Community Colleges System (United States, 1.8 million students), and Allama Iqbal Open University (Pakistan, 1.0 million students).[93]

Cross-Border Trade

U.S. cross-border trade in education services is composed of two sub-categories, depending on how education services are consumed. On the export side, the first category—education services—falls under "other personal, cultural, and recreational services." This category includes instruction for any type of structured learning (and related services), such as correspondence courses and online education provided across borders (mode 1), as well as instruction offered by U.S. educators who travel to foreign markets to provide in-person education services (mode 4).[94] The second category—education-related travel services—refers to the expenditures by foreign students traveling to the United States to attend U.S. schools (mode 2). Expenses in this category cover tuition, living expenses, and miscellaneous

[89] For more information, see the "Education Services" section of chapter 4.
[90] The USITC calculated global revenues for education services using data from Barnes Reports. The global market is defined as revenues collected by colleges and universities in 61 countries in Africa, Asia, Europe, Latin America, the Middle East and North Africa, and North America. Barnes Reports, *Colleges & Universities*, 2023.
[91] Barnes Reports, *Colleges & Universities*, 2023.
[92] Bouchrika, "60 University Statistics: 2025 Data, Trends & Predictions," January 8, 2025; IBISWorld, *Colleges & Universities*, June 2024, 47.
[93] Wilson, "Largest Universities in the World," January 28, 2024.
[94] USDOC, BEA, *U.S. International Economic Accounts*, June 2024, 116. The education services category does not include educators teaching at a foreign campus of a home university, which would be captured in foreign affiliate sales.

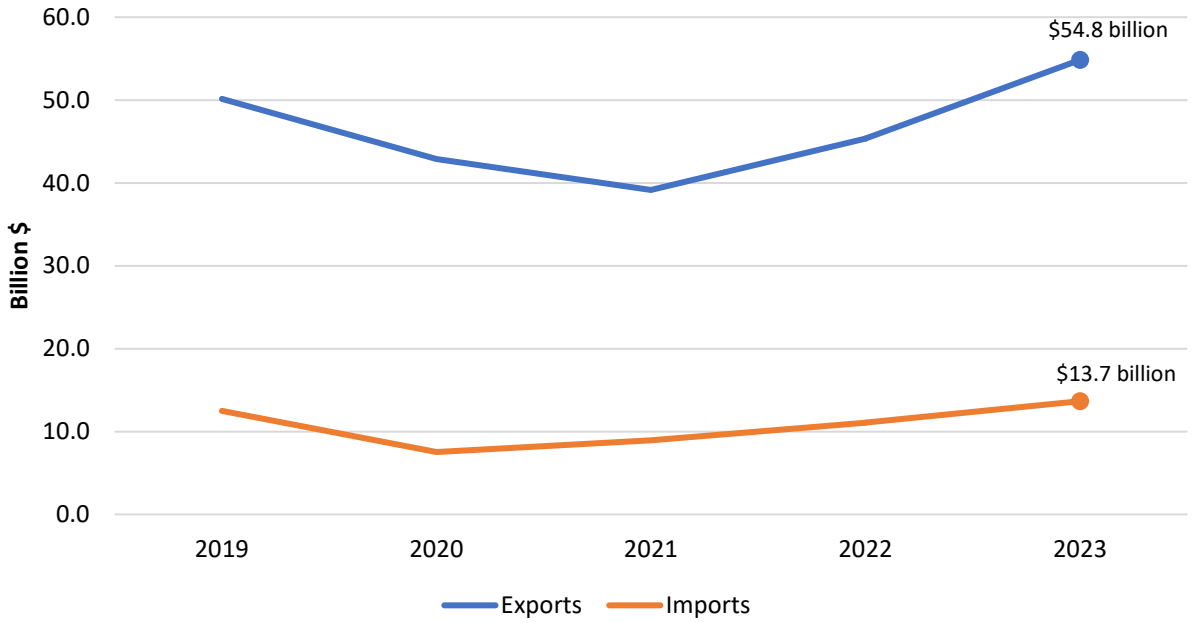
expenses, including expenses for dependents if any.[95] Education-related travel services accounted for the majority (91.5 percent) of total cross-border education exports in 2023. Its share of total education exports has fluctuated markedly in recent years as a result of the COVID-19 pandemic.[96]

Cross-border exports of education services in 2023 (including related travel services) were $54.8 billion, and imports totaled $13.7 billion, resulting in a surplus of $41.2 billion (figure 2.14).[97] Education services exports increased by 20.9 percent from 2022 to 2023, continuing the recovery after the pandemic-related decline during 2020–21.[98] Notably, exports of education services excluding related travel services flourished during the pandemic, rising 173.0 percent from $2.3 billion in 2019 to $6.2 billion in 2021, as many schools switched to online learning. By 2023, these education services exports had fallen about 25 percent in comparison with their 2021 peak but were still 103.6 percent higher than the 2019 level. Education services imports (including related travel services) rose at an average annual rate of 23.7 percent, from $8.9 billion in 2021 to $13.7 billion in 2023, following a sharp drop between 2019 and 2020.[99] In regard to education-related travel services, both exports and imports reported steep declines during the pandemic, as travel restrictions reduced the number of international students.[100] Education-related travel exports had fully recovered by 2023 to $50.2 billion, surpassing the 2019 figure by almost 5 percent.[101] Likewise, education-related travel imports also exceeded their 2019 level by 2023, rising about 3 percent to $11.2 billion.[102]

[95] Air passenger service for travel between the United States and other countries and between foreign countries is included in the BEA's transport category (air transport). USDOC, BEA, *U.S. International Economic Accounts*, June 2024, 101, 103.
[96] The share of education travel in total education exports dropped to a low of 84.1 percent in 2021, down from 95.4 percent in 2019. USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
[97] Cross-border trade in travel services for the purposes of education are categorized within education services trade as "related travel services" throughout this report. See appendix table C.2 for a listing of service sectors included in professional services cross-border trade data.
[98] USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
[99] Imports of education services excluding related travel services rose about 50 percent from 2019 to 2023. USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
[100] Imports of education-related travel services exclude expenses for individuals enrolled in primary and secondary programs because of a lack of sources data. USDOC, BEA, *U.S. International Economic Accounts*, June 2024, 103; Open Doors, "Enrollment Trends," accessed February 3, 2025.
[101] USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
[102] USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Figure 2.14 Education services: U.S. cross-border exports and imports, 2019–23

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.25.



Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

China and India were the top source countries for education-related travel to the United States, accounting for $14.3 billion and $11.8 billion, respectively, of exports in 2023. South Korea ranked third in exports ($2.2 billion). Although education services data (excluding education-related travel) were suppressed for both China and India in 2023, Asia as a whole accounted for 55.1 percent of the global total.[103] On the import side, Europe accounted for the majority of education-related travel, about 55 percent ($6.1 billion) of the total in 2023. Top destination countries for U.S. students traveling abroad for education include the UK ($1.6 billion in imports), followed by Mexico ($905 million) and Italy ($826 million). Cross-border data on imports of education services (excluding education-related travel) are suppressed for several countries to avoid the disclosure of data of individual entities, but Europe and Asia combined provide about half ($1.3 billion) of the total.[104]

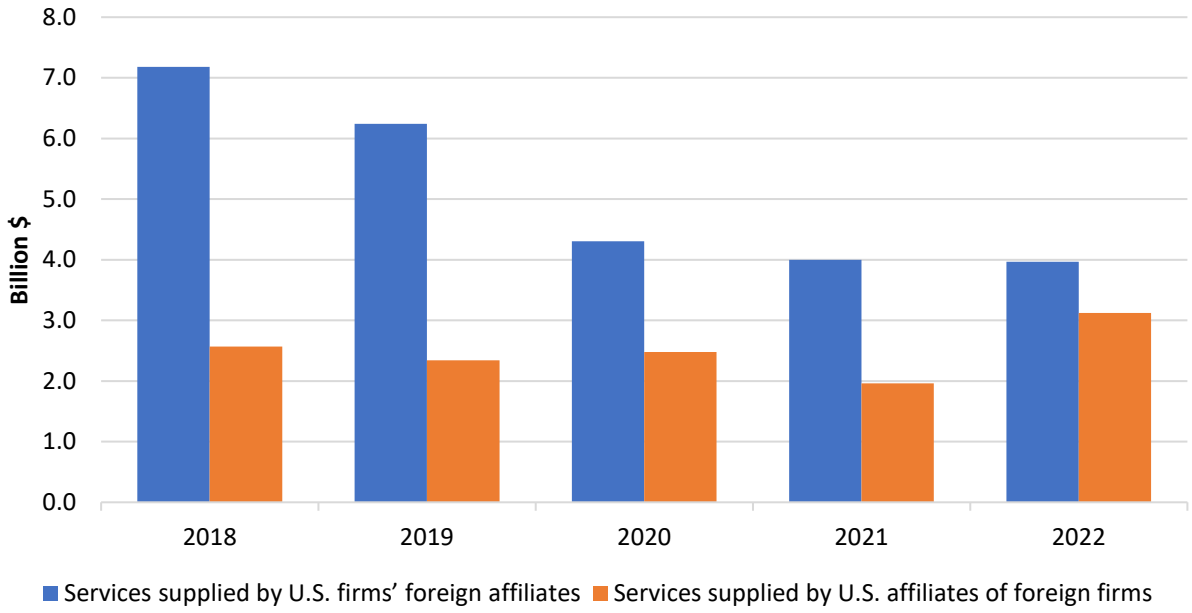
Affiliate Transactions

In 2022, education services supplied by foreign affiliates of U.S. firms (e.g., international branch campuses of U.S. universities) totaled $4.0 billion; services purchased from U.S. affiliates of foreign firms were $3.1 billion (figure 2.15). Foreign affiliate sales were essentially flat in 2022, after dropping 17.1 percent per year on average from 2018 to 2021. In contrast, purchases of education services from U.S. affiliates of foreign firms grew 59.0 percent in 2022, following an uneven performance during 2018–21 (with an average annual decline of 7.9 percent).

[103] USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.
[104] USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.

Figure 2.15 Educational services: U.S. affiliate sales and purchases, 2018–22

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.26.



Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024; USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Note: MNEs = multinational enterprises.

Outlook

Although the United States is currently the top global destination for international students, over the next few years increased competition from non-U.S. universities and a variety of factors related to the domestic U.S. market suggest that, at a minimum, the share of international students choosing to study in the United States may decrease, if not the actual number of such students.[105] As a mature industry, employment in the higher education sector has grown very slowly over the past five years. Between 2019 and 2023, for example, the number of employees working at colleges and universities increased at an annual rate of only 0.4 percent from 3.0 million in 2019 to 3.1 million in 2023, albeit with a decline of 2.3 percent in 2020 due to layoffs during the COVID-19 pandemic. Employment in the sector is expected to continue to grow at an average annual pace of only 0.9 percent to 3.2 million during 2023–28.[106]

Management Consulting

Management consulting services provide advice to businesses, public sector entities, and nonprofits on a range of operational functions, including organizational design and strategy, human resources, marketing, financial planning and budgeting, and logistics and distribution.[107] Overlap is considerable

[105] Shorelight, "U.S. Loses International Student Market Share," May 22, 2023; Armstrong, "Why Fewer International Students Are Coming to the US," December 13, 2023; Irwin-Hunt, "The Great Competition for International Students," March 27, 2024; Fischer and Aslanian, "Fading Beacon," August 2, 2021.
[106] USITC calculations using data provided by IBISWorld. IBISWorld, *Colleges & Universities*, June 2024, 73, 75.
[107] IBISWorld, *Management Consulting in the US*, August 2024, 5.

with firms from other sectors that are not categorized as management consultants by the *North American Industry Classification System*,[108] particularly accountancy (as noted above in the Accounting and Auditing Services section, the Big Four firms are Deloitte, PwC, EY, and KPMG) and information services (DiscoverOrg, Accenture, Cognizant Technology Solutions, and Tata Consulting Services).[109]

Industry Overview

IBISWorld estimates that global revenue from management consulting services was $1.0 trillion in 2024, with U.S. revenue accounting for $392.2 billion.[110] During 2014–24, the U.S. share of global management consulting services revenues consistently stood at about 38 percent. Real growth in U.S. management consulting services revenues slowed to an estimated 1.8 percent in 2024, down from 4.1 percent on average in 2019–23. Those growth rates were in line with the global trends.[111]

According to IBISWorld, the four largest players in the U.S. management consulting market are Deloitte, DiscoverOrg, Accenture, and Cognizant and the global leaders are Accenture, KPMG, and McKinsey & Company. The sector is highly segmented, however, and IBISWorld reports that no company has more than 3 percent of the market, either in the United States or globally. [112] The top 20 firms in the United States account for about one-quarter of total revenues.[113] In 2018, the Big Four accounting firms had a share of the consulting market that was nearly twice the size of the six largest pure-play management consulting firms,[114] which include McKinsey & Company, Boston Consulting Group (BCG), and Bain & Company, among others.[115]

The U.S. consulting sector is international by nature. The largest U.S. consulting firms have global operations, with staff located around the world.[116] Practice groups, or areas of expertise within consulting firms, often have team members in multiple countries.[117]

Cross-Border Trade

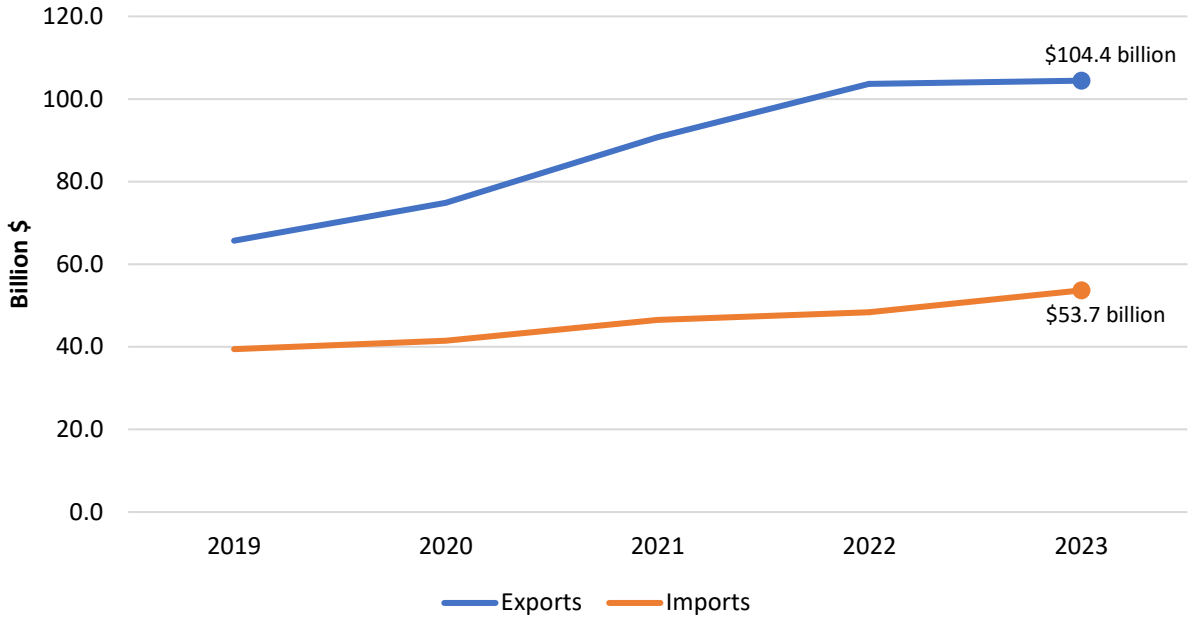
In 2023, U.S. cross-border exports of management consulting services, which include business consulting and public relations services, totaled $104.4 billion (figure 2.16).[118] Imports stood at $53.7 billion, resulting in a surplus of $50.8 billion. Management consulting exports reported only slight growth during

[108] Management Consulting Services fall under NAICS 54161. See Census, "North American Industry Classification System (NAICS)," 2022, 466–69.
[109] Sussman, "Separating Auditing from Consulting," July 28, 2021; IBISWorld, *Management Consulting in the US*, August 2024, 6.
[110] IBISWorld, *Global Management Consultants*, December 2024, 35; *Management Consulting in the US*, August 2024, 11.
[111] IBISWorld, *Global Management Consultants*, December 2024, 35; *Management Consulting in the US*, August 2024, 87.
[112] IBISWorld, *Global Management Consultants*, December 2024, 24; *Management Consulting in the US*, August 2024, 57.
[113] IBISWorld, *Management Consulting in the US*, August 2024, 15.
[114] Pure-play management consulting firms such as McKinsey & Company specialize in strategy consulting.
[115] Sussman, "Separating Auditing from Consulting," July 28, 2021.
[116] Morgan et al., *The Globalization of Management Consultancy Firms*, May 2006, 5.
[117] Williams and van Triest, "Researching Practice Areas of Consultancy Firms," May 24, 2023, 105.
[118] See appendix table C.2 for a listing of service sectors included in professional services cross-border trade data.

2023, increasing by less than 1 percent compared to the prior year following average annual growth of 16.5 percent during 2019–22. Despite the deceleration in growth in 2023, management consulting services were the leading driver of U.S. professional services exports during 2019–23. Top destinations for management consulting exports in 2023 included Ireland ($23.1 billion), Switzerland ($11.1 billion), and the UK ($8.1 billion).[119]

Figure 2.16 Management consulting services: U.S. cross-border exports and imports, 2019–23

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.27.



Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Cross-border imports of management consulting services rose 10.9 percent in 2023 compared with the 2022 level, accelerating from an average annual growth rate of 7.1 percent during 2019–22. Top sources of management consulting imports in 2023 included the UK ($9.4 billion), India ($5.0 billion), and Canada ($4.3 billion).

Affiliate Transactions

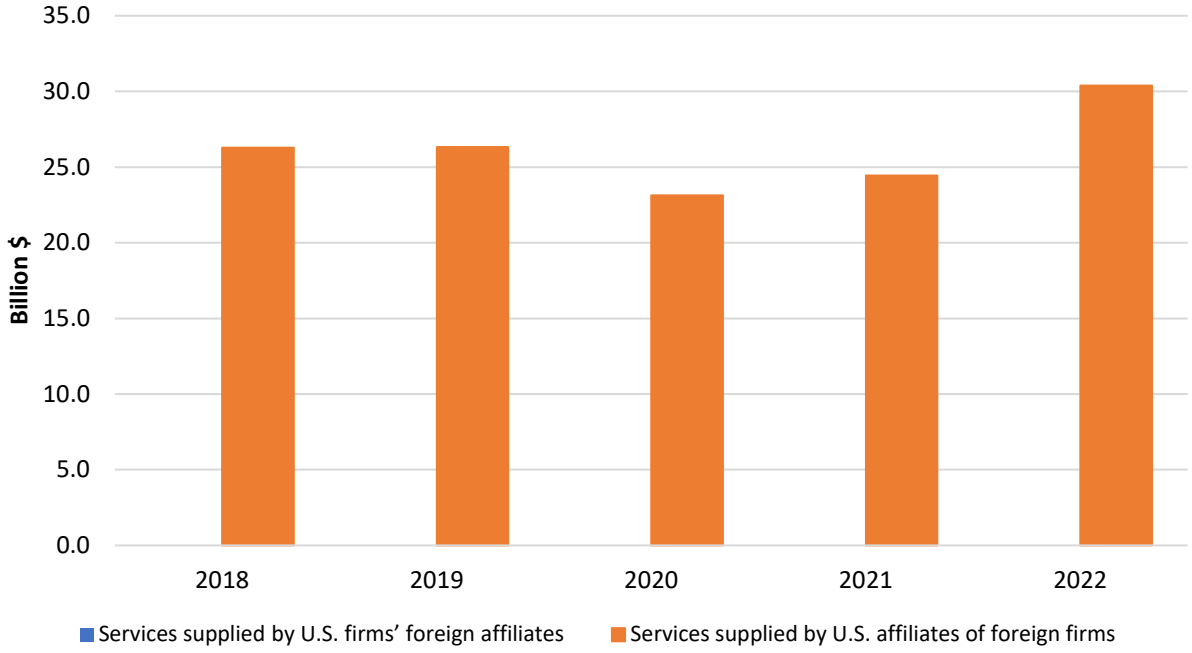
Total sales of management consulting services (including scientific and technical consulting) by foreign affiliates of U.S. firms are suppressed by the Bureau of Economic Analysis (BEA) for the years 2014 to 2022 in order to safeguard individual companies' information.[120] BEA data indicate that purchases of management consulting services from foreign-owned affiliates in the United States fell from $26.3 billion

[119] USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.
[120] Although total figures are suppressed, U.S. foreign affiliate sales data have been published by the BEA for many countries and regions. In 2022, top destinations for management consulting services included the UK ($6.7 billion), Germany ($5.2 billion), and Japan ($3.6 billion). Summing the regional-level data reveals that foreign affiliate sales in management consulting totaled at least $38.3 billion in 2022. USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024.

in 2018 to $23.1 billion in 2020 before rising to $30.4 billion in 2022 (figure 2.17). Though U.S. sales by affiliates of foreign firms declined by 12.2 percent in 2020, management consulting foreign affiliate sales rebounded in subsequent years and rose by 24.4 percent in 2022 compared to 2021.

Figure 2.17 Management, scientific, and technical consulting services: U.S. affiliate sales and purchases, 2018–22

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.28.



Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024; USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Notes: MNEs = multinational enterprises. Services supplied by foreign affiliates of U.S. firms in 2018-22 are not shown because data were suppressed by the BEA to protect confidentiality.

Outlook

Management consulting revenues in the United States are broadly expected to continue to rise over the next five years, although the growth outlook varies considerably by source.[121] According to an IBM global survey of corporate executives, the average consulting spending will increase to more than 4 percent of total revenue by 2026, up from 2.8 percent in 2024.[122] The United States is expected to remain a leading source of growth for the consulting sector, alongside emerging markets such as China, India, and Indonesia.[123] From a labor perspective, the U.S. Bureau of Labor Statistics projects that employment of

[121] IBISWorld projects annual real revenue growth of less than 1 percent in 2025–29, but MarketLine expects real growth of about 5 percent annually. See IBISWorld, *Management Consulting in the US*, August 2024, 11; MarketLine, *US Management Consultancy Report*, March 2024, 13.
[122] Candy et al., "Consulting Reimagined, Powered by AI," October 2024, 6.
[123] IBISWorld, *Global Management Consultants*, December 2024, 18.

management analysts will rise 11 percent from 2023 to 2033, considerably faster than the average for all occupations.[124]

Box 2.1 Management Consulting and Bureau of Economic Analysis (BEA) Trade Data

Although consulting is a global business, the complexity of services trade data makes it difficult to draw firm conclusions about international trade patterns. Official trade statistics from the BEA present two different broad types of services trade. First, cross-border services trade (modes 1, 2, and 4) statistics are based on the type of service traded. Second, statistics measuring services supplied through affiliates (mode 3) are based on the affiliate's primary industry (see chapter 1). Thus, comparability is limited between statistics for cross-border trade and foreign affiliate sales at the sector level. For example, a bank like JPMorgan Chase that also provides management consulting services could report cross-border trade in professional services but, because it is primarily a financial services firm, its sales of consulting services would likely not appear under the professional services category in the BEA's foreign affiliate transactions data.

BEA data on cross-border sales of business and management consulting and public relations services indicate that U.S. parent companies' exports to their foreign affiliates accounted for 71.0 percent of total management consulting exports in 2023. U.S. affiliates' trade with their foreign parent groups made up another 21.0 percent of exports, signaling that unaffiliated trade comprised only about 8 percent of total consulting exports.

A 2024 study published in the BEA's *Survey of Current Business* indicates that cross-border exports in the broader professional and management consulting services category (which also includes legal, accounting, and advertising and related services) are supplied by various industries. Manufacturing companies accounted for the largest share of cross-border consulting services exports in 2022 (32.0 percent), followed by firms in the information services (26.4 percent) and professional services (21.6 percent) industries.[a] Examples of cross-border consulting exports by a U.S. manufacturing company could include the following: The U.S. headquarters of a manufacturing firm advises its foreign subsidiary on retooling efforts, or a U.S. company sends staff abroad for several months to work with a foreign subsidiary on supply chain optimization efforts. The same BEA study indicates that exporters in the broader professional and management consulting services category tend to be "very large" firms, with 10,000 or more employees. In 2021, very large companies accounted for about 71 percent of total professional and management consulting services exports.[b]

[a] Bruner and Grimm, "A Profile of U.S. Services Traders, 2006–2022," May 31, 2024, 9.
[b] Bruner and Grimm, "A Profile of U.S. Services Traders, 2006–2022," May 31, 2024, 23.

Advertising Services

Advertising services include creating awareness, generating interest, and persuading consumers to take a particular action such as purchasing a product, visiting a website, or supporting a brand. Traditional advertising refers to print and broadcast media such as newspaper ads, televisions commercials, cinema

[124] USDOL, BLS, "Management Analysts," accessed January 27, 2025.

ads, billboard ads, and radio infomercials.[125] Digital advertising refers to the practice of promoting products or services through online channels by purchasing ad placements with the aim of driving traffic, increasing brand awareness, and generating leads or sales using data-driven strategies. This form of advertising uses the internet in various forms such as digital video, search engine, social media, digital out-of-home, digital banner, digital audio, digital classifieds, and online influencer advertising.[126] The leading providers of advertising services are technology and media companies due to their prominence in digital advertising services.[127] Beyond those firms, major global advertising firms include Dentsu Group (Japan), Interpublic Group of Companies (United States), Publicis Groupe (France), and WPP (UK), which provide traditional advertising, public relations, and market research services in addition to digital advertising services.[128]

Industry Overview

Statista Market Insights estimates that U.S. advertising services market revenue was $425.9 billion in 2024, an increase of over 70 percent from $274.3 billion in 2019.[129] This increase has coincided with the growth in the global advertising services market, which rose 50.8 percent, from $720.8 billion in 2019 to an estimated $1.1 trillion in 2024.[130] According to the most recent data, the three companies with the most advertising revenue in the world in 2022 were headquartered in the United States (Google, Meta, and Amazon), and the next two companies were headquartered in China (ByteDance and Alibaba) (table 2.4).[131]

[125] American Marketing Association, "Marketing vs. Advertising," accessed January 15, 2025; MarketLine, *Global Advertising Market Summary*, April 2024, 7.
[126] Digital advertising comprised roughly 60 percent of global advertising revenue in 2023 and 2024. Statista, "Share of Digital in Advertising Revenue Worldwide," January 10, 2025; PwC, "Perspectives from the Global Entertainment & Media Outlook," July 16, 2024; MarketLine, *North America (NAFTA) Advertising Market Summary*, May 2024, 9.
[127] Statista, *Advertising: Market Data & Analysis*, November 2024, 251–55, 265–69.
[128] MarketLine, *Global Advertising Market Summary*, April 2024, 23.
[129] Statista, "Advertising: United States," October 2024.
[130] Statista, *Advertising: Market Data & Analysis*, November 2024, 10.
[131] ByteDance is an internet technology company that owns TikTok. McNally, "Global Ad Revenue Cracks The $1 Trillion Dollar Mark In 2024," December 8, 2024.

Table 2.4 Top five global advertising providers by advertising revenue, 2022
In billions of dollars.

Company	Headquarters	Industry	Advertising revenue
Google	United States	Technology	224.5
Meta	United States	Social media	113.6
Amazon	United States	E-commerce and technology	37.7
ByteDance	China	Social media	31.7
Alibaba	China	E-commerce and technology	31.5

Source: Statista, "Leading Media Companies Worldwide in 2022," September 2023.

Cross-Border Trade

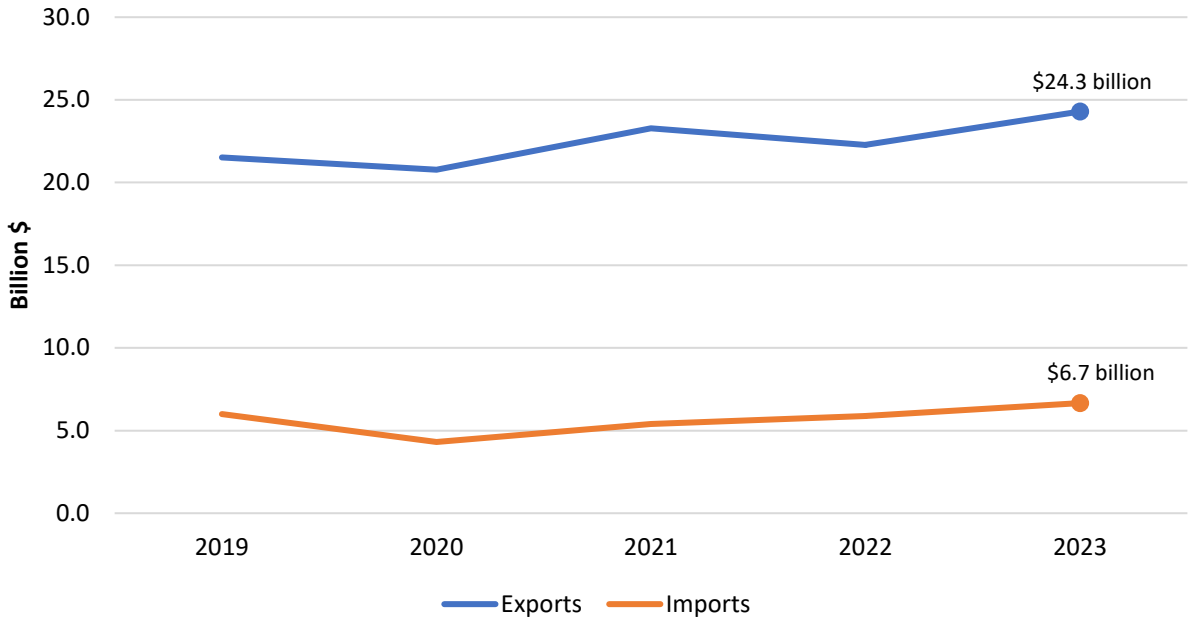
Advertising and related services consist of three subcategories: advertising services, research and public opinion polling services, and trade exhibition and sales convention services. In 2023, the advertising services subcategory accounted for nearly all advertising and related services exports (98.1 percent).[132]

Since 2019, cross-border exports of advertising and related services grew by 12.9 percent to $24.3 billion in 2023, notwithstanding modest declines in 2020 and 2022 (figure 2.18). Growth was considerably faster for the advertising services subcategory, which rose by 23.7 percent over the period; the total category was affected by decreases in the other two subcategories, particularly research and public opinion polling. Imports of advertising and related services fell by 28.2 percent in 2020 but grew at an average annual rate of 15.8 percent over the next three years to $6.7 billion by the end of 2023. Canada was the top destination for U.S. exports of advertising and related services, at $8.2 billion in 2023, followed by Ireland ($3.3 billion) and Singapore ($2.5 billion). On the import side, the top source countries were the UK ($1.2 billion), Canada ($907 million), and Ireland ($826 million).[133]

[132] In 2023, research and public opinion polling accounted for 1.7 percent and trade exhibition and sales convention services were 0.2 percent of advertising and related services. USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
[133] USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.

Figure 2.18 Advertising and related services: U.S. cross-border exports and imports, 2019–23

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.29.



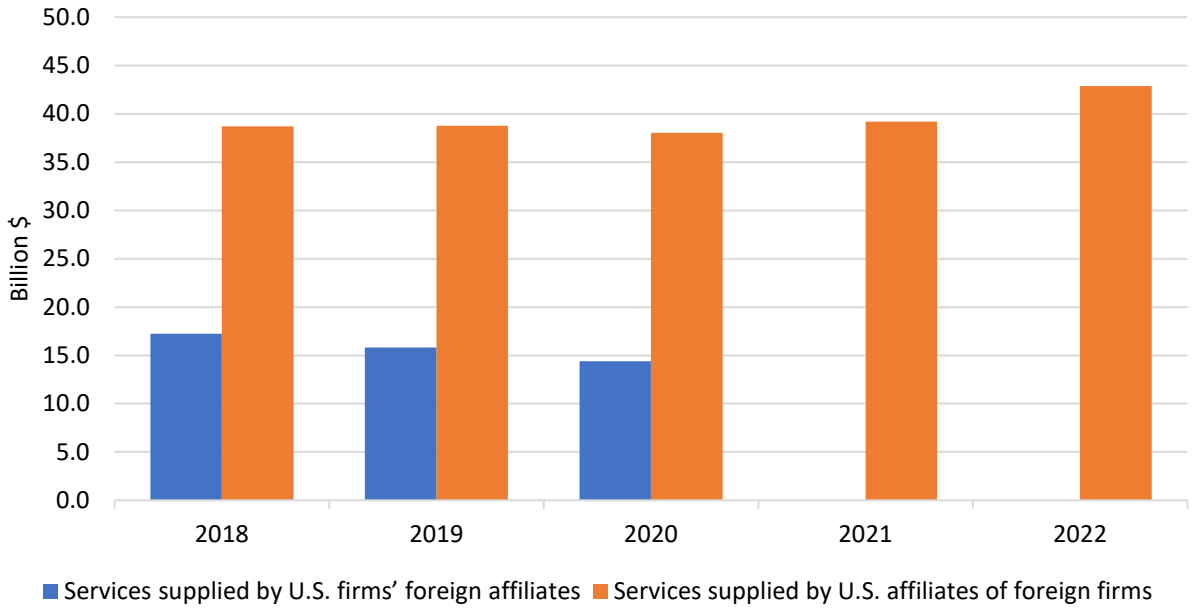
Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Affiliate Transactions

Foreign affiliate trade data are currently available through 2022; however, data on total advertising and related services supplied by foreign affiliates of U.S. firms were suppressed by the BEA in 2021 and 2022 to safeguard individual companies' information (figure 2.19). Trade statistics that are available by country and region indicate that the value of services supplied by foreign affiliates of U.S. firms reached at least $16.7 billion in 2022, which is close to 2018 and 2019 levels. Services purchased from U.S. affiliates of foreign firms totaled $42.9 billion in 2022, a 9.4 percent increase following average annual growth of less than 1 percent during 2018–21.

Figure 2.19 Advertising and related services: U.S. affiliate sales and purchases, 2018–22

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.30.



Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024; USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Notes: MNEs = multinational enterprises. Services supplied by foreign affiliates of U.S. firms in 2021 and 2022 are not shown because data were suppressed by the BEA to protect confidentiality.

Outlook

After estimated annual growth of 7.5 percent in 2024, global advertising revenue is forecast to continue rising at around 7.5 percent in 2025–29.[134] This projected growth in revenue is due to several factors, including the increase in digital consumption and the rise of video streaming services, social media, social commerce, and AI used in advertising.[135]

[134] Statista, *Advertising: Market Data & Analysis*, November 2024, 10.
[135] PwC, "Perspectives from the Global Entertainment & Media Outlook," July 16, 2024; Statista, *Advertising: Market Data & Analysis*, November 2024; McKinsey & Company, "Social Commerce," October 19, 2022; PwC, "Digital Ad Spending Moves Closer to the Consumer," accessed January 13, 2025; O'Malley, "Shifts in Digital Advertising," April 16, 2024.

Special Topic: Trade in Research and Development Services

R&D services account for almost one-third of U.S. cross-border trade in professional services, but a much smaller share of affiliate transactions by professional services firms.[136] Because R&D services, their outcomes, and charges for the use of R&D outcomes are inputs into the production of final goods, measuring R&D services trade is a challenge. This special topic section updates the statistics and trends reported in *Recent Trends in U.S. Services Trade: 2021 Annual Report* and discusses the tax-driven nature of R&D trade and spending.

Industry Overview

R&D services include work aimed at expanding knowledge or producing novel or significantly improved goods and services. R&D investments drive innovation and product development in many sectors, especially technology, health care, and manufacturing. R&D is essential to economic growth and U.S. global competitiveness, with major funding coming from both the public and private sectors.[137]

In 2022, the most recent year for which data are available, R&D global spending reached $2.5 trillion.[138] IT hardware accounted for the largest share of global R&D spending at 24.1 percent, followed by health care at 22.0 percent and software and the internet at 21.9 percent.[139] IT hardware and health care maintained similar shares of global R&D spending throughout 2018–22. In contrast, the share of R&D spending on software increased by 6 percent and automobile R&D spending declined by 2 percent during the period.[140] U.S. firms in these sectors conduct a large part of their R&D activities in the United States, which they then transfer to their manufacturing subsidiaries often located in low-tax jurisdictions around the world.

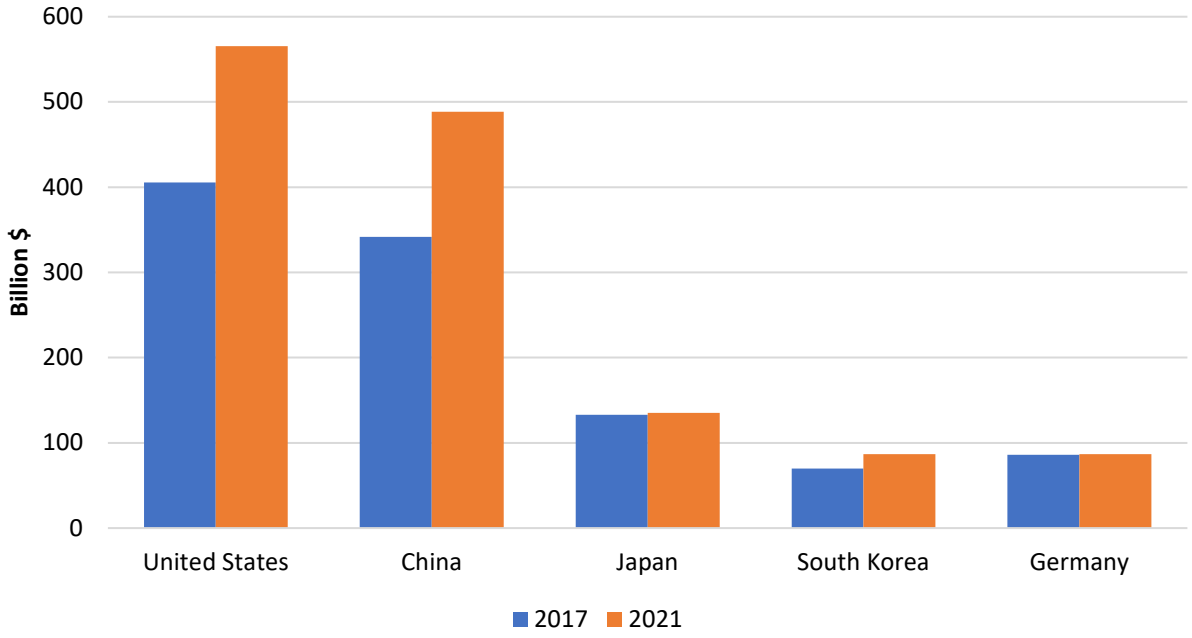
The United States and China significantly outpaced all other countries in R&D spending. The Organisation for Economic Co-operation and Development (OECD) compiles data across industry sectors on business enterprise research and development expenditure for both basic and applied R&D.[141] The countries accounting for the largest shares of business enterprise research and development spending in 2021 (latest available data) were the United States ($565 billion), China ($488 billion), Japan ($135

[136] Cross-border exports and imports of R&D services include both licenses for the use of outcomes of research and development under the "charges for the use of intellectual property n.i.e." category and "research and development services: total" and its subcategories, which are classified under "other business services" in the BEA's cross-border trade statistics. USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
[137] Boroush and Guci, "Research and Development," April 28, 2022, 37, 55.
[138] Statista, "Research and Development (R&D) Worldwide," 2024, 4.
[139] The automobile and other transport industries contributed 14.0 percent; all other sectors combined accounted for 18.0 percent. Statista, "Research and Development (R&D) Worldwide," 2024, 14.
[140] USITC, *Recent Trends in U.S. Services Trade: 2021 Annual Report*, April 2021, 52; Statista, "Research and Development (R&D) Worldwide," 2024, 14.
[141] OECD, *Frascati Manual 2015*, October 8, 2015, 212.

billion), South Korea ($87 billion), and Germany ($87 billion).[142] During 2017–21, the United States and China increased their R&D spending by average annual rates of 8.7 percent and 9.3 percent, respectively, and South Korea increased its spending by an average annual rate of 5.6 percent. Japan and Germany roughly maintained their business enterprise research and development expenditures over the four-year period (figure 2.20).[143]

Figure 2.20 Business enterprise research and development (BERD) spending in the top five countries, 2017 and 2021

In billions of U.S. dollars. Underlying data for this figure can be found in appendix B, table B.31.



Source: OECD, "Main Science and Technology Indicators—Business Enterprise Expenditure on R&D (BERD)," March 2024.
Note: Because of classification issues, data for China are not strictly comparable to data for other economies.

In terms of R&D spending as a percentage of gross domestic product (GDP), the top two countries in 2021 were Israel and South Korea with 5.6 and 4.9 percent, respectively. The United States was third, with 3.5 percent of its GDP dedicated to R&D, up from 2.9 percent in 2017. Belgium (3.4 percent) and Sweden (3.4 percent) rounded out the top five countries in R&D spending as a percentage of GDP.[144]

In 2022, global R&D spending was driven by firms in the information technology sector, especially firms based in the United States. In 2022, as in 2018, Amazon ranked first in R&D spending worldwide with

[142] These numbers exclude spending by the government. In *Recent Trends in U.S. Services Trade: 2021 Annual Report*, business enterprise expenditure on R&D data for 2017 were represented by industry (manufacturing, services, and other). Because the United States and China no longer categorize R&D services spending specifically, the industry breakdown has been eliminated from this report. See USITC, *Recent Trends in U.S. Services Trade: 2021 Annual Report*, April 2021, 53; OECD, "Main Science and Technology Indicators—Business Enterprise Expenditure on R&D (BERD)," March 2024.
[143] OECD, "Main Science and Technology Indicators—Business Enterprise Expenditure on R&D (BERD)," March 2024.
[144] World Bank Group, "Research and Development Expenditure (% of GDP)," September 30, 2024.

$73.2 billion, more than tripling its R&D expenditures during that four-year period. Notably, 9 of the top 10 R&D spenders were technology firms, with Volkswagen the exception in 10th place. This marks a shift from 2018, when three pharmaceutical companies were among the top 10 R&D spenders. Six U.S.-headquartered firms ranked among the top 10 R&D spenders in 2022, one fewer than in 2018. China's Huawei and Tencent Holdings entered the list of top 10 R&D spenders in 2022; no Chinese firms ranked among the top 10 in 2018 (table 2.5).[145]

Table 2.5 Top 10 firms by global R&D spending, 2022
In billions of dollars.

Firm	Headquarters	Primary industry	R&D spending, billion $
Amazon	United States	Technology	73.2
Meta	United States	Technology	35.3
Alphabet	United States	Technology	28.8
Apple	United States	Technology	26.3
Huawei	China	Technology	23.2
Microsoft	United States	Technology	22.7
Samsung	South Korea	Technology	18.2
Tencent Holdings	China	Technology	17.7
Intel	United States	Technology	17.5
Volkswagen	Germany	Automobiles	17.1

Source: Statista, "Companies with Highest R&D Spending Worldwide 2022," May 2023.

Cross-Border Trade of R&D Services

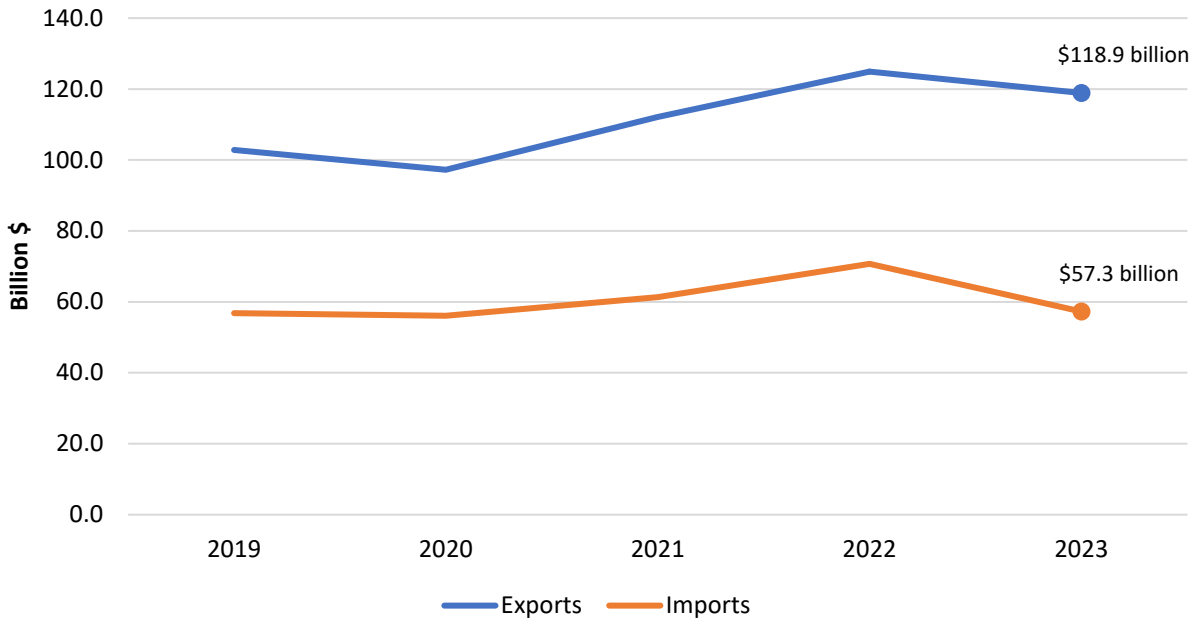
BEA data on cross-border trade in R&D services include "R&D services: total," a subcategory of "other business services." This subcategory includes two further subcategories, (1) "provision of customized and non-customized R&D services" and (2) "the sale/purchase of proprietary rights arising from R&D," and "licenses for the use of outcomes of R&D" under charges for the use of intellectual property n.i.e.[146] "R&D services" includes activities aimed at expanding knowledge and producing novel or significantly improved goods and services, as well as nonroutine testing and product development activities. "Licenses for the use of outcomes of R&D" includes charges for the use of a patent, process, or trade secrets to produce or distribute a product or service.[147] In 2023, licenses for use of outcomes of R&D made up 53.9 percent of total exports in these categories and 41.4 percent of total imports.[148] In 2023, total U.S. cross-border exports of R&D services (including both R&D services and licenses for use of outcomes of R&D) totaled $118.9 billion and U.S. imports totaled $57.3 billion, resulting in a U.S. surplus of $61.6 billion.[149] Total R&D exports accounted for the largest share of U.S. professional services exports that year.[150] Following growth in R&D services exports of 15.3 percent and 11.5 percent in 2021

[145] Statista, "Companies with Highest R&D Spending Worldwide 2022," May 2023; USITC, *Recent Trends in U.S. Services Trade: 2021 Annual Report*, April 2021, 52.
[146] USDOC, BEA, *2022 Benchmark Survey of Transactions*, August 2022, 32.
[147] USDOC, BEA, *U.S. International Economic Accounts*, June 2024, 115; USDOC, BEA, *2022 Benchmark Survey of Transactions*, August 2022, 32.
[148] USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
[149] USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
[150] USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

and 2022, respectively, U.S. exports decreased by 4.8 percent in 2023. Total cross-border imports of R&D services increased from 2019 to 2022 at an annual growth rate of 7.6 percent before declining in 2023 by 19.0 percent (figure 2.21).

Figure 2.21 R&D services: U.S. cross-border exports and imports, 2019–23

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.32.



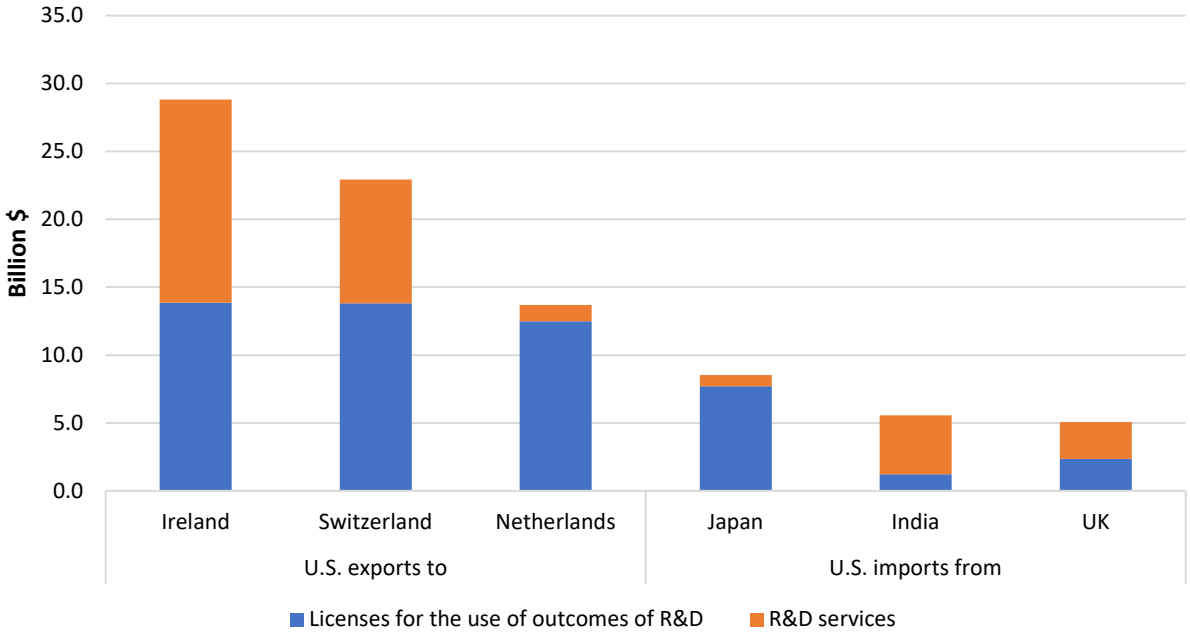
Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
Note: Exports and imports of R&D services include sale of licenses for outcomes of research and development and nonroutine testing and product development activities.

The top destinations for total U.S. R&D exports in 2023 were Ireland ($28.8 billion), Switzerland ($22.9 billion), and the Netherlands ($13.7 billion). U.S. exports of R&D services to Ireland and Switzerland were balanced between the subcategories, with licenses for the use of outcomes of R&D accounting for 48.1 percent and 60.2 percent of total exports to the countries, respectively. Exports of licenses for the use of outcomes of R&D to the Netherlands made up 91.3 percent of R&D services exports. The top sources of U.S. R&D imports in 2023 were Japan ($8.5 billion), India ($5.6 billion), and the UK ($5.1 billion). Licenses for the use of outcomes of R&D made up 90.4 percent of U.S. imports of R&D services from Japan; the same category accounted for only 21.8 percent of U.S. imports from India. U.S. imports of R&D services from the UK were balanced, with licenses for the use of outcomes of R&D, accounting for 46.6 percent (figure 2.22).[151]

[151] USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.

Figure 2.22 R&D services: U.S. cross-border exports to selected countries and imports from selected countries, 2023

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.33.



Source: USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.
Note: "R&D services" includes activities aimed at expanding knowledge and producing novel or significantly improved goods and services, as well as nonroutine testing and product development activities. "Licenses for the use of outcomes of R&D" includes charges for the use of a patent, process, or trade secrets to produce or distribute a product or service. See appendix C, table C.2 for BEA subsectors of professional services.

Sales and Purchases by Foreign R&D Services Affiliates

The total value of foreign transactions by R&D services affiliates is substantially lower than cross-border trade in R&D services. U.S. sales by R&D affiliates (affiliate sales) are instances where a foreign R&D affiliate of a U.S. multinational enterprise provides services to its U.S. parent, other foreign affiliates, or external clients.[152] For example, a foreign lab might develop technology and transfer it to U.S. headquarters or sell it to third parties. U.S. purchases from R&D affiliates (affiliate purchases) occur when a U.S. R&D affiliate of a foreign-based firm sells services (such as technology or research support) to its foreign parent company or provides services to local U.S. institutions or other affiliates.

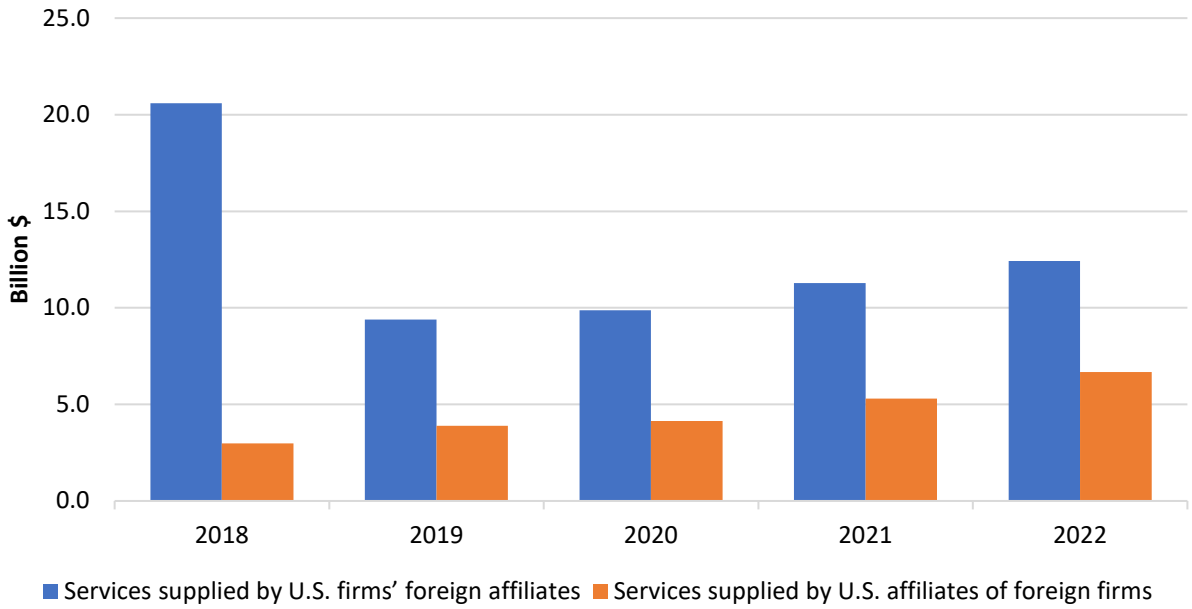
In 2022, the latest year for which data are available, services supplied by foreign R&D affiliates of U.S. firms totaled $12.4 billion and services purchased from U.S. R&D affiliates of foreign firms were $6.7

[152] Foreign affiliate transactions statistics cover only the activities of firms that specialize in R&D and as a result are likely to be weighted more toward basic R&D. For this reason, foreign affiliate transactions and cross-border trade in R&D services cannot be directly compared. For a more detailed discussion on foreign affiliate transactions statistics, see USITC, *Recent Trends in U.S. Services Trade: 2021 Annual Report*, April 2021, 55.

billion.[153] Foreign affiliate sales dropped by 54.3 percent in 2019, then grew steadily from 2020 to 2022 with an annual growth rate of 9.8 percent. U.S. purchases from foreign-owned affiliates grew from 2018 to 2022, with an annual growth rate of 22.4 percent, rising from $3.0 billion to $6.7 billion (figure 2.23).

Figure 2.23 R&D services: U.S. affiliate sales and purchases, 2018–22

In billions of dollars. Underlying data for this figure can be found in appendix B, table B.34.



Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024; USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Note: MNEs = multinational enterprises.

[153] USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024; USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.

Tax Incentives and R&D Trade and Investment

Tax incentives, both in the United States and in foreign countries, are meant to encourage innovation and attract foreign firms to invest in specific markets.[154] Conversely, high tax burdens or restrictive fiscal policies can deter R&D activities.[155] For example, intellectual property (IP) regimes, referred to as "IP boxes" or "patent boxes," are tax policy tools designed to incentivize R&D by offering preferential tax rates on income generated from IP.[156] These regimes allow companies to benefit from significantly lower tax rates on qualifying income from IP, such as patents, trademarks, copyrights, software, or designs, compared to the standard corporate tax rate.

The recipients of the highest total U.S. R&D services exports are not necessarily the countries that rank highest in a variety of other R&D measures. For example, in 2021 South Korea received only 1.0 percent of U.S. R&D services exports but ranked first globally in both domestic spending in R&D as a percentage of GDP and researchers in R&D per million population. On the other hand, Ireland, the largest destination of U.S. R&D services exports in 2021, with a 28.2 percent share, spent only 1.1 percent of its GDP on R&D and ranked 17th in the number of researchers in R&D per capita (table 2.6). Varying taxation levels for R&D and IP assets among the major destinations for U.S. exports, as well as the location of R&D-intensive business activities (such as pharmaceuticals), likely explain part of this pattern of trade.

Table 2.6 Research and Development (R&D) statistics, 2021, selected countries
In percentages and global rank.

Country	Percentage of total U.S. R&D services exports[a]	Domestic spending on R&D as a percentage of GDP[b]	Percentage of total U.S. foreign affiliate spending on R&D	Global ranking for business spending on R&D[c]	Global ranking for researchers in R&D per capita
Ireland	28.2	1.1	31.6	22	17
Switzerland	13.4	3.3	15.0	13	10
Japan	7.0	3.3	7.9	3	12
Sweden	4.3	3.4	4.8	15	2
Netherlands	3.5	2.3	3.9	12	11
Germany	3.2	3.1	3.6	5	13
France	1.9	2.2	2.1	([d])	19
South Korea	1.0	4.9	1.1	4	1
China[e]	0.5	2.4	0.6	2	48

Sources: OECD, "Main Science and Technology Indicators," March 2024; World Bank Group, "Research and Development Expenditure (% of GDP)," September 30, 2024; "Researchers in R&D (per Million People)," September 30, 2024; USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024; "U.S. Direct Investment Abroad," August 23, 2024.
[a] This measure provides a breakdown of the destination of U.S. R&D services exports and includes both cross-border R&D services, as reported by the BEA under other business services, and R&D-related categories classified under charges for the use of intellectual property.
[b] Domestic spending includes spending by governments as well as the private sector.
[c] Business spending excludes spending by governments.
[d] Data not available.
[e] Excluding Hong Kong and Macao.

[154] Asen, "Patent Box Regimes in Europe, 2021," September 9, 2021.
[155] Neubig et al., "Fiscal Incentives for R&D and Innovation in a Diverse World," September 13, 2016, 11.
[156] Neubig et al., "Fiscal Incentives for R&D and Innovation in a Diverse World," September 13, 2016, 9, 13.

The countries that are the destination of the highest amount of U.S. exports in R&D services have notably favorable IP boxes or similar incentives. The top five importers of U.S. R&D services—Ireland, Switzerland, Japan, Sweden, and the Netherlands—have implemented various IP regimes to promote innovation and attract R&D-intensive businesses.[157] Ireland's Knowledge Development Box stands out with a favorable effective tax rate of 6.25 percent on income from qualifying IP. It focuses heavily on patents and software copyrights developed through R&D activities performed within Ireland, ensuring compliance with OECD nexus rules.[158] Similarly, Switzerland offers competitive tax treatment through IP boxes, with effective rates as low as 8–13 percent, depending on the canton, covering patents and other qualifying IP.[159] Swiss cantons often complement this with R&D super deductions,[160] making the cantons an attractive jurisdiction for multinational companies.[161] Japan does not offer an IP box but incentivizes R&D with a tax credit system, which allows companies to deduct a portion of their R&D expenses from corporate taxes.[162] This approach targets local innovation without requiring preferential tax treatment for IP-derived income.[163] Sweden also has no formal IP box but incentivizes R&D by reduced employer social security contributions for R&D staff and deductions for R&D expenses.[164] The Netherlands' Innovation Box offers an effective tax rate of 9 percent for income derived from patents, software, and certain other self-developed IP.[165]

Effects of Profit Shifting on Services Trade

Policies that offer tax incentives for R&D may lead to the shifting of profits within multinational enterprises (MNEs). This section focuses on how profit shifting, often motivated by tax strategies, can influence the pattern and measurement of services trade statistics.[166] Profit shifting is defined as the transfer of profits within an MNE from high- to low-tax jurisdictions, as in offshore profit shifting where

[157] USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024; Neubig et al., "Fiscal Incentives for R&D and Innovation in a Diverse World," September 13, 2016, 12.
[158] Government of Ireland, Irish Tax and Customs, "Knowledge Development Box," November 2022, 9. The OECD/G20 Inclusive Framework's nexus rules try to address tax issues by setting the fixed returns within a market jurisdiction for commercial activities of multinational enterprises.
[159] Beginning in 2020, Switzerland's patent box regime functions at the cantonal level, which provides a maximum tax base reduction of 90 percent on income from patents and similar rights developed in Switzerland (i.e., at least 10 percent of the "box profits" are subject to ordinary taxation). Cantons can opt for a lower reduction. IPrime Rentsch Kaelin and Balmer-Etienne, "The Swiss Patent-Box," November 3, 2021; "Tax Law Aspects of the Patent Box," November 3, 2021.
[160] R&D super deductions are available in addition to the normal tax deduction. They allow for a maximum of 50 percent of qualified expenses, which include up to 35 percent of the actual expenditure or 80 percent of the invoiced cost of outsourced R&D. Scalemetrics, "Maximise Swiss R&D Tax Benefits," August 2, 2023.
[161] Grant Thornton, "Tax Breaks for R&D, Switzerland/Liechtenstein," June 17, 2020.
[162] Government of Japan, Ministry of Economy, Trade and Industry, "Overview of Industrial Technology Policy/Innovation Policy," February 6, 2025.
[163] JETRO, "Incentive Programs," 2025.
[164] Boyanova, "Maximising R&D Incentives," August 21, 2023.
[165] Government of the Netherlands, Netherlands Tax Administration, Belastingdienst, "How to Use the Innovation Box in Your VPB," accessed February 13, 2025.
[166] This topic was also covered in a prior publication of this report; see USITC, *Recent Trends in U.S. Services Trade: 2021 Annual Report*, April 2021, 54–55.

profits that would have accrued in the headquarter country are instead accrued by foreign affiliates.[167] The most common methods of profit shifting are through intra-firm transfer pricing: (1) of goods and services when higher-tax entities export at lower prices to and import at higher prices from lower-tax entities; (2) of loans where higher tax entities borrow money from lower-tax entities at relatively high rates; and (3) of intangible asset movements at prices below true value from high-tax entities to lower-tax entities where profits are eventually earned.[168]

Several examples illustrate these various profit shifting mechanisms across industries. In the pharmaceutical industry, it has been reported that although Pfizer's foreign affiliates paid the U.S. parent for licenses for the use of patents, the parent imported manufactured drugs from its affiliates at higher relative prices.[169] In this scenario, the profits were accrued to foreign affiliates and likely overstated manufacturing imports while understating services exports (charges for the use of IP from the parent to the affiliates).[170] Relatedly, through Apple's documented cost-sharing agreement, its Irish subsidiaries held the rights to Apple's IP for the manufacture and sale of products outside of the Americas.[171] This structure likely underestimated R&D services exports related to activities aimed at expanding knowledge (if payments made to Apple to help fund R&D as part of the agreement were undervalued) and licenses for the use of outcomes of R&D (given profits earned from IP assets were not realized as U.S. exports and instead were accrued as profits by the foreign affiliate).[172]

A 2022 paper analyzed patterns of such offshore profit shifting by U.S. MNEs and how it has affected key economic measurements, including trade flows.[173] To illustrate the potential extent and impacts of profit shifting by U.S. MNEs, the authors used firm-level data from the BEA, covering MNE transactions between 1982 and 2016, and a model of profit-maximizing firms to redistribute reported profits among

[167] Guvenen et al., "Offshore Profit Shifting and Aggregate Measurement," 2022, 1848; Wier and Zucman, "Global Profit Shifting, 1975–2019," 2022, 3.
[168] Guvenen et al., "Offshore Profit Shifting and Aggregate Measurement," 2022, 1857; Wier and Zucman, "Global Profit Shifting, 1975–2019," 2022, 3.
[169] Bergin and Drawbaugh, "How Pfizer Has Shifted U.S. Profits Overseas for Years," November 16, 2015. Also see Wyden, "Pfizer's Colossal Tax Avoidance," May 12, 2025; Hannon, "This Country Won the Global Tax Game," October 10, 2023; Golle and Niquette, "US-Ireland Trade Deficit at Record on Pre-Tariff Pharma Imports," May 6, 2025.
[170] On the other hand, if the elimination of this profit shifting were to drive drug production back to the United States, then, with profit shifting, R&D exports in the form of charges for the use of IP were overestimated (or, rather, generated by the profit shifting). Setser, "When the Services Trade Data Tells You," April 22, 2020.
[171] Clifford Chance, *Apple Loses the 13 Billion Tax Ruling State Aid Case*, September 24, 2024, 1; Tax Notes, "Levin, McCain Examine Apple's Use of Irish Subsidiaries for Tax Avoidance," May 21, 2013; Levin and McCain, "Offshore Profit Shifting and the U.S. Tax Code - Part 2 (Apple Inc.)," May 21, 2013.
[172] Guvenen et al. provide a hypothetical example using Apple's iPhone. Assuming that intangible assets are created in the United States and materials and labor costs of production, with production occurring abroad, are $250 per phone and the average selling price is $750, then profits are $500 per phone. The authors argue that the entire profit per phone should be attributed to U.S. GDP and included as a net export under "charges for the use of intellectual property." However, this may not be the result when intangible assets are transferred to foreign affiliates. Guvenen et al., "Offshore Profit Shifting and Aggregate Measurement," 2022, 1850, 1857. Also see Jenniges et al., "Strategic Movement of Intellectual Property within US Multinational Enterprises," 2023, 215–16.
[173] Guvenen et al., "Offshore Profit Shifting and Aggregate Measurement," 2022.

U.S. parent companies and their foreign affiliates. The authors found that profit shifting appeared to be highly concentrated in certain low-tax jurisdictions and certain industries:

- Applying its model to geography, the study identified that most reattributed earnings originated from low-tax jurisdictions, including the Netherlands, Bermuda, Ireland, Luxembourg, Switzerland, and Singapore.[174]
- Additionally, profit shifting was likely highly concentrated in R&D-intensive industries, particularly in the electronics and computer manufacturing, chemical manufacturing (pharmaceuticals and petroleum), and information technology sectors. In 2016, these industries accounted for approximately 79 percent of the total adjustment estimated in the model.[175]

The pattern of concentration of profit shifting in R&D intensive industries forms the basis of the article's assumption that profit shifting had occurred through intangible asset allocation, and the authors provide estimates of how movement of IP affects key economic measures. Between 1982 and 2016, an average of 38 percent of income reported as U.S. direct investment abroad was likely related to intangible assets created in the United States and, the authors argue, should be reattributed to U.S. GDP.[176] Assuming the form of profit shifting in the model estimates, adjusting for profit shifting also reduces the U.S. trade deficit by increasing the services trade surplus (but does not change the goods trade deficit): In 2016, the unadjusted services trade balance was 1.4 percent of GDP, whereas the adjusted balance reached 2.2 percent. The model outputs also illustrate that correcting for profit shifting lowers the return on U.S. foreign direct investment abroad, influences labor productivity, and reduces the labor share of income.[177]

Outlook

Industry analysts expect U.S. R&D spending to continue to accelerate in advanced technology sectors over the next five years, driven by an anticipated combination of rising corporate profits and lower interest rates.[178] Maintaining strong IP protections is a key success factor for the United States to hold its global leadership in the R&D industry.[179] Industry analysts expect that foreign competition, especially from China, could intensify as foreign economies expand their own R&D investments.[180]

[174] Guvenen et al., "Offshore Profit Shifting and Aggregate Measurement," 2022, 1864, table 2.
[175] Guvenen et al., "Offshore Profit Shifting and Aggregate Measurement," 2022, 1867–68, table 4.
[176] Guvenen et al., "Offshore Profit Shifting and Aggregate Measurement," 2022, 1848–49.
[177] Guvenen et al., "Offshore Profit Shifting and Aggregate Measurement," 2022, 1868–78, figure 5.
[178] IBISWorld, *Scientific Research & Development in the US*, October 2024, 9.
[179] IBISWorld, *Scientific Research & Development in the US*, October 2024, 21.
[180] Boroush and Guci, "Research and Development," April 28, 2022, 67.

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Chapter 3
Professional Services Suppliers: Integrating Artificial Intelligence into Supply Models to Lower Costs and Address Skills Gaps

This chapter highlights how skills gaps and the introduction of artificial intelligence (AI) technologies are affecting the competitiveness of the suppliers of professional services, specifically in the fields of legal services, architectural and engineering services, and accounting and auditing services.

Professional services firms have traditionally relied heavily on a knowledgeable and highly skilled and credentialed labor force to provide specialized products within various industries. The professional services labor force remains highly skilled, but firms that supply professional business services have increasingly integrated technological advancements such as machine learning (ML) and AI into their product offerings to improve the efficiency and breadth of their products.[181] However, an increasing reliance on these technological tools has in part led to a skills gap within the labor force of several professional services industries, many of which are also experiencing labor shortages.[182]

In the field of legal services, lower-priced and higher-tech alternative legal service providers (ALSPs) have proliferated, and traditional law firms have integrated legal technology (legal tech), including AI, into their own offerings.[183] While the adoption of legal tech improves efficiency and provides competitive advantages (especially to developers of the technology), it may also alter legal services business models and hiring practices.[184] Although U.S. law firms are at the forefront of technology integration, their ability to effectively deliver legal services or maintain their competitive positions is constrained by complex regulatory environments they face in certain foreign markets. Due to a variety of factors, including regulatory issues, U.S. law firms have reduced their commercial presence in

[181] Machine learning (ML) refers to statistical algorithms that process and learn from sets of data to generalize unseen data and, thus, can perform tasks without explicit instructions. References to AI in this report refer to the application of advanced algorithms such as ML in professional services products and processes. Generative AI technologies use sophisticated large content machine learning models to generate high quality original output such as text and images. Martineau, "What Is Generative AI?," April 20, 2023. Columbia University, "Artificial Intelligence (AI) vs. Machine Learning," accessed April 16, 2024; Zewe, "Explained: Generative AI," November 9, 2023.
[182] SAPRO, "The Accounting Skills Shortage," May 6, 2024; Kennedy, "The Accounting Shortage Is Hurting Your Bottom Line," August 12, 2024; Adolphus and Keller, "The Top 500 Design Firms," April 29, 2024, 64–65, 68.
[183] Statista, *Legal Tech*, 2023, 11, 15, 17; International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 8.
[184] Wolters Kluwer, *The 2024 Wolters Kluwer Future Ready Lawyer Report*, 2024, 16–17; International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 14, 16; Wirth, "Law Firm COO & CFO Forum," November 7, 2024; Davis, "The Future of Law Firms (and Lawyers)," October 2, 2020, 8.

China.[185] Relatedly, the share of U.S. cross-border exports and foreign affiliate sales to the Asia-Pacific region declined in the latest 10-year period for which data are available.[186]

In architectural and engineering services, rising labor and input costs have strained firm performance and led to the adoption of high-tech solutions in the traditionally conservative industry.[187] Many architectural and engineering firms have begun to digitalize their operations and devote resources to implementing AI to automate tasks, optimize designs, and improve decision-making. Architectural and engineering firms are also incorporating tools such as building information modeling and digital twins, which create detailed 3D models of projects.

In accounting and auditing services, firms continue to digitalize and use robotic process automation (RPA) and cloud services automation to improve their product offerings and the efficiency of their operations.[188] These firms are also increasing their adoption of AI to enhance automated processes and better organize and analyze their clients' information. The integration of AI and continuing digitalization of this industry has led accounting and auditing firms to update their recruiting efforts to target employees that possess AI expertise and skills such as critical thinking and adaptability to identify errors in AI model output.[189]

Legal Services: U.S. Law Firms Remain Competitive Globally Although Market Conditions and Regulatory Barriers Impede Presence in China

As discussed in chapter 2, the United States maintains a surplus in legal services trade, and U.S. cross-border exports and sales of legal services by U.S.-owned foreign affiliates have shown strong growth in recent years. U.S. firms supplying legal services in foreign markets are at the forefront of integrating new technologies—including AI technologies—into their business practices to increase efficiency and maintain or enhance their competitive positions. At the same time, they are facing increasingly complex regulatory environments in certain countries, which makes it difficult to be competitive in those markets.

AI Adoption and Impacts

Reports indicate that growth of legal technology (legal tech), which generally refers to the legal industry's use of software and other tools, processes, and solutions to improve the provision of legal services, has

[185] Mok, "Flight or Fight?," October 7, 2024.
[186] USDOC, BEA, table 4.1, "U.S. Trade in Services, by Country or Affiliation and by Type of Service," July 3, 2024; USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024.
[187] Clarke, "The Effects of Inflation on the AEC Industry," May 16, 2024; IBISWorld, *Architects in the US*, November 2024, 63; IBISWorld, *Engineering Services in the US*, August 2024, 7.
[188] Ayinla et al., "The Role of Robotic Process Automation (RPA)," February 17, 2024, 431–32; Abogadie, "How Cloud Computing Accounting Is Changing the Industry," May 14, 2024.
[189] Sahota, "The Dawn of a New Era," April 22, 2024.

been significant in recent years.[190] The proliferation of legal tech has altered the legal services industry landscape through the growth of lower priced and higher tech alternative legal services providers, legal tech companies, and client use of legal technology.[191] In turn, as a result of competitive pressure and client demands, law firms have increasingly adopted legal tech and, in particular, surveys show that the use of AI tools by law firms has gained momentum.[192] AI adoption provides competitive advantages to law firms integrating the technology, allowing firms to supply legal services at a greater scale and with enhanced efficiency.[193] AI adoption also has the potential to alter business models and related practices, including changes to pricing structures and greater demand for hiring attorneys with AI training and non-lawyer tech staff.[194]

Growth of Legal Tech Companies and Alternative Legal Services Providers

Within the legal services industry, legal technology is typically provided directly by companies to law firms and corporate legal departments. Legal tech companies are considered a subset of these companies, but a broader group referred to as alternative legal service providers (ALSPs) offers technology-based services as well as certain types of legal services as an alternative to traditional law firms.[195] Reported value, growth, and service offerings of legal tech companies and ALSPs are summarized below; however, their distinctions and boundaries with law firms are increasingly unclear.[196]

Although estimates of the legal tech market value vary depending on the methodology employed and years covered, sources agree on strong growth potential going forward.[197] Relatedly, throughout 2024, reporting indicates notable growth of legal tech startups and investment in legal tech, including by law firms, with demand for generative AI (GenAI) underpinning such investments.[198] Legal tech companies primarily operate in the business-to-business sphere and provide a range of software, including for client

[190] Statista, *Legal Tech*, 2023, 3; Business Research Company, *Legal Technology Global Market Report 2025*, January 2025.
[191] Langemo, "Transforming the Legal Profession Through Technology and Entrepreneurship," May 23, 2024, 4–5.
[192] GenAI is also discussed in the accounting and auditing section below. Statista, *Legal Tech*, 2023, 11–15; International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 8.
[193] *Thomson Reuters Law Blog*, "Impact of AI on Law Firms of Every Size," August 15, 2023.
[194] International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 8.
[195] Thomson Reuters Institute, the Center on Ethics and the Legal Profession at Georgetown Law, and the Saïd Business School at the University of Oxford, *Alternative Legal Services Providers 2023*, 2023, 2; Statista, *Legal Tech*, 2023, 5, 8; Business Research Company, *Legal Technology Global Market Report 2025*, January 2025; Shaybak, "Legal Tech v. Legal Outsourcing and ALSP," May 10, 2022.
[196] Thomson Reuters Institute, the Center on Ethics and the Legal Profession at Georgetown Law, and the Saïd Business School at the University of Oxford, *Alternative Legal Services Providers 2023*, 2023, 2.
[197] For example, one source estimates the global market value at $27.6 billion in 2021 and projects the market value will reach $35.6 billion in 2027 while another source estimates global value at $30.3 billion in 2024 and projects a market value of $47.6 billion in 2029; also, the methodology for market value is unclear in relation to the inclusion of ALSPs. See Statista, *Legal Tech*, 2023, 6, 40; Business Research Company, *Legal Technology Global Market Report 2025*, January 2025.
[198] Sherman, "Legal Tech Startups That Law Firms Invested in Throughout 2024," December 18, 2024; Black, "The Legal Tech Trends That Defined 2024," December 17, 2024.

management, case management, time/calendar/expense/workflow tracking and analysis, document automation, billing, and finances.[199] The business-to-business segment is expected to account for around 90 percent of the North American and European legal tech market in 2027.[200]

In the United States, the United Kingdom (UK) and other European countries, Canada, and Australia, a report of the ALSP market shows it has grown from an estimated $8.5 billion in 2015 to $28.5 billion in 2023.[201] ALSPs in the report include independent companies such as Axiom, those created by and operating within law firms—for example, Re:link (Linklaters)—and the Big Four accounting firms.[202] Throughout 2015–23, the largest category was independent ALSPs and the fastest-growing category was ALSPs operating within law firms. Both law firms and corporate law departments report using ALSPs for various services and support, such as electronic discovery services and legal research.[203] Notably, in 2022, consulting on legal technology (including outsourcing technology support and training in technology) emerged as a top service ALSPs supplied to global law firms.[204] Furthermore, among the top services supplied by ALSPs to law firms, the need for access to technology not available internally was of increasing importance, while access to specialized expertise and meeting demand without staff increases continued in importance.[205]

AI Adoption by Law Firms and Its Effects

In addition to working with ALSPs and legal tech companies, law firms are also adopting AI and GenAI tools internally. AI improves productivity and the ability to advise clients more quickly. These applications facilitate faster and more efficient legal research and analysis of legal documents and data, identifying additional and relevant content, predicting case outcomes, and understanding legal questions.[206] Firms that develop and integrate AI technologies are considered to be in stronger competitive positions going forward.[207] At the same time, many have outlined the challenges and risks posed by AI use and

[199] Statista, *Legal Tech*, 2023, 5,8. For examples of legal tech companies and service offerings, see Clio, "Products," accessed February 3, 2025; Mycase, "Industry-Leading Legal Case Management Software; and Solutions," accessed February 3, 2025.
[200] Statista, *Legal Tech*, 2023, 8.
[201] Thomson Reuters Institute, the Center on Ethics and the Legal Profession at Georgetown Law, and the Saïd Business School at the University of Oxford, *Alternative Legal Services Providers 2025*, 2025, 5, 29. These estimates appear to be based on survey responses from law firms and corporate law departments in the United States, the UK and other European countries, Canada, and Australia.
[202] Thomson Reuters Institute, the Center on Ethics and the Legal Profession at Georgetown Law, and the Saïd Business School at the University of Oxford, *Alternative Legal Services Providers 2025*, 2025, 5, 29.
[203] Thomson Reuters Institute, the Center on Ethics and the Legal Profession at Georgetown Law, and the Saïd Business School at the University of Oxford, *Alternative Legal Services Providers 2023*, 2023, 5–11.
[204] Thomson Reuters Institute, the Center on Ethics and the Legal Profession at Georgetown Law, and the Saïd Business School at the University of Oxford, *Alternative Legal Services Providers 2023*, 2023, 5–6.
[205] Thomson Reuters Institute, the Center on Ethics and the Legal Profession at Georgetown Law, and the Saïd Business School at the University of Oxford, *Alternative Legal Services Providers 2023*, 2023, 12.
[206] Bloomberg Law, "The Real Impact of AI in Legal Research," November 21, 2023.
[207] Smaller firms may be a competitive disadvantage going forward, owing to a gap in technological capabilities with larger firms. International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 16. However, for smaller and mid-size firms with less staff, resulting efficiencies from adopting AI can help

integration.[208] Ethical issues include obligations to provide competent representation (e.g., reviewing GenAI output for inaccuracy) and to protect client confidentiality (e.g., evaluating risks of unauthorized access to client-related information when using GenAI tools).[209]

Recent surveys report on AI usage in the legal services industry and at least one which differentiates results shows that AI adoption rates differ among firms, for example across geographies and size of firm. According to an International Bar Association (IBA) survey conducted in April and May 2024, adoption of AI by law firms is widespread, with 63 percent of respondents reporting using AI.[210] Questionnaire findings point to a greater and more advanced integration of AI in firms based in the United States and Europe (including the UK) that have a presence in other countries.[211] This result correlates with a distinction in AI implementation by firms of different sizes, with a majority of smaller firms not yet using AI.[212]

Surveys also report on specific uses and types of AI. According to the 2024 IBA survey, the most prevalent use of AI within firms is for tasks that include business development and marketing, although a higher share of larger law firms report client-facing uses of AI (such as legal research and contract drafting).[213] Such uses appear to be associated with GenAI, which is reported to be in the "testing and development" stage at most law firms.[214] According to another 2024 survey, law firms and corporate law departments in the United States using or planning to use GenAI responded that top uses of the technology included legal research and document review.[215]

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compete with larger staffed firms, see *Thomson Reuters Law Blog*, "Impact of AI on Law Firms of Every Size," August 15, 2023.

[208] International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 8, 13, 17; Bloomberg Law, "The Real Impact of AI in Legal Research," November 21, 2023; Davis, "The Future of Law Firms (and Lawyers)," October 2, 2020, 9–12.

[209] American Bar Association, *Formal Opinion 512: Generative Artificial Intelligence Tools*, July 29, 2024, 2–7.

[210] International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 11–12, 34, 43. According to a different survey of law firms and corporate legal departments in the United States and select countries in the beginning of 2024, about a quarter indicated currently using or planning to use GenAI, see Thomson Reuters, *2024 Generative AI in Professional Services*, February 27, 2024, 13. Another survey of law firm and corporate legal departments in the United States and nine European countries reports daily and weekly GenAI usage (with about a third reporting daily use). Wolters Kluwer, *The 2024 Wolters Kluwer Future Ready Lawyer Report*, 2024, 4, 18. Also see Bloomberg Law, *Legal Ops and Tech Survey*, 2024.

[211] International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 11–12. For information on challenges in adopting AI that global firms' offices in Asia experience relative to offices in the United States and Europe, see Teja, "Global Firms' Asia Offices Lag Behind US and Europe in AI Uptake," August 26, 2024.

[212] International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 11–12. See this report for definitions of law firm size and AI implementation by firm size.

[213] International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 8, 12.

[214] International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 8, 13. For more information on AI applications designed for contract review, legal research, and the prediction of legal outcomes, see Handa and Papineau-Wolff, "Law & AI," November 7, 2019. Also see Davis, "The Future of Law Firms (and Lawyers)," October 2, 2020, 3–5.

[215] Thomson Reuters, *2024 Generative AI in Professional Services*, February 27, 2024, 16.

According to many sources, AI adoption will likely result in changes to law firm structures, business models, and hiring.[216] Analysis suggests the model of billing will be defined less by time and more by the value of services provided by attorneys as they work in complementary ways with new technologies.[217] In turn, survey responses of the legal industry point to expectations that AI adoption will result in shifting away from the billable hour model and moving toward fixed or value-added fees.[218]

Additionally, law firm survey responses indicate that certain roles will be replaced by AI, with younger lawyers and junior associates expected to be most significantly affected.[219] Many reports suggest that firms have or are likely to shift their staffing demand away from staff who handle more routine matters toward specialists in certain areas (including AI, legal tech, and data analysis) and attorneys with AI-training.[220] Because of these expected changes, the emphasis is on training to help manage risks and integrate AI into law firms, as well as to develop the legal expertise of junior attorneys.[221]

Declining U.S. Law Firm Market Presence and Exports of Legal Services to China Reflect Difficult Market and Regulatory Conditions

Although U.S. law firms have adapted their business models using new technologies to be more cost-effective and responsive to client needs, as discussed above, their ability to supply legal services competitively in a foreign market also depends on the regulatory and other market conditions they encounter. In recent years, foreign-owned law firms have reduced or withdrawn their commercial presence in China; such activity accelerated for U.S. law firms in 2024.[222] This decline in U.S. law firm

[216] International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 8–9. For effects of AI adoption on firms of different sizes, see *Thomson Reuters Law Blog*, "Impact of AI on Law Firms of Every Size," August 15, 2023.
[217] Davis, "The Future of Law Firms (and Lawyers)," October 2, 2020, 8–9.
[218] Wolters Kluwer, *The 2024 Wolters Kluwer Future Ready Lawyer Report*, 2024, 4, 16; International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 14. Also see Thomson Reuters, *2024 Generative AI in Professional Services*, February 27, 2024, 21.
[219] International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 15. For more information on how technology is changing roles and recruitment in law firms, see Bullows, "How Technology Is Changing the Legal Sector," April 3, 2021.
[220] Wolters Kluwer, *The 2024 Wolters Kluwer Future Ready Lawyer Report*, 2024, 16–17; International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 14; Wirth, "Law Firm COO & CFO Forum," November 7, 2024; Davis, "The Future of Law Firms (and Lawyers)," October 2, 2020, 8. Other reporting indicates that AI applications have the potential for replacing entry-level paralegal work, see Bloomberg Law, "How Is AI Changing the Legal Profession?," May 23, 2024. For information on firms past efforts to add technology staff and data scientists, see Citi Wealth and Hildebrandt Consulting, *2024 Citi Hildebrandt Client Advisory*, December 6, 2023, 21. Also see Thomson Reuters, *2024 Generative AI in Professional Services*, February 27, 2024, 25–26.
[221] International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 8–9, 15–16.
[222] Mok, "Flight or Fight?," October 7, 2024; Merken, "US Legal Industry's China Retreat Gained Steam in 2024," December 26, 2024.

market presence—due to a variety of factors, including regulatory issues—is starting to result in declining trade or regional trade shares.

Throughout 2013–23 (for cross-border exports) and 2012–22 (for U.S. affiliate sales), the top regional destinations for legal services trade were Europe and the Asia-Pacific region.[223] Although legal services exports to Europe as a share of such exports to all countries increased from 47.5 percent in 2013 to 50.1 percent in 2023, the share to the Asia-Pacific region declined from 31.7 percent to 24.8 percent over the same years. Similarly, although affiliate sales to Europe as a share of such sales to all countries increased from 73.8 percent in 2012 to 75.0 percent in 2022, the share to the Asia-Pacific region declined from 22.9 percent to 21.0 percent over the same years.

Notably, cross-border exports of legal services to certain markets in the Asia-Pacific region decreased from 2022 to 2023, including to China. U.S. legal services exports to China had increased since 2013 but dropped from a peak in 2021.[224] Potentially because of lags in reporting data, this recent change is not evident in the data for legal services affiliate sales to China, although U.S. legal services affiliate sales to China as a share of U.S. legal services affiliate sales to the Asia-Pacific region has declined from 20.9 percent in 2012 to 17.3 percent in 2022.[225]

During 2024, 35 of 60 U.S. law firms either reduced the number of attorneys in or closed their Beijing or Shanghai offices as well as reduced Hong Kong operations.[226] Several factors were cited as underlying this trend, including the complex business and regulatory environment in China, weaker demand as China's economy has softened, and growing local competition.[227] Data for 2023 also showed declining profits for more than half of China's largest domestic law firms in that year.[228]

Going forward, China is expected to continue to be a challenging market for U.S. law firms.[229] The UK, Singapore, and the United Arab Emirates are likely to expand investment and commercial presence.[230] As noted in chapter 2, however, many countries maintain barriers to trade in legal services, and the sector has a relatively high level of restrictiveness.[231] For example, foreign lawyers or foreign law firms have historically not been permitted to open offices in India. In 2023, the Bar Council of India announced that foreign law firms and foreign lawyers would be permitted to establish a presence and practice certain areas of law on the basis of reciprocity, although such liberalization is uncertain given subsequent

[223] For all source data for this paragraph, see USDOC, BEA, table 2.3, "U.S. Trade in Services, by Country or Affiliation and by Type of Service," July 3, 2024; USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024.
[224] USDOC, BEA, table 2.3, "U.S. Trade in Services, by Country or Affiliation and by Type of Service," July 3, 2024.
[225] USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024.
[226] The reported period was between December 2023 and December 2024 and included the count of largest U.S. law firms with a presence in China but not announced closures; see Merken, "US Legal Industry's China Retreat Gained Steam in 2024," December 26, 2024.
[227] Roemer, "US Law Firms Are Closing Their China Offices," October 1, 2024; Seah, "Chinese Law Firms Are in Trouble as Downward Spiral Show No Signs of Easing," September 16, 2024.
[228] Seah, "Chinese Law Firms Are in Trouble as Downward Spiral Show No Signs of Easing," September 16, 2024.
[229] Citi Wealth and Hildebrandt Consulting, *2025 Citi Hildebrandt Client Advisory*, December 5, 2024, 10.
[230] Citi Wealth and Hildebrandt Consulting, *2025 Citi Hildebrandt Client Advisory*, December 5, 2024, 10; *2024 Citi Hildebrandt Client Advisory*, December 6, 2023, 9.
[231] OECD, *OECD Services Trade Restrictiveness Index (STRI)—Legal Services 2023*, January 2024, 1.

litigation against the Bar Council and actions by the Indian government.[232] Additionally, the U.S.-Korea Free Trade Agreement includes commitments specific to the legal services sector, including obligations allowing U.S. law firms to establish joint ventures with Korean law firms and employ Korean-licensed lawyers.[233] One industry representative has noted the difficulty related to hiring local attorneys and the challenges that poses for U.S. law firms operating in Korea to deliver legal services in the market.[234]

Outlook

U.S. law firms are expected to continue adopting technology, including GenAI tools, to enhance the delivery of their services and streamline business practices.[235] Such integration is expected to increase the efficiency, service quality, and competitive position of law firms globally, including for smaller firms competing with larger firms.[236] In turn, failure to adopt legal technologies is increasingly seen as a "risk of falling behind," especially given the projected expansion of higher-tech ALSPs, including the Big Four accounting firms.[237] U.S. law firms are also likely to continue scaling back their presence in certain practice areas or foreign markets, depending on their growth potential and the underlying regulatory environment.[238]

Architectural and Engineering Services: Rising Costs and Technology Are Affecting Suppliers

In recent years, U.S. providers of architectural and engineering services have faced several supply-side challenges—including rising input costs and labor issues—that have had a substantial impact on firm performance. Global inflationary pressures, issues affecting the global supply chain, and resource demands from megaprojects have contributed to higher prices for project materials as well as office and travel expenses.[239] Elevated interest rates have also affected the cost of project financing and project starts, impacting revenues for architectural and engineering services.[240] However, steady wage growth and difficulties attracting talent have been the primary challenges facing firms. Wage increases have

[232] *Majmudar & Partners*, "Current State of Play of the Liberalization of India's Legal Market," March 4, 2025; OECD, "OECD Services Trade Restrictiveness Index Simulator," accessed January 27, 2025.
[233] USTR, *Annex II*, 2007, 44–45.
[234] U.S. industry representative, interview by USITC staff, August 21, 2024.
[235] Citi Wealth and Hildebrandt Consulting, *2025 Citi Hildebrandt Client Advisory*, December 5, 2024, 8.
[236] Thomson Reuters, "Impact of AI on Law Firms of Every Size," August 15, 2023; International Bar Association and the Center for AI and Digital Policy, *The Future Is Now*, September 2024, 16.
[237] MarketLine, *United States (US) Legal Services Market Summary*, February 2024, 17; *Global Legal Services Market Summary*, February 2024, 16.
[238] Citi Wealth and Hildebrandt Consulting, *2025 Citi Hildebrandt Client Advisory*, December 5, 2024, 8.
[239] Adolphus and Keller, "The Top 500 Design Firms," April 29, 2024, 66; Clarke, "The Effects of Inflation on the AEC Industry," May 16, 2024; IBISWorld, *Architects in the US*, November 2024; *Engineering Services in the US*, August 2024. For example, one source reports that from February 2020 to August 2023, the cost of inputs used in construction projects grew by over 40 percent. Meisels et al., "2024 Engineering and Construction Industry Outlook," November 6, 2023.
[240] IBISWorld, *Engineering Services in the US*, August 2024; *Architects in the US*, November 2024; Clarke, "The Effects of Inflation on the AEC Industry," May 16, 2024.

been insufficient to attract talent in part because science, technology, engineering, and mathematics (STEM) graduates have pursued more lucrative opportunities in other fields, and firms find it difficult to raise wages further because of constrained revenue growth. The adoption of new technologies offers a possible means of addressing these challenges but may entail costs related to software and equipment purchases, the incorporation of technology into existing processes, and training.

Labor Costs and Attracting Talent Challenge Suppliers

In recent years, steadily rising labor costs and difficulties attracting talent have challenged the competitiveness of architectural and engineering services suppliers.[241] This has been a particular issue for the U.S. architectural services industry, where revenue growth has been constrained. Architectural and engineering services is a labor-intensive industry that relies heavily on skilled workers with specialized expertise and complex problem-solving responsibilities.[242] Wage rates among certain U.S. and Canadian architectural and engineering service providers reportedly increased by 5 percent in 2022 before moderating to a less than 1 percent increase in 2023.[243] Sources indicate that recent increases in labor costs are squeezing industry profits and straining project delivery as well as the ability to pursue new opportunities.[244]

A decline in the number of STEM graduates has affected labor supply in the architectural and engineering services industry.[245] In the U.S. architectural services industry in particular, despite recent wage increases, wages remain lower than in other STEM fields.[246] One industry representative reports that relatively low wages have contributed to declining interest in architecture degrees and that visa issues affect the ability of educational institutions to sustain enrollment levels with international students.[247] Industry sources also suggest that barriers to providing services in many architectural and engineering industry markets are relatively high because architects and engineers are generally subject to stringent licensing requirements.[248]

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[241] IBISWorld, *Architects in the US*, November 2024; *Engineering Services in the US*, August 2024.

[242] IBISWorld, *Global Engineering Services*, May 2024; *Global Architectural Services*, June 2024; *Engineering Services in the US*, August 2024.

[243] Deltek, *Clarity: Architecture & Engineering Industry Study*, May 2024, 102. These figures are based on a survey of architecture and engineering firms, in which 90 percent of respondents were based in the United States, and 10 percent were based in Canada.

[244] Deltek, *Clarity: Architecture & Engineering Industry Study*, May 2024, 102; IBISWorld, *Architects in the US*, November 2024. Adolphus and Reina, "The Top 225 International Design Firms," August 7, 2023, 35–36, 40.

[245] Adolphus and Keller, "The Top 500 Design Firms," April 29, 2024, 64.

[246] U.S. Department of Labor data suggest that wages paid to architects are lower than those for many other STEM occupations. For example, mean wages for architects (other than naval and landscape architects) in the United States stood at $48.27 per hour in May 2023 and mean wages for engineers, computer occupations, and mathematical science occupations stood at $53.79, $54.39, and $53.53, respectively. USDOL, BLS, "May 2023 National Occupational Employment and Wage Estimates," accessed March 4, 2025.

[247] Industry representative, interview by USITC staff, January 31, 2025.

[248] IBISWorld, *Global Architectural Services*, June 2024; *Engineering Services in the US*, August 2024; *Architects in the US*, November 2024.

These industries continue to confront challenges related to hiring and retaining a skilled workforce that have reportedly impeded firms' ability to take on work and grow their businesses.[249] One recent survey identified hiring and retention of qualified employees as the top challenge affecting architectural and engineering firms' finances and found that hiring workers is complicated by difficulties in finding skilled candidates and the ability to offer competitive wages.[250] Another survey of engineering firms found that talent shortages have led more than 50 percent of respondents to decline work opportunities in recent months and many of these firms have also increased their selectivity when accepting projects. Additionally, this survey reports that more than 25 percent of firms had declined opportunities characterized as "good, profitable."[251] Some firms have reportedly addressed skills needs by devoting resources to employee retention and initiating programs, such as internships, that aim to facilitate knowledge transfer from experienced workers to new employees.[252] Also, as discussed below, firms are adopting new technologies to increase worker efficiency and take on simple tasks.

In their recruiting efforts, some companies are offering nonmonetary benefits such as mentorship opportunities and flexible schedules to alleviate growing competition in compensation.[253] For example, Tetra Tech offers employee training programs that focus on project management, leadership, and client relationship skills,[254] and Operations Management and Facilities Services at Jacobs Solutions offers a one-year program to mentor future leaders.[255] One industry source adds that subcontracting may mitigate labor costs.[256]

Labor supply issues remain a key concern in the short term, but some evidence shows this may change soon. One recent survey reported a decrease in open positions and an increase in job acceptance rates among architectural and engineering firms, suggesting that labor challenges may be abating.[257] Another survey found that 68 percent of responding engineering firms expect increased hiring during the coming year, and it reported a decrease in the share of open positions.[258] Furthermore, an industry representative suggested that labor supply pressure may ease if a recent decline in contracts and inquiries for design work leads to a decreased number of projects.[259]

Architectural and Engineering Services Suppliers Increasingly Adopt High-Tech Solutions

Industry surveys indicate that many architectural and engineering services providers continue to use manual and paper-based techniques for work tasks. One recent survey indicated that at a large number of firms, data entry tasks are still performed manually, particularly for business operations such as

[249] Adolphus and Keller, "The Top 500 Design Firms," April 29, 2024, 64–65, 68.
[250] Deltek, *Clarity: Architecture & Engineering Industry Study*, May 2024, 62, 88.
[251] ACEC, *Engineering Business Sentiment*, October 2024, 14–15.
[252] Adolphus and Keller, "The Top 500 Design Firms," April 29, 2024, 68.
[253] Deltek, *Clarity: Architecture & Engineering Industry Study*, May 2024, 62.
[254] Tetra Tech, "Life at Tetra Tech," accessed February 11, 2025.
[255] Jacobs, "Opportunity Awaits," accessed February 11, 2025.
[256] IBISWorld, *Architects in the US*, November 2024; *Engineering Services in the US*, August 2024.
[257] Deltek, *Clarity: Architecture & Engineering Industry Study*, May 2024, 60.
[258] ACEC, *Engineering Business Sentiment*, October 2024, 6, 12.
[259] Industry representative, interview by USITC staff, January 31, 2025.

finance, accounting, management, and administration.[260] In another survey, 28 percent of responding firms indicated that their operations are paper free and at least 30 percent of respondents reported using paper-based approaches for tasks such as collecting signatures, archiving, and historical documentation, or because paper-based approaches are perceived as easier or preferred.[261] However, one survey suggests that industry participants generally anticipate increasing digital maturity in the near future,[262] and the adoption of technologies has accelerated as firms aim to boost quality and efficiency, reduce costs, and offset talent gaps.[263]

The adoption of new technologies offers a possible means of addressing these supply-side challenges but may entail costs related to software and equipment purchases, the incorporation of technology into existing processes, and training. The use of AI in the architectural and engineering services industry is reportedly nascent, with firms proceeding cautiously.[264] However, several sources indicate that the technology is already transforming some work processes in the industry,[265] and many firms report that they have devoted financial resources to AI implementation.[266] Furthermore, prior experience with the implementation of other technologies, such as Building Information Modeling (BIM) (discussed below), has reportedly eased industry concerns regarding the adoption of more recent technologies, such as AI.[267]

A recent survey indicated that almost 50 percent of responding architecture and engineering firms were using AI in some capacity and identified some of the most common applications as the development of content for marketing and proposals, summarizing data, and creating renderings and models.[268] Other sources point to design; project planning, management, and archiving; risk assessment; and self-assessment of firm styles as among the top applications of AI by architectural and engineering services providers.[269] For example, Gensler is reportedly testing the use of AI in design tasks, and ZGF Architects has created in-house AI tools for tasks such as photo descriptions and code review.[270] Industry observers suggest that the use of AI has the potential to reduce labor and materials costs, increase productivity and efficiency by automating certain routine tasks, boost creativity, optimize designs, and improve decision-making through increased information processing.[271] At the same time, firms are balancing the

[260] Deltek, *Clarity: Architecture & Engineering Industry Study*, May 2024, 17.
[261] Bluebeam, *Building the Future*, November 2024.
[262] Deltek, *Clarity: Architecture & Engineering Industry Study*, May 2024, 11.
[263] IBISWorld, *Architects in the US*, November 2024; *Engineering Services in the US*, August 2024; Bluebeam, *Building the Future*, November 2024; Adolphus and Keller, "The Top 500 Firms," April 29, 2024, 64, 71–72.
[264] IBISWorld, *Architects in the US*, November 2024; industry representative, interview with USITC staff, January 31, 2025; Bluebeam, *Building the Future*, November 2024.
[265] Soto, "Understanding the AEC Industry," April 20, 2024; Deltek, *Clarity: Architecture & Engineering Industry Study*, May 2024, 12; IBISWorld, *Architects in the US*, November 2024; industry representative, interview with USITC staff, January 31, 2025; Adolphus and Keller, "The Top 500 Design Firms," April 29, 2024, 75.
[266] Bluebeam, *Building the Future*, November 2024.
[267] Industry representative, interview by USITC staff, January 31, 2025.
[268] Deltek, *Clarity: Architecture & Engineering Industry Study*, May 2024, 12.
[269] Industry representative, interview by USITC staff, January 31, 2025; Bluebeam, *Building the Future*, November 2024; Rajan, "7 Technological Innovations," February 26, 2024.
[270] Dorsey, "Gensler Among Several Design Firms," February 26, 2024.
[271] IBISWorld, *Architects in the US*, November 2024; Rajan, "7 Technological Innovations," February 26, 2024; Soto, "AI in Architecture," October 25, 2024.

use of AI as a tool with the continued need for human engagement in design.[272] It is anticipated that AI will affect the architectural and engineering industry more quickly than preceding technologies.[273]

Although AI is the focus of much current attention, less recently developed technologies are continuing to have a substantial impact. The use of BIM software is increasingly common in the global architectural and engineering industry.[274] BIM software uses data on indicators such as project measurements and materials to create a detailed 3D model, enabling greater productivity, improved decision-making and quality, fewer errors, lower costs, and better communications, among other benefits.[275] Increasing use of BIM software is being prompted by firms' need to respond to government directives and initiatives, and the ongoing development and revision of global BIM standards.[276] For example, several U.S. cities, states, and federal government entities have developed BIM standards and objectives,[277] and since 2016 the UK has mandated BIM use in public construction projects.[278] According to a recent survey of managers and higher-level leaders in the architectural, engineering, and construction industry, firms that design, plan, build, maintain, and operate buildings employ BIM more frequently than any other technology, with 69 percent of respondents reporting its use at their firms.[279] Another survey of architectural firms—which reports that 62 percent of respondents use BIM—found that BIM is used most often for tasks such as visualizing designs, renderings and presentations, document coordination, and model sharing.[280]

Digital twins have also become a valuable tool in the industry.[281] Like BIM models, digital twins are 3D models of a physical structure or space; however, a digital twin is distinct in that it is a dynamic virtual copy of a structure or space, which is continuously updated with real-time information from the physical asset.[282] Digital twins can be used in both the development and operation of a project and reportedly may improve collaboration, increase efficiency, and reduce costs and waste.[283] Digital twins can also be used in conjunction with BIM models,[284] a practice that one source indicates will become common.[285]

[272] Industry representative, interview by USITC staff, January 31, 2025; Soto, "AI in Architecture," October 25, 2024.
[273] Adolphus and Keller, "The Top 500 Design Firms," April 29, 2024, 73, 76.
[274] Pinnacle Infotech, *Global BIM Adoption*, January 1, 2024.
[275] IBISWorld, *Architects in the US*, November 2024; Soto, "Understanding the AEC Industry," April 20, 2024.
[276] Pinnacle Infotech, *Global BIM Adoption*, January 1, 2024.
[277] DBM Vircon, "How Government Mandated BIM Standards Are Being Applied," May 23, 2023.
[278] Freeman, "The Rise of Building Information Modelling," July 29, 2024.
[279] Bluebeam, *Building the Future*, November 2024.
[280] AIA, *The Business of Architecture 2024*, October 2024, 43–44.
[281] Lane, "Digital Twins in Construction and Architecture," accessed January 27, 2025; Matterport, "What Is Digital Twin & BIM?," accessed January 27, 2025.
[282] Matterport, "What Is Digital Twin & BIM?," accessed January 27, 2025; Turney, "What Is a Digital Twin?," December 11, 2025.
[283] Lane, "Digital Twins in Construction and Architecture," accessed January 27, 2025; Matterport, "What Is Digital Twin & BIM?," accessed January 27, 2025.
[284] Matterport, "What Is Digital Twin & BIM?," accessed January 27, 2025.
[285] Turney, "What Is a Digital Twin?," December 11, 2025.

Other tools used by architectural and engineering services firms to facilitate design and decision-making tasks include cloud technology and virtual and augmented reality.[286] The storage of large volumes of information on cloud platforms enables access to up-to-date data from various locations and facilitates decision-making.[287] Augmented and virtual reality allow for enhanced and immersive visualizations of a project, which reportedly can contribute to increased design accuracy, and can be used as a tool in construction rehearsals, training, and marketing, among other tasks.[288] In a recent survey, more than 80 percent of respondents from large architectural firms reported the use of cloud computing and over 60 percent of such firms reported the use of virtual reality. Among midsize architectural firms, the use of cloud computing and virtual reality was reported by 69 percent and 39 percent of respondents, respectively; the use of these technologies stood at 51 percent and 17 percent among small firm respondents.[289]

High-technology hardware is also being adopted by the architectural and engineering services industry, as firms are employing robots and drones to facilitate several tasks. For example, architects use robots to manufacture customized parts for building projects and to construct precise models that can be used to test materials for particular structures.[290] Among other tasks, drones collect images, measurements, and other information that enable architectural and engineering services providers to survey, map, inspect, or monitor progress at a site.[291] These tools reportedly benefit architectural and engineering services providers by boosting the speed and efficiency of certain tasks, increasing consistency and accuracy, lowering labor costs, enabling firms to conduct inspections while machinery is in operation, and performing tasks in dangerous or hard-to-access areas.[292] Industry observers expect that architectural and engineering services firms' use of robots and drones will expand in the near future, encompassing a growing number of tasks and complementing or enhanced by other technologies (such as AI and BIM).[293]

Industry sources indicate that architectural and engineering services firms face several challenges to technology adoption and operation. These include difficulties in determining technology priorities, technology implementation costs (which may be particularly burdensome for small firms), lack of available training time, the unpredictability of returns, and cybersecurity and liability issues among others.[294] For example, one source noted that the skilled use of AI in architecture can require extensive upskilling and reports that more than one-third of architects perceive the unavailability of training as an

[286] Adolphus and Keller, "The Top 500 Design Firms," April 29, 2024, 75; AIA, *The Business of Architecture 2024*, October 2024, 47; Rajan, "7 Technological Innovations," February 26, 2024; Soto, "Understanding the AEC Industry," April 20, 2024; IBISWorld, *Architects in the US*, November 2024.
[287] Soto, "Understanding the AEC Industry," April 20, 2024.
[288] Rajan, "7 Technological Innovations," February 26, 2024; Soto, "Understanding the AEC Industry," April 20, 2024.
[289] AIA, *The Business of Architecture 2024*, October 2024, 47.
[290] HMC Architects, "Robotics in Architecture and Construction," October 23, 2019.
[291] Nasir, "The Role of Drones," October 8, 2024; PE Impact, "12 Uses of Drones," May 2, 2022.
[292] Adolphus and Keller, "The Top 500 Design Firms," April 29, 2024, 75; PE Impact, "12 Uses of Drones," May 2, 2022; HMC Architects, "Robotics in Architecture and Construction," October 23, 2019; IBISWorld, *Engineering Services in the US*, August 2024.
[293] HMC Architects, "Robotics in Architecture and Construction," October 23, 2019; Nasir, "The Role of Drones," October 8, 2024.
[294] Deltek, *Clarity: Architecture & Engineering Industry Study*, May 2024, 10, 14; IBISWorld, *Architects in the US*, November 2024; Soto, "AI in Architecture," October 25, 2024.

obstacle to AI adoption.[295] Another source noted that the use of AI in architecture may raise issues related to attribution, plagiarism, and other ethical concerns.[296]

Outlook

Over the next five years, the architectural and engineering workforce is expected to grow. More specifically, IBISWorld data suggest that employment in the U.S. and global architectural services industries will increase at average annual rates of over 2 percent during 2025–30 and 2025–29, respectively.[297] IBISWorld also projects that employment in the U.S. and global engineering services industries will increase at rates of 1.3 percent and 1.0 percent, respectively, from 2025–30.[298] At the same time, talent gaps and rising labor costs remain a concern that firms are expected to address through training, the introduction of technology, and outsourcing.[299] The use of technologies such as AI, BIM, and cloud computing is expected to increase in the near future and to broaden to an increasing number of tasks.[300] According to a 2024 survey of architecture and engineering firms, 76 percent of respondents expected that their organizations' levels of digital transformation would be mature or advanced within three years, while 35 percent of respondents considered their organizations' current levels to be mature or advanced.[301] The adoption of new technologies will reportedly lead to efficiency gains as well as heightened training and cybersecurity needs.[302] Technology adoption is also expected to be a determinant of future industry competitiveness.[303]

Accounting and Audit Services: Global Firms Are Leveraging New Technologies and Outsourcing to Maintain Competitiveness

Global accounting firms provide a variety of services to their clients, including tax, assurance, and advisory services, among others. Generally, tax and assurance services are industry terms that roughly correlate to the definitions of accounting and auditing, respectively, outlined in chapter 2. Fundamentally, auditors provide assurance services when they verify financial statements and tax documents prepared by accountants (who are providing accounting and tax services). The major

[295] Soto, "AI in Architecture," October 25, 2024.
[296] RIBA, *RIBA AI Report 2024*, February 29, 2024, 25.
[297] IBISWorld did not provide projections for the global architectural services industry for 2030.
[298] USITC staff calculations based on IBISWorld, *Architects in the US*, November 2024; *Engineering Services in the US*, August 2024; *Global Architectural Services*, June 2024; *Global Engineering Services*, May 2024.
[299] IBISWorld, *Architects in the US*, November 2024; *Engineering Services in the US*, August 2024; Soto, "Understanding the AEC Industry," April 20, 2024.
[300] IBISWorld, *Architects in the US*, November 2024; *Engineering Services in the US*, August 2024; *Global Engineering Services*, May 2024.
[301] Deltek, *Clarity: Architecture & Engineering Industry Study*, May 2024, 11.
[302] IBISWorld, *Engineering Services in the US*, August 2024; *Architects in the US*, November 2024; Adolphus and Keller, "The Top 500 Design Firms," April 29, 2024, 73, 75; Deltek, *Clarity: Architecture & Engineering Industry Study*, May 2024, 10–11, 14.
[303] IBISWorld, *Engineering Services in the US*, August 2024; *Architects in the US*, November 2024.

accounting and audit firms also frequently provide advisory services, including management consulting services (discussed in chapter 4) through their advisory services arms.[304] The large international accounting firms are leveraging digital technologies and AI—as well as turning to outsourcing and offshoring when more cost effective—to supply the full range of tax and audit services more competitively in U.S. and global markets.

In the last 20 years, demand from large multinational companies for tax and auditing services has been naturally capped.[305] Companies require tax and auditing services on a regular annual schedule. In response, the Big Four accounting firms have driven revenue growth by steadily increasing their supply of higher-value advisory services,[306] as well as by making their tax and auditing businesses more cost effective.[307] Technological advances, including robot process automation, data analytics, and AI, have allowed firms to automate certain low-skill tax and auditing functions. Outsourcing and offshoring strategies help reduce labor and other input costs, although they also entail significant coordination costs. Firms also see the supply of both advisory services and traditional tax and audit services as a competitive advantage. In addition to higher-value output, advisory services can facilitate deeper connections with clients compared to "once-a-year" tax and assurance services.[308]

Global Accounting and Audit Firms Seek Ways to Increase Labor Productivity and Lower Costs

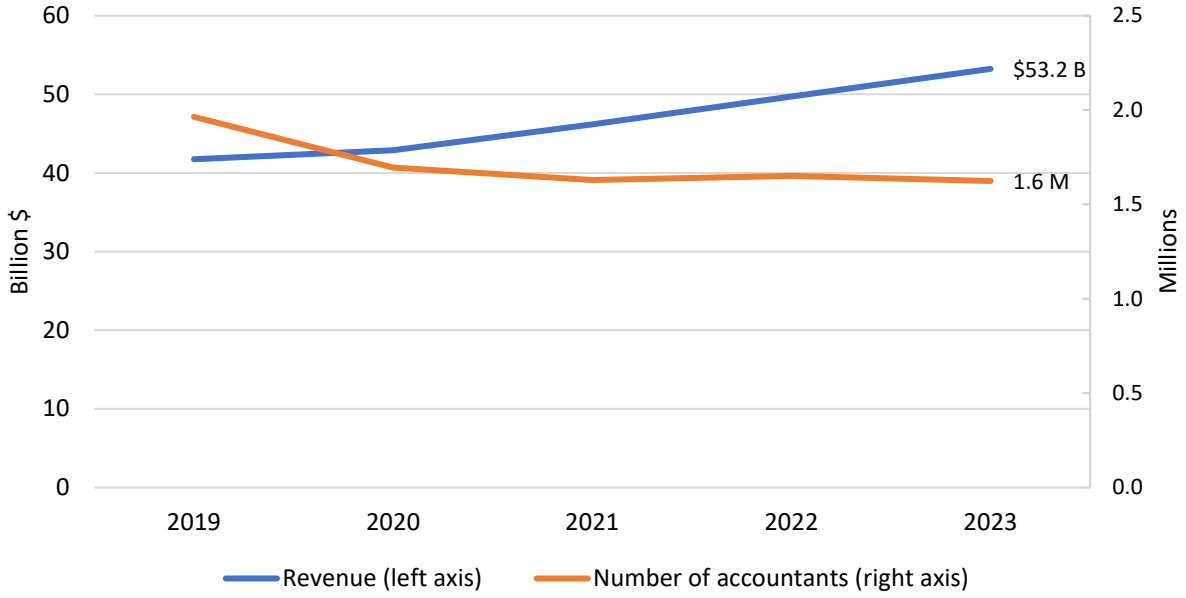
U.S. accounting firms continue to increase total revenues (even as there are less accountants employed in the United States), but the outlook for revenue growth from providing tax and auditing services is constrained (figure 3.1).[309] Relatively slow business growth has limited remuneration levels for accountants and auditors, which in turn has made the profession less attractive to new entrants.[310] According to Bureau of Labor Statistics data, total accountants in the United States decreased by 300,000 from 2019–21.[311] Many of these separations may have been retirements, as 75 percent of certified public accountants (CPAs) reached retirement age by 2019.[312] Furthermore, after the "Great Resignation" and the COVID-19 pandemic, the number of employed accountants dropped sharply in 2020–21 and has

[304] This section will refer to firms that perform accounting and auditing services, among others, as accounting firms. References to tasks will be specified as tax services (e.g., tax preparation), audit services (e.g., financial document verification), and advisory services (e.g., management consulting).
[305] Cogar, "Big 4 Audit Clients," September 19, 2024.
[306] Partially because of the reasons for increased demand discussed in the Management Consulting section of chapter 4. Dey and Quamina, "Surveying a Shifting Landscape," July 24, 2024.
[307] The Big Four accounting firms refers to Deloitte, PricewaterhouseCoopers, Ernst & Young, and KPMG, which collectively account for nearly 34 percent of global accounting revenue; see table 2.1.
[308] Kenney, "Small Firms Find Success with Advisory Services," August 1, 2024.
[309] AIM Research, "Deloitte's Slowdown Signals the Need for Big 4 Transformation," September 17, 2024.
[310] AIM Research, "Deloitte's Slowdown Signals the Need for Big 4 Transformation," September 17, 2024; Cruz-Martínez, "The Big CPA Shortage Problem in Accounting," September 19, 2024.
[311] Maurer, "Job Security Isn't Enough to Keep Many Accountants from Quitting," September 22, 2023.
[312] Pardo, "US Companies Turn to Global Talent Pool as Accountant Shortage Hits Crisis Point," August 26, 2024.

not recovered.[313] In addition, fewer people are seeking accounting degrees, and, of those who do, fewer are sitting for their CPA exam.[314] According to industry press, many recent accounting graduates do not believe that becoming an accountant has enough return on investment.[315] Reportedly, the education and testing requirements do not offer enough salary to entice recent graduates, who may perceive the profession as boring.[316] These two trends have contributed to the increased amount of open accounting positions and to those positions staying open longer.[317]

Figure 3.1 Total number of accountants and auditors in the United States and total revenue for accounting services in the United States, 2019–23

In billions of dollars and millions of accountants and auditors. Underlying data for this figure can be found in appendix B, table B.35.



Source: Census, "Accounting, Tax Preparation, Bookkeeping, and Payroll Services: U.S. Total," accessed January 8, 2025; USDOL, BLS, "Labor Force Statistics-Employed: Accountants and Auditors," accessed January 8, 2025.

Labor demand is also relevant. Reportedly, the Big Four accounting firms hired excess staff during the COVID-19 pandemic—partially as a result of overestimating staff attrition.[318] Subsequently, overstaffing in the Big Four accounting firms (and other large accounting firms) led to staff reductions in several

[313] The "Great Resignation" refers to the period when 4.3 million U.S. workers quit between February 2020 and January 2022. Amanor-Boadu, "Empirical Evidence for the 'Great Resignation,'" November 2022; USDOL, BLS, "Labor Force Statistics-Employed: Accountants and Auditors," accessed January 8, 2025.
[314] Wood et al., "2024 CFO Talent Pulse Survey," 2024; Kasztelnik and Campbell, "The Future of Business Data Analytics and Accounting Automation," January 31, 2024; Cruz-Martínez, "The Big CPA Shortage Problem in Accounting," September 19, 2024.
[315] Cruz-Martínez, "The Big CPA Shortage Problem in Accounting," September 19, 2024.
[316] Cruz-Martínez, "The Big CPA Shortage Problem in Accounting," September 19, 2024.
[317] USDOL, BLS, "Labor Force Statistics-Employed: Accountants and Auditors," accessed January 8, 2025.
[318] Maurer, "Big Four Accounting Firms Pare Their Consultant Ranks in Postpandemic Reversal," July 18, 2023.

service lines; multiple rounds of layoffs affected thousands of workers in 2023 and 2024.[319] According to an industry executive, accounting firms needed to recalibrate their staffing models to address slowing growth and overcapacity.[320]

U.S. Accounting Firms Are Outsourcing and Offshoring

Because accounting firms are staffing fewer accountants in the United States, they are outsourcing more tax services. Outsourcing can improve cost-effectiveness while also helping accounting firms expand their international network.[321] Tax preparation services are often outsourced because they are easily digitalized and can be executed remotely.[322] In addition to restricted labor supply in the United States, lower labor costs—even after considering the higher coordination costs associated with managing an international supply chain—provide a powerful incentive to outsource. U.S. accountants averaged $90,780 in annual salary compared to $3,072 for Indian accountants in 2023.[323] Non-Big Four firms are also outsourcing or offshoring operations in India. For example, Brussels-based BDO began offshoring to India in 2015.[324] Furthermore, the Big Four accounting firms are expanding their operations in India, moving away from large Indian cities like Mumbai, Delhi, and Bengaluru to smaller cities with lower costs like Jaipur or Vadodara.[325] Industry reports suggest that global accounting firms expanding in these "tier-two" cities in India can benefit from favorable local regulations, improved infrastructure, and lower costs of labor and office space.[326]

Global Accounting Firms Continue to Digitalize Their Operations

Accounting firms have sought to increase productivity and lower costs by continuing to digitalize their operations and adopting new technologies, including robot process automation (RPA), cloud computing, and data analytics.

[319] Maurer, "Big Four Accounting Firms Pare Their Consultant Ranks in Postpandemic Reversal," July 18, 2023; Bramwell, "KPMG to Cut Audit Staff by About 4%," November 5, 2024; Big 4 Accounting Firms, "Big 4 Accounting Firm Layoffs 2025," February 8, 2025.
[320] Maurer and Saeedy, "Accounting Firms Overhired," December 15, 2023.
[321] IBISWorld, *Global Accounting Services*, May 2024, 25; Invedus, "How Outsourcing Accounting Drives Growth in CPA Firms?," May 12, 2023.
[322] IBISWorld, *Global Accounting Services*, May 2024, 25.
[323] USDOL, BLS, "Accountants and Auditors," April 3, 2024; Sharma, "What Is the Salary of an Accountant," April 1, 2024. USITC calculations of exchange rate from 263,069 Indian rupees based on 1 rupee = $0.012 as of April 1, 2020.
[324] *Finance Story*, "This Ex-BDO Manager Led Offshore Operations," October 16, 2023.
[325] Kumar et al., "Global Accounting Firms Set up Shop in India's Smaller Cities," July 12, 2023; Sen, "How India Is Gearing up for a US$110b GCC Industry by 2030," June 8, 2023.
[326] Kumar et al., "Global Accounting Firms Set up Shop in India's Smaller Cities," July 12, 2023; Sen, "How India Is Gearing up for a US$110b GCC Industry by 2030," June 8, 2023.

Robotic Process Automation

Historically, tax and auditing functions have used a series of computerized processes that were connected and advanced by human interventions and keystrokes, like downloading data or moving data to a spreadsheet.[327] These tax and auditing tasks include data capture and entry, reconciliation, balance sheet management, and financial reporting, among others.[328] RPA refers to software programs or robots that automate these manual actions and keystrokes. RPA is designed to let accountants focus on other tasks, including higher-value advisory tasks that require human judgment and expertise, such as interpretation and analysis.[329] For example, one report estimates that 77 percent of general tax functions can be fully automated.[330] RPA software can standardize procedures by improving efficiency, reducing error, and enhancing regulatory compliance.[331] Furthermore, RPA streamlines workflow processes. For example, RPA generates real-time data that allow accounting firms to continuously perform tax and auditing tasks throughout a reporting period and to adapt quickly to changing conditions.[332] This allows global accounting firms to streamline their financial closing tasks throughout reporting periods to avoid sharp increases in workloads.[333]

Advances in RPA have led to concerns about RPA robots replacing humans. Reportedly, major RPA initiatives have been followed by layoffs because corporations are aiming to cut costs.[334] Practitioners often stress that humans still must participate in critical decisions. Humans may retain knowledge and expertise that RPAs do not, likely have different ethical standards, and may have a more comprehensive and targeted strategic vision.[335]

Cloud Computing

Global accounting firms have continued to leverage cloud technologies to deliver services to their clients. Cloud computing refers to the delivery of technological services via the internet. These services include data storage, data analytics, and software provision, among others.[336] Many firms use cloud computing to lower operational costs, improve collaboration across offices, and allow for constant access to information.[337] Furthermore, cloud services providers are likely to have better security protocols and

[327] Vasarhelyi and Rozario, "How Robotic Process Automation Is Transforming Accounting and Auditing," July 2, 2018.
[328] Vasarhelyi and Rozario, "How Robotic Process Automation Is Transforming Accounting and Auditing," July 2, 2018.
[329] Vasarhelyi and Rozario, "How Robotic Process Automation Is Transforming Accounting and Auditing," July 2, 2018; Ayinla et al., "The Role of Robotic Process Automation (RPA)," February 17, 2024, 431–32.
[330] Plaschke et al., "Bots, Algorithms, and the Future of the Finance Function," January 9, 2018.
[331] Ayinla et al., "The Role of Robotic Process Automation (RPA)," February 17, 2024, 428, 432.
[332] Singh, "Robotic Process Automation in Accounting," September 20, 2024.
[333] The closing process in accounting refers to end-of period processes in which accounting firms update the financial accounts of their clients in preparation for producing financial statements, among other tasks. Principles of Accounting, "The Accounting Cycle and Closing Process," accessed March 4, 2025; Singh, "Robotic Process Automation in Accounting," September 20, 2024.
[334] Roose, "The Robots Are Coming for Phil in Accounting," March 6, 2021.
[335] Singh, "Robotic Process Automation in Accounting," September 20, 2024.
[336] Microsoft, "What Is Cloud Computing?," accessed December 30, 2024.
[337] Abogadie, "How Cloud Computing Accounting Is Changing the Industry," May 14, 2024.

data storage infrastructure than in-house operations. Cloud computing can improve a firm's performance; for example, a global accounting team can react instantly to new information and the entire team can access the same document simultaneously.[338] Cloud-based accounting is virtually ubiquitous in the accounting industry, and reportedly firms that use only cloud accounting technologies generate five times the client growth annually compared to those that do not.[339]

Data Analytics

Global accounting businesses use data analytics to give financial data-based accounting advice to their clients. Because of the global proliferation of "big data" and increased computing power, accounting and auditing firms have more information available to analyze the financial positions of their clients.[340] Global accounting firms are also using unstructured data, including video, audio, and text that can be generated from social media.[341] Reportedly, data analytics are standard and used by 90 percent of audit departments.[342] Data analytics can be broadly categorized as descriptive, diagnostic, predictive, and prescriptive.

Global accounting firms use descriptive analytics to understand the current status of their client's financial situation.[343] Modern data analytics techniques can sift through historical data to identify patterns and better understand the client's historical trend.[344] For example, accounting firms can analyze historical customer preferences, purchasing patterns, and demographics.[345] Diagnostic analytics refer to assessing the reasons for the client's current financial position.[346] Accounting firms sift through data to understand why patterns (e.g., client spending habits) have emerged historically.[347] Predictive analytics refer to accounting firms, providing their clients business and economic forecasts—for example, predicting future customer purchasing patterns using client data and external economic indicators.[348]

[338] Abogadie, "How Cloud Computing Accounting Is Changing the Industry," May 14, 2024.
[339] Gaetano, "2023's Major Trends in Accounting Tech," November 29, 2023; Raza, "Cloud Accounting in 2024," April 30, 2024.
[340] Big data refers to the availability of large amounts and types of data that has been facilitated by advancements in computer technologies, such as cloud computing and storage. These technologies allow for large amounts of data to be analyzed more quickly and at a lower cost. Herath and Woods, "Impacts of Big Data on Accounting," December 2021, 196.
[341] Unstructured data refers to data that do not have a defined organizational structure, including text, audio, photo, and video formats Herath and Woods, "Impacts of Big Data on Accounting," December 2021, 188–89, 191, 198.
[342] The survey was conducted among 127 global chief audit executives. Gartner, "Top 5 Audit Trends and Priorities in 2025," 2024, 5.
[343] Franklin University, "Accounting & Data Analytics: What You Need to Know," accessed December 30, 2024.
[344] Herath and Woods, "Impacts of Big Data on Accounting," December 2021, 200.
[345] OneClick IT Consultancy, "Data Analytics in Accounting," June 19, 2024.
[346] Franklin University, "Accounting & Data Analytics: What You Need to Know," accessed December 30, 2024.
[347] Herath and Woods, "Impacts of Big Data on Accounting," December 2021, 200.
[348] Franklin University, "Accounting & Data Analytics: What You Need to Know," accessed December 30, 2024; Herath and Woods, "Impacts of Big Data on Accounting," December 2021, 200; OneClick IT Consultancy, "Data Analytics in Accounting," June 19, 2024.

Accounting firms offer prescriptive analysis by analyzing data to produce objective reports that can identify the optimal actions a client may take to improve internal operations and better manage risk.[349]

Skill Considerations

Technological advances that have facilitated digitalization are likely changing the accounting profession, as firms now require technical skills in addition to traditional accounting skills. Global accounting firms are increasingly looking to attract workers with the skills to leverage these technological advances. However, recent accounting graduates reportedly do not have the requisite skills in data analytics and automation.[350] Although industry associations and accrediting agencies have recommended including these skills in accounting programs, evidence suggests that faculty in accounting schools do not have the necessary skills to prepare future accountants with data analytics skills.[351] This has led firms to hire fewer CPAs because they do not possess these skills in data analytics that can help accounting firms (including small firms) digitalize, lower costs, and offer more advisory services.[352] Firms are still seeking accountants with a firm grasp on accounting fundamentals but are increasingly requiring new hires to possess these additional skills. Furthermore, accounting firms are educating their accountants and auditors (both new and incumbent) in-house, not only in data analytics but also in cloud computing and cybersecurity.[353]

Global Accounting Firms Continue to Implement AI While Exploring GenAI Use Cases

In the past several years, global accounting firms have digitalized their operations and used AI techniques to improve their performance. For example, RPA automates repetitive tasks with robots that execute the same way in every instance, but AI systems use algorithms that learn and can improve processes as they operate.[354] Furthermore, although AI can analyze and process large amounts of information and data, GenAI technologies like ChatGPT can generate new output, including forecasts, financial reports, and financial advice.[355] GenAI technologies use sophisticated large-content machine learning (ML) models to generate high-quality original output such as text and images (as opposed to predicting outcomes based on a data set).[356] As they continue employing AI technologies, accounting and auditing firms are exploring test cases for GenAI in their operations.[357]

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[349] Franklin University, "Accounting & Data Analytics: What You Need to Know," accessed December 30, 2024; Herath and Woods, "Impacts of Big Data on Accounting," December 2021; Kenan-Flagler, "Why Data Analytics Matters to Accountants," March 23, 2021.
[350] SAPRO, "The Accounting Skills Shortage," May 6, 2024; Kennedy, "The Accounting Shortage Is Hurting Your Bottom Line," August 12, 2024.
[351] Salimi, "Degree of Inclusion of Data Analytics," March 1, 2024.
[352] Kasztelnik and Campbell, "The Future of Business Data Analytics and Accounting Automation," January 31, 2024.
[353] XBRL is a global digital reporting standard that facilitates the exchange of business information. INAA, "Addressing the Accountancy Skills Gap," January 24, 2022.
[354] Centreviews, "RPA vs. AI What's the Difference?," July 14, 2021.
[355] Perkins, "Beyond Spreadsheets," September 26, 2024.
[356] Zewe, "Explained: Generative AI," November 9, 2023.
[357] CPA.com, "GenAI Practical Use," accessed March 26, 2025.

Artificial Intelligence

Accounting firms are increasing their use of AI to improve the digitalization of their operations by further streamlining internal processes, improving customer service, and enhancing fraud detection and regulatory compliance. According to a global survey of individuals in the accounting sector, 83 percent of accounting firms are employing AI.[358] Furthermore, another global survey of accountants indicated that 67 percent of accountants see the implementation of AI as a potential competitive advantage.[359]

AI can help international accounting firms make their operations more efficient by enhancing automated processes, improving data analytics, and allowing firms to better organize their clients' information. Similar to RPA, AI can automate many low-skill tasks, like tax preparation and bookkeeping.[360] An AI algorithm may be able to use big data to identify patterns in a decision-making process, which cannot be performed by an RPA because, as noted above, an RPA simply executes the same way every time.[361] For example, Deloitte's Cognitive Advantage initiative improves automation, which allows Deloitte's employees to provide more advisory services.[362] Also, AI can improve data analytics by quickly reading and identifying patterns in financial statements to streamline the auditing process.[363] For example, KPMG has developed KPMG Ignite, an AI platform that improves data analysis to offer clients more advisory services, including predictions, trend identification, and strategic consulting.[364] Similarly, AI technologies may be used to quickly review a client's invoices to avoid processing duplicate charges.[365] Furthermore, AI algorithms can be used to organize a client's data more efficiently.[366] For example, Ernst & Young is employing an AI tool that reviews documents at a speed and accuracy that human accountants cannot match.[367] These benefits of AI can allow accounting firms to shift their focus to higher-value tasks like strategic planning and custom client support that are more associated with advisory services.[368] Reportedly, small and medium-sized firms are also employing AI tools to expand their provision of advisory services—improving their competitiveness with larger firms by offering financial insights that were previously mostly produced by larger companies.[369]

In addition, AI is allowing global accounting firms to shift and improve their customer service models. For example, AI can allow CPAs and other accounting professionals to devote more time to individualized

[358] The survey comprised 539 individuals from 6 continents, with the majority coming from the United States. Karbon, "The State of AI in Accounting Report 2025," 2025, 12.
[359] The survey comprised 595 individuals from 6 continents, with the majority coming from the United States. Karbon, "The State of AI in Accounting Report 2024," 2024, 11.
[360] Gleason, "The Role of Technology and AI in Advisory Services," December 10, 2024.
[361] Gleason, "The Role of Technology and AI in Advisory Services," December 10, 2024; Centreviews, "RPA vs. AI What's the Difference?," July 14, 2021.
[362] Sahota, "The Dawn of a New Era," April 22, 2024.
[363] BILL Operations, "How AI in Accounting Is Transforming the Industry," accessed December 30, 2024; IBISWorld, *Global Accounting Services*, May 2024, 25.
[364] Sahota, "The Dawn of a New Era," April 22, 2024.
[365] BILL Operations, "How AI in Accounting Is Transforming the Industry," accessed December 30, 2024.
[366] BILL Operations, "How AI in Accounting Is Transforming the Industry," accessed December 30, 2024; IBISWorld, *Global Accounting Services*, May 2024, 25.
[367] Sahota, "The Dawn of a New Era," April 22, 2024.
[368] Gleason, "The Role of Technology and AI in Advisory Services," December 10, 2024.
[369] Sahota, "The Dawn of a New Era," April 22, 2024.

customer support. The customer can perceive the role of accountants shifting from "transactional service provider" to "trusted advisor."[370] This has also shifted the billing model for accounting firms. Advisory services allow accounting firms to transition from a transactional hourly billing model to a value-based model where firms can price services according to the value provided to their client.[371]

Global accounting firms also use AI to detect fraud and improve compliance and risk management. Accounting firms can employ AI techniques such as ML and natural language processing to detect fraud.[372] AI models improve efficiency in fraud detection because they can analyze much more data than humans.[373] AI systems can also allow global accounting firms to manage and monitor the changing regulations of the jurisdictions where their clients are active to help multinational firms remain compliant.[374]

The use of AI in accounting has privacy considerations when AI algorithms are based on the personal or proprietary financial data of clients. Handling and analyzing client data using AI increases risk for data breaches or unauthorized access.[375]

Generative Artificial Intelligence

As firms begin to incorporate AI technologies, they are also exploring test cases for GenAI. In accounting, GenAI has several applications including document processing, improved customer service, and report generation.[376] GenAI can quickly sort through large amounts of financial documents leading to faster decision-making. GenAI can improve customer service through enhancing chatbots to be more humanlike and to better understand context. Also, GenAI can allow accounting firms to offer better forecasting to their clients. For example, GenAI can analyze historical data, current prices, and various economic indicators to better estimate future demand.[377] GenAI can produce financial reports more quickly and systematically, which can allow accounting firms to generate detailed reports more often.[378] According to a Thomson Reuters report, 49 percent of tax and accounting firms are not currently planning on implementing GenAI tools, while 30 percent of these firms do have plans to employ GenAI technologies.[379]

[370] Gleason, "The Role of Technology and AI in Advisory Services," December 10, 2024.
[371] Gleason, "The Role of Technology and AI in Advisory Services," December 10, 2024.
[372] Kasztelnik and Jermakowicz, "Financial Statement Fraud Detection in the Digital Age," June 24, 2024; Sang and Kniepmann, "AI and Fraud," May 1, 2024; BILL Operations, "How AI in Accounting Is Transforming the Industry," accessed December 30, 2024.
[373] BILL Operations, "How AI in Accounting Is Transforming the Industry," accessed December 30, 2024.
[374] BILL Operations, "How AI in Accounting Is Transforming the Industry," accessed December 30, 2024.
[375] Schweitzer, "Artificial Intelligence (AI) Ethics in Accounting," March 15, 2024, 67, 72–73.
[376] Perkins, "Beyond Spreadsheets," September 26, 2024.
[377] Perkins, "Beyond Spreadsheets," September 26, 2024.
[378] Perkins, "Beyond Spreadsheets," September 26, 2024.
[379] The survey consisted of 1,128 respondents in professional services industries (legal, tax, government, and corporate risk) across the United States, the UK, Canada, Australia, and New Zealand. Thomson Reuters, "How Do Different Accounting Firms Use AI?," June 3, 2024; Colson, "How Are Different Accounting Firms Using AI?," June 3, 2024.

The Big Four are already implementing GenAI solutions. For example, Deloitte has launched its "DARTbot," which is a GenAI chatbot that its staff can ask complex accounting questions, and Ernst & Young (EY) has announced a chatbot for internal payroll questions.[380] Furthermore, PricewaterhouseCoopers (PwC) is the largest user of ChatGPT Enterprise and KPMG has announced at least $2 billion in investment over three years starting in November 2023 to implement GenAI technologies.[381] GenAI may increase the competitiveness of smaller firms, too, because it can automate labor-intensive tasks, including financial statement analysis, content summarization, and sales projections.[382]

GenAI use has considerations related to biased output, transparency, and accountability.[383] GenAI systems can produce biased output if the data they are trained on are biased (e.g., data based on discrimination).[384] Also, GenAI technologies are often described as a "black box" because what occurs between the input of data and the output is uncertain, resulting in a lack of transparency.[385] This uncertainty raises concerns for accountability because the source of biased outcomes may be unclear.[386] These considerations likely necessitate human judgment when implementing GenAI.[387]

Skill Considerations

Similar to the technical skills discussed above, global accounting companies are seeking employees who possess AI skills that can improve firms' implementation of data analytics and automation. Furthermore, it is important for firms to ensure employees are proficient in both accounting fundamentals and AI.[388] The introduction of AI in accounting may require that accountants have skills like discernment, ingenuity, and flexibility because AI and GenAI models may identify patterns that are not obvious or correct.[389] Also, skilled human intervention is needed to build sound GenAI models.[390] In addition, auditors must understand the algorithms and data structures to ensure their ethical and effective use and regulatory compliance—particularly because regulatory compliance is complicated and evolves differently in various jurisdictions.[391]

[380] Noto, "Deloitte Brings GenAI to Audit, Accounting Professionals with New Bot," November 9, 2023.
[381] PwC, "How PwC Is Using Generative AI to Deliver Business Value," January 2025; Cushman, "KPMG's $2 Billion GenAI Plan Targets Transformation with Trust," November 2, 2023; Thomson Reuters, "How Do Different Accounting Firms Use AI?," June 3, 2024.
[382] Dethe, "Generative AI Can Boost Small Accountancy Firms," May 31, 2024; Stuart, "Could Gen AI End Incumbent Firms' Competitive Advantage?," November 21, 2024.
[383] Lawton, "Generative AI Ethics," July 23, 2024.
[384] Schweitzer, "Artificial Intelligence (AI) Ethics in Accounting," March 15, 2024, 74–75.
[385] Schweitzer, "Artificial Intelligence (AI) Ethics in Accounting," March 15, 2024, 76–77.
[386] Schweitzer, "Artificial Intelligence (AI) Ethics in Accounting," March 15, 2024, 78–79.
[387] Sottolano, "Beyond the Numbers," September 11, 2024.
[388] Sahota, "The Dawn of a New Era," April 22, 2024.
[389] Choudhary, "The Crucial Role of Soft Skills in Accounting in the AI Era," May 23, 2024.
[390] ICAEW Insights, "The Most Desired Skills for AI-Assisted Accountants," November 20, 2024; Thomson Reuters, "How Is GenAI Reshaping the Auditor's Skill Set?," September 24, 2024.
[391] Thomson Reuters, "How Is GenAI Reshaping the Auditor's Skill Set?," September 24, 2024.

Outlook

Global accounting firms are expected to continue increasing labor productivity and lowering costs by leveraging digitalization, AI, and GenAI to automate low-skill tax and auditing functions.[392] Some industry observers anticipate that leveraging these technological advancements to offer more advisory services will remain a competitiveness factor for global accounting firms.[393] According to a survey of 291 accounting professionals in the United States, labor constraints are expected to persist. About 50 percent of firms that expect to hire new staff in 2025 are aiming to add only half the number hired in 2024.[394] However, industry representatives have indicated that accounting firms will need to increase stagnant wages to attract recent graduates who may prefer professions with higher starting and career salaries, such as finance or marketing.[395] Also, firms are expected to continue outsourcing and offshoring lower-skilled functions.[396] Furthermore, increasing internet connectivity in the developing world will continue the digitalization of business practices globally and contribute to the continued automation of routine tax and auditing functions.[397]

[392] Raghunathan, "Five Trends That Will Redefine Finance and Accounting," January 7, 2025; IBISWorld, *Global Accounting Services*, May 2024, 24–25.
[393] Spotlight Reporting, *Global Advisory Trends Report*, 2023, 6; Gleason, "The Role of Technology and AI in Advisory Services," December 10, 2024.
[394] Hood, "The Year Ahead: 2025 in Accounting," December 17, 2024, 6–7.
[395] Ellis and Overberg, "Why No One's Going Into Accounting," October 6, 2023; Cayto Group, "Declining CPA Candidates and Accounting Graduates," February 9, 2025.
[396] IBISWorld, *Global Accounting Services*, May 2024, 25.
[397] IBISWorld, *Global Accounting Services*, May 2024, 24.

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Chapter 4
Demand for Professional Services: Changing Demographics, Income Growth, and Continued Digitalization of Businesses

This chapter highlights broad trends that are driving global demand for professional services, including changing demographics in various markets, rising incomes and spending power in China and other emerging markets, businesses' ongoing digitalization, and the move by many manufacturing firms to reorganize their supply chains in the wake of the global pandemic. The focuses are on recent developments in three major professional services sectors: education services, management consulting services, and advertising services.

In recent years, aging populations and declining birth rates in some countries have profoundly affected demand for professional services. These circumstances may reduce overall demand for education services and may prompt more advertising services aimed at the elderly.[398] Globally, people aged 65 and above were 10.0 percent of the total population in 2023, up from 7.1 percent in 2003.[399] In the United States, people aged 65 or older were less than 5.0 percent of the total population in 1920 but increased to 16.7 percent by 2020.[400] China currently has the most people aged 65 or older among all countries, with 216.8 million in 2024; one source projects that this number may increase to 400 million by 2050.[401] Aging is expected to lower economic growth and labor capacities and increase government spending and demand for senior housing, among other consequences. However, chronological age does not necessarily correspond with physiological functioning, retirement rates, or other important factors that are affected by increased longevity.[402]

Additionally, stronger demand for professional services—from both businesses and individuals—is typically associated with substantial income growth in an economy. Some estimates suggest that from 2019 to 2023, professional services revenue grew by 39.2 percent in China and by 45.9 percent in India (in comparison, GDP per capita grew by 24.4 percent in China and 21.5 percent in India).[403] By one

[398] A "demographic cliff" refers to a decrease in college enrollment due to declining birth rates. Gradstein and Kaganovich, "Aging Population and Education Finance," December 2004; Eisend, "Older People in Advertising," July 15, 2022; Marcus, "A Looming 'Demographic Cliff,'" January 8, 2025.
[399] World Bank, "World Development Indicators," accessed January 6, 2025.
[400] Caplan, "U.S. Older Population Grew From 2010 to 2020," May 25, 2023.
[401] From 2022 to 2023, the number of kindergartens in China fell by an estimated 14,800. Coulson, "Ensuring All Older People Can Benefit," February 2, 2024; Hawkins, "China's Kindergarten Numbers Shrink," October 28, 2024.
[402] Kotschy et al., "On the Limits of Chronological Age," November 2024.
[403] Statista, "Professional Services—China," June 2024; "Professional Services—India," June 2024; World Bank, "World Development Indicators," accessed January 6, 2025. China and India were among the countries categorized as emerging markets in USITC, *Recent Trends in U.S. Services Trade: 2021 Annual Report*, April 2021, 155–56.

estimate, the annual revenue growth of professional services globally was 10.4 percent in 2022, a slight increase from 9.7 percent in 2018.[404]

Digitalization (the adoption and integration of digital technologies into activities across the economy) is significantly changing professional services business models. For example, it especially drives demand for management consultants and online education services. Digitalization is also spurring a shift in advertising services from print to social media and other online channels (discussed below). Professional services firms, along with information technology, media, and financial services firms, started adopting digital assets relatively early, in contrast to construction and health-care services, which lagged.[405] The shift toward delivery of services through online channels was accelerated by the COVID-19 pandemic, which motivated remote work; digitalization (especially by small firms) increased sharply in 2020 compared to 2015–19.[406] One analysis published in 2023 found that 92 percent of online U.S. job postings now require digital skills.[407]

In the education sector, foreign student enrollments remain strong at U.S. colleges and universities, although schools are seeing a significant decline in domestic enrollments, as well as a sharp increase in online education after the COVID-19 pandemic.[408] Demand for management consulting services has been supported by companies' increased need for information technology consulting, as firms pursue accelerated digital transformations, adopt artificial intelligence (AI) and generative AI (GenAI) technologies, and reorganize their supply chains.[409] Firms in the advertising sector have seen large changes in advertising channels, with a decline in traditional broadcast television and a rise in streaming, significant growth in social media, and increased adoption of AI.[410]

Education Services: U.S. Exports Are Delivered Through Multiple Modes

Education services, as defined by the Bureau of Economic Analysis, include formal academic instruction at primary, secondary, and postsecondary programs at educational institutions in the United States. This section focuses on education services provided by postsecondary institutions, primarily because international students studying at colleges and universities represent the vast majority of international trade in education services (see chapter 2). Such trade, termed mode 2 or consumption abroad, occurs when a student from one country travels to another country for university-level study; it consists of expenditures by students and their dependents, if any, for tuition, fees, and living expenses while studying in a foreign country. As an example, expenditures incurred by an Italian student studying in the

[404] Bohne, "Revenue Growth of Professional Services," July 12, 2023.
[405] Gandhi et al., "Which Industries Are the Most Digital (and Why)?," April 1, 2016.
[406] Jaumotte et al., "How Pandemic Accelerated Digital Transformation in Advanced Economies," March 21, 2023.
[407] Bergson-Shilcock and Taylor, "Closing the Digital Skill Divide," February 2023, 4.
[408] Fischer, "The Shrinking of Higher Ed," August 12, 2022; McMurtrie, "Classroom Walls Are Shifting," October 18, 2023.
[409] Laffitte, "2024 In Review," November 25, 2024; IBISWorld, *Global Management Consultants*, December 2024.
[410] Feger, "Linear TV: What It Is," September 6, 2024; Harlow, "How Effective Are Ads on Social Media?," June 5, 2023.

United States are considered U.S. exports of education services, whereas expenditures incurred by a U.S. student studying in Italy are considered U.S. imports.

Trade in education services takes place via the other three modes of supply as well. Education services imported cross-border (mode 1) occur when a student in one country accesses education services in another country remotely, usually via the internet,[411] a phenomenon that has grown dramatically since the onset of the COVID-19 pandemic. Trade via commercial presence (mode 3) occurs when universities establish branch campuses in foreign countries. Mode 4 trade (temporary presence of natural persons) occurs when an educator travels from one country to another to deliver education services, most commonly visiting professors and lecturers.

The primary service offered by universities is educational instruction, involving a specified course of study that is certified by an academic degree upon completion.[412] The longevity of many universities,[413] as well as high start-up costs and market saturation in many countries, positions education services as a mature industry. In recent years, the enrollment of traditional-age students (18–24 years old) has declined precipitously, a trend that is expected to continue over the near term.[414] As a result, colleges and universities have sought to boost demand through ongoing efforts to recruit international students as well as tap underserved market segments, including mature students returning to complete a college degree, working students pursuing a degree part-time, and working professionals seeking to advance in—or change—their careers by obtaining a certification or degree.

U.S. Exports of Education Services Driven by Strong Enrollments of International Students

Foreign students are an important market segment for U.S. colleges and universities at both the undergraduate and graduate levels. Over the past 25 years, exports of education services have surged as many U.S. colleges and universities sought to attract international students.[415] Historically, universities sought to attract such students to increase campus diversity, thereby increasing the educational experience for both foreign and domestic students.[416] During the course of the 20th century, U.S. universities also sought to attract international students as a tool of informal cultural diplomacy, especially through the Fulbright Program.[417]

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[411] Education services delivered online are included in the BEA category "Other personal, cultural, and recreational services."

[412] Common academic degrees worldwide include bachelor's, master's, and doctoral degrees as well as specialized postgraduate degrees in the legal and health-care fields.

[413] Most modern universities were founded in the 1800s or the early to mid-1900s. Although the characteristics that define a university are subject to debate, the University of Bologna, which was founded in Bologna, Italy, in 1088, is generally considered to be the oldest university in the Western World. The oldest university in the United States is Harvard University, which was founded in 1636.

[414] Burke, "School's Out," July 29, 2024.

[415] Fischer, "The Shrinking of Higher Ed," August 12, 2022.

[416] Fischer and Aslanian, "Fading Beacon," August 2, 2021.

[417] USDOS, "What Is the Fulbright U.S. Student Program," accessed January 27, 2025; Fischer and Aslanian, "Fading Beacon," August 2, 2021.

More recently, U.S. universities, particularly—but not exclusively—public universities, sought to attract international students as a way to both boost declining domestic enrollments and offset funding shortfalls stemming from budget cuts by many state governments.[418] Indeed, research conducted by the National Bureau for Economic Research found that a 10 percent decrease in state-level educational appropriations at research-intensive institutions, including public flagship universities, was accompanied by a 17 percent increase in the enrollment of international students.[419] Overall, foreign students are often courted by universities because they typically pay not only full tuition rates—often from personal resources—but also for a suite of additional services, including accommodation and dining in university-run facilities as well as extra tuition for remedial courses, mainly English classes.[420]

During the 2023/24 academic year, the number of post-secondary international students studying in the United States increased by 6.6 percent to a record high of 1.1 million students, or 5.9 percent of total students in the United States. The top sources of such students were India (29.4 percent), China (24.6 percent), South Korea (3.8 percent), Canada (2.6 percent), and Taiwan (2.1 percent).[421] Updated student enrollment data published in April 2025 indicate that there were 130,600 fewer foreign students studying in the United States in March 2025, compared to March 2024. This decline in enrollments was driven by India, which fell by 28 percent, and West Africa, down 21 percent. In contrast, Chinese enrollments actually increased by 3 percent over the period, making it the largest source of foreign students in the United States in March 2025. Several factors are likely driving the decline in U.S. foreign student enrollments, including the high cost of studying in the United States, competition from colleges and universities in other countries, and geopolitical tensions. Student visa denials, which reached record highs in the United States in the fall of 2024, are also likely a factor, with countries in South Asia and West Africa having higher-than-average rejection rates.[422]

In the United States, 44.6 percent of international students were enrolled in graduate-level studies during the 2023/24 academic year, followed by those in undergraduate programs (30.4 percent), optional practical training[423] (21.5 percent), and non-degree programs or classes (3.4 percent).[424] The bulk of international students studied in California (140,858) and New York (135,813), followed by Texas (89,546), Massachusetts (82,306), and Illinois (62,299).

During the 2023/24 academic year, the U.S. institutions hosting the largest number of international students were New York University (New York; 27,247 students), Northeastern University–Boston (Massachusetts; 21,023 students), Columbia University (New York; 20,321), Arizona State University

[418] Fischer and Aslanian, "Fading Beacon," August 2, 2021.
[419] Fischer, "The Shrinking of Higher Ed," August 12, 2022.
[420] Fischer and Aslanian, "Fading Beacon," August 2, 2021; Fischer, "How International Education's Golden Age Lost Its Sheen," March 28, 2019.
[421] Open Doors, *2024 Fast Facts*, November 25, 2024.
[422] Fischer, "Latitudes," April 9, 2025.
[423] Open Doors, *2024 Fast Facts*, November 25, 2024. Optional practical training is a program that authorizes international students holding an F-1 visa to work in the United States (for a period of up to one year) in employment related to their degree program. The number of optional practical training students in the United States decreased from 223,539 in the 2019/20 academic year to 184,759 during the 2021/22 academic year but rebounded to 242,782 during the 2023/24 academic year.
[424] Open Doors, *2024 Fast Facts*, November 25, 2024.

(Arizona; 18,430 students), and the University of Southern California (California; 17,469 students).[425] Overall, international students contributed an estimated $43.8 billion to the U.S. economy for tuition, fees, housing, transportation, insurance, telecommunications services, and living expenses during the 2023/24 academic year and created or supported an estimated 378,175 jobs in the United States.[426]

In 2022, the United States was the top destination for international students worldwide, attracting 16 percent of the 6.9 million students who studied outside their home countries. Other top destinations were Canada (12 percent), the United Kingdom (UK) (11 percent), Australia (6 percent), and France (6 percent).[427] Many international students seek to study in the United States because of the large number of highly regarded universities and academic programs as well as the opportunity to engage in world-leading research.[428]

During the 2022/23 academic year, the most current period for which data are available, 280,716 U.S. students studied for academic credit outside the United States, a figure that grew by 48.7 percent compared to the previous academic year but still down from the pre-COVID-19 pandemic peak. Of the 2022/23 total, 97.6 percent of U.S. students were enrolled in short-term programs or classes of less than one academic or calendar year.[429] Overall, U.S. students preferred destinations in Europe; Italy (14.9 percent), the UK (12.5 percent), Spain (11.6 percent), France (6.1 percent), and Ireland (3.5 percent) hosted the largest number of U.S. students. Additionally, 25,692 U.S. students participated in noncredit learning activities abroad, including academic research, internships, and volunteering, and 14,890 students engaged in online activities like online internships and project-based study as well as academic conferences.[430]

Increases in Online Education Help Offset Declining Enrollments

Many U.S. colleges and universities have developed online programs to offset declining domestic in-person enrollments. This trend has accelerated since the COVID-19 pandemic, as nearly all educational institutions now have experience with online delivery of courses.

Despite isolated examples of universities attempting to offer classes or academic programs over the internet in the 1990s and early 2000s, the relatively underdeveloped technology of the era—including lower levels of computer chip processing power, immature long-haul telecommunications networks, low-bandwidth (dial-up modem) internet access technologies, and lower levels of personal computer penetration—limited widespread adoption. The broad-based rollout of online education classes and programs, facilitated by broadband telecommunications technologies capable of supporting streaming video, started in earnest roughly 15 years ago with the emergence of massive open online courses.

[425] Open Doors, *2024 Fast Facts*, November 25, 2024.
[426] NAFSA, *The United States of America Benefits from International Students*, November 18, 2024.
[427] Project Atlas, *Global Mobility Trends*, 2024.
[428] Shorelight, "U.S. Loses International Student Market Share," May 22, 2023.
[429] Open Doors, *2024 Fast Facts*, November 25, 2024.
[430] Open Doors, *2024 Fast Facts*, November 25, 2024.

During this period, websites like Academic Earth, Open Culture, and the Khan Academy offered videos of professors teaching classes ranging from corporate finance to the history of the Roman Empire.[431] Although viewers were unable to earn credit—and video quality and class selection were often limited—these early sites attracted attention because they featured top-level academic instruction from some of the world's leading universities, including Harvard University, the Massachusetts Institute of Technology, and Stanford University. During 2010–12, a new breed of massive open online courses emerged with the launch of several high-profile websites, namely Coursera, edX, and Udacity.[432]

Although a growing number of universities developed online classes and even degree programs over the next five or six years, much of academia remained cautious, even skeptical, of online programs, particularly degree-granting programs, although some introduced limited online course offerings that were eligible for academic credit. However, the stance of colleges and universities regarding online education changed dramatically with the arrival of the COVID-19 pandemic in March 2020, which led to the complete cessation of in-person learning in most colleges and universities in the United States (and around the world).[433] Almost overnight, the delivery of educational content shifted almost entirely to a format in which professors lectured homebound students over web-based conferencing platforms, notably Zoom.[434] So-called "Zoom classes" were standard at most colleges and universities through the 2020/21 and 2021/22 academic years, with many universities resuming in-person teaching in fall 2022.[435]

The experience of the pandemic not only normalized the online delivery of university-level classes at most colleges and universities but also led to the development of proficiencies—at both the instructor and institutional levels—related to creating and delivering online classes.[436] As part of this process, most colleges and universities were also required to acquire and learn how to operate a set of technologies necessary to deliver online classes, including cameras, microphones, lights, and related studio equipment.[437]

Following the resumption of in-person instruction at most universities, the question became what role online education would occupy going forward. Many residential colleges and universities sought to reestablish in-person, classroom-based learning, with early adopters resuming in-person classes in 2021 and a majority resuming in-person status for the 2022/23 academic year.[438] During fall 2022, for example, Princeton University informed its students that they should report to campus for in-person

[431] USITC, *Recent Trends 2013*, July 2013, 3–4.
[432] USITC, *Recent Trends 2013*, July 2013, 3–4.
[433] National Center for Education Statistics, "84% of All Undergraduates Experienced Some or All Their Classes Moved to Online-Only Instruction Due to the Pandemic," June 16, 2021; Costa et al., "Moving Education Online During the COVID-19 Pandemic," October 25, 2021.
[434] Gillis and Krull, "COVID-19 Remote Learning Transition in Spring 2020," October 2020.
[435] Spar, "Today's Awkward Zoom Classes Could Bring a New Era of Higher Education," September 10, 2020.
[436] McMurtrie, "Classroom Walls Are Shifting," October 18, 2023.
[437] McMurtrie, "Classroom Walls Are Shifting," October 18, 2023.
[438] BestColleges, "Will College Campuses Return to Normal in Fall?," September 22, 2022; Lu, "Some Colleges Are Ending Hybrid Learning," April 11, 2022; Roberts-Grmela, "More Students Want Virtual-Learning Options," June 5, 2023.

learning and that professors were no longer required to accommodate remote students.[439] Increasingly, however, a growing number of students are demanding options for online classes.[440]

Working professionals have long preferred online classes for their convenience. A growing number of traditional-age students (18–22), who developed a taste for online classes during the pandemic, have stated preferences for at least some wholly online classes as well as so-called "hybrid" courses, which allow students to attend classes via a set schedule of in-person attendance and online sessions.[441] A survey of more than 800 students by Educause in spring 2022, for example, found that 41 percent of students preferred in-person classes (or mostly in-person classes), compared to 65 percent of students before the pandemic.[442] Similarly, 59 percent of chief online officers surveyed by Quality Matters and Eduventures Research noticed increased interest in online classes among the 18–24 year-old age cohort.[443]

Some universities have decided that offering an increased array of online classes—including both synchronous and asynchronous classes[444]—and programs may help to increase or maintain enrollments. Online classes and degrees also have the potential to increase or maintain student enrollment numbers by allowing students with unique circumstances to take classes and earn degrees, including students with disabilities, working students and commuters, and students caring for family members.[445] Some small and regional colleges are also attempting to boost enrollments by updating academic programs and developing (or expanding) online learning programs, often for the purpose of attracting nontraditional students. Indeed, many colleges now see nontraditional candidates—i.e., working adults over the age of 24 who do not have at least an undergraduate degree—as an important target demographic in their efforts to boost student enrollments.[446] As a group, nontraditional students offer significant potential. For example, a recent survey by Gallup revealed that 56 percent of college dropouts would be interested in reenrolling, a group that numbered more than 39 million people in the United States. In addition, this same poll revealed that 40 percent of adults who had never attended college would consider enrolling in college, mainly for an associate's degree or certificate program.[447]

International students also represent an important potential market for online education. According to the Institute for International Education, during the 2023/24 academic year—the first year for which

[439] Princeton University, "Incoming Students for Fall 2022," accessed January 23, 2025.
[440] Roberts-Grmela, "More Students Want Virtual-Learning Options," June 5, 2023
[441] Roberts-Grmela, "More Students Want Virtual-Learning Options," June 5, 2023.
[442] McMurtrie, "Classroom Walls Are Shifting," October 18, 2023.
[443] Legon and Garrett, *Student Demand Moves Higher Ed*, 2023, 17, 49. The term Chief Online Officer was created by the Quality Matters and Eduventures researchers to describe the growing number of senior leadership positions responsible for online activities at institutions of higher education. Such leaders have a variety of job titles, and their roles may also include offline responsibilities.
[444] Stanford, "What Is Synchronous and Asynchronous Learning?," accessed January 22, 2025. Synchronous learning is defined as online instruction in which instructors and students meet at the same time, usually for live-streaming lectures and video-conference discussions. In contrast, in asynchronous classes, students view prerecorded lectures and interact via discussion boards.
[445] Roberts-Grmela, "More Students Want Virtual-Learning Options," June 5, 2023.
[446] Gardner and June, "The Perilous Predicament of the Very Small College," August 17, 2022; Fischer, "The Shrinking of Higher Ed," August 12, 2022.
[447] Fischer, "The Shrinking of Higher Ed," August 12, 2022.

such data are available—18,129 international students residing in their home countries were enrolled in online programs offered by U.S. colleges and universities.[448] Although the number of international students living abroad and enrolled in an online program is currently a very small share of foreign students consuming U.S. education services, some industry observers believe that online programs will grow in popularity over the next few years. In addition, the statistic reported by the Institute of International Education does not include students enrolled in programs that only offer online programs, with such programs ranging from Coursera to Western Governors University.[449]

International Branch Campuses

An international branch campus (IBC) is defined as "an entity that is owned, at least in part, by a foreign higher education provider, operated in the name of the foreign education provider, and provides an entire academic program, substantially on site, leading to a degree awarded by the foreign education provider."[450] Such campuses usually take the name of the founding institution, often to connect the new college or university with the established reputation of the founding institution,[451] including Georgetown University Qatar (Qatar), Duke Kunshan University (China), and New York University's branch campuses in China and the United Arab Emirates (UAE). IBCs, which proliferated in the 1990s, were almost exclusively a phenomenon of large U.S. universities with global name recognition and large endowments. In more recent years, following the precedent set by U.S. universities, non-U.S. universities also started to set up IBCs.[452] As of March 2023, the latest year for which data are available, IBCs numbered 333 worldwide, characterized by institutions in 39 home countries with established branches in 83 host countries.[453]

Historically, the earliest U.S. IBCs were one-off endeavors based on foreign relationships as well as the specific mission of the founding institution. After World War II, the United States used branch campuses as a form of informal diplomacy around the world, helping the United States establish postwar international relations norms.[454] In the 1980s, many IBCs were established in Japan as a means to build relations with a rising economic power.[455] More recently, founding institutions are motivated to establish IBCs to both promote their image abroad and develop new sources of revenue. For host countries, the motivation is usually to build capacity in higher education.[456]

Although brand-name institutions tend to garner the most attention, fewer than 10 IBCs are affiliated with the top 50 U.S. home-country institutions, as ranked by *U.S. News and World Report*.[457] Far more

[448] Open Doors, *2024 Fast Facts*, November 25, 2024.
[449] Interview by USITC staff, February 13, 2025.
[450] Kinser and Lane, *C-BERT International Campus Listing*, March 23, 2023.
[451] Chada, "What Are International Branch Campuses?," June 11, 2024.
[452] Chada, "What Are International Branch Campuses?," June 11, 2024.
[453] Kinser and Lane, *C-BERT International Campus Listing*, March 23, 2023. In 2023, founding institutions in the United States had established the largest number of IBCs (84), followed by the United Kingdom (46), France (38), Russia (39), and Australia (20).
[454] Toner, "Branching Out," September 1, 2019.
[455] Toner, "Branching Out," September 1, 2019.
[456] Toner, "Branching Out," September 1, 2019.
[457] Long and Panangipalli, "Under the Radar," Summer 2023.

commonly, IBCs are established by regional or specialty institutions. Webster University, a private, regional university based in St. Louis, Missouri, for example, operates five IBCS in Europe, two IBCs in China, and 10 IBCs in Uzbekistan. Similarly, Empire State University offers several dozen bachelor's degree programs in Albania, Czechia, the Dominican Republic, Greece, Lebanon, and Türkiye. Small, specialized degree programs are also common, with examples including the Berklee College of Music Valencia Campus (Spain), Embry-Riddle Aeronautical University Europe (Germany), and Parsons Paris (France). IBCs that specialize in a classic liberal arts curriculum are far less common, although notable examples include Bard College Berlin (Germany), McDaniel College Budapest (Hungary), and Saint Louis University–Madrid (Spain).[458]

Despite the proliferation of branch campuses in recent years, many IBCs face serious challenges. First, many universities underestimated the sheer amount of money, time, effort, and infrastructure required to establish an IBC.[459] Second, some universities have struggled to obtain accreditation, with the process often differing from established U.S. accreditation standards.[460] In some cases, host-country accreditation is not recognized in the United States, or some third countries.[461] Third, the finances of many IBCs are largely dependent on host-country financing and student enrollment, with even some mature institutions struggling to attract enrollments of more than 500 students.[462] Relatedly, many IBCs have not been able to attract sufficient financial resources through fundraising avenues, such as alumni donations or research grants.[463]

IBCs that fail to adapt to local conditions or establish sufficient enrollments face closure. Indeed, of the roughly 100 IBCs established by U.S. institutions, at least 25 have permanently closed between 2000 and 2015.[464] Overall, a cumulative total of 58 IBCs had closed permanently by the end of March 2023.[465] One example of an IBC that closed was the branch campus operated by George Mason University (GMU) in Ras Al Kaimah, UAE. During its time in the UAE, GMU was not able to attract a sufficiently qualified pool of students for their programs, with a maximum achieved enrollment of only 120 students. GMU's campus in the UAE closed in 2009, with no students having graduated from its programs.[466] Other IBCs that have closed over the past 15 years include Yale-NUS[467] (Singapore), New York University Tisch School of the Arts Asia (Singapore), New York Institute of Technology (Bahrain), and Suffolk University Dakar Campus (Senegal).[468]

Of the 333 IBCs worldwide, a large proportion are currently located in China (47), the UAE (30), Singapore (16), Malaysia (15), and Qatar (11).[469] IBCs operating in some of these countries report attempts by local and national governments to interfere with the content of classes and curriculums and

[458] Bard College also offers academic programs in Kyrgyzstan and Israel.
[459] Kent, "Challenges in a Disrupted World," 2020.
[460] Kent, "Challenges in a Disrupted World," 2020.
[461] Ross, "Is the Offshore-Campus Boom Over?," April 28, 2022; Toner, "Branching Out," September 1, 2019.
[462] Toner, "Branching Out," September 1, 2019.
[463] Kent, "Challenges in a Disrupted World," 2020.
[464] Kent, "Challenges in a Disrupted World," 2020.
[465] Kinser and Lane, *C-BERT International Campus Listing*, March 23, 2023.
[466] Kent, "Challenges in a Disrupted World," 2020.
[467] Yale-NUS was a collaboration between Yale University and the National University of Singapore.
[468] Kent, "The Implications of Campus Closures," 2022.
[469] Kinser and Lane, *C-BERT International Campus Listing*, March 23, 2023.

otherwise create a climate hostile to the academic freedoms that are common in many countries in Europe and North America.[470] The experience of New York University (NYU) at its branch campuses in China and the UAE are illustrative.

According to Freedom House's 2021 report, at least 10 NYU faculty members have been denied entry to the UAE for the purpose of teaching or conducting research at the NYU branch campus in Abu Dhabi. Some NYU students and administrative and support staff have also been reportedly denied entry to the UAE.[471] UAE officials have also reportedly added scholars and students who have criticized government policy to a Gulf Cooperation Council security list, an action that effectively denies access to the entire region.[472] In China, representatives from NYU Shanghai have reported a pattern of rejecting teaching applications for faculty who are likely to criticize Chinese government policies. For example, in 2015, NYU faculty member Kwame Anthony was denied a visa to speak on the NYU Shanghai campus.[473]

Outlook

Going forward, the outlook for international student enrollments is expected to level off or even decline. U.S. universities face growing competition for international students, with several factors threatening to erode the U.S. share of such students. First, growth has been rapid in the number of options for university-level study in both traditional destinations like Canada and the UK and less traditional locations like Japan, Qatar, or Czechia.[474] Many such programs are taught in English, with the number of English-language degree programs available in non-English-speaking countries growing over the past 20 years from 500 programs to more than 17,000 programs by 2021.[475] Like U.S. students, some international students are also questioning the high costs associated with obtaining a degree from a U.S. university as well as the return on investment, particularly if U.S. university credentials are of limited use in obtaining a job in their home country.[476] Regarding IBCs, campuses that enroll sufficient numbers of students and attract external funding are likely to thrive, whereas those with low enrollments and mediocre academic reputations will struggle.[477]

Management Consulting Services: Rising Demand, Shifting Priorities

As described in chapter 2, providers of management consulting services advise companies, governments, and nonprofits on a range of business, technology, and organizational issues. In recent years, demand for management consulting services has been strong amid technological advancements and shifts in workplace habits in the wake of the COVID-19 pandemic. Despite that growth, certain disruptive trends have been underway in the sector for at least a decade, signaling that competitive conditions in the

[470] Ross, "Is the Offshore Campus Boom Over?," April 28, 2022.
[471] Freedom House, *United Arab Emirates*, 2021; Ross, "Is the Offshore Campus Boom Over?," April 28, 2022.
[472] Freedom House, *United Arab Emirates*, 2021.
[473] Ross, "Is the Offshore Campus Boom Over?," April 28, 2022.
[474] Fischer and Aslanian, "Fading Beacon," August 2, 2021.
[475] Fischer and Aslanian, "Fading Beacon," August 2, 2021.
[476] Fischer and Aslanian, "Fading Beacon," August 2, 2021.
[477] Wilkins, "International Branch Campuses," 2023.

global management consulting industry are experiencing profound change. Several sources indicate that firms have moved away from the traditional focus on strategy consulting and now offer expertise in a broader range of areas where demand is rising, including digital transformation, cybersecurity, supply chain optimization, and sustainability. [478] Clients are increasingly seeking consultants who can effectively execute plans and produce measurable outcomes.

As demand rises for different kinds of expertise, competition in the consulting sector is increasing. Accounting firms currently dominate the management consulting sector, and information services companies play a prominent role as well. The importance of smaller firms is also growing, offering clients competitively priced, personalized support on a more localized scale.[479] New consulting firms have emerged with specialized expertise, particularly in the information technology (IT) field, often producing sophisticated results at lower cost than traditional consulting firms. Competition has been further heightened by the emergence of freelance consulting platforms. Moreover, many traditional clients are expanding internal consulting capabilities rather than hiring outside consultants. This "insourcing" is another trend impacting demand for consulting services.[480]

Strong Demand for Management Consulting Services Has Been Accompanied by Heightened Competition

A *Harvard Business Review* study from 2013 indicated that after maintaining the same fundamental business model for several decades, the management consulting sector was on the verge of disruption, as companies faced the emergence of new competitors.[481] In line with growing demand, competition in the management consulting sector has heightened since that study was published. Accounting firms such as Deloitte and PricewaterhouseCoopers (see accounting and auditing services in chapter 3), have joined more traditional management consulting companies such as McKinsey & Company as dominant players.[482] Moreover, IT firms are increasingly entering the consulting space and can provide technology solutions directly to clients, benefiting from staff that have deep subject matter expertise.[483] Small, niche companies are also becoming more active in the management consulting sector.

As companies seek assistance with addressing a range of complex challenges, many have shifted away from reliance on a single provider. Instead, clients have begun to move toward a multisourcing approach, hiring multiple partners with a range of capabilities to complete different aspects of a project. As a

[478] Christensen et al., "Consulting on the Cusp of Disruption," October 1, 2013; MarketLine, *US Management Consultancy Report*, March 2024, 10.
[479] Partis, "Consulting Contracts on the Rise," January 30, 2025.
[480] Oarue-Itseuwa, "AI's Impact on the Consultancy Sector," February 2, 2024, 51; Rieppi, "Consulting Industry Trends in 2023," May 25, 2023.
[481] Christensen et al., "Consulting on the Cusp of Disruption," October 1, 2013.
[482] MarketLine, *US Management Consultancy Report*, March 2024, 2.
[483] Oarue-Itseuwa, "AI's Impact on the Consultancy Sector," February 2, 2024, 53.

result, large consulting firms may work on a particular project with various partners, including technology companies and freelancers.[484]

Freelance management consulting marketplaces such as Catalant, Upwork, and Clarity have sprouted up in recent years, easing the shift toward multisourcing.[485] According to one source, the number of individual service professionals providing full-time or part-time services to businesses increased 50 percent from 2020 to 2024.[486] Online consulting marketplaces allow clients to hire specialized consultants using a piecemeal approach, often with cost savings and faster turnaround time compared with large consulting firms.[487]

New technologies such as virtual communications platforms and GenAI have helped to level the playing field for smaller firms and independent consultants. Individual consultants are able to use GenAI tools to accomplish complex tasks, such as large dataset analysis, which previously was prohibitively resource intensive.[488] In the wake of the COVID-19 pandemic, the decrease in demand for in-person solutions has made consultancy more accessible for small firms and for staff across geographic boundaries.[489] Despite the benefits of meeting clients in person, location is now considered less important than getting "the right talent at the right value."[490]

In addition to rising competition within the sector, demand for management consulting services has also been affected by clients' decisions to shift some traditional consultant roles inside their companies. Many large multinational enterprises (including MasterCard and Pfizer) are "insourcing" consulting practices, staffed by former consultants who may be more intimately familiar with the challenges faced by a specific industry than their counterparts at large consulting firms.[491] Another trend that is contributing to decreased reliance on external consultants for certain tasks is the decision by many large companies to hire internal data scientists in an effort to make strategic decisions more data driven.[492]

These developments have had implications for employment in the management consulting industry. Robust growth in management consulting services contributed to significant increases in the number of consulting staff during the late 2010s, a trend that continued into the early pandemic years. However,

[484] Nagarajan, "The Future of Consulting," November 23, 2022; Rieppi, "Consulting Industry Trends in 2023," May 25, 2023.
[485] Vitaud, "Consulting Will Never Be the Same Again," June 15, 2016; Fuller et al., "Building the On-Demand Workforce," November 2020.
[486] MBO Partners, "The Independent by Choice Movement" accessed January 16, 2025.
[487] Younger, "Freelance Management Consulting," May 20, 2023; Kaplan, "The Business Consulting Industry Is Being Disrupted," August 12, 2024.
[488] Younger, "CEOs Explain How AI Will Super Charge Independent Management Consulting," September 5, 2023; Kaplan, "The Business Consulting Industry Is Being Disrupted," August 12, 2024.
[489] Laffitte, "2024 In Review," November 25, 2024.
[490] Nagarajan, "The Future of Consulting," November 23, 2022.
[491] Oarue-Itseuwa, "AI's Impact on the Consultancy Sector," February 2, 2024, 51; Rieppi, "Consulting Industry Trends in 2023," May 25, 2023.
[492] Vitaud, "Consulting Will Never Be the Same Again," June 15, 2016.

amid rising competition and falling profit margins, high-profile consulting firms such as Accenture and McKinsey & Company have experienced significant layoffs since 2023.[493]

Shifting Demand Has Brought Changes in Business Models

To stay relevant and more effectively meet client demand, management consulting companies are being forced to change their business models and offer a broader range of services. Traditional features of the management consulting industry have been shifting, highlighted by movement away from onsite work and strategy consulting and toward customized solutions and results-oriented consulting. Some of the changes facing the management consulting sector were highlighted in the Commission's 2021 report, which focused on shifts in the modes of supply of consulting services resulting from COVID-19 pandemic-related travel restrictions and the rise of technology consulting services.[494]

Strategy consulting, which involves identifying and analyzing an enterprise's long-term goals and making recommendations for future action, has been a prominent feature of the management consulting industry since the founding of Boston Consulting Group (BCG) in 1963.[495] Strategy remains significant, but its share of total market value has been decreasing as demand for other types of consulting grows. The 2013 *Harvard Business Review* study indicated that the share of work devoted to classic strategy consulting was down to about 20 percent of the total, from 60–70 percent 30 years earlier.[496] According to MarketLine, strategy consulting in the United States accounted for 10.8 percent of the sector's total revenues in 2023, from 15.1 percent in 2018.[497]

In response to increased client demand for tailored and customized solutions, top companies have been building non-strategy practices, shifting away from tools that are replicable and transferable across companies and industries.[498] This trend has provided opportunities for the development of industry-specific consulting services.[499] Large management consulting companies now tend to organize themselves across both industries (such as financial services, retail trade, health care, transport and logistics) and practice areas (strategy, people, digital technology, environmental sustainability).

Another change for the consulting sector relates to the shift toward results-oriented consulting. In the past, strategies recommended by management consultants were sometimes difficult to implement and did not always bring the expected outcomes.[500] Clients reportedly are placing more emphasis on

[493] Fubini, "Are Management Consulting Firms Failing to Manage Themselves?," July 9, 2024; Richter, "The Consulting Industry at a Crossroads," January 31, 2025.
[494] USITC, *Recent Trends in U.S. Services Trade: 2021 Annual Report*, April 2021, 69–71.
[495] Vitaud, "Consulting Will Never Be the Same Again," June 15, 2016.
[496] Christensen et al., "Consulting on the Cusp of Disruption," October 1, 2013.
[497] MarketLine, *US Management Consultancy Report*, March 2024, 10. Other sources show different estimates, depending on how breakdowns are measured. See, for example, IBISWorld, *Management Consulting in the US*, August 2024, 12.
[498] Rieppi, "Consulting Industry Trends in 2023," May 25, 2023.
[499] Vitaud, "Consulting Will Never Be the Same Again," June 15, 2016; Oarue-Itseuwa, "AI's Impact on the Consultancy Sector," February 2, 2024, 51.
[500] Rieppi, "Consulting Industry Trends in 2023," May 25, 2023.

execution and achieving measurable results.[501] Cocreation is becoming more prevalent, where consultants work with company staff to ensure that solutions meet a client's unique needs and can be altered as circumstances change.[502]

In line with the movement toward outcome-oriented consulting, pricing models are beginning to evolve. Previously, most consulting companies billed clients according to the number of hours devoted to a particular project, with high margins between billable rates and actual salaries.[503] However, some companies are now linking part of their fees to the achievement of outcomes, especially as lower-priced competition emerges. "Value-based pricing," where clients share risks with their consultants, is expected to become a standard payment model in the future, impacted partly by the advent of GenAI, which reduces the amount of time required to perform certain tasks.[504] Subscription-based services may also become more common.[505]

Digitalization and AI Drive Consulting Demand

Although management consulting firms have been advising on technology issues since at least the mid-2010s, the COVID-19 pandemic accelerated the digital transformation and the movement toward remote and hybrid work, triggering increased demand for consultants in certain practice areas. Clients have needed consultants to assist them with workforce transformation and navigating adoption of new technologies, such as video conferencing, project management software, and virtual collaboration platforms.[506]

In the past, businesses typically delegated technology and IT enablement to specialists. However, with the aim of optimizing outcomes and improving user experience, technology and innovation have increasingly become a core part of the consulting strategy, through the integration of automation, AI, data analytics, digital, and cloud computing services.[507] According to a 2024 survey of global corporate executives commissioned by IBM, 86 percent of consulting buyers are seeking services that incorporate AI and technology.[508] Management consulting firms traditionally emphasized human expertise, but this has started to change. In an effort to meet demand by increasing their technological capabilities, top

[501] Oarue-Itseuwa, "AI's Impact on the Consultancy Sector," February 2, 2024, 51; Fubini, "Are Management Consulting Firms Failing to Manage Themselves?," July 9, 2024.
[502] Kaplan, "The Business Consulting Industry Is Being Disrupted," August 12, 2024.
[503] Kaplan, "The Business Consulting Industry Is Being Disrupted," August 12, 2024.
[504] Consulting.us, "Generative AI's Opportunities and Challenges for Consulting Firms and Consultants," October 3, 2024; Oarue-Itseuwa, "AI's Impact on the Consultancy Sector," February 2, 2024, 54.
[505] Oarue-Itseuwa, "AI's Impact on the Consultancy Sector," February 2, 2024, 54; Rieppi, "Consulting Industry Trends in 2023," May 25, 2023.
[506] Laffitte, "2024 In Review," November 25, 2024.
[507] Nagarajan, "The Future of Consulting," November 23, 2022; Rieppi, "Consulting Industry Trends in 2023," May 25, 2023.
[508] Candy et al., "Consulting Reimagined, Powered by AI," October 2024, 6.

consulting companies are making significant investments in new technologies such as AI and acquiring or partnering with specialty firms, a trend that has been ongoing since 2015.[509]

Since the launch of ChatGPT in late 2022, consulting companies have also been helping clients deploy GenAI solutions, a challenge that includes navigating concerns about data security and ethics.[510] Rising digitalization (and the prevalence of data breaches and cyberattacks) makes cybersecurity another high priority in which consultants can assist their clients.[511]

Supply Chain Optimization and Sustainability Initiatives Further Support Growth

Another practice area that gained prominence during the pandemic is supply chain resilience. Lockdowns in China and other countries led to shortages of key materials needed for the manufacturing sector, highlighting vulnerabilities in global supply chains and driving demand for consulting on supply chain optimization.[512] Given the increased emphasis placed on global sourcing in connection with environmental sustainability, consulting firms are also advising on sustainable supply chain practices, carbon footprint reduction, and circular economy initiatives.[513]

Demand for consulting in the environmental sphere has also been impacted by the green energy transition, as both governments and companies seek assistance in implementing sustainability projects in areas such as electric mobility and renewable energy generation, storage, and distribution.[514] Helping clients work toward more environmentally sustainable practices, through mechanisms such as carbon accounting[515] and assistance with applications for environmental programs under the U.S. Inflation Reduction Act (IRA) and the European Union's Recovery and Resilience Facility (RRF), for example, has become more prominent in the consulting sphere.[516] Consulting firms have also been active in the Chinese market, assisting government agencies and companies with sustainability initiatives.[517] One source pointed out that sustainability consulting is no longer seen primarily through the lens of

[509] Oarue-Itseuwa, "AI's Impact on the Consultancy Sector," February 2, 2024, 52; Samokhvalov, "The Transformative Impact of Artificial Intelligence on the Management Consultancy Sector," February 2, 2024, 64; Gitelman et al., "Energy Engineering and Consulting," 2020, 273.
[510] Bannister, "BCG Delivers 20th Consecutive Year of Growth," April 15, 2024; *Harvard Business Review* and Salesforce, "Transforming Consulting Through Generative AI," May 13, 2024, 6.
[511] Kennedy Consulting, "Insights and Resources," accessed December 11, 2024.
[512] USITC, COVID-19 Related Goods, December 2020; Sutter, "Rethinking Supply Chains after China's Lockdown," July 7, 2022; IBISWorld, *Global Management Consultants*, December 2024, 7.
[513] Bain & Company, "Climate Change & Decarbonization," accessed December 12, 2024.
[514] Jakaityte, "The Sustainability Surge," February 20, 2025; IBISWorld, *Global Management Consultants*, December 2024, 12.
[515] Carbon accounting, or greenhouse gas (GHG) accounting, is the process of measuring an entity's direct and indirect GHG emissions, helping to quantify its environmental impact.
[516] Barth et al., "US States and the Successful Clean Energy Transition," January 29, 2024; Deloitte, "Next Generation EU: Pandemic Recovery Plan," accessed February 10, 2025; Inflation Reduction Act of 2022, H.R.5376 (2021–2022); European Parliament and the Council, Regulation 2021/241 establishing the Recovery and Resilience Facility (March 1, 2023).
[517] Ensun, "Top 60 Sustainability Consulting Companies in China (2025)," accessed April 9, 2025.

compliance; rather, it has become "a strategic advantage," providing companies with avenues for innovation and growth.[518]

Outlook

Despite expectations of increased client demand for management consulting services, several of the challenges facing the sector in recent years are likely to persist, including rising competition and integration of new technologies. Given the low barriers to entry, the number of small players will likely continue to increase, with the entry of niche firms (particularly in the digital technologies sector) as well as independent consultants endangering the leading position of key players.[519] Consulting firms' costs will likely shift further toward investments in technology (particularly AI) and away from human capital.[520] Consultants will need to have strong skills in technology, alongside knowledge of how to incorporate it into business processes.[521] As competition rises and the integration of AI into consulting services increases, pricing models are expected to continue to move away from traditional practices (hourly billing) and toward solutions-oriented or "success-based" fees.[522]

Advertising Services: A Shift from Traditional to Digital Media

Advertising services publicize and promote products and services to persuade consumers to purchase them.[523] Historically, advertisements have been consumed through print and broadcast media such as newspaper ads, television commercials, cinema ads, billboards, and radio, collectively referred to as "traditional advertising."[524] Today, most advertising revenue comes from "digital advertising," which refers to the practice of promoting products or services through online ad placements with the aim of driving traffic, increasing brand awareness, and generating leads or sales using data-driven strategies.[525] Types of digital advertising channels include digital video, search engines, social media platforms, digital banner, digital audio, digital classifieds, and online influencer advertisements.[526]

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[518] Laffitte, "2024 In Review," November 25, 2024.
[519] Kaplan, "The Business Consulting Industry Is Being Disrupted," August 12, 2024; Nagarajan, "The Future of Consulting," November 23, 2022; IBISWorld, *Management Consulting in the US*, August 2024, 27.
[520] Oarue-Itseuwa, "AI's Impact on the Consultancy Sector," February 2, 2024, 53–54.
[521] IBISWorld, *Management Consulting in the US*, August 2024, 71; Kaplan, "The Business Consulting Industry Is Being Disrupted," August 12, 2024.
[522] Nagarajan, "The Future of Consulting," November 23, 2022; Oarue-Itseuwa, "AI's Impact on the Consultancy Sector," February 2, 2024, 54.
[523] American Marketing Association, "Marketing vs. Advertising," accessed January 15, 2025; Statista, *Advertising: Market Data & Analysis*, November 2024, 7.
[524] American Marketing Association, "Marketing vs. Advertising," accessed January 15, 2025; Statista, *Advertising: Market Data & Analysis*, November 2024, 7.
[525] American Marketing Association, "Marketing vs. Advertising," accessed January 15, 2025; Statista, *Advertising: Market Data & Analysis*, November 2024, 7.
[526] PwC, "Perspectives from the Global Entertainment & Media Outlook," July 16, 2024; American Marketing Association, "Marketing vs. Advertising," accessed January 15, 2025; Statista, *Advertising: Market Data & Analysis*, November 2024, 7.

Demand for advertising services as a whole has increased considerably during the past decade, both domestically and globally.[527] Industry analysts have linked much of the growth to an increasingly digitalized economy, allowing firms to reach consumers through streaming services, social media platforms, and online search engines.[528] With the shift away from traditional channels to digital advertising, firms that specialize in advertising services have increasingly used artificial intelligence (AI) tools to target audiences with tailored content, an emerging trend that has also spurred revenue growth in advertising services.[529]

The Decline of Linear Television and Rise of Digital Television and Video Streaming Services

Linear television, sometimes called traditional or analog television, refers to a service where scheduled television content is broadcast on cable or satellite networks and has been a source of traditional advertising. Linear television has experienced a decline in viewership and subscribers, while digital television and video streaming services have increased. This shift has been a key driver of the decline of traditional media advertising spending.[530] In 2024, about 78 percent of total U.S. advertising expenditures and 73 percent of total global advertising expenditures were for digital advertising, with traditional advertising accounting for the remainder.[531] Traditional advertising represented a larger share of total advertising expenditures both in the United States and globally until 2019.[532]

The shift from traditional to digital advertising reflects the increase in the average amount of time U.S. adults spend per day engaging with digital media instead of traditional media. Digital ads are shown in most types of internet activities, including searching, mobile gaming, streaming, online shopping, and reading digital publications.[533] One notable reason for the decline in time spent with traditional media is that internet access has increased significantly over the past 15 years. According to one study, 74 percent

[527] For instance, U.S. exports of advertising services increased from $8.6 billion in 2013 to $23.8 billion in 2023, but U.S. imports increased from $3.6 billion to $5.7 billion over the same period. USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024; Statista, *Advertising: Market Data & Analysis*, November 2024; PwC, "Perspectives from the Global Entertainment & Media Outlook," July 16, 2024; Cramer-Flood, "US Time Spent With Media Forecast 2023," July 11, 2023.

[528] PwC, "Perspectives from the Global Entertainment & Media Outlook," July 16, 2024; Harlow, "How Effective Are Ads on Social Media?," June 5, 2023; Aho Williamson, "Social Media Isn't Dying—It's Still Growing," July 11, 2023; Statista, *Advertising: Market Data & Analysis*, November 2024.

[529] PwC, "Perspectives from the Global Entertainment & Media Outlook," July 16, 2024; Statista, *Advertising: Market Data & Analysis*, November 2024; Ezzat, "Enhance the Advertising Effectiveness by Using Artificial Intelligence (AI)," January 3, 2024.

[530] Linear television is defined as scheduled television content that is broadcast on cable or satellite networks. Feger, "Linear TV: What It Is," September 6, 2024.

[531] Feger, "Digital Makes up over Three-Quarters of Total Ad Spend in the US," August 27, 2024; Statista, *Advertising: Market Data & Analysis*, November 2024, 17.

[532] Statista, *Advertising: Market Data & Analysis*, November 2024, 17; Shaban, "Digital Advertising to Surpass Print and TV," February 20, 2019; Statista Market Insights, "Digital Ad Spending," October 2024.

[533] Cramer-Flood, "US Time Spent With Media Forecast 2023," July 11, 2023.

of U.S. households had access to broadband internet in their home in 2010, with such access rising to 82 percent in 2019 and 90 percent in 2023.[534]

In 2023, for the first time, linear television makes up less than half of total television usage.[535] The top cable and satellite television providers in the United States, which represent most of the cable and satellite television market share, had a net loss of more than 21 million subscribers from 2018 to 2023, from 76 million in 2018 to 55 million in 2023.[536] At the end of 2022, less than 50 percent of households had a cable or satellite television service.[537]

Because cable and satellite television's total subscriber base has diminished, linear television advertising has declined sharply as a share of total television advertising, which also includes digital video advertising.[538] One industry study found that linear television advertising expenditures as a percentage of total video advertising fell from 71 percent in 2020 to only 52 percent in 2023 and is projected to decline to 48 percent in 2024, dropping below digital video advertising for the first time. The same study projected that digital video advertising would increase 80 percent faster than total media overall in 2024 and forecasted that this trend will continue.[539]

Some of the largest television networks, such as Paramount Global, Warner Bros. Discovery, ABC, and NBC Universal, all experienced significant declines in advertising revenue from their cable channels in 2023.[540] Of this group, Paramount experienced the largest drop in revenues from Q3 2022 to Q3 2023, with a 14 percent decline in linear television advertising revenues, followed by Warner Bros. Discovery at a decline of about 13 percent, ABC at a roughly 9 percent decline, and NBC Universal at a roughly 8 percent decline.[541]

Television networks are shifting toward delivering their content as over-the-top video streaming services to adjust to consumers' viewing preference leaning toward video streaming rather than traditional cable

[534] LRG, "Actionable Research on the Broadband, Media & Entertainment Industries," 2023.
[535] Nielsen Company, "Streaming Grabs a Record 38.7% of Total TV Usage," August 2023; Davis and Cranz, "It's Official, People Aren't Watching TV," August 15, 2023; Lebow, "New Data," August 16, 2023.
[536] For example, the top cable and satellite TV providers include Charter, Comcast, DIRECTV, DISH TV, and others. LRG, "Major Pay-TV Providers Lost About 5,000,000 Subscribers In 2023," March 8, 2024; LRG, "Major Pay-TV Providers Lost About 2,875,000 Subscribers In 2018," March 6, 2019.
[537] Gruenwedel, "Leichtman: 2023 U.S. Household SVOD Subscription Growth Flat," August 14, 2023; Winslow, "Major Pay TV Providers Lost Record 5M Subs in 2023," March 8, 2024; LRG, "Major Pay-TV Providers Lost About 5,000,000 Subscribers In 2023," March 8, 2024.
[538] Digital video advertising includes advertisements placed in over-the-top video streaming services (e.g., Paramount Plus, Disney Plus, Hulu, Hulu Live TV, YouTube TV, and others), social media video (e.g., TikTok, Instagram, Facebook, Snap, Twitter, YouTube, and others), and online video (i.e., video from web-/app-based publishers). IAB, *2024 Digital Video Ad Spend & Strategy Report*, April 2024.
[539] IAB, *2024 Digital Video Ad Spend & Strategy Report*, April 2024, 7.
[540] Steinberg and Earl, "Advertisers Ride the Brakes," January 18, 2024.
[541] Jacobson, "Ad Revenue Decrease Impacts Disney's Linear Network," November 9, 2023; Walt Disney Company, "The Walt Disney Company Reports Fourth Quarter and Full Year Earnings for Fiscal 2023," November 8, 2023; Steinberg and Earl, "Advertisers Ride the Brakes," January 18, 2024.

and satellite television.[542] One study estimates that in 2015, 52 percent of households each had a subscription to at least one video streaming service, rising to 83 percent of all households in 2022.[543] Advertising via free advertising-supported television (FAST) streaming has also grown significantly, with FAST advertising expenditures nearly quadrupling from 2020 to 2023 and expected to double from 2023 to 2025.[544] eMarketer projects that a third of the U.S. population will be FAST viewers by 2027.[545]

Social Media Platforms and the Emergence of Social Commerce

As people spend more of their time engaging with social media platforms, such as Facebook, Instagram, TikTok, and X (formerly Twitter), these platforms comprise part of social commerce, which has become important venues for online advertising.[546] For instance, one 2023 study found that an estimated 28 percent of consumers discovered new brands and products through social media advertising.[547] This report also found that more people learn about brands and new products through social media than through ads displayed on websites or before online videos.[548] Industry surveys also suggest that consumers use social media almost as much as online search engines when they research a product.[549]

Social media's subscriber numbers continue to grow at a rapid pace and will soon outnumber linear television viewers in the United States.[550] eMarketer estimated that in 2025, the United States would have 235 million social media users and 230 million television viewers, the first time that U.S. social media users would exceed television viewers.[551]

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[542] Over-the-top video streaming services includes subscription video-on-demand (SVOD) services, connected TV, virtual multichannel video programming distributors (MVPDs), and free-ad supported streaming television (FAST). SVOD is a subscription service where subscribers are charged a regular fee to access video content. SVOD includes services such as Netflix, Amazon Prime Video, Disney+, Max, and Hulu. Connected TV refers to the delivery of video content through smart TVs that have internal internet capabilities and external devices (e.g., Amazon Fire sticks, Google Chromecast streaming device, Roku streaming device, and gaming consoles). MVPDs are video services that deliver live and on-demand content over the internet through multiple channels (e.g., YouTube TV, Hulu+ Live TV, and Sling TV). Wohr, "OTT Advertising: What It Is and Why Streaming Matters to Marketers," July 18, 2024; Vimond, "What Are SVOD, AVOD, and TVOD?" accessed January 17, 2025; Lebow, "Guide to Connected TV," September 5, 2024.

[543] LRG, "Actionable Research on the Broadband, Media & Entertainment Industries," 2023; Gruenwedel, "Leichtman: 2023 U.S. Household SVOD Subscription Growth Flat," August 14, 2023.

[544] FAST services (also referred to as ad-supported video-on-demand) are video services that deliver free ad-supported streaming of video content (e.g., Pluto TV and Amazon Freevee). Wohr, "OTT Advertising: What It Is and Why Streaming Matters to Marketers," July 18, 2024; Fletcher, "FAST Ad Spend to Surpass That of Cable," January 12, 2023; Majidi, "Streaming Services Advertising in the United States—Statistics & Facts," September 11, 2024.

[545] Yuen, "What Media Planners Need to Know," February 26, 2024.

[546] Social media comprises applications and websites that create a digital network for people to interact with other users. McKinsey & Company, "What Is Social Media?," June 8, 2023.

[547] Harlow, "How Effective Are Ads on Social Media?," June 5, 2023.

[548] Harlow, "How Effective Are Ads on Social Media?," June 5, 2023.

[549] Harlow, "How Effective Are Ads on Social Media?," June 5, 2023.

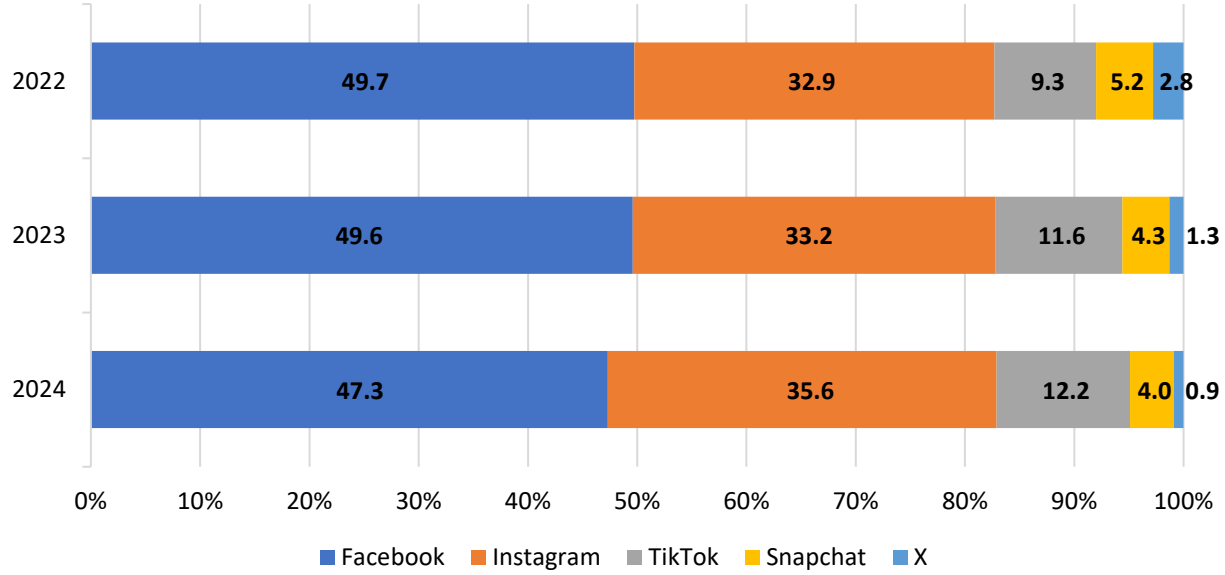
[550] Aho Williamson, "Social Media Isn't Dying—It's Still Growing," July 11, 2023.

[551] Aho Williamson, "Social Media Isn't Dying—It's Still Growing," July 11, 2023.

As a result of this shift, social media platforms have captured a growing share of digital advertising spending in recent years.[552] According to one industry report, in 2024 social media was forecasted to become the second-highest spending media format with $86.75 billion in expenditures, trailing only traditional search advertising by $4 billion.[553] The same report also projects that social media will have more advertising spending than internet search engines by 2026.[554] In a report using data from most of 2024, Facebook held the largest share of total social media advertising spending with around 47.0 percent of the share, followed by Instagram (36.0 percent), TikTok (12.2 percent), Snapchat (4.0 percent), and X (1.0 percent) (figure 4.1).[555]

Figure 4.1 Share of total U.S. social media ad spending, by platform, 2022–24

In percentages. Underlying data for this figure can be found in appendix B, table B.37.



Source: eMarketer, "US Social Media Ad Spending Share, by Platform," August 22, 2024.

Social commerce has become a subcategory of e-commerce, and U.S. social media firms recognized that they had created a space that can gain the attention of users for the purpose of advertising products and services and have created various ways for consumers to shop and search for products directly in their applications (apps), which is also referred to as social commerce.[556] When searching for products or

[552] Social media platforms include Facebook, X, Instagram, TikTok, Snapchat, and others. McKinsey & Company, "What Is Social Media?," June 8, 2023; Harlow, "How Effective Are Ads on Social Media?," June 5, 2023.
[553] Traditional search includes advertising that appears on internet-connected devices and excludes retail media search (searching through a retail media website or app that primarily are engaged in retail ecommerce). Yuen, "Traditional Search . . . US Ad Dollars in 2024," June 14, 2024.
[554] Yuen, "Traditional Search . . . US Ad Dollars in 2024," June 14, 2024.
[555] EMarketer, "US Social Media Ad Spending Share, by Platform," August 22, 2024.
[556] Social commerce is the use of social media platforms to promote and sell products or services. Stanley, "What Is Social Commerce?," April 29, 2024; Shah and Borkakoty, "Social Media Trends and Predictions for 2025," December 19, 2024.

services, about 73 percent of consumers favor short-form video content, such as that popularized by TikTok, Instagram Reels, and YouTube Shorts.[557]

Furthermore, social commerce platforms aim to keep consumers within their social media apps' ecosystems. By doing so, the apps gather data from the consumers—such as the brands that they follow and products that they have "liked" or purchased.[558] These data enable social media platform algorithms to produce more targeted and personalized ads. The placement of such ads may vary: desktop feeds, mobile feeds, social media posts, video feeds, in profiles of the user or other users of the platform, in an email in-box, among search results, or other platform locations in consumers' media feeds. Such options provide multiple incentives for companies to advertise on these platforms.[559]

TikTok, for example, recently launched a new TikTok Shop feature that allows companies to advertise and sell their products directly on TikTok. Facebook Marketplace allows consumers and businesses to advertise and sell their products to local customers.[560] A significant portion of social media users in the United States make purchases through social media platforms.[561] eMarketer estimated that in 2024, roughly 37 percent of U.S. users of Facebook and Instagram made at least one purchase through the social media platform.[562] TikTok led in this category with 44 percent of U.S. users making at least one purchase through the social media platform in 2024.[563] In 2022, McKinsey & Company estimated that by 2025, U.S. social commerce retail earnings would reach $80 billion, which would make up 5 percent of total U.S. e-commerce.[564]

Despite the size and growth of social commerce in the United States, sales revenue remains well below that of China. China's social commerce industry has been heavily developed through platforms such as WeChat and Xiaohongshu and is estimated to have reached nearly $508 billion in revenue in 2024.[565] The increase in the amount of time U.S. consumers spend on social media and the increase in making purchases online, however, point to growth in U.S. social commerce, boosted especially by younger consumers. For example, according to a 2021 Forrester survey, 61 percent of U.S. adults younger than 25 years old who were online had previously completed a purchase on social media apps.[566]

[557] Shah and Borkakoty, "Social Media Trends and Predictions for 2025," December 19, 2024; Kumar, "29 Video Marketing Statistics 2025," March 6, 2025.
[558] McKinsey & Company, "Social Commerce," October 19, 2022.
[559] McKinsey & Company, "Social Commerce," October 19, 2022.
[560] Shah and Borkakoty, "Social Media Trends and Predictions for 2025," December 19, 2024; Stanley, "What Is Social Commerce?," April 29, 2024; McKinsey & Company, "Social Commerce," October 19, 2022.
[561] Enberg, "US Social Commerce Forecast 2024," December 2, 2024.
[562] Enberg, "US Social Commerce Forecast 2024," December 2, 2024.
[563] Enberg, "US Social Commerce Forecast 2024," December 2, 2024.
[564] McKinsey & Company, "Social Commerce," October 19, 2022.
[565] Verot, "Social Commerce in China: Sell on Chinese Social Media," December 11, 2024; McKinsey & Company, "Social Commerce," October 19, 2022.
[566] McKinsey & Company, "Social Commerce," October 19, 2022.

Adoption of Artificial Intelligence (AI) in Advertising

Advertisers' demand for more cost-effective ad formats prompted digital advertising firms to increasingly use AI technologies to target advertising more effectively, create content more quickly, and manage and analyze performance levels of individual advertisements.[567] AI programs allow firms to analyze consumer behavior data and identify patterns, using algorithms to more accurately forecast future consumer preferences.[568] Targeted content via AI enables advertisers to boost engagement of their target audiences and drive up sales of their products and services, which in turn potentially increases the efficiency and return on investment in advertising.[569] For example, companies use AI to enhance and optimize their email marketing tasks, such as writing and sending emails to customers with personalized and tailored content based on the customer-specific data that have been obtained from previous interactions.[570] In addition, AI has become a tool for firms to use in programmatic advertising.[571] By analyzing consumers' data on the kind of online content they consume, firms use the data to make decisions or suggestions when buying or selling advertisement spaces.[572]

Through the use of AI, content creators can reduce the time it takes to produce social media posts and emails.[573] AI programs such as Adobe Firefly, Shopify Magic, and Jasper AI allow content creators to quickly generate personalized content and pictures for advertisements to specific customers.[574] In addition, AI-generated images can be a more cost-effective solution for social media creators compared to licensed photos.[575] Content creators also may benefit from using AI to analyze keywords that can help achieve higher rankings on search engine results pages.[576]

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[567] Ezzat, "Enhance the Advertising Effectiveness by Using Artificial Intelligence (AI)," January 3, 2024; Marr, "Artificial Intelligence and the Future of Marketing," September 9, 2022; Flinders and Hayes, "A Guide to AI in Marketing," March 10, 2025; Baldassarre, "How AI Is Revolutionizing Digital Advertising In 2024," August 9, 2024; Shopify, "Top 5 AI Content Creation Tools," September 30, 2024.

[568] Ezzat, "Enhance the Advertising Effectiveness by Using Artificial Intelligence (AI)," January 3, 2024; Baldassarre, "How AI Is Revolutionizing Digital Advertising In 2024," August 9, 2024.

[569] Ezzat, "Enhance the Advertising Effectiveness by Using Artificial Intelligence (AI)," January 3, 2024; Flinders and Hayes, "A Guide to AI in Marketing," March 10, 2025.

[570] Marr, "Artificial Intelligence and the Future of Marketing," September 9, 2022; Ezzat, "Enhance the Advertising Effectiveness by Using Artificial Intelligence (AI)," January 3, 2024.

[571] Flinders and Hayes define programmatic advertising as "the automation of the purchasing and placement of ads on websites and applications." Flinders and Hayes, "A Guide to AI in Marketing," March 10, 2025.

[572] Ezzat, "Enhance the Advertising Effectiveness by Using Artificial Intelligence (AI)," January 3, 2024; Baldassarre, "How AI Is Revolutionizing Digital Advertising In 2024," August 9, 2024.

[573] Davenport and Mittal, "How Generative AI Is Changing Creative Work," November 14, 2022; Flinders and Hayes, "A Guide to AI in Marketing," March 10, 2025; Shopify, "Top 5 AI Content Creation Tools," September 30, 2024.

[574] Flinders and Hayes, "A Guide to AI in Marketing," March 10, 2025; Shopify, "Top 5 AI Content Creation Tools," September 30, 2024; Davenport and Mittal, "How Generative AI Is Changing Creative Work," November 14, 2022; Nagl and King, "How AI Is Impacting Digital Marketing," August 27, 2024.

[575] Flinders and Hayes, "A Guide to AI in Marketing," March 10, 2025; Shopify, "Top 5 AI Content Creation Tools," September 30, 2024.

[576] Shopify, "Top 5 AI Content Creation Tools," September 30, 2024.

Data management is another way firms use AI to enhance their advertising capabilities. They use AI in managing multiple ad campaigns by streamlining the data review process. Managing multiple ad campaigns typically requires time and resources to review ad performance metrics to determine and identify underperforming ads. A 2024 report suggests that advertisers can potentially use AI to generate a reporting tool to identify when an ad has collected a sufficient amount of data, analyze it, and recommend whether the firm should continue or stop an ad campaign.[577]

Despite the potential benefits of AI in advertising services, concerns persist regarding the implementation of AI tools in the advertising industry. One notable concern is the protection of customer data and adherence to data protection regulations.[578] Because AI tools used in advertising often incorporate personal data from customers, industry analysts have voiced concerns that customer data may be misused or compromised.[579] An additional concern for advertising firms is whether their use of AI will increase the difficulty of demonstrating compliance with data governance regulations.[580] As customer data are acquired and AI tools use these data in new ways over time, companies will need to ensure that they comply with existing AI-related regulations and that their terms and conditions statements and customers' data privacy rights are not violated.[581] These issues may prompt advertisers to audit their AI systems and develop data governance tools to ensure that customer data are not misused.[582]

Outlook

Advertising services are expected to grow further in the future through the effects of an increasingly digitalized economy that will allow firms to reach consumers through digital media such as streaming services, social media platforms, and online search engines.[583] More people have gained access to the internet in their homes in the United States, providing more avenues for advertisers to reach consumers.

[577] Baldassarre, "How AI Is Revolutionizing Digital Advertising In 2024," August 9, 2024.
[578] *Forbes*, "11 Risks To Using AI In Marketing," April 25, 2024; ProcureCon Marketing, "The Legal and Privacy Implications of AI in Marketing," November 2025; Baldassarre, "How AI Is Revolutionizing Digital Advertising In 2024," August 9, 2024.
[579] Clark, "The Ethical Dilemma of AI In Marketing," March 14, 2024; ProcureCon Marketing, "The Legal and Privacy Implications of AI in Marketing," November 2025.
[580] Clark, "The Ethical Dilemma of AI In Marketing," March 14, 2024; ProcureCon Marketing, "The Legal and Privacy Implications of AI in Marketing," November 2025.
[581] Clark, "The Ethical Dilemma of AI In Marketing," March 14, 2024; *Forbes*, "11 Risks To Using AI In Marketing," April 25, 2024; ProcureCon Marketing, "The Legal and Privacy Implications of AI in Marketing," November 2025; Baldassarre, "How AI Is Revolutionizing Digital Advertising In 2024," August 9, 2024.
[582] Clark, "The Ethical Dilemma of AI In Marketing," March 14, 2024; ProcureCon Marketing, "The Legal and Privacy Implications of AI in Marketing," November 2025.
[583] PwC, "Perspectives from the Global Entertainment & Media Outlook," July 16, 2024; Harlow, "How Effective Are Ads on Social Media?," June 5, 2023; Aho Williamson, "Social Media Isn't Dying—It's Still Growing," July 11, 2023; Statista, *Advertising: Market Data & Analysis*, November 2024.

Projections indicate that consumers in the United States will continue to spend more of their time consuming digital media, increasing their demand for advertising services.[584]

Advertisers have increasingly used social media to reach consumers.[585] In the United States, the number of social media users is expected to continue to grow and spur further increases to advertisement spending, taking advantage of AI to advertise and target audiences.[586] The adoption of AI is also expected to grow and become a greater tool in advertising services by analyzing customer behavior and more effectively targeting consumers.[587]

[584] LRG, "Actionable Research on the Broadband, Media & Entertainment Industries," 2023; Cramer-Flood, "US Time Spent with Media Forecast 2023," July 11, 2023; Statista, *Advertising: Market Data & Analysis*, November 2024; PwC, "Perspectives from the Global Entertainment & Media Outlook," July 16, 2024; Cramer-Flood, "US Time Spent With Media Forecast 2023," July 11, 2023.
[585] Yuen, "Traditional Search . . . US Ad Dollars in 2024," June 14, 2024; Harlow, "How Effective Are Ads on Social Media?," June 5, 2023.
[586] Davenport and Mittal, "How Generative AI Is Changing Creative Work," November 14, 2022; Flinders and Hayes, "A Guide to AI in Marketing," March 10, 2025; Shopify, "Top 5 AI Content Creation Tools," September 30, 2024; Aho Williamson, "Social Media Isn't Dying—It's Still Growing," July 11, 2023; Yuen, "Traditional Search . . . US Ad Dollars in 2024," June 14, 2024; Harlow, "How Effective Are Ads on Social Media?," June 5, 2023.
[587] PwC, "Perspectives from the Global Entertainment & Media Outlook," July 16, 2024; Ezzat, "Enhance the Advertising Effectiveness by Using Artificial Intelligence (AI)," January 3, 2024; Marr, "Artificial Intelligence and the Future of Marketing," September 9, 2022; Flinders and Hayes, "A Guide to AI in Marketing," March 10, 2025; Baldassarre, "How AI Is Revolutionizing Digital Advertising In 2024," August 9, 2024; Shopify, "Top 5 AI Content Creation Tools," September 30, 2024.

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Chapter 5
Roundtable Summary

Each year, the U.S. International Trade Commission (Commission or USITC) hosts a roundtable to facilitate conversations among individuals from government, industry, and academia on issues affecting services trade.[588] The 18th Annual Services Roundtable was held on Wednesday, October 30, 2024, at Commission headquarters. This year's roundtable focused on the discussion question: "How can we ensure that the United States has the workforce it needs to be competitive in global services markets?" Following introductory remarks by Commission Chair Amy Karpel, Commissioner David S. Johanson moderated the discussion.

Persistent Labor Shortages Reported in Services Industries

In response to the question, "Where do you see significant labor shortages and skills gaps," roundtable participants suggested that widespread workforce gaps affect U.S. services industries. A participant from a business advocacy group cited worker shortage index data indicating that only 85 workers are available for every 100 job openings nationwide, with even fewer available in specific industries such as professional services (50 workers per 100 jobs) and financial services (60 workers per 100 jobs).

A participant from a management consulting firm said that the labor shortage is a global challenge, particularly in developed economies and parts of emerging East Asia. Stable demand, aging demographics, and constrained labor supply are creating a structural shortage that is not limited to the United States or Japan but is instead a worldwide issue with regional differences. The participant also discussed the intersection of industrial policy and labor shortages, stating that sectors such as manufacturing, construction, and supply chains are facing both supply-side constraints (aging workforce, health-care issues, limited immigration) and demand-side pressures driven by large-scale investments in infrastructure and technology. Another participant from an industry-led body cited a UK survey indicating that 57 percent of participants in the professional and business services industries reported labor shortages and difficulty in recruiting, indicating that workforce shortages are an issue in other developed economies as well as the United States.

The engineering profession was cited as experiencing shortages, with a projected need for 23,000 civil engineers annually but only 12,000–13,000 graduates entering the workforce each year. A participant from a legal services firm noted the challenge of opening offices outside the United States due to restrictions on hiring locally licensed lawyers in foreign countries. Even though many foreign nationals attend U.S. law schools and take the bar exam—particularly in states like New York—navigating these restrictions remains a significant hurdle for legal firms looking to expand internationally.

[588] The Services Roundtable is an off-the-record event; its participants are not named in this summary and no transcript is available to the public.

Another participant stated that the legal profession faces geographic labor imbalances, with one-quarter of the 1.3 million U.S. lawyers concentrated in New York and California; regions considered "legal deserts"—such as South Carolina, Arizona, and Idaho—had significantly fewer attorneys. The participant noted that the legal profession was facing challenges due to declining enrollment in law schools and the need for lawyers in underserved regions.

Education and Development Initiatives

The discussion focused on gaps in education and workforce preparedness. A participant from the Commission noted that U.S. schools and universities produce a significant number of graduates but many struggle to find employment within the first two years. The participant cited studies indicating that graduates who fail to secure a strong entry-level position in the first two years are more likely to remain underemployed 10 years later. The participant also noted that schools and universities are providing needed technical skills but that certain soft skills—such as professional communication skills—are missing from the emerging workforce. A participant from a business advocacy group highlighted the importance of digital skills in the services industry and noted the skills gap particularly in high-skilled services such as information technology (IT) research and design. The participant said that, because of this gap, a wide-ranging effort exists across the services sector to provide worker reskilling programs—primarily digitally focused—beginning at the high school level.

Several participants expressed the view that a greater investment in apprenticeships and on-the-job training programs may help to bridge the skills gap. Participants from industries such as digital services, insurance, and engineering suggested that structured apprenticeships and mentoring programs could help workers acquire both technical and soft skills. One participant discussed how the efforts to diversify the Las Vegas economy after the COVID-19 pandemic led to a downturn in the city's tourism industry. The participant noted that the lack of skilled labor in artificial intelligence (AI) and digital services made it hard to attract businesses to the region, despite advantages such as a low-income tax rate and an affordable cost of living. The participant also said that to address these challenges, a local university has launched a paid internship program that funds student placements at startups and small businesses.

Characteristics of the U.S. Services Workforce

As part of a discussion on workforce characteristics, a participant from academia noted that workers in tradable services industries—such as financial services, legal services, and consulting services—tend to have higher education levels than the average U.S. worker. The participant noted that these workers are largely concentrated in major metropolitan areas and earn relatively high wages.

A participant representing the insurance industry indicated that the majority of new workers in that industry are women. Another participant, from the film and television industry, reported achieving relatively balanced gender representation with a highly unionized workforce, and noted that union jobs include positions at all skill levels, many of which do not require a college degree. A participant from the legal services industry shared that only one in five lawyers is a person of color (a term used by the participant), and 39 percent of lawyers are women. A participant from the architectural services industry noted that women make up 26 percent of that workforce, which represents significant historical growth.

The participant said that the architecture industry suffers from a gap in mid-career professionals, largely due to the "Great Recession," which poses a challenge for succession planning and the future of firms.

Role of Foreign Nationals in the U.S. Services Workforce

In response to questions on the role of foreign workers in the U.S. services industry, an engineering participant discussed the impact of government programs such as the Bipartisan Infrastructure Law, the CHIPS and Science Act, and the Inflation Reduction Act (IRA) on labor demand. The participant noted that sustained demand and aging demographics create a trend of deepening workforce gaps in the United States and other developed economies. The participant reported that migrants help fill the workforce gaps created by aging demographics and declining birth rates experienced in developed economies. A participant from the finance industry discussed the importance of foreign expertise and foreign management. The participant noted that the ability to transfer foreign senior management between countries has been gradually constrained in the last five years and that this has restricted competitiveness for firms that are now not able to fluidly move the best personnel for senior positions. Another participant, speaking broadly about all industries, added that U.S. competitiveness is hampered by limitations on international staff mobility due to taxation issues, the ability to move pensions across borders, and recognition of the qualifications of foreign workers.

A participant representing Australia discussed Australia's skills shortage and its effort to increase skilled migration. The participant said that Australia uses a point system based on qualifications to fill workforce gaps in targeted industries. The participant also shared information about the U.S.-Australia skilled migration visa program—associated with the 2005 U.S.-Australia Free Trade Agreement—which allows qualified Australians to work in the United States. The participant noted that the program has never reached the maximum-agreed number of visas of 10,500, likely because efforts to address skills gaps are not centralized in the United States. Participants from the engineering and legal services industries discussed challenges of licensing and credential recognition between the United States and foreign countries. A participant noted that the United States has 55 engineering licensing jurisdictions and that can be a barrier to foreign engineers filling workforce gaps. Reciprocity agreements, which have been made by several states, may help to overcome the barriers, and more jurisdictions may adopt the agreements over time.

Several participants from academia agreed on the importance of foreign students as a source of revenue for public and private U.S. universities. Participants viewed the visa system as an impediment to maintaining universities as a healthy supply of skilled labor for the U.S. services workforce. A participant from the film industry commented that visa turnarounds from the U.S. State Department have been remarkably quick for talent and crew from overseas to come to the United States and that 2023 saw the highest number of visas processed in the industry since 2017.

The Role of AI in Reshaping Services

A common theme of the roundtable discussion was the impact of digital transformation, particularly by AI, on the services workforce. A participant from the digital services industry cited data indicating that AI

is expected to augment or replace a significant portion of tasks across the broad workforce. A participant from academia noted firm-level research showed that a higher level of AI exposure increases demand for high-skilled workers.

Several participants noted that AI adoption is not uniform across industries. Sectors such as legal services, financial services, and professional consulting are among those most exposed to AI-driven automation; in contrast, fields like health care, construction, and logistics remain relatively insulated due to licensing requirements and their reliance on human interaction and physical tasks. A participant from the technology services industry remarked that AI technology is a fast-changing space in the early days of use and adoption—that people are moving beyond chat bots toward broader adoption.

AI and Workforce Adaptation

Participants discussed how reskilling programs have helped workers adapt to changing job requirements. A participant from a professional services platform said that 80 percent of workers will have their jobs augmented in some way by generative AI (GenAI) and noted that effectively no one's job will look the same five years from now. A participant from the consulting services industry estimates only a 20 percent addition to employment disruption caused by GenAI compared to pre-GenAI disruption. Despite the uncertainty, the participant expected a lower level of disruption than previous industrial revolutions.

One participant from a policy think tank referenced a study that suggests AI has the greatest positive impact on productivity when it supports lower-skilled or novice workers, allowing them to perform tasks more efficiently. The participant noted that the concern of AI replacing novice or lower-skilled workers is well-placed—compared to a minimal impact for higher-skilled workers—but also suggested that AI is an opportunity to enhance productivity and learning. Another participant indicated that the engineering profession is exploring AI-driven design tools and automation in infrastructure planning, though human judgment remains crucial in decision-making.

Several participants mentioned the importance of developing a national AI and digital skills strategy. Additionally, several industry representatives expressed support for stronger collaboration among government, businesses, and educational institutions to ensure that the workforce is equipped with needed technical and problem-solving skills. One participant from a think tank noted that current educational systems tend to focus on technical skills but neglect critical thinking and workplace communication, which are becoming increasingly important in the AI-driven economy.

A participant from a policy think tank discussed the role of apprenticeships in workforce development, highlighting that registered apprenticeship programs provide structured, paid training opportunities with built-in career progression. The participant reported that these programs are particularly useful for reskilling workers impacted by automation and AI.

Challenges and Opportunities in AI Implementation

A participant from the legal services industry noted that AI is already transforming legal work—a high-skilled service—particularly in transactional law, due diligence, and contract analysis. The participant

indicated that the shift raises questions about ethics (including confidentiality issues), regulatory oversight, and the future role of entry-level lawyers. The participant also noted how rapidly GenAI is becoming a substitute for many of the traditional skillsets of lawyers. The participant cited a Thomson Reuters survey that found that GenAI is the number one issue that will impact law firms in the next five years. Another challenge discussed by this participant was pricing. The participant indicated that legal services have traditionally been priced using billable hours and GenAI will fundamentally alter that paradigm. The participant suggested that broader adoption will depend on factors such as regulatory clarity, data privacy protections, and investment in infrastructure.

Another participant from a trade association compared AI's impact to the advent of electricity, noting that AI has the potential to revolutionize business operations but disparities in access to digital infrastructure and training could widen economic inequality. Several participants raised concerns about the digital divide, particularly in rural areas and other communities in which access to AI-driven tools and training remains limited.

Appendix A
Selected Services-Related Commission Publications and Staff Research

This appendix provides summaries of and links to recent U.S. International Trade Commission (USITC or Commission) publications—reports and shorter papers—that feature topics in services trade. Reports are prepared under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)) in response to a request from the U.S. Trade Representative, the U.S. House of Representatives Committee on Ways and Means, the U.S. Senate Committee on Finance, or either chamber in Congress. The working paper and Executive Briefing on Trade summarized below present research by the Commission's Services Division staff on services trade topics. These shorter papers solely represent the opinions and professional research of their authors. They are not meant to represent in any way the views of the Commission, any of its individual Commissioners, or the U.S. government.

332 Investigations

Recent Trends in U.S. Services Trade: 2024 Annual Report

Investigation Number 332-601, May 2024

https://www.usitc.gov/publications/industry_econ_analysis_332/2024/recent_trends_us_services_trade_2024_annual_report

Rudy Telles Jr. (Office of Industry and Competitiveness Analysis, Services Division) and Theron Gray (Office of Industry and Competitiveness Analysis, Services Division)

This report describes recent trends in U.S. services trade and developments in U.S. services industries' competitiveness. Specifically, it focuses on recent developments in U.S. trade in financial services, notably in the context of a pronounced increase in global inflation from 2021 to 2022 and subsequent volatility in global interest rates. The report also includes specific discussions of recent global developments in banking, insurance, and securities services, which are addressed in two chapters that focus on two overarching themes. One discusses how financial services firms are embracing digitalization and looking to incorporate new artificial intelligence technologies. The other focuses on the rising demand for new financial products and services that address concerns for sustainability and financial inclusion as well as support growth in emerging markets.

Working Papers

"Estimating Trade Costs of Non-Tariff Measures in Services: A Comparison of Methods and Measures"

https://www.usitc.gov/publications/332/working_papers/estimating_trade_costs_of_non-tariff_mesaures_in_services.pdf

Sarah Oliver (Office of Industry and Competitiveness Analysis, Services Division), June 2024

This paper considers the effectiveness of recent methodologies proposed by Heid, Larch, and Yotov (2021) and Herman (2022) to estimate tariff equivalent trade costs for non-tariff measures (NTMs) in

cross-border services trade. Both estimation methods show that for most services trade categories across four indices measuring services NTMs, tariff equivalent trade costs are significantly higher for exporters to countries with stricter NTMs, suggesting that both methodologies are successful at capturing variation in trade costs across different markets. Additionally, for transportation, banking, and insurance services, the difference in estimated tariff equivalent trade costs between the Heid, Larch, and Yotov (2021) and Herman (2022) methods were smaller than 5 percentage points, suggesting that the Herman (2022) methodology could be useful in cases where collection of domestic trade data required for the Heid, Larch, and Yotov (2021) method are unfeasible.

Executive Briefings on Trade

"High-Income Countries Account for Small Share of UK Skilled Worker Visa Issuances"

https://www.usitc.gov/publications/332/executive_briefings/ebot_issuances_of_uk_skilled_worker_visas.pdf

Jennifer Powell (Office of Industry and Competitiveness Analysis, Services Division), July 2024

Following the enactment of new immigration rules in December 2020, UK visa issuances to skilled workers grew substantially. However, trends in issuances to higher-income country workers—including U.S. workers—differed from issuances to workers from other countries. This brief reviews trends in UK visa issuances to skilled workers, an indicator of Mode 4 services trade, focusing on issuances to U.S. and other high-income country nationals.

Appendix B
Corresponding Tables: Corresponding Data Tables for Figures

Table B.1 Real value added by U.S. industry, 2019–23

In trillions of dollars. This table corresponds to figure 1.2.

Type of industry	2019	2020	2021	2022	2023
Private goods-producing industries	3.6	3.5	3.6	3.6	3.7
Private services-producing industries	14.6	14.3	15.4	15.9	16.4

Source: USDOC, BEA, "Real Value Added by Industry," September 26, 2024.

Notes: Estimates are (inflation-adjusted) 2017 dollars. Private goods-producing industries include agriculture, forestry, fishing, and hunting; mining; construction; and manufacturing. Private service-producing industries include utilities; wholesale trade; retail trade; transportation and warehousing; information; finance, insurance, real estate, rental, and leasing; professional and business services; educational services, health care, and social assistance; arts, entertainment, recreation, accommodation, and food services; and other services, except government services.

Table B.2 Global services: cross-border exports of commercial services, by country, 2023

In billions of dollars (billion $) and percentages (%). This table corresponds to figure 1.3.

Country	Billion $	Share of total (%)
United States	994	12.7
United Kingdom	581	7.4
Germany	433	5.5
Ireland	397	5.1
China	380	4.9
France	359	4.6
India	337	4.3
Singapore	328	4.2
Netherlands	309	4.0
Japan	203	2.6
All other countries	3,501	44.8
Total	7,822	100.0

Source: WTO, "Trade in Commercial Services," accessed September 26, 2024.

Notes: Exports of commercial services exclude public-sector transactions. Because of rounding, shares may not add to 100 percent.

Table B.3 Global services: cross-border imports of commercial services, by country, 2023

In billions of dollars (billion $) and percentages (%). This table corresponds to figure 1.4.

Country	Billion $	Share of total (%)
United States	723	10.0
China	549	7.6
Germany	500	6.9
United Kingdom	389	5.4
Ireland	389	5.4
France	320	4.4
Netherlands	296	4.1
Singapore	295	4.1
India	245	3.4
Japan	223	3.1
All other countries	3,318	45.8
Total	7,249	100.0

Source: WTO, "Trade in Commercial Services," accessed September 26, 2024.

Notes: Imports of commercial services exclude public-sector transactions. Because of rounding, shares may not add to 100 percent.

Table B.4 U.S. private services: cross-border exports and imports, 2019–23

In millions of dollars. This table corresponds to figure 1.5.

Year	U.S. cross-border exports of private services	U.S. cross-border imports of private services
2019	868,642	569,313
2020	704,320	442,558
2021	782,032	544,469
2022	919,786	688,339
2023	993,829	722,681

Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Table B.5 U.S. private services: cross-border exports, by category, 2023

In millions of dollars (million $) and percentages (%). This table corresponds to figure 1.6.

Type of industry	Million $	Share of total (%)
Professional services	378,177	38.1
Financial services	200,446	20.2
Travel services	174,765	17.6
Digital and electronic services	137,734	13.9
Distribution services	91,582	9.2
All other services	11,125	1.1
Total	993,829	100.0

Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
Note: Because of rounding, shares may not add to 100 percent.

Table B.6 U.S. private services: cross-border imports, by category, 2023

In millions of dollars (million $) and percentages (%). This table corresponds to figure 1.7.

Type of industry	Million $	Share of total (%)
Travel services	211,784	29.3
Professional services	184,694	25.6
Financial services	127,298	17.6
Digital and electronic services	104,543	14.5
Distribution services	87,290	12.1
All other services	7,072	1.0
Total	722,681	100.0

Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
Note: Because of rounding, shares may not add to 100 percent.

Table B.7 U.S. private services: cross-border exports, by country, 2023

In millions of dollars (million $) and percentages (%). This table corresponds to figure 1.8.

Country	Million $	Share of total (%)
United Kingdom	90,445	9.1
Canada	85,437	8.6
Ireland	84,328	8.5
Switzerland	49,590	5.0
British Caribbean territories	49,310	5.0
China	46,170	4.6
Mexico	44,050	4.4
Japan	43,623	4.4
Germany	42,030	4.2
All other countries	458,846	46.2

Country	Million $	Share of total (%)
Total	993,829	100.0

Source: USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.
Notes: Exports of commercial services exclude public sector transactions. Because of rounding, shares may not add to 100 percent. The BEA category "United Kingdom Islands, Caribbean" includes the following UK overseas territories: the British Virgin Islands, the Cayman Islands, Montserrat, and the Turks and Caicos Islands.

Table B.8 U.S. private services: cross-border imports, by country, 2023

In millions of dollars (million $) and percentages (%). This table corresponds to figure 1.9.

Country	Million $	Share of total (%)
United Kingdom	85,235	11.8
Canada	54,012	7.5
Germany	45,796	6.3
Mexico	44,772	6.2
India	36,351	5.0
Bermuda	33,545	4.6
Japan	32,953	4.6
Switzerland	30,341	4.2
France	27,301	3.8
All other countries	332,375	46.0
Total	722,681	100.0

Source: USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.
Notes: Imports of commercial services exclude public sector transactions. Because of rounding, shares may not add to 100 percent.

Table B.9 U.S. services: affiliate sales and purchases, 2018–22

In millions of dollars. This table corresponds to figure 1.10.

Year	Sales by U.S.-owned foreign affiliates	Purchases from foreign-owned U.S. affiliates
2018	1,679,254	1,192,047
2019	1,731,363	1,236,728
2020	1,663,588	1,162,149
2021	2,000,384	1,314,053
2022	2,114,112	1,517,825

Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024, and table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Notes: MNEs = multinational enterprises. Sales by U.S.-owned foreign affiliates include services supplied by majority-owned foreign affiliates of U.S. parent firms. Purchases from foreign-owned U.S. affiliates includes services supplied by majority-owned U.S. affiliates of foreign parent firms.

Table B.10 U.S. services: affiliate sales by U.S.-owned foreign affiliates by industry, 2022

In millions of dollars (million $) and percentages (%). This table corresponds to figure 1.11.

Type of industry	Million $	Share of total (%)
Distribution services	563,279	26.6
Financial services	319,160	15.1
Digital and electronic services	637,373	30.1
Professional services	176,511	8.3
Manufacturing	36,713	1.7
Mining	35,471	1.7
All other services	345,605	16.3
Total	2,114,112	100.0

Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024.

Notes: MNEs = multinational enterprises. Professional services are underreported because health care and social assistance services data are suppressed. "Manufacturing" includes ancillary services provided by goods manufacturers. Other services include services supplied by majority-owned foreign affiliates of U.S. parent firms. Distribution services, digital and electronic services, professional services, and all other services are underreported because of suppression of data. Because of rounding, shares may not add to 100 percent.

Table B.11 U.S. services: purchases from foreign-owned U.S. affiliates, 2022

In billions of dollars (billion $) and percentages (%). This table corresponds to figure 1.12.

Type of industry	Billion $	Share of total (%)
Distribution services	528,549	34.8
Financial services	228,215	15.0
Digital and electronic services	222,299	14.6
Professional services	171,185	11.3
Manufacturing	95,463	6.3
Mining	42,884	2.8
All other services	229,230	15.1
Total	1,517,825	100.0

Source: USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.

Notes: MNEs = multinational enterprises. Digital and electronic services and all other services are underreported because of the suppression of data. "All other services" includes ancillary services provided in the mining, agriculture, and other sectors, as well as suppressed data. Beginning with the 2018 *Recent Trends in U.S. Services Trade* report, software publishing was reallocated from "All other services" to "Digital and Electronic Services" to better reflect the industry composition. Therefore, digital and electronic services data in this report, and in all *Recent Trends* reports published in 2018 and later, cannot be directly compared with such data in USITC reports published before 2018. Because of rounding, shares may not add to 100 percent.

Table B.12 Professional services: cross-border exports and imports, 2019–23

In billions of dollars (billion $). This table corresponds to figure 2.1.

Year	U.S. cross-border exports of professional services	U.S. cross-border imports of private services
2019	309	154
2020	291	146
2021	325	167
2022	365	187
2023	378	185

Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Note: Total imports and exports include services for education and health care as defined in appendix C, table C.2.

Table B.13 Professional services: U.S. cross-border exports, by country, 2023

In millions of dollars (million $) and percentages (%). This table corresponds to figure 2.2.

Country	Million $	Share of total (%)
Ireland	55,931	14.8
Switzerland	35,288	9.3
Canada	25,895	6.8
Netherlands	25,151	6.7
China	22,016	5.8
United Kingdom	19,979	5.3

Country	Million $	Share of total (%)
India	14,586	3.9
Singapore	13,048	3.5
Japan	12,671	3.4
Mexico	8,664	2.3
All other countries	144,947	38.3
Total	378,176	100.0

Source: USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," July 3, 2024.
Note: Because of rounding, figures may not add to 100 percent. Total exports include services for education and health care as defined in appendix C, table C.2.

Table B.14 Professional services: U.S. cross-border imports, by country, 2023

In millions of dollars (million $) and percentages (%). This table corresponds to figure 2.3.

Country	Million $	Share of total (%)
United Kingdom	24,385	13.2
India	16,929	9.2
Canada	13,762	7.5
Germany	12,257	6.6
Japan	11,346	6.1
Ireland	10,759	5.8
Switzerland	7,779	4.2
China	7,138	3.9
Mexico	6,246	3.4
Netherlands	6,175	3.3
All other countries	67,918	36.8
Total	184,694	100.0

Source: USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," December 3, 2024.
Note: Because of rounding, figures may not add to 100 percent. Total imports include services for education and health care as defined in appendix C, table C.2.

Table B.15 Professional services: U.S. cross-border exports, by service industry, 2023

In millions of dollars (million $) and percentages (%). This table corresponds to figure 2.4.

Type of industry	Million $	Share of total (%)
Research and development services	118,890	31.4
Management consulting services	104,441	27.6
Education services	54,848	14.5
Advertising services	24,295	6.4
Legal services	17,495	4.6
Maintenance and repair services	15,948	4.2
Architectural and engineering services	12,109	3.2
Accounting and auditing services	4,213	1.1
Health services	1,636	0.4
All other	24,649	6.5
Total	378,524	100.0

Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," December 3, 2024.

Note: Because of rounding, figures may not add to 100 percent. Research and development (R&D) services include licenses for the outcomes of R&D. Education includes related travel services. See appendix C, table C.2 for a listing of service sectors included in professional services cross-border trade data.

Table B.16 Professional services: U.S. cross-border imports, by industry, 2023

In millions of dollars (million $) and percentages (%). This table corresponds to figure 2.5.

Type of industry	Million $	Share of total (%)
Research and development services	57,274	31.0
Management consulting services	53,672	29.1
Education services	13,664	7.4
Architectural and engineering services	12,681	6.9
Accounting and auditing services	8,378	4.5
Advertising services	6,660	3.6
Maintenance and repair services	6,470	3.5
All other	25,895	14.0
Total	184,694	100.0

Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," December 3, 2024.

Note: Because of rounding, figures may not add to 100 percent. Research and development (R&D) services include licenses for the outcomes of R&D. Education services include related travel services. See appendix C, table C.2 for a listing of service sectors included in professional services cross-border trade data.

Table B.17 Professional services: sales by U.S.-owned foreign affiliates, by industry, 2022

In millions of dollars (million $) and percentages (%). This table corresponds to figure 2.6.

Type of industry	Million $	Share of total (%)
Architectural, engineering, and related services	29,805	16.9
Accounting, tax preparation, bookkeeping, and payroll services	16,357	9.3
Scientific research and development services	12,426	7.0
Legal services	9,775	5.5
Educational services	3,967	2.2
Waste management and remediation services	3,759	2.1
Management of nonbank companies and enterprises	2,311	1.3
All other services	98,111	55.6
Total	176,511	100.0

Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs Through Their MOFAs, by Industry of Affiliate and by Country of Affiliate," July 3, 2024.

Notes: MNEs = multinational enterprises. Because of rounding, shares may not add to 100 percent. Of the professional services categories discussed in this report, data on advertising and related services and management, scientific, and technical consulting are suppressed in 2022 to avoid disclosure of individual company data. These sectors are included in the "All other" category.

Table B.18 Professional services: purchases from foreign-owned U.S. affiliates, 2022

In millions of dollars (million $) and percentages (%). This table corresponds to figure 2.7.

Type of industry	Million $	Share of total (%)
Advertising and related services	42,874	25.0
Management, scientific, and technical consulting	30,394	17.8
Architectural, engineering, and related services	22,151	12.9

Type of industry	Million $	Share of total (%)
Scientific research and development services	6,680	3.9
Educational services	3,121	1.8
All other services	65,965	38.5
Total	171,185	100.0

Source: USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs Through Their MOUSAs, by Industry of Affiliate and by Country of UBO," October 8, 2024.
Note: MNEs = multinational enterprises; MOUSAs = majority-owned U.S. affiliates; UBO = ultimate beneficial owner. Because of rounding, figures may not add to 100 percent.

Table B.19 Legal services: U.S. cross-border exports and imports, 2019–23

In millions of dollars. This table corresponds to figure 2.8.

Year	U.S. cross-border exports	U.S. cross-border imports
2019	13,102	4,442
2020	13,680	4,786
2021	16,066	4,973
2022	16,277	5,053
2023	17,495	5,340

Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Table B.20 Legal services: U.S. affiliate sales and purchases, 2018–22

In millions of dollars. This table corresponds to figure 2.9.

Year	Services supplied by U.S. firms' foreign affiliates	Services supplied by U.S. affiliates of foreign firms
2018	7,559	141
2019	7,759	92
2020	8,385	80
2021	9,957	97
2022	9,775	204

Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs Through Their MOFAs, by Industry of Affiliate and by Country of Affiliate," October 8, 2024, and USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Note: MNEs = multinational enterprises; MOFAs = majority-owned foreign affiliates; MOUSAs = majority-owned U.S. affiliates; UBO = ultimate beneficial owner.

Table B.21 Architectural, engineering, scientific, and other technical services: U.S. cross-border exports and imports, 2019–23

In millions of dollars. This table corresponds to figure 2.10.

Year	U.S. cross-border exports	U.S. cross-border imports
2019	12,219	7,906
2020	10,080	9,035
2021	10,104	11,722
2022	11,482	15,157
2023	12,109	12,681

Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Table B.22 Architectural, engineering and related services: U.S. affiliate sales and purchases, 2018–22

In millions of dollars. d.s. = data are suppressed to protect confidentiality. This table corresponds to figure 2.11.

Year	Services supplied by U.S. firms' foreign affiliates	Services supplied by U.S. affiliates of foreign firms
2018	32,278	17,258
2019	30,176	19,509
2020	d.s.	19,504
2021	28,574	19,138
2022	29,805	22,151

Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs Through Their MOFAs, by Industry of Affiliate and by Country of Affiliate," October 8, 2024, and USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Note: MNEs = multinational enterprises; MOFAs = majority-owned foreign affiliates; MOUSAs = majority-owned U.S. affiliates; UBO = ultimate beneficial owner.

Table B.23 Accounting and auditing services: U.S. cross-border exports and imports, 2019–23

In millions of dollars. This table corresponds to figure 2.12.

Year	U.S. cross-border exports	U.S. cross-border imports
2019	2,566	5,028
2020	3,337	6,237
2021	3,247	6,546
2022	3,333	7,544
2023	4,213	8,378

Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Table B.24 Accounting and auditing services: U.S. affiliate sales and purchases, 2018–22

In millions of dollars. d.s. = data are suppressed to protect confidentiality. This table corresponds to figure 2.13.

Year	Services supplied by U.S. firms' foreign affiliates	Services supplied by U.S. affiliates of foreign firms
2018	14,858	427
2019	14,465	385
2020	13,904	426
2021	15,830	444
2022	16,357	537

Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs Through Their MOFAs, by Industry of Affiliate and by Country of Affiliate," October 8, 2024, and USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Note: MNEs = multinational enterprises; MOFAs = majority-owned foreign affiliates; MOUSAs = majority-owned U.S. affiliates; UBO = ultimate beneficial owner. Because of rounding, figures may not add to 100 percent.

Table B.25 Education services: U.S. cross-border exports and imports, 2019–23

In millions of dollars. This table corresponds to figure 2.14.

Year	U.S. cross-border exports	U.S. cross-border imports
2019	50,141	12,487
2020	42,895	7,530
2021	39,153	8,930

Year	U.S. cross-border exports	U.S. cross-border imports
2022	45,360	11,083
2023	54,848	13,664

Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Table B.26 Education services: U.S. affiliate sales and purchases, 2018–22

In millions of dollars. This table corresponds to figure 2.15.

Year	Services supplied by U.S. firms' foreign affiliates	Services supplied by U.S. affiliates of foreign firms
2018	7,179	2,569
2019	6,243	2,339
2020	4,303	2,478
2021	3,998	1,963
2022	3,967	3,121

Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs Through Their MOFAs, by Industry of Affiliate and by Country of Affiliate," October 8, 2024, and USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Note: MNEs = multinational enterprises; MOFAs = majority-owned foreign affiliates; MOUSAs = majority-owned U.S. affiliates; UBO = ultimate beneficial owner. Because of rounding, figures may not add to 100 percent.

Table B.27 Management consulting services: U.S. cross-border exports and imports, 2019–23

In millions of dollars. This table corresponds to figure 2.16.

Year	U.S. cross-border exports	U.S. cross-border imports
2019	65,697	39,436
2020	74,873	41,443
2021	90,775	46,521
2022	103,664	48,389
2023	104,441	53,672

Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Table B.28 Management, scientific, and technical consulting: U.S. affiliate purchases, 2018–22

In millions of dollars. d.s. = data are suppressed to protect confidentiality. This table corresponds to figure 2.17.

Year	Services supplied by U.S. affiliates of foreign firms
2018	26,280
2019	26,332
2020	23,128
2021	24,434
2022	30,394

Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024; USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Note: MNEs = multinational enterprises.

Table B.29 Advertising services: U.S. cross-border exports and imports, 2019–23

In millions of dollars. This table corresponds to figure 2.18.

Year	U.S. cross-border exports	U.S. cross-border imports
2019	21,523	6,002
2020	20,776	4,309
2021	23,280	5,395
2022	22,280	5,882
2023	24,295	6,660

Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Table B.30 Advertising and related services: U.S. affiliate sales and purchases, 2018–22

In millions of dollars. d.s. = data are suppressed to protect confidentiality. This table corresponds to figure 2.19.

Year	Services supplied by U.S. firms' foreign affiliates	Services supplied by U.S. affiliates of foreign firms
2018	17,243	38,684
2019	15,814	38,753
2020	14,373	38,033
2021	d.s.	39,208
2022	d.s.	42,874

Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs," October 8, 2024; USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.

Notes: MNEs = multinational enterprises. Services supplied by foreign affiliates of U.S. firms in 2021 and 2022 are not shown because data were suppressed by the BEA to protect confidentiality.

Table B.31 Business enterprise research and development (BERD) spending in the top five countries, 2017 and 2021

In billions of U.S. dollars. This table corresponds to figure 2.20.

Country	2017	2021
United States	405.4	565.4
China	341.8	488.5
Japan	132.9	135.1
South Korea	70.0	86.9
Germany	86.0	86.6

Source: OECD, "Main Science and Technology Indicators," March 2024.

Note: Due to classification issues, data for China is not strictly comparable to data for other economies.

Table B.32 R&D services: U.S. cross-border exports and imports, 2019–23

In millions of dollars. R&D = research and development. This table corresponds to figure 2.21.

Year	U.S. cross-border exports	U.S. cross-border imports
2019	102,845	56,829
2020	97,248	56,085
2021	112,085	61,310
2022	124,919	70,715
2023	118,890	57,274

Source: USDOC, BEA, table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.
Note: Exports and imports of R&D services include sale of licenses for outcomes of research and development and nonroutine testing and product development activities.

Table B.33 R&D services: U.S. cross-border exports and imports, select countries, 2023
In billions of dollars. This table corresponds to figure 2.22.

Country	Trade Flow	Licenses for the use of outcomes of R&D	R&D services
Ireland	Export	13.8	15.0
Ireland	Import	1.4	3.1
Switzerland	Export	13.8	9.1
Switzerland	Import	3.3	0.6
Netherlands	Export	12.5	1.2
Netherlands	Import	1.5	1.3
Japan	Export	2.2	3.2
Japan	Import	7.7	0.8
India	Export	0.7	0.1
India	Import	1.2	4.4
United Kingdom	Export	1.6	1.7
United Kingdom	Import	2.4	2.7

Source: USDOC, BEA, table 2.2, "U.S. Trade in Services, by Type of Service and by Country or Affiliation," December 3, 2024.

Table B.34 R&D services: U.S. affiliate sales and purchases, 2018–22
In millions of dollars. R&D = Research and development. This table corresponds to figure 2.23.

Year	Services supplied by U.S. firms' foreign affiliates	Services supplied by U.S. affiliates of foreign firms
2018	20,589	2,976
2019	9,399	3,886
2020	9,875	4,134
2021	11,286	5,293
2022	12,426	6,680

Source: USDOC, BEA, table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs Through Their MOFAs, by Industry of Affiliate and by Country of Affiliate," October 8, 2024, and USDOC, BEA, table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs," October 8, 2024.
Note: MNEs = multinational enterprises

Table B.35 Total number of accountants and auditors in the United States and total revenue for accounting services in the United States, 2019–23
In millions of dollars and thousands of accountants. This table corresponds to figure 3.1.

Year	Revenue (million $)	Number of accountants (thousands)
2019	41,744	1,964
2020	42,868	1,696
2021	46,169	1,630
2022	49,717	1,652
2023	53,236	1,624

Source: Census, "Accounting, Tax Preparation, Bookkeeping, and Payroll Services: U.S. Total," Business and Industry, accessed January 8, 2025; BLS, "Labor Force Statistics-Employed–Accountants and Auditors," Current Population Survey, accessed January 8, 2025.

Table B.36 Share of total U.S. social media ad spending, by platform, 2022–24

In percentages. This table corresponds to figure 4.1.

Year	Facebook	Instagram	TikTok	Snapchat	X
2022	49.7	32.9	9.3	5.2	2.8
2023	49.6	33.2	11.6	4.3	1.3
2024	47.3	35.6	12.2	4.0	0.9

Source: Emarketer, "US Social Media Ad Spending Share, by Platform, 2022–2024," August 22, 2

Appendix C
Categories by BEA Industries

Table C.37 Cross-border services trade by sector or industry

BEA = Bureau of Economic Analysis. n.e.s.o.i. = not elsewhere specified or included.

Sector	BEA industries
Distribution services	• Sea transport • Air transport (freight and port) • Other modes of transport • Trade-related services • Franchises and trademarks licensing fees
Digital and electronic services	• Audio-visual and related products • Telecommunications services • Computer services • Information services • Licenses for reproduction of audio-visual and computer software
Financial services	• Insurance services • Financial services
Professional services	• Maintenance and repair services not included elsewhere • Research and development services and licenses for the use of outcomes of research and development • Legal services • Accounting, auditing, and bookkeeping services • Business and management consulting and public relations services • Advertising • Architectural services • Engineering services • Scientific and other technical services • Health services and travel services (health related) • Education services and travel services (education related) • Other business services, not included elsewhere • Waste treatment and depollution
Travel services n.e.s.o.i.	• Business • Other personal • Air transport, passenger
All other services	• Construction • Agricultural and mining services • Operating leasing services • Artistic-related services • Heritage and recreational services

Source: USITC compiled sectors based on USDOC, BEA, categories presented in table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Table C.2 Professional services and related travel services cross-border trade by subsector or industry for chapter 2

BEA = Bureau of Economic Analysis. n.e.s.o.i. = not elsewhere specified or included.

Subsectors	BEA services types
Accounting, auditing, and related services	• Accounting, auditing, bookkeeping, and tax consulting services
Advertising and related services	• Advertising and related services
Architectural and engineering services	• Architectural services • Engineering services
Education services and related travel services	• Education services • Education related (personal travel)
Health services and related travel services	• Health services • Health related (personal travel)
Legal services	• Legal services
Maintenance and repair of services n.e.s.o.i.	• Maintenance and repair services, not elsewhere specified or included
Management consulting services	• Business and management consulting and public relations services
Research and development services	• Research and development services • Licenses for the use of outcomes of research and development
All other professional services	• Scientific and other technical services • Waste treatment and depollution • Other business services, not included elsewhere

Source: USITC compiled sectors based on USDOC, BEA, categories presented in table 2.1, "U.S. Trade in Services, by Type of Service," July 3, 2024.

Table C.3 Affiliate services trade by sector or industry

BEA = Bureau of Economic Analysis.

Sector	Affiliate services trades
Agriculture, forestry, fishing, and hunting	• Agriculture, forestry, fishing, and hunting
Distribution services	• Wholesale trade • Retail trade • Transportation and warehousing
Digital and electronic services	• Motion picture and sound recording industries • Telecommunications • Broadcasting • Data processing, hosting, and related services • Computer systems design and related services • Software publishing • Other information services
Financial services	• Finance and insurance • Rental and leasing (except real estate)
Manufacturing	• Manufacturing
Mining	• Mining
Professional services	• Architectural, engineering, and other technical services • Management, scientific and technical consulting • Legal services • Accounting, tax preparation, bookkeeping, and payroll services • Specialized design services • Scientific research and development services • Advertising and related services • Other professional, scientific, and technical • Management of nonbank companies and enterprises • Waste management and remediation services • Health care and social assistance • Educational services
All other services	• Newspaper, periodical, book, and database publishers • Utilities • Construction • Administrative and support services • Accommodations and food services • Arts, entertainment, and recreation • Other services (except public administration and private households) • Real estate

Source: USITC compiled sectors based on USDOC, BEA, categories presented in table 4.1, "Services Supplied to Foreign Persons by U.S. MNEs Through Their MOFAs, by Industry and Affiliate and by Country of Affiliate," October 8, 2024, and table 5.1, "Services Supplied to U.S. Persons by Foreign MNEs Through Their MOUSA, by Industry of Affiliate and by Country of UBO," October 8, 2024.