



EXECUTIVE SUMMARY

Global Trade Interdependence: U.S. Trade Linkages With Korea, Mexico, and Taiwan

BY STEPHEN J. EZELL AND CALEB FOOTE | JUNE 2019

Korea, Mexico, and Taiwan represent vital trade partners for the United States, not only as destinations for U.S. exports, but more importantly as key partners whose firms supply critical intermediate goods on which the health of America's advanced-technology industries depend.

The global economy has become increasingly interlinked, as nations—and enterprises therein—specialize in productive activities wherein they enjoy the greatest levels of comparative advantage. This phenomenon has become especially pronounced in the globalization of value chains for sectors such as information and communications technology (ICT), electronics, aerospace, and automotive, with Asian nations (and Mexico) becoming central players in many of these supply chains, especially for the manufacture of ICT products. With this internationalization of supply chains, the success of original equipment manufacturers depends greatly on the health and vitality of suppliers in other nations—and the ability to trade with them. In this report, the Information Technology and Innovation Foundation (ITIF) examines trade linkages between the United States and three key trading partners—Mexico, Korea, and Taiwan—analyzing the extent of inter- and intra-industry trade across six key sectors: automobiles, chemicals, computers and electronics, machinery, other transportation equipment (including aerospace), and pharmaceuticals. ITIF's report demonstrates both that U.S. industries in these sectors depend greatly on trade with suppliers in these partner nations, and that these nations are key importers of U.S. exports from these high-tech industries.

The report begins by analyzing the evolution of trade in the 21st century, characterized especially by the rise of global supply chains. It next provides an in-depth analysis of U.S. trade with the three partner nations, including value-added and inter- and intra-industry trade linkages and flows in the six industries across the three countries. In order to illustrate the nature of global value chains in concrete terms, it then provides a case study assessing the nature of U.S.-Taiwan trade and economic linkages, before concluding with policy recommendations.

The report finds that, in 2014, the United States had a \$26.5 billion gross trade deficit with Korea (\$34.4 billion in value-added terms), a \$100.5 billion deficit with Mexico (\$88.8 billion in value-added terms), and a \$16.5 billion deficit with Taiwan (\$17.6 billion in value-added terms). However, on an intra-industry basis—that is, cross-country trade

balances within the six sectors studied—the United States actually holds a \$13 billion trade surplus with Mexico, a \$352 million trade surplus with Taiwan, and a \$1.4 billion trade deficit with Korea. Examined on an intra-industry basis, the United States holds trade surpluses with both Korea and Taiwan in many sectors, including ICT, chemicals, pharmaceuticals, machinery, and other transportation equipment (including aerospace). The report argues that it is important to understand the trade flows between the United States and these nations—not on an aggregate trade balance basis, but on a deeper level of how trade enables specialization in industrial production among the nations, and how this bolsters the underlying competitiveness of U.S. high-tech industries.

The report illustrates how Korea, Mexico, and Taiwan each represent key trade partner nations whose industries and enterprises, largely as suppliers in high-tech sectors, play an integral role in enabling U.S. enterprises to field successful business models in a highly competitive global economy. For instance, the U.S. semiconductor industry has effectively leveraged global value chains, allowing enterprises in other nations—especially Taiwan—to specialize in manufacturing, assembly, testing, and packaging; while U.S.-headquartered companies have largely specialized in the higher-value-added activities of branding, research and development (R&D), and chip design, while gaining an understanding of how to leverage chip sets into a wide range of high-value-added goods from smartphones and autonomous vehicles to Internet of Things applications. The U.S. semiconductor sector’s ability to craft such value chains over the past four decades has represented a key point of differentiation compared to Japan’s semiconductor industry. In particular, U.S. firms’ ability to leverage “fabless foundry” business models—wherein U.S. companies specialize in chip design, while Taiwanese partners specialize in manufacturing, assembly, testing, and packaging better, more efficiently, and more cheaply—has allowed several U.S. semiconductor companies to specialize in the higher-value-added stages of economic activity. In short, Taiwan’s role as a provider of key competitively priced inputs and components is essential to the competitive position of a variety of U.S. high-tech industries ranging from ICT to automotive, aerospace, heavy machinery, and other advanced-manufacturing industries.

Similarly, the report finds that the United States and Mexico form a high-wage/low-wage partnership, bringing complementary labor forces, investments, innovation capacity, and industry strengths together to create a region that is highly competitive globally. Within this relationship, the United States represents the source of much of the R&D, design, innovation, and high-value-added manufacturing, while Mexico provides some of the lower-tech, lower-cost, and more-labor-intensive manufacturing activity.¹ This division of labor in North American automotive manufacturing has increased the global competitiveness of U.S. automobile manufacturers, which is reflected in automobile parts and inputs crossing the U.S.-Mexico border as many as eight times during the course of a single vehicle’s production.² Building on this relationship will be even more important going forward, as trade tensions with China are likely to continue.

The report's main analytical section examines U.S. trade flows with Korea, Mexico, and Taiwan through several data sets, collectively documenting the deep relationships in terms of industrial production and exchange between the United States and the three trade partner countries. These data sets include:

- Value-added trade balances;
- Intra-industry trade in value added;
- Composition of product trade in terms of capital, intermediate, or final goods;
- Domestic value added as a share of countries' gross exports and imports;
- Industry-level trade in value added with each partner country across six industries: automobiles, chemicals, computers and electronics, machinery, other transportation equipment (including aerospace), and pharmaceuticals;
- Domestic value added as a share of gross exports and imports, by industry; and
- Intermediate and final goods trade linkages among countries, by industry.

A section of the report examines one relationship in depth—U.S.-Taiwan trade linkages—finding that Taiwan is America's 11th-largest trading partner, 13th-largest source of imports, and 14th-most-significant export destination.³ Bilateral U.S. goods and services trade with Taiwan totaled \$86.2 billion in 2017, comprising \$35.6 billion in exports, and imports of \$50.5 billion.⁴ U.S. exports of goods and services to Taiwan supported almost 210,000 American jobs in 2015, with an estimated 130,000 of them supported by goods exports, and 79,000 by services exports.⁵ Total U.S. exports to Taiwan grew 8 percent from 2000 to 2017, while imports grew 2 percent over that period.⁶

Conversely, the United States is Taiwan's second-largest trading partner (behind China) and its largest source of foreign direct investment (FDI). U.S. FDI in Taiwan totaled \$17 billion in 2017, a 6.9 percent increase from 2016, and was led by the manufacturing, wholesale trade, and finance and insurance sectors.⁷ Research has found that the United States has deeper inter-industry trade linkages with Taiwan than with almost any other East Asian trade partner, with the percentage of Taiwan's exports feeding into the U.S. global supply chain greater than those from Indonesia, the Philippines, and Thailand combined.⁸

However, the report finds that the importance of Taiwan to the U.S. economy goes far beyond exports and the jobs they directly support to include its firms' participation in value chains for the production of advanced-technology products, thereby helping to make the business models of U.S. advanced-technology companies tenable. Through case studies of the U.S. semiconductor industry and of the Apple iPod, the report shows the deep interlinkages in industrial production between U.S. and Taiwanese ICT hardware players, and how Taiwanese suppliers play a key role in making the products and business models of U.S. ICT enterprises economically competitive.

The report concludes by offering policy recommendations, including the following:

Enact free trade agreements with partner nations: The deep industrial production and trade linkages between the United States and the three study countries augurs for the United States establishing free trade agreements with them. The report commends the Trump administration for its completion of an updated U.S.-Korea Free Trade Agreement (KORUS) and for finalizing text for an updated United States-Mexico-Canada Agreement (USMCA), and calls on the U.S. Congress to pass the latter. The report further urges the administration to move beyond the Trade and Investment Framework Agreement (TIFA) with Taiwan (originally signed in 1984) and pursue negotiation of a bilateral U.S.-Taiwan free trade agreement, which would further enhance trade linkages between, and improve the competitiveness of, both nations.

Reanimate the Trade in Services Agreement (TISA): Services account for over 70 percent of the global economy, yet the fact that global services trade has not been as liberalized as goods trade forestalls opportunities for deeper global trade integration. To address this, and bring services trade into the digital age, 23 economies, including Korea, Mexico, and Taiwan, have joined together to negotiate a Trade in Services Agreement. Provided the agreement effectively supports trade in innovation-based services, TISA has the potential to create a trade environment that would significantly spur global innovation, and its associated productivity gains.⁹ The United States should reanimate TISA negotiations.

Continue to confront Chinese innovation mercantilism: The unremitting—and even accelerating—innovation-mercantilist behavior on the part of the Chinese government represents a threat not just to the United States but also to the Korean, Mexican, and Taiwanese economies and their advanced industries, and indeed to the entire global economic and trade system.¹⁰ ITIF commends the Trump administration for engaging China in negotiations toward a rebalanced trade framework that would see China fulfill the commitments it has made as a member of the World Trade Organization (WTO) and in other bilateral trade dialogues with the United States. However, as ITIF wrote in “Stopping China’s Mercantilism: A Doctrine of Constructive, Alliance-Backed Confrontation,” any negotiated settlement must be a high-standard agreement that, rather than focusing on raw trade balances, prevails upon China to permanently abandon its rampant innovation-mercantilist practices and come into full and continuing compliance with the commitments it has made at the WTO and in other international trade forums.

Join the Comprehensive and Progressive Agreement for Trans-Pacific Partnership and support Taiwanese participation in it. The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) represents a high-standard trade agreement signed by 11 nations in Santiago, Chile, in March 2018. The CPTPP features 21st-century trade rules and norms, including higher standards for digital trade, protection of intellectual property, services-market access, labor and environmental standards, disciplines on state-owned enterprises, and rules facilitating many other facets of modern trade. Over the past year, Taiwan has begun the process of reviewing and revising its laws and regulations to bring itself into compliance with CPTPP provisions, a process that will help bring Taiwan’s

regulatory regime more closely in line with international standards and practices.¹¹ The United States should encourage Taiwanese participation in the CPTPP. And, of course, the United States should also join the CPTPP itself.

Update America’s high-tech export control regime: The U.S. Commerce Department’s Bureau of Industry and Security has issued an advance notice of proposed rulemaking regarding extending U.S. export controls to what are termed “emerging and foundational technologies”—new or foundational technologies that in some cases are essential to national security but not currently covered by existing export control rules.¹² While the process of modernizing America’s export control regime is warranted, it is important that any reforms are cognizant of the global state of play in high-tech-based industries, such that export controls do not preclude U.S. enterprises’ ability to sell high-tech goods and services that are on a technical par with commercially available foreign high-tech goods and services. Doing so would weaken the U.S. industrial defense base.

ENDNOTES

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8. Peter Chow, “Trade Complementarity and Natural Trading Partners Between the U.S. and the Second Round of TPP Members” in Peter Chow’s (eds) *The Trans-Pacific Partnership and the Path to Free Trade in the Asia Pacific* (Cheltenham, United Kingdom, Edward Elgar: 2016): 118–160; Jinji Chen, “A New Dawn? The New Realities of U.S.-Taiwan Economic and Trade Relations” (The Wilson Center, November 2017), 1, <https://www.wilsoncenter.org/publication/new-dawn-the-new-realities-us-taiwan-economic-and-trade-relations>. Note: Peter Chow is a professor of Economics at the Colin Powell School for Civic and Global Leadership at the City College of New York.
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ABOUT ITIF

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