



Exports and imports by U.S. IP-intensive industries

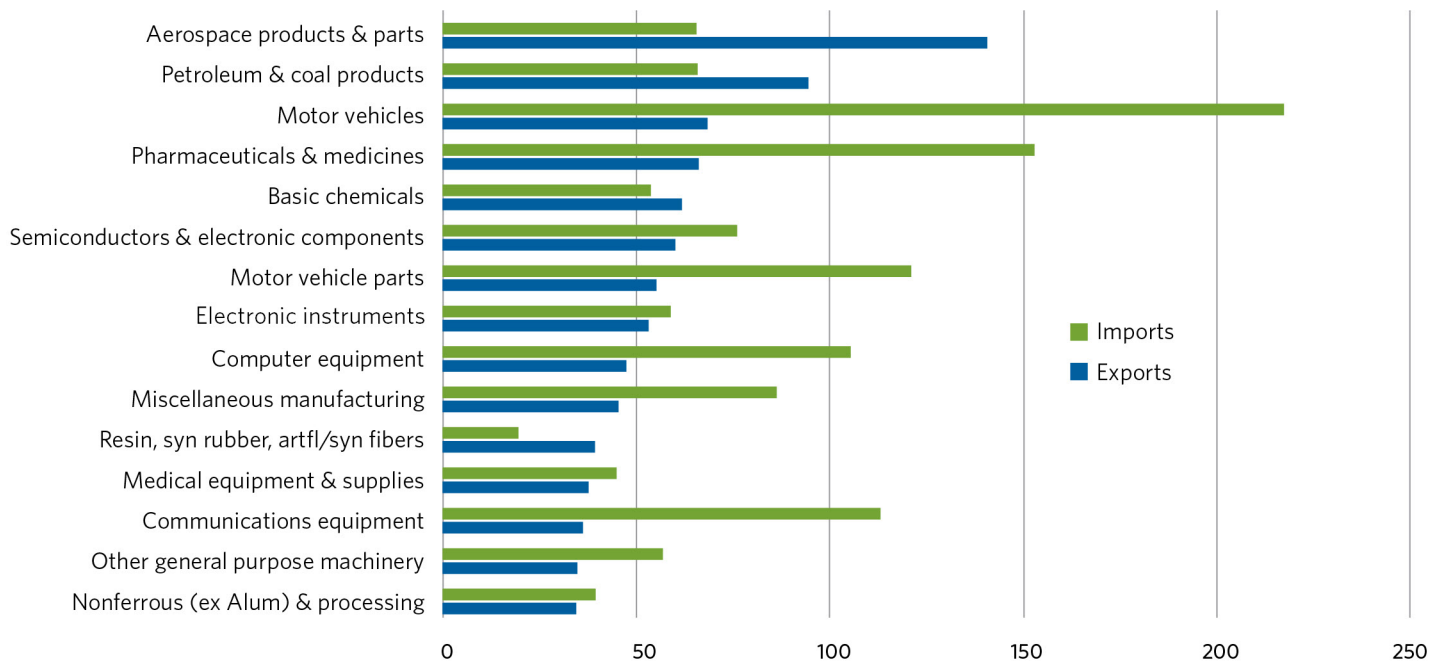
Introduction

The USPTO recently released *Intellectual property and the U.S. economy: Third edition*, which assessed the use of intellectual property (IP) across U.S. industries through 2019.¹ The report focused on the contributions to output and employment by industries that most intensively used IP (IP-intensive industries). It also highlighted the characteristics of jobs and workers in these industries. In this Economic Note, we complement those results with a look at these industries' foreign trade activities.

Commodity exports and imports of IP-intensive industries

In 2019, of the 103 industries identified as commodity-exporting industries, 76 were IP-intensive. These 76 industries accounted for \$1.31 trillion or 79% of all U.S. commodity exports in 2019. In fact, 18 of the 20 top exporting industries were found to intensively use intellectual property. By IP type, we find that those industries that intensively use design patents accounted for 78% of total commodity exports (69 of the 76 IP-intensive industries were design patent-intensive),

Figure 1: Import and export values of the top commodity exporters among IP-intensive industries, 2019



Source: USPTO calculations using data from the U.S. Census Bureau's Foreign Trade Division

Billions of dollars

utility patent-intensive industries accounted for 75% of commodity exports, and trademark-intensive industries accounted for 60% of commodity exports. Note that most industries were intensive users of more than one IP type. For this reason, the percentage shares sum to more than 100%. Imports of commodities in these industries totaled \$2.15 trillion or 84% of all U.S. commodity imports in 2019.

Figure 1 shows the total export and import values for top commodity exporting IP-intensive industries. The aerospace products and parts manufacturing industry was the leading commodity exporter in 2019, accounting for \$140 billion. Other leading industries included pharmaceuticals, petroleum and coal products, motor vehicles, basic chemicals, and semiconductor manufacturing. Exports from these 15 industries account for two-thirds of all commodity exports from IP-intensive industries and more than one-half of all U.S. commodity exports.

For most IP-intensive industries, the U.S. runs a trade deficit (i.e., imports exceed exports). Some industries – four of the top 15 exporting IP-intensive industries – ran a trade surplus: aerospace products and parts, petroleum and coal products, basic chemicals, and synthetic rubbers and fibers. Overall, the U.S. ran a trade surplus in 15 of the 76 commodity-exporting IP-intensive industries. Compare this to the nine (of 27) industries that do not intensively use IP that ran a trade surplus.

Services exports of IP-intensive industries

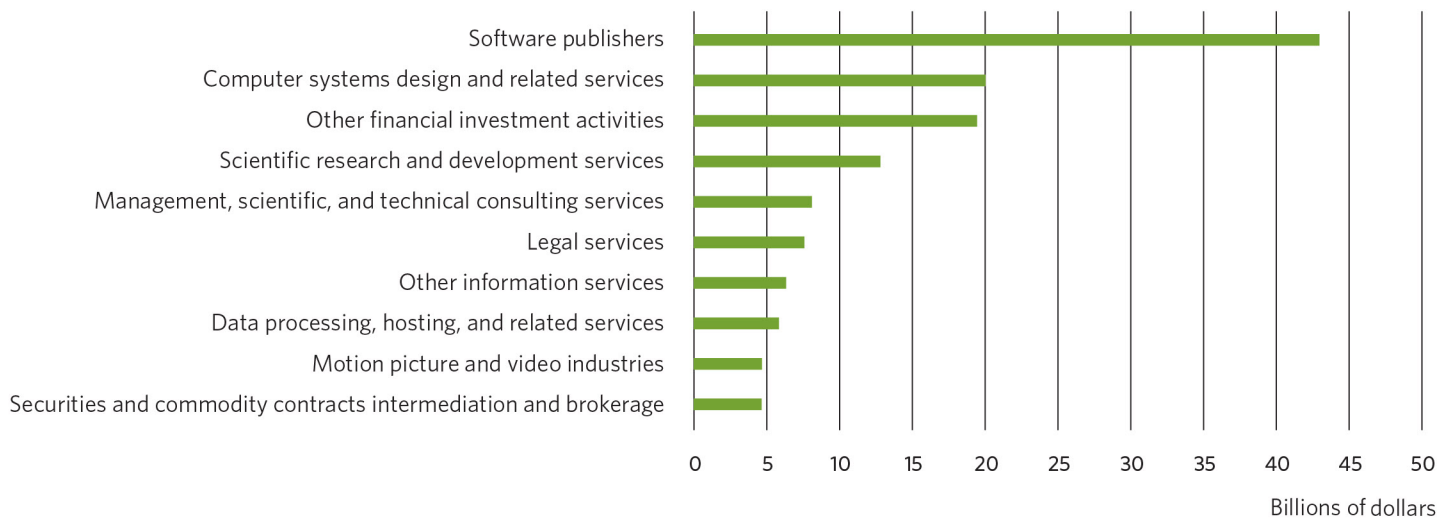
Data on trade in services are more limited and are typically reported at a highly aggregated level. Using data from the 2017 Economic Census,² we find that exports of service-providing IP-intensive industries totaled \$154 billion in 2017, while those of non-IP-intensive industries totaled \$29 billion. In Figure 2, we provide export figures for the top-ten exporters among IP-intensive service-providing industries. The software publishing industry is by far the largest services exporter among the IP-intensive industries, followed by computer system design, miscellaneous financial services (including portfolio management), and services related to sciences and technology. The ten industries listed in Figure 2 accounted for 86% of all service exports by IP-intensive industries.

Suggested citation:

USPTO, 2022. "Exports and imports by U.S. IP-intensive industries," Economic Note, No. 101, Office of the Chief Economist, U.S. Patent and Trademark Office (USPTO), June 2022.

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Figure 2: Export values of IP-intensive service-providing industries, 2017



1 See A.A. Toole, R. Miller, and N. Rada. *Intellectual property and the U.S. economy: Third edition*. Washington, DC: U.S. Patent and Trademark Office.

2 The 2017 Economic Census reports services export data for 42 industries. The 42 industries account for \$182.5 billion of services exports. The year 2017 is the latest year for which the Economic Census data are available. The Census Bureau will conduct the next Economic Census in 2022.