

Unpacking Made in China

How the “world’s factory” maintains competitive in trying times



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Key points

- China’s status as the world’s factory and top exporter has come under intense pressure from the Sino-US trade war and a global pandemic that has disrupted supply chains
- But instead of weakening its position, these adversities have been turned into advantages, with China actually gaining market share by broadening its export scope and strengthening its supply chain network
- The growing resilience of the “world’s factory” follows a transformation of China’s domestic production system from cost-based competition to skills-and-technology-based
- The rapid emergence of China as a manufacturing and export powerhouse has reshaped the landscape of global trade. Developed countries, led by Japan – and to a lesser extent the US – have lost market share to China in medium-and high-skilled segments
- Yet, rising production costs have eroded China’s competitiveness in some labour-intensive industries in recent years, where Vietnam has made the most gains
- However, constrained by its small size and reliance on China’s provision of critical inputs, Vietnam is unlikely to fully replace China as the world’s factory, but could continue to thrive as a partner in China’s supply chain ecosystem

The meteoric rise of the Chinese economy over the past 40 years would not have been possible without the stellar success of its export-driven growth model. While the economy has rebalanced away from export growth in recent years, there is no let-up in its trade competitiveness. In fact, the country’s position as the “world’s factory” has strengthened, despite a structural increase in production costs and recent events – such as the Sino-US trade war and COVID-19 pandemic – that risked undermining its supply chain position.

This study investigates how China has been able to persevere against recent adversities to hold onto its position as the world’s top exporter. We also examine the role of a transforming domestic production system in enabling the country to move up the global value chain. Finally, we detail the impact of China’s rise as a manufacturing powerhouse on the rest of the world by identifying the key winners and losers.

Journey to the top

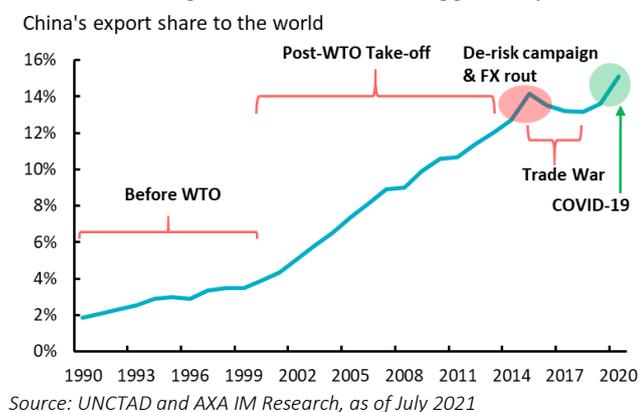
China’s rise from a minor player in global trade to the world’s largest exporter took the shortest time on record. Joining the World Trade Organization (WTO) in 2001 was a game changer. Prior to that, China’s export market share rose only steadily from 2% to 4% over the 1990s (Exhibit 1). The WTO membership fast-tracked this process, taking China to the pinnacle of global trade by more than tripling its export market share in the following decade.

The megatrend of market share gains reached a turning point in 2015. A combination of an equity market bubble bursting (in June 2015), currency devaluation (in August) triggering

massive capital outflows, and a forceful campaign (in early 2016) to cut overcapacity, reduce leverage and curb shadow banking lending, all contributed to a dramatic decline in business confidence, heightened financial market volatility and a sharp slowdown in economic growth. Exports took a hit as a by-product of the “de-risking” campaign, with China underperforming its global peers for the first time in decades.

Just as the domestic situation started to settle, exporters suffered two consecutive hits from the US-China trade war followed by the COVID-19 pandemic in 2020. Both events were considered detrimental to China’s supply chain position, but so far the reverse seems true. The next section explains how China was able to survive these challenges to defend its “world’s factory” title.

Exhibit 1: Rising to be the world’s biggest exporter



Turning adversity into triumph

On the surface, successive US tariff hikes on Chinese products had the anticipated impact. US-bound exports from China fell by 17% from 2017 to 2019, resulting in a sharp drop in China’s market share in the world’s largest consumer market (Exhibit 2).

However, the struggle in the US did not stop China from gaining overall global market share, which increased by almost three times that of the next biggest gainer over the period (Exhibit 3).

China achieved this in two ways. The first was export diversion. By selling inputs to third countries for assembly before final products were shipped to the US, China was able to circumvent some trade levies while still retaining values in the final products sold. With increased input contributions from China (Exhibit 4), such a strategy also helped to draw China’s trading partners closer to its production orbit.¹² In addition, the loss of US businesses motivated Chinese exporters to explore new markets in ASEAN³ and other emerging markets (EM). The latter were also the targets of massive outbound investment as part of China’s Belt and Road Initiative (BRI), which went hand-in-hand with flourishing trade.

The signing of the Phase One trade deal in early 2020 allowed Chinese companies to breathe a sigh of relief. However, little did they know an even bigger storm was forming on the horizon. A once-in-a-century public health crisis triggered by COVID-19 erupted in early 2020. This, combined with Beijing’s draconian response, almost paralysed the economy. With production grinding to a halt and exports collapsing, many pessimists thought that the pandemic could trigger a massive relocation of supply chains out of China, threatening to end its reign over global trade.

However, the subsequent developments were again a surprise. On the one hand, China’s forceful response was effective in containing the outbreak, paving the way for a swift resumption of production and exports. On the other, the rapid spread of the virus to the rest of the world wreaked havoc on production, bringing global trade almost to its knees. China therefore became a supplier of last resort in many pandemic-related goods, including personal protective equipment, medical machinery and electronic gadgets for remote working. With China bucking the trend, its export

Exhibit 2, 3 and 4: China gains global market share, despite struggling in the US due to tariffs*



¹ Yao, A and Shen, S “Preserving “Made in China” in deglobalisation”, AXA IM Research, 2 September 2020

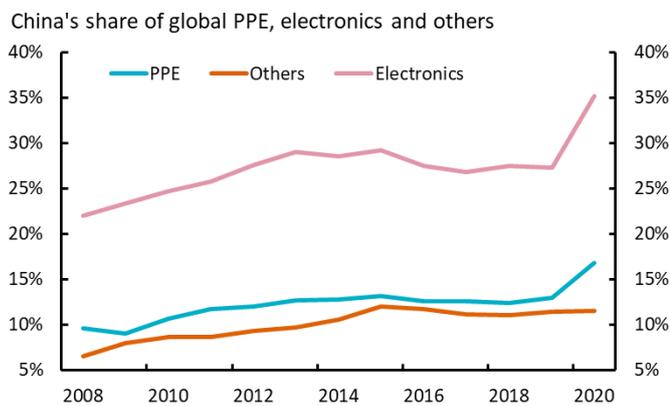
² That said, this relocation trend is also apparent to the US, which in turn may consider secondary tariffs, with the US currently said to be considering

some tariffs on Vietnam as a reaction to concerns surrounding currency manipulation.

³ The Association of Southeast Asian Nations

market share soared in 2020 (Exhibit 5) and foreign investment poured in. The fact that a majority of American⁴ and European⁵ firms now look to increase, not withdraw, investment in China suggests that the COVID-19 crisis has paradoxically strengthened China's position in the global supply chain.

Exhibit 5: Supplier of last resort in pandemic goods



Source: CEIC, UNCTAD and AXA IM Research, as of July 2021

Remoulding supply chains for value upgrade

China's successful defence against the trade war and COVID-19 reflects the incredible resilience of its supply chain system. This section investigates how this resilience was built.

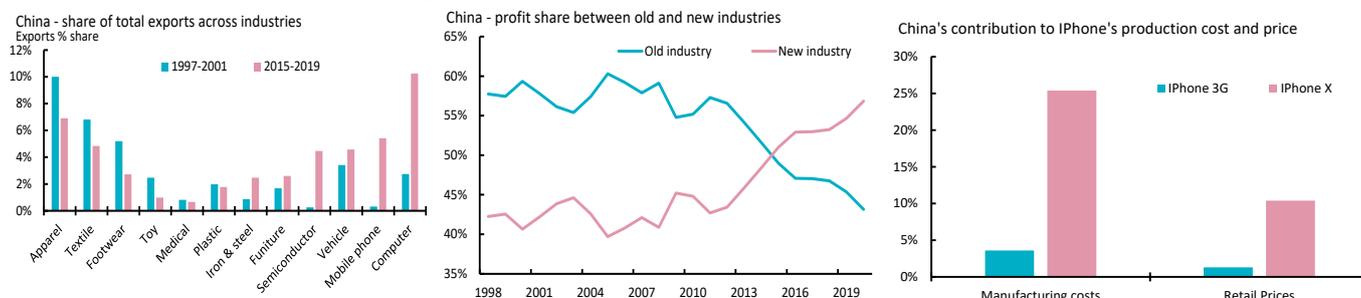
It is well known that tremendous cost advantages – in labour, land, and utilities – were once the tenets of China's competitiveness in global markets. But as the economy has matured and the demographic cycle turned, those cost advantages have diminished, or even turned into disadvantages relative to other EM economies. For China to continue its climb up the global export ladder, it has to move up the value chain to offset rising costs. Exhibits 6 to 8 underscore this by showing some structural changes in

China's exports, industrial output, corporate profits, and its contribution to global hi-tech production. The data reveal:

- A profound shift in China's export basket from low-value-added contents – such as clothing and toys – to high-value-added products such as computers and mobile phones (Exhibit 6). Compared to global peers, China has indeed become more competitive in more sophisticated segments of trade, while its advantages in low-value-added industries have waned.
- The export change is mirrored by an equally stark shift in China's production system. Traditional industries, which accounted for almost 60% of total manufacturing output in the late 1990s, saw their share fall to only 40% by end-2019. New and high-tech industries now account for the majority of industrial output and profits (Exhibit 7).
- Finally, changing production arrangements by major technology companies like Apple often reflect the evolution of a country's overall manufacturing capability. From managing only one part of the production – final assembly – of iPhone 3G in 2008, China contributed 11 items in iPhone X's production in 2018. Its share in the total billing cost and retail value increased seven-to-eightfold over a 10-year period (Exhibit 8).⁶ In addition, Apple has significantly increased its production presence in China, contrary to frequent speculation of it leaving China for more competitive locations. China today accounts for 52 of 59 of Apple's global manufacturing centres, up from 30 in 2015 and 33 since 2017 – despite rising US-China trade tensions.⁷

In summary, there has been a clear and dramatic upgrade in China's production system, which has manifested in the type of products it sells to the rest of the world. A decomposition of China's export market share changes into different skill categories shows that its gains have progressively increased with the value-added content in exports (Exhibit 9).

Exhibits 6, 7 and 8: A systematic upgrade of China's domestic production system



Source: CEIC, UNCTAD, Xing (2019) and AXA IM Research, as of July 2021

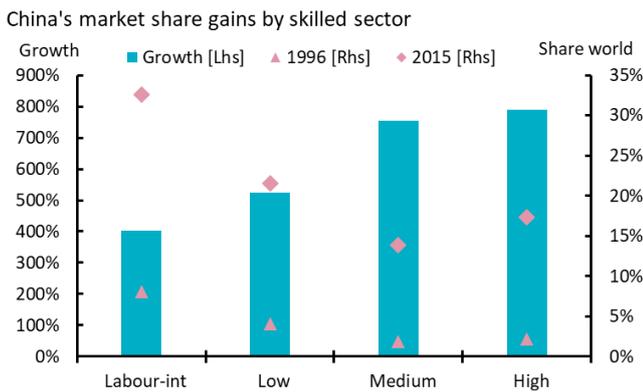
⁴ A majority of US firms intend to increase investment in China

⁵ European Companies to Invest More in China After Pandemic - Bloomberg

⁶ Xing, YQ (2019) "How the iPhone widens the US trade deficit with China: The case of the iPhone X" VOX, 11 November 2019

⁷ 92% of Apple products made in China could face tariffs by year's end

Exhibit 9: Greater gains in higher skilled segments



Source: UNCTAD and AXA IM Research, as of July 2021

China's gains, someone else's losses

The rapid emergence of China as a global manufacturing powerhouse has reshaped the landscape of global trade. In many ways, China's growing competitiveness in medium- and high-skilled production has increased competition for previous incumbents. On the flipside, its journey up the value chain has left a vacuum in some labour-intensive industries to be filled by other EMs. Hence, a reshuffling of global trade has occurred as a dynamically changing China inserts itself into the world's production network.

Exhibit 10 shows the key industries where China has gained market share since 1995, along with those that recorded the biggest losses. Japan is a consistent loser in many industries; so is the US, albeit to a lesser extent. Even though we cannot ascribe these losses precisely to China's gains, a large degree of overlap is likely, and consistent with anecdotal evidence.⁸

Admittedly, a loss in export market share does not have to imply a decline in trade competitiveness. This is because the former could simply reflect domestic firms moving production out of their home countries, but still retaining significant values in final products. Apple is a good example – by shifting its manufacturing base to China, it has boosted the latter's exports of electronics, while lowering those of the US. However, Apple still earns most profits from its products due to its supply of higher value-added inputs, such as chips and software.

To determine whether Japan and the US have indeed become less competitive, we have to supplement the custom trade data with a measure of export value-add to reflect their deployment of global supply chains. Exhibits 11 and 12⁹ show

⁸ This perhaps explains the growing concern, particularly in the US, about China's rise as a technology heavyweight. This has likely contributed to the Sino-US trade war and numerous technology-related sanctions on China in recent years.

⁹ Data from OECD Trade in Value-Added (TiVA) is unfortunately quite lagged, with the latest outturns ending 2015. We will monitor the database for update, which may include data up to 2018.

that both countries have not seen large enough changes in their value-added contributions to global production to offset their losses in trade market shares. Hence, there is a genuine decline of competitiveness, with Japan faring much worse than the US.¹⁰

Exhibit 10: China gains market share from DMs

Sector	China's gain of global export share	Top three losers	Decrease in export share
Low-skill technology	16.5	Japan	-7.1
		France	-3.0
		Germany	-3.0
Med-skill technology	12.4	Japan	-7.4
		USA	-3.9
		France	-2.9
High-skill technology	14.3	Japan	-8.4
		USA	-7.3
		UK	-3.8
Office machines	40.1	Japan	-23.5
		Netherlands	-9.9
		UK	-5.2
Automatic data processing	37.5	Singapore	-13.6
		Japan	-12.0
		USA	-9.8
Telecommunication	36.9	Japan	-14.5
		USA	-7.9
		UK	-4.9
Electronics	32.9	Italy	-12.2
		Germany	-6.4
		USA	-4.9
Television	30.8	Japan	-8.0
		Taiwan	-7.1
		Korea	-6.5
Sound recorders	29.7	Japan	-19.7
		Malaysia	-12.3
		Singapore	-8.0
Electrical machinery	22.5	Japan	-9.9
		Germany	-4.9
		USA	-4.5
Electric power machinery	19.9	Japan	-6.5
		Taiwan	-5.2
		USA	-3.0

Source: UNCTAD and AXA IM Research, as of July 2021

Others gain from China's network expansion

Contrary to gains in high-margin sectors, China has become less competitive in some labour-intensive industries due to wage and other production cost increases in recent years. Exhibit 13 shows the key areas where China's market share has fallen since 2015, along with the countries that have made the most gains. Vietnam stands out as the top winner in nearly all categories, consistent with our previous study documenting its highly competitive export sector in the Asia Pacific region¹¹. This may explain why Vietnam has been the top destination for foreign direct investment, and its

¹⁰ As discussed in footnote 8, we do not know how this measure has changed since 2015 given the limitation of the TiVA data. However, both Japan and the US have seen some further trade market share losses from 2015 to 2019.

¹¹ Yao, A and Shen, S "RCEP: integrating Asia beyond trade", AXA IM Research, 12 January 2021

economic and financial market performance of recent years reflects that optimism.

An important corollary of Vietnam’s emergence as a trade power is its relationship with China. Anecdotal evidence suggests that many Chinese companies that have relocated supply chains to Vietnam have only done so partially, by moving only the parts of the production that are sensitive to labour costs and US tariffs. By retaining the rest of the operation in China, it has created a need for close supply chain cooperation between the two countries. Exhibit 14 shows that China has been the largest value contributor to Vietnam’s exports since 2005.

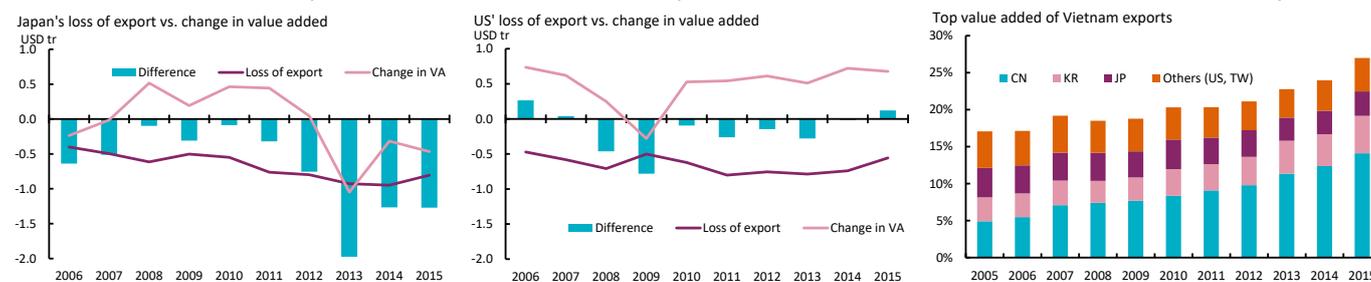
Such a reliance on China’s provision of critical inputs, and its small size (around 1/70th of China’s GDP) mean that Vietnam cannot be considered a replacement for China as the next world’s factory. However, joining China’s supply network and picking up the production that leak out of China – as the latter moves up the value chain – should still provide it significant scope for future development.¹² As for China, a careful management of this supply chain reconfiguration could enable it to build a large and inclusive production ecosystem, with itself playing an indispensable role at its core. That way, its world’s factory status could be strengthened and secured for many years to come.¹³

Exhibit 13: Vietnam gains from China’s losses

Sector	China's loss of global export share	Top three gainers	Increase in export share
Footwear	-7.7	Vietnam	5.2
		Germany	2.2
		Belgium	1.2
Apparel	-4.1	Vietnam	2.4
		Bangladesh	1.4
		Cambodia	0.6
Stone & glass	-4.1	Vietnam	1.5
		Indonesia	0.2
		Cambodia	0.1
Metals	-2.1	Vietnam	0.2
		Korea	0.2
		Indonesia	0.1
Furniture	-3.1	Vietnam	1.6
		Poland	1.1
		Turkey	0.4
Leather	-2.4	United States	5.6
		Vietnam	1.5
		France	1.5
Textile & clothing	-1.5	Vietnam	1.0
		Cambodia	0.3
		Myanmar	0.2
Plastic & rubber	-0.6	Thailand	0.2
		Vietnam	0.2
		Indonesia	0.1

Source: UNCTAD and AXA IM Research, as of July 2021

Exhibits 11, 12 and 14: Japan and the US lose trade competitiveness; Vietnam relies on China for critical inputs



Source: OECD and AXA IM Research, as of July 2021

* International country codes used for the charts in this paper are as follow – Australia (AU); Canada (CA); China (CN); France (FR); Germany (GE); Hong Kong (HK); Indonesia (ID); India (IN); Japan (JP); Malaysia (MA), Mexico (MX); New Zealand (NZ); Philippines (PH); Singapore (SG); South Korea (KR); Taiwan (TW); Thailand (TH); United Kingdom (UK); United States (US); Vietnam (VN).

¹² It should be remembered that China’s own economic success was attributed to its unparalleled ability to attract low-value-added supply chains from Japan and the so-called Asian Tigers at the beginning stage of its economic takeoff. Now, as it seeks to pass on the baton, many in the less developed world could benefit from it.

¹³ Closely aligning economic interests could also enable China to win friends and support for the geopolitical contest.

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