Global Reliance on Chinese Manufacturing

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China's strict COVID policies have contributed to global supply disruptions and raised concerns over global reliance on Chinese manufacturing. This briefing examines the importance of Chinese manufacturing at global, country, sectoral, and product levels. It finds that, since 2002, China's share as the source of global imports of capital and intermediate goods, as well as high- and medium-high-tech manufacturing goods, has grown rapidly. The world notably relies on certain Chinese manufacturing sectors such as textiles and certain Chinese manufactured goods such as laptops. And the reliance of global markets on Chinese manufacturing is likely to be substantially higher than what is indicated by merchandise trade statistics for manufacturing goods.

Global Importance of Chinese Manufacturing

After China joined the World Trade Organization at the end of 2001, its manufacturing sector grew rapidly, as global firms shifted manufacturing away from higher wage countries towards China. In 2010, China surpassed the United States to become the world's largest manufacturer by output. In 2019, China accounted for 28.7 percent of global manufacturing output, outpacing the United States (16.8 percent), Japan (7.5 percent), and Germany (5.3 percent). China's importance in the global market of manufactured goods also increased significantly. In 2002, about 8.9 percent of global manufacturing imports came from China. By 2015, the share almost doubled, reaching 17.7 percent. In 2020, following modest declines from 2016–19, the share bounced back to the 2015 level (table 1).

Over 2002–20, China's share as the source of global imports of capital goods and intermediate goods rose more rapidly than its share for consumer goods (table 1). The global importance of Chinese high- and medium-high-tech manufacturing sectors grew more than its medium-low- and low-tech sectors (table 2).[1] These trends can be attributed to structural changes taking place in Chinese manufacturing, driven by multiple factors such as rising labor costs, the development of domestic supply chains, and deep integration into global and regional production networks. In addition, Chinese manufacturing also experienced technology upgrading during this period, influenced by increasing inward foreign investment and favorable Chinese government policies towards technologically sophisticated industries.

Table 1 China's share as the source of global manufacturing imports, by end use, percentage, 2002–20

End use	2002	2005	2010	2015	2017	2019	2020	2002–20 percentage point change
Capital goods	7.9	13.0	19.9	23.6	24.2	23.4	25.3	17.4
Intermediate goods	5.3	7.8	10.9	13.5	13.3	13.4	13.9	8.6
Consumer goods	17.6	21.0	24.4	22.7	21.1	20.0	20.4	2.8
Total	8.9	11.9	15.6	17.7	17.4	17.0	17.7	8.8

Source: Author compiled based on World Bank, WITS merchandise trade statistics (accessed June 24, 2022).

Table 2 China's share as the source of global manufacturing imports, by technology intensity (TI), 2002–20

TI	2002	2005	2010	2015	2017	2019	2020	2002–20 percentage point change
High tech	10.3	17.4	24.0	27.3	26.6	24.8	24.9	14.7
Medium-high tech	4.6	6.5	10.8	12.8	12.9	13.4	14.3	9.8
Medium-low tech	6.8	8.9	11.7	14.3	13.5	14.0	13.5	6.6
Low tech	14.8	15.9	16.6	16.9	16.3	15.7	16.8	2.0

Sources: World Bank, WITS merchandise trade statistics (accessed June 24, 2022); OECD, ISIC REV. 3.0 Technology Intensity Definition, July 7, 2011; and UNSD, "Classification of manufacturing sectors by technological intensity (ISIC Revision 4)," (accessed June 24, 2022).

Almost every country in the world relies on Chinese manufactured goods to some extent. Due to geographical proximity and/or close economic ties, countries in the Asia-Pacific region as well as some countries in South America and Sub-Saharan Africa sourced 30 percent or more of their manufacturing imports from China in 2020. Among these countries were Vietnam, Japan, Australia, Indonesia, Peru, Chile, Ethiopia, Democratic Republic of Congo, and Nigeria. The United

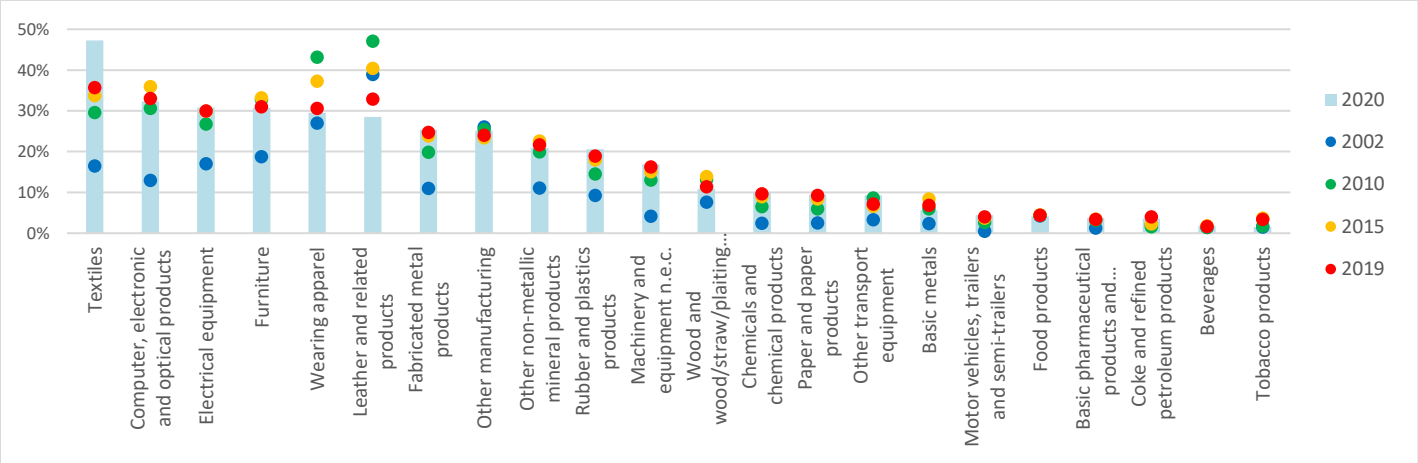
[1] High and medium-high TI manufacturing industries include pharmaceuticals; computer, electronic and optical products; electrical equipment; machinery; motor vehicles, etc. Medium-low and low TI industries include rubber and plastic products; basic metals; ships and boats; food and beverage; apparel; furniture, etc. For more information, see OECD, ISIC REV. 3.0 Technology Intensity Definition, July 7, 2011; and UNSD, "Classification of manufacturing sectors by technological intensity (ISIC Revision 4)," (accessed June 24, 2022).

States sourced over 24 percent of manufacturing imports from China during 2015–18; the share declined to 21 percent in 2020. For the European Union, the share was over 25 percent during 2015–19, and it rose to 27 percent in 2020.

Sectoral Importance of Chinese Manufacturing

During 2002–20, the world relied less on Chinese lower value-added, labor-intensive manufacturing sectors, such as wearing apparel and footwear, but more on Chinese higher value-added, capital-intensive manufacturing sectors, such as textiles and electrical equipment. However, China's share as the source of global imports of computer, electronic, and optical products peaked at 36.0 percent in 2015, and declined to 32.3 percent in 2020 (figure 1).

Figure 1 China's share as the source of global imports, by major manufacturing sector at 2-digit ISIC 4, 2002–20



Source: Author's calculation based on World Bank, WITS merchandise trade statistics (accessed June 9, 2022).

The world heavily relies on Chinese imports for certain manufactured products, ranging from consumer goods such as Christmas ornaments, alarm clocks, and laptops, to intermediate inputs such as cotton yarns, synthetic fabric, and key compounds for pharmaceutical drugs and fertilizers (table 3).

Table 3 China's share as the source of global imports of selected goods, by 4 or 6–digit HS code, 2019 and 2020

	**950510**: Christmas articles, 85–86%		**294140**: chloramphenicol and its derivatives, 94% **291634**: phenylacetic acid and its salts, 81–86% **293352**: barbituric acid and its salts, 71–84% **290715**: naphthol and its salts, 78% (all used as pharmaceutical inputs)		**6601**: Umbrellas, 82– 84%
	**6702**: Artificial flowers, foliage, and fruits, 90– 91%				**551449**: Woven fabric of synthetic fibers other than polyester, 91–92%
	**910911/910511**: Clock movement, 96%; alarm clocks, 83–86%				**630790**: made-up textile articles, including masks, 59% (2019)/83% (2020)
	**852713**: radiobroadcast receivers, 80%		**520642/520625**: cotton yarn 84–87%/ 65–77%		**851672**: electric toasters, 85–86%
	**950410**: video games, 77– 90%		**282710:** ammonium chloride (used for fertilizers), 76–77%		**847130**: laptops,79–81%

Source: Author's calculation based on World Bank, WITS merchandise trade statistics (accessed June 9, 2022).

It is likely, however, that merchandise trade statistics underestimate the global importance of Chinese manufacturing. According to the latest OECD trade in value added (TiVA) data, which consider the indirect effect of using Chinese manufactured products for downstream production of goods and services, China accounted for about 40 percent of global manufacturing value added embodied in foreign final demand during 2015–18 on average. This suggests that the world economy's reliance on Chinese manufacturing is even higher than indicated by merchandise trade statistics.

Source: Statista, "China is the World's Manufacturing Superpower," May 4, 2021; OECD, ISIC REV. 3.0 Technology Intensity Definition, July 7, 2011; World Bank, WITS merchandise trade statistics; UNSD, "Classification of manufacturing sectors by technological intensity (ISIC Revision 4);" and OECD, Trade in Value Added (TiVA) 2021 ed (all accessed June 9, 2022).