

China's Move up the Value Chain through More Complex Intermediate Exports

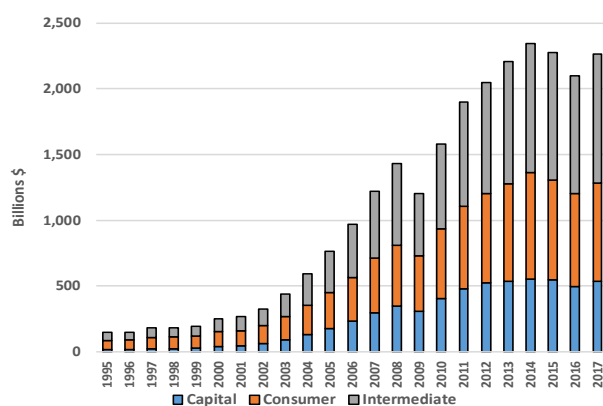
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Intermediate goods, such as materials, components, and parts, are used as inputs for downstream production. In the past 20 years, these have become China's top merchandise exports. Now China is one of the largest sources in the global market of such products. Led by foreign-owned firms and Chinese private firms,¹ high and medium-high technology manufacturing sectors drove the growth of China's intermediate exports. The findings in this briefing illustrate (1) China's increasing integration in regional production networks and global value chains, (2) Chinese firms became more specialized in complex intermediate production and exports; (3) the strong presence of foreign direct investment in China's high-tech manufacturing sectors, and (4) the growing role of Chinese private firms in China's exportation of intermediate exports, especially from lower-tech manufacturing sectors.

Intermediate Products Topped China's Merchandise Exports

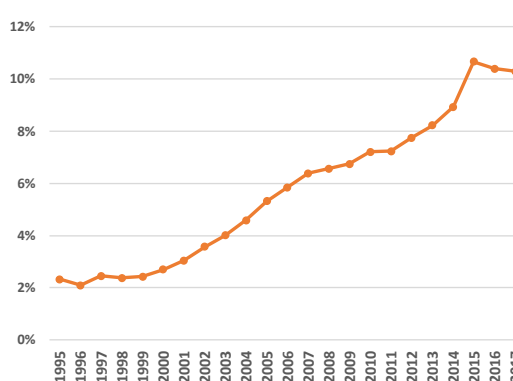
Since 1995, intermediate goods had grown to account for the largest share (43.3 percent) of China's merchandise exports in 2017 (figure 1). Exports of intermediate products experienced the largest increase from \$61 billion in 1995 to \$979 billion in 2017, and these products contributed to more than 40 percent of China's growth in merchandise exports during this period. China has also captured a rising share of global intermediate exports, rising from merely 2 percent in 1995 to 10 percent in 2017 (figure 2). Growth of these merchandise exports accelerated after China's WTO accession in 2001, reflecting China's increasing integration into global value chains (GVCs), and the development of its domestic supply chains.

Figure 1 China's total exports by end use



Source: UN Comtrade (accessed February 20, 2019).

Figure 2 China's share in global intermediate exports



Source: UN Comtrade (accessed February 20, 2020).

High and Medium-High Tech Sectors Drove the Growth of China's Intermediate Exports

Over the past two decades, China's exports of manufactured intermediate goods have become more technologically intensive.² The share of high and medium-high tech sectors in China's exports of manufactured intermediate goods increased from 37 percent in 1995 to 58 percent in 2017. Moreover, in 2017, China's top three sectors with the largest volumes of intermediate exports were high or medium-high tech sectors (table 1). Over the past twenty years, the sectors experiencing the fastest annual growth in intermediate exports were mostly high or medium-high tech sectors (table 2). This trend demonstrates a shift in China's production and export patterns towards more complex intermediate products, and its effort to move up the value chain.

¹ China Customs provides trade data by ownership type. While they classify Chinese private firms as "either solely-invested or majority-owned by Chinese natural persons," the minority roles sometimes played by SOEs can make this designation more complex.

² The classification of manufacturing sectors by technology intensity (TI) is based on the ratio of research and development (R&D) expenditure to output. The sectors with high ratio are considered high-tech sectors. Source: OECD, "Taxonomy of Economic Activities Based on R&D Intensity," 2016.

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Table 1 China’s top sectors with the largest volume of intermediate exports, 2017

Top sectors for exporting intermediate products	Technical intensity	2017 share
Radio, TV, communication equipment and apparatus	High	19%
Chemicals	Med-high	11%
Electrical machinery	Med-high	10%
Textiles	Low	9%
Basic metals	Med-low	8%
Machinery and equipment	Med-high	7%
Fabricated metal products	Med-low	7%
Rubber and plastics products	Med-low	6%

Source: UN Comtrade (accessed February 20, 2019).

Table 2 China’s top sectors with the fastest annual growth rate of intermediate exports, 1995–2017

Top sectors for exporting intermediate products	Technical intensity	1995-2017 CAGR
Railway and tramway locomotives	Med-high	23%
Motor vehicles	Med-high	22%
Tobacco products	Low	21%
Aircraft	High	21%
Recycling	Low	19%
Radio, TV, communication equipment and apparatus	High	19%
Electrical machinery	Med-high	18%
Machinery and equipment	Med-high	18%

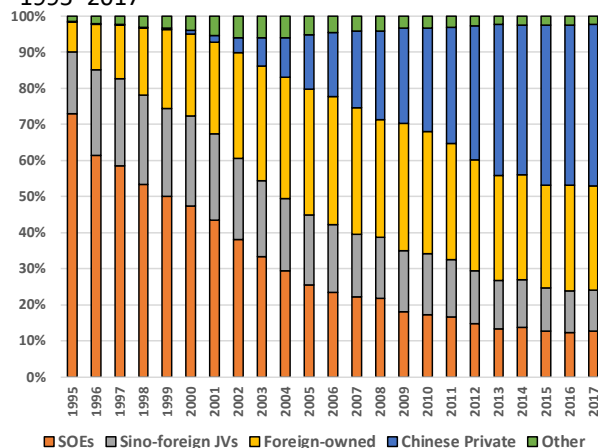
Source: UN Comtrade (accessed February 20, 2019).

Foreign Owned Firms Led High-Tech Exports and Private Firms Led Lower-Tech Intermediate Exports

In 2017, Chinese private firms accounted for the largest share, 45 percent, of China’s manufactured intermediate exports, up from less than 1 percent in 1995. Other sources of intermediate exports in 2017 included foreign-owned firms (29 percent), state-owned enterprises (SOEs, 13 percent), and Sino-foreign joint ventures (11 percent). The SOE share declined the most since 1995. The shares of Sino-foreign joint ventures (JVs) and foreign-owned firms peaked at 25 percent and 35 percent in the early and mid-2000s, respectively, and since then have gradually decreased (figure 3).

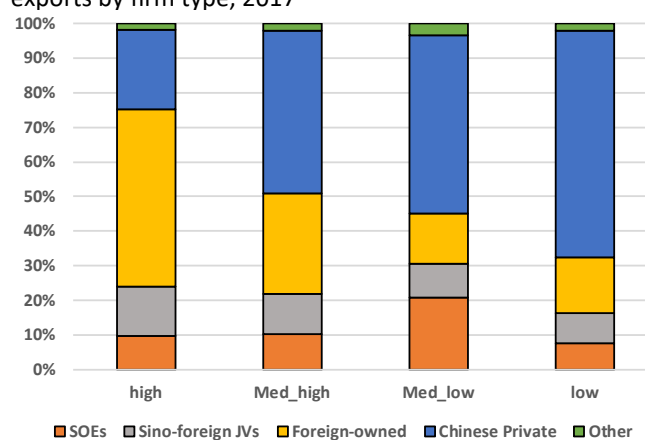
Exports from the different types of firms tend to vary in technological complexity. In 2017, foreign-owned firms dominated China’s intermediate exports from higher-tech manufacturing sectors, suggesting a strong presence of foreign direct investment in these sectors. On the other hand, Chinese private firms have dominated China’s intermediate exports from lower-tech manufactured sectors (figure 4).

Figure 3 China’s intermediate exports by firm type, 1995–2017



Source: China Customs Trade Statistics.

Figure 4 Technology intensity of China’s intermediate exports by firm type, 2017



Source: China Customs Trade Statistics.

Asia-Pacific Region Became the Top Destination for China’s Manufactured Intermediate Exports

In 2017, most of China’s manufactured intermediate exports went to East and Southeast Asia, reflecting China’s close integration in regional production network. Other top destinations included the U.S., India, and Germany.

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