

# How dependent has the world become on trade with China? Does it matter?

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# Introduction

Commercial relationships are often invoked in public debate to justify international actions. Nancy Pelosi's visit to Taiwan disrupted its trade with China, the latest in a long line of geoeconomic policies that China has instigated in an effort to influence the behaviour of its trading partners.

Trade is increasingly weaponized by countries trying to influence the behaviour of others. Commercial relationships are often invoked in public debate to justify international actions. For example, many argue that the United Kingdom's deep trading relationship with the European Union was a good reason for the UK not to vote to leave the bloc.<sup>1</sup> Germany's gas dependency on Russia has been cited as a reason for Berlin's refusal to offer more support to Ukraine in efforts to repel the Russian invasion.<sup>2</sup> In August, Nancy Pelosi's visit to Taiwan disrupted its trade with China, the latest in a long line of geoeconomic policies that China has instigated in an effort to influence the behaviour of its trading partners.<sup>3</sup>

In part, this is a function of the growth of trade and its ensuing economic gains. The deterioration in a trade relationship costs both parties, but where the relationship is significantly asymmetric, the weaker party often bends to the will of the more powerful. Clearly, economic interdependence takes greater significance when nations' interests conflict.

Hence, this paper looks at the increasing dependency of much of the world on trade with China, and the subsequent potential influence of China. We analyse this in several ways. First, we examine China's aggregate exports and compare them to those of the United States. Second, by looking at the sector concentration of China's exports, we identify areas where China has gained monopolistic power. In some cases, this may be so great as to seriously compromise an economy's ability to operate if these goods were no longer available from China. Third, we examine the role China plays as an importer of goods and an exporter of capital, thus providing other countries with the opportunity to earn foreign exchange in payment for their exports. Finally, we draw some conclusions about the degree to which the world economy has become dependent on China and the implication this has for the ability and willingness of countries to stand up to China when their interests diverge.

# Exporting prowess and global footprint: China vs. US

China is by far the world's largest exporter. In 2021, the value of China's merchandise exports was \$3.6 trillion.

China is by far the world's largest exporter. In 2021, the value of China's merchandise exports was \$3.6 trillion, compared with the United States' \$1.7 trillion.<sup>4</sup> Germany trailed the US at \$1.6 trillion; Japan was fourth at \$757 billion. How does China's exporting prowess relative to the larger US economy impact the rest of the world?

Excluding China's exports to Hong Kong and US-China bilateral exports gives a better idea of the impact of China's exports on the rest of the world: China's \$2.4 trillion in exports versus \$1.6 trillion for the US.

US exports are heavily concentrated on Mexico and Canada. These are the United States' two largest export markets and account for a third of US exports. America's exports to the world excluding China and its two free-trade agreement partners are valued at \$1.1 trillion.

It is fair to say that, from an economic influence perspective, Mexico and Canada are so intertwined with the US that no amount of Chinese economic engagement

**Table 1 – China and US exports to major economies compared (2020)**

Country	China exports value (US\$ bn)	US exports value (US\$ bn)	Deficit to China (US\$ bn)	Ratio (China/US)
World	2,589.1	1,430.3	1,158.8	1.8
Australia	53.5	23.5	30.0	2.3
Brazil	35.0	35.0	-0.1	1.0
Canada	42.1	255.0	-212.9	0.2
France	37.3	28.3	9.1	1.3
Germany	86.8	57.2	29.6	1.5
Indonesia	41.0	7.4	33.6	5.5
Japan	142.6	64.1	78.5	2.2
South Korea	112.5	51.2	61.3	2.2
Mexico	44.8	212.7	-167.8	0.2
Nigeria	16.8	2.8	14.0	6.0
Russia	50.5	4.9	45.6	10.3
India	66.7	27.4	39.3	2.4
South Africa	15.2	4.5	10.8	3.4
Egypt	13.6	4.8	8.9	2.9
United Kingdom	72.6	59.0	13.6	1.2

Source: Comtrade database

will result in China surpassing the US in terms of influence and dependency in either country. In the case of Mexico, in 2021, 78% of its exports were to the US and 43% of imports came from the US. In the case of Canada 75% of exports were to the US and 48% of imports came from the US.

Outside this American affair, though, it is a very different story, particularly in the global south. Out of 229 jurisdictions in the Comtrade database (excluding mainland China and the US), China is the larger exporter to 173 of them, while the US is the larger exporter to 56.

Furthermore, almost all the jurisdictions in which the US is the larger provider are in North America or the Caribbean, and collectively their contribution to world gross domestic product is small.

Even America's closest security allies such as the UK, Australia, and Japan now import more from China than they do from the US.

In terms of the difference in levels of import dependency third countries have on the two largest economies in the world, an increasing number of countries are significantly more dependent on China than on the US.

Finally, in terms of the difference in levels of import dependency third countries have on the two largest economies in the world, an increasing number of countries are significantly more dependent on China than on the US. In 2021, China reported exports to 146 jurisdictions at least twice as large as the amount the US reported exporting. In about 96 jurisdictions, China reported exports at least five times larger than what the US reported.

Of course, China reporting significantly larger exports does not necessarily mean that these countries are heavily dependent on China.

For 2021, 99 jurisdictions reported detailed country breakdowns of their imports by country of origin. The import total of these 99 jurisdictions is \$19 trillion, of which \$2.8 trillion or 14.7% came from China. Surprisingly, only Mongolia, Paraguay, Chile, and Indonesia have import dependencies approaching 30% or more using this data. However, 25 countries have an import dependency ratio greater than 25%.

Using the 2020 data, a larger number of reporting countries have filed their data, so we have some 143 countries in the database, whose total imports amount to \$17 trillion of which \$2.7 trillion or 15.7%, comes from China. Eighteen countries have an import dependency ratio greater than 25%, mainly in Asia, but also extending to Nigeria, Ethiopia, Paraguay, Chile, and Peru.

Although Hong Kong may enjoy a distinct trading status as an autonomous region, China has complete control over Hong Kong in both economic and foreign policies. Therefore, from a geoeconomic perspective, imports from Hong Kong must be added to those from mainland China to arrive at a more realistic assessment of import dependency.

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Hong Kong's domestic industrial base has shrunk to less than 1% of its GDP. Nevertheless Hong Kong remains a major transit point for Chinese-made goods exported to the rest of the world. Hence most of Hong Kong's imports from China are re-exported. The same is true for Hong Kong imports from the rest of the world: A large proportion end up re-exported to China. Including Hong Kong in the China statistics increases the level of import dependency by about two percentage points for most countries.

**Table 2 – List of countries with more than 25% import dependency on mainland China in 2008 and 2019**

Year	Country	China imports value (US\$ bn)	World imports value (US\$ bn)	Dependency on China (%)
2008	Paraguay	2.5	9.1	27.3%
2008	Cambodia	0.9	4.4	21.1%
2008	Madagascar	0.8	3.9	21.0%
2008	Ethiopia	1.8	8.6	20.6%
2019	Cambodia	7.6	20.3	37.4%
2019	Kyrgyzstan	1.7	5.0	34.8%
2019	Myanmar	6.4	18.6	34.6%
2019	Mongolia	2.0	6.1	33.2%
2019	Vietnam	75.6	253.4	29.8%
2019	Laos	1.7	5.8	29.0%
2019	Ethiopia	4.3	15.5	27.5%
2019	Indonesia	44.9	171.3	26.2%
2019	Australia	56.9	221.5	25.7%
2019	Nigeria	12.1	47.4	25.5%
2019	Pakistan	12.4	50.1	24.8%
2019	Peru	10.3	42.4	24.2%
2019	Chile	16.6	69.6	23.8%
2019	Japan	169.3	721.1	23.5%
2019	Dem. Rep. of the Congo	2.1	8.8	23.3%
2019	Uzbekistan	5.1	21.9	23.1%
2019	Philippines	26.8	117.2	22.8%
2019	Bolivia	2.2	9.8	22.1%
2019	Tanzania	2.0	9.1	22.0%
2019	Russia	54.1	247.2	21.9%
2019	Panama	4.6	21.5	21.6%
2019	South Korea	107.2	503.3	21.3%
2019	Thailand	45.8	216.8	21.1%
2019	Kenya	3.6	17.2	20.9%
2019	Colombia	11.0	52.7	20.8%
2019	Sri Lanka	4.0	19.5	20.7%
2019	Malaysia	42.4	205.0	20.7%
2019	Togo	0.4	1.8	20.5%
2019	Niger	0.6	2.8	20.4%
2019	New Zealand	8.5	42.3	20.2%

Source: Comtrade database



While China's geographical trade patterns are more global and diversified in nature than the US or the EU, manufacturing makes up more than 90% of China's total exports. In electrical machinery and equipment exports, China commands a 32% global market share on its own.

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Consider for example that food and beverage related sectors accounted for 10% of US exports in 2021 but just 2% of China's. In addition, ores and minerals accounted for a further 12% of US exports but just 1% of China's. On the other hand mechanical and electrical machinery and components accounted for an enormous 44% of China's exports but just 22% of America's.

As a result, China's exports in these two sectors amounted to just under \$1.5 trillion compared to America's \$395 billion. It is within these broad sectors that China's monopolistic manufacturing grip is perhaps most evident.

In electrical machinery and equipment exports, China commands a 32% global market share on its own. Adding Hong Kong imports from China that are then exported to the rest of the world, China's effective market share expands by about 5 percentage points. By way of comparison, the next largest exporter is the United States with a 6.6% market share. Germany has a 6.3% market share while Japan has a 4% market share. In other words, China exports are nearly twice the value of such goods than the US, Germany, and Japan combined.

The story is similar in the reactors and boilers sector. China leads with a 25% share in global exports, Germany second with 12%, US 9%, and Japan 7%.

The large share in these two sectors means that a large part of the world is so heavily dependent on China for these goods, that a disruption in the trade relationship would have a very debilitating impact on their economies. Consider that 65% of Nigeria's and 50% of Egypt's electrical machinery and equipment imports come from China. Of such imports, a third of America's and the United Kingdom's come from China, while for India, if Hong Kong is included, the share is more than 60% and for Brazil and Indonesia, the share is more than 50%.

The analysis uses two-digit harmonized system codes for merchandise trade (Harmonised System (HS) 84 and 85) which are broad categories and cover largely capital goods. China's market power rises even further in some subcategories under these codes. Consider Personal computers (HS847130): China accounted for 75% of the value and volume for world exports in 2021.

While Vietnam may appear to be challenging China's hegemony in some areas of manufacturing, there is a strong tendency for developing Asian countries that are attracting industries to relocate from China to remain vertically dependent on China for inputs into the value chain.

In telecommunications equipment, the story is similar. In 2020, China was responsible for 40% of phone set exports (HS8517) globally with Hong Kong accounting for a further 12%. Even Vietnam's spectacular success in attracting large Korean phone manufacturers has only gained it an 11% market share.

It is important to note that while Vietnam may appear to be challenging China's hegemony in some areas of manufacturing, there is a strong tendency for developing Asian countries that are attracting industries to relocate from China to remain vertically dependent on China for inputs into the value chain. Hence, in the phone market, China is Vietnam's largest source for phone parts (HS851770), importing \$7.5 billion from China marginally more than from Korea which together with China make up about 90% of the imports in this sector.

Although China has lost some market share in textiles to Vietnam, Cambodia, Bangladesh, and other countries, it has retained some grip on these industries through the economies of scale it enjoys in the supply of raw materials to the industry.

The same vertical integration is to be found in the textile and garments sectors. Although China has lost some market share in textiles to Vietnam, Cambodia, Bangladesh, and other countries, it has retained some grip on these industries through the economies of scale it enjoys in the supply of raw materials to the industry.

Cambodia provides a compelling example of this. HS sectors 61-64 (apparel, clothing and footwear) make up about 50% of Cambodia's exports.<sup>5</sup> This has grown rapidly in the past decade as China lost some of its cost competitiveness. The inputs into these exports come largely under HS sectors 52-60, textiles and fabrics. These account for about 23% of Cambodia's total imports.<sup>6</sup> Within these imports, China commands a 75% share of cotton, a similar share of manmade fibre imports, and about 66% share in fabric imports. Thus, although, China has offshored some apparel manufacturing, those countries that host the manufacturing remain very dependent on China for the inputs.



There is a strong tendency for developing Asian countries that are attracting industries to relocate from China to remain vertically dependent on China for inputs into the value chain.



# Analysis of Industry dependency on China

While analysis of HS sector market shares can indicate areas of heavy import dependency, industrywide analysis that covers multiple HS sectors is also useful in assessing the degree to which the world has become dependent on China-made goods. Several industries stand out.

## Photovoltaic (PV) Industry

China is home to all top 10 PV manufacturing equipment makers and is a significant exporter of PV products. This means that demand exceeds supply for PV products in all countries except China.

As the world attempts to wean itself from fossil fuels, the drive to increase capacity of renewable energy sources has been all encompassing. The International Energy Agency (IEA) estimates that to put the world on course toward net zero by 2050, by 2030 annual PV capacity additions need to increase four-fold to 630 gigawatts.<sup>7</sup>

To ensure global leadership in industry, China has subsidized its solar power industry.<sup>8</sup> From a Chinese perspective, this has been extremely successful. China now accounts for about 80% of production across the value chain. Furthermore, on current planned capacity additions this is set to rise to 95% by 2025. China is also home to all top 10 PV manufacturing equipment makers and is a significant exporter of PV products.<sup>9</sup> This means that demand exceeds supply for PV products in all countries except China. China, which accounts for about 80% of production, accounts for about 40% of global demand.

Ironically, a large part of China's cost competitiveness in manufacturing PV products comes from the fact that in the main provinces where manufacturing takes place electricity costs are about 35% below the world average (coal is the major energy source). Because electricity makes up 40% of the cost of manufacturing polysilicon and about 20% of the costs of manufacturing wafers and modules, this accounts for the vast majority of China's cost advantage.

However, given the scale of state aid and the economies of scale that China has achieved, China's cost advantage is not as insurmountable as one might think. The IEA estimates that per unit costs in China are about 10% lower than in India, 20% lower than the US, and about 35% lower than in Europe.

Given the importance of the solar industry in achieving carbon emission targets, the potential to weaponize the industry and the vulnerability of the rest of the world to supply chain disruption is clear.

## Containers and intermodal chassis

By facilitating the easy transfer of shipments, containerization has improved the efficiency of intermodal transport to the degree that more than half of global trade is containerized.

It's probably fair to say that no single invention has done more to promote the volume of trade in the world than the container.<sup>10</sup> By facilitating the easy transfer of shipments, containerization has improved the efficiency of intermodal transport to the degree that more than half of global trade is containerized. For context, according to the United Nations Conference on Trade and Development, in 2020, 150 million containers carrying \$8 trillion worth of goods travelled the world's oceans.<sup>11</sup>

The smooth functioning of global trade depends on the availability of containers. A recent report by Federal Maritime Commissioner Carl Bentzel has highlighted

Should the shipping container be considered an essential piece of equipment instead of being seen as a fungible commodity? The PRC has already considered this question and answered by promoting the Chinese container manufacturing industry to status as a national champion.

China's control over the industry and the potential threat this poses.<sup>12</sup> The report finds that 95% of containers in existence were made in China and that three state owned enterprises in China continue to dominate both the manufacturing of containers and the intermodal chassis market.

As Bentzel puts it: "Our Nation faces a fundamental policy question: Should the shipping container be considered an essential piece of equipment by our country instead of being seen as a fungible commodity? The PRC has already considered this question and answered that the container is essential and has promoted the Chinese container manufacturing industry to status as a national champion."

### Electric vehicle battery industry

In contrast to the low tech, commodity market that is the container industry, the electric vehicle battery industry is at the leading edge of technology. China is heavily invested in dominating the lithium ion battery market and importantly the upstream materials mining and processing industries that are associated with it.

As a result, in 2021, China exported 960 million kilograms of lithium ion batteries (HS 850760) valued at \$28.5 billion. This was more than twice the volume of the next three largest exporters combined. This was also close to double the weight and value of China's exports in 2020.

Fuelled by a huge domestic demand, China is estimated to command as much as 80% market share in overall lithium ion battery production.

Fuelled by a huge domestic demand, China is estimated to command as much as 80% market share in overall lithium ion battery production. According to Bloomberg, China controls 80% of the world's raw material refining; 77% of the world's cell capacity; and 60% of the world's component manufacturing.<sup>13</sup>



Given the importance of the solar industry in achieving carbon emission targets, the potential to weaponize the industry and the vulnerability of the rest of the world to supply chain disruption is clear.

Large, economically viable, deposits of rare earth ore exist outside China, but China has been clever in attaining a large degree of leverage through its dominance of the refining and processing industry.

### Rare earth minerals

In many ways, China's dominance of the lithium ion battery value chain echoes its dominance in rare earth refining and therefore production. Rare earth ore is not particularly scarce. Large, economically viable, deposits exist outside China, but China has been clever in attaining a large degree of leverage through its dominance of the refining and processing industry. It has aggressively expanded domestic production and invested heavily overseas in distressed operators to gain control of and stifle potential offshore supply.

According to a paper by James Kennedy: "All rare earth metals, alloys and magnets used by US defence contractors and technology firms can be traced back to China, directly or indirectly through Japanese sourcing or via US alloy and magnet fabricators".<sup>14</sup>

China's industrial policies have been highly successful in creating monopolistic power in various strategic industries that the Chinese state has prioritised. Being of crucial importance, they lend themselves to weaponization.

The four industry examples we have considered here make clear that China's industrial policies have been highly successful in creating monopolistic power in various strategic industries that the Chinese state has prioritised. Being of crucial importance, they lend themselves to weaponization. Import dependency on China-made goods though, is not the only source of trade leverage that the Chinese state has cultivated.



China's industrial policies have been highly successful in creating monopolistic power in various strategic industries that the Chinese state has prioritised.

# Which countries are most dependent on China for foreign exchange earnings?

By 2020, the average export dependency on China had doubled to 9% and 16 countries were dependent on China for 20% or more of their exports. US security allies such as Australia, Japan, and South Korea are among countries that are heavily reliant on China for export revenue and account for a considerable portion of the world economy.

While imports allow a country to enjoy the benefits of other people's labour and innovation, they need to be purchased through exports or asset sales. During the past decade or so, China has become a significant importer of goods but also a large acquirer of overseas assets thus depending on other countries to finance their imports.

Turning to imports first, it is noteworthy that in 2008, out of 164 jurisdictions in the Comtrade database, the average export dependency on China was a mere 4.6%. In fact only eight economies (excluding Hong Kong) exported more than 20% of their total exports by value to China and many of these, Yemen, Oman, and Solomon Islands for example, were small. By 2020, the average export dependency on China had doubled to 9% and 16 countries were dependent on China for 20% or more of their exports.<sup>15</sup> Furthermore, US security allies such as Australia, Japan, and South Korea are among countries that are heavily reliant on China for export revenue and account for a considerable portion of the world economy.

While China has run continuous current account surpluses since 1994, and consequently been a capital exporter, only recently have its capital exports been directed beyond the acquisition of foreign exchange reserves. Indeed, as late as 2010, foreign exchange reserves made up 70% of China's total overseas assets.

**Table 3 – Countries most dependent on China for export earnings 2020**

Country	China exports value (US\$ bn)	World exports value (US\$ bn)	Dependency on China (%)
Mongolia	5.5	7.6	72.5%
Congo	3.1	4.9	63.8%
Dem. Rep. of the Congo	5.8	14.1	41.0%
Australia	100.1	245.0	40.8%
Chile	28.5	73.5	38.9%
Namibia	1.9	5.6	34.1%
Mauritania	1.0	2.8	33.9%
Brazil	67.8	209.2	32.4%
Myanmar	5.4	16.9	31.8%

Source: Comtrade database

**Table 4 – Chinese sourced FDI as a % of total FDI for selected countries**

Country	Chinese-sourced FDI, 2017-21 (US\$ bn)	Total FDI, 2017-21 (US\$ bn)	% from China
Algeria	0.81	6.1	13.3%
Bangladesh	6.4	14.1	45.4%
Bosnia	1.25	2.3	53.7%
Cambodia	11.51	16.8	68.7%
Chile	13.2	52.0	25.4%
Dem. Rep. of the Congo	6.8	8.0	85.4%
Egypt	13.39	35.5	37.7%
Ethiopia	3.52	16.5	21.3%
Ghana	3.57	13.6	26.3%
Guinea	7.07	1.3	533.9%
Guyana	1.83	6.1	29.8%
Iran	7.01	11.7	60.1%
Iraq	10.54	-18.9	-55.8%
Kazakhstan	6.74	18.7	36.0%
Kenya	5.82	4.8	121.1%
Kuwait	4.72	1.0	492.0%
Laos	11.44	5.8	195.9%
Mongolia	2.21	10.0	22.2%
Myanmar	2.55	13.8	18.5%
Nepal	2.06	0.8	266.7%
Nigeria	14.12	12.7	111.0%
Oman	3.46	19.7	17.5%
Pakistan	19.98	10.6	188.0%
Peru	12.65	24.5	51.6%
Russia	20.97	119.9	17.5%
Saudi Arabia	16.16	34.9	46.3%
Serbia	12.82	21.1	60.9%
Sri Lanka	3.58	4.8	75.2%
Tanzania	6.02	4.7	127.2%
Thailand	5.67	32.8	17.3%
Uganda	1.52	5.1	29.5%
Ukraine	2.95	21.0	14.1%
United Arab Emirates	23.33	79.2	29.5%
Uzbekistan	3.21	8.5	37.7%
Vietnam	9.86	77.2	12.8%
Zambia	6.13	1.7	351.0%
Zimbabwe	5.68	1.7	327.5%

Source: Total FDI numbers from UNCTAD ; Chinese originated FDI from China Global Investment tracker.



## WHICH COUNTRIES ARE MOST DEPENDENT ON CHINA FOR FOREIGN EXCHANGE EARNINGS?

Since 2010, China's overseas assets have grown from \$4.1 trillion to \$9.3 trillion, while the non-reserve asset portion has grown from \$1.2 trillion to \$5.9 trillion. These overseas assets not tied up in foreign reserves have largely taken the form of foreign direct investment (FDI), lending, and security purchases mainly directed towards the global south.

Since 2010, China's overseas assets have grown from \$4.1 trillion to \$9.3 trillion, while the non-reserve asset portion has grown from \$1.2 trillion to \$5.9 trillion. These overseas assets not tied up in foreign reserves have largely taken the form of foreign direct investment (FDI), lending, and security purchases mainly directed towards the global south, securing energy and material assets of strategic importance to China. In turn, these capital flows have helped bankroll imports for China in a form of vendor financing bringing significant influence in countries where these capital flows are disproportionately large relative to the countries' financing needs.

For example, in Laos, about 90% of FDI in the last five years has been sourced from China and almost all incremental foreign lending has come from China. While Laos is heavily dependent on Chinese capital, the trend of increasing dependency is not limited to Laos or even Asia.



China's overseas assets have brought the country significant influence in economies where these capital flows are disproportionately large relative to the economies' financing needs.

# Conclusions

The world economy is more dependent on Chinese made goods than the headline number suggests largely because China's exports are geographically more diverse than America's or Germany's; are heavily concentrated in manufacturing; and have expanded very rapidly in recent years, aided by significant and impactful industrial policy.

"China standards 2035" is a landmark initiative aimed at translating China's manufacturing dominance into setting technology and governance standards. The aim is for China to establish its own technology standards at the international level.

According to World Bank data, China's share of global merchandise exports has risen by 3 percentage points between 2019 to 2021, rising from 13.1% to 16.1%. Of the \$3.29 trillion of total export growth in the world from 2019 to 2021, \$860 billion (or 26%) has come from China. Yet, as this paper has hopefully demonstrated, the world economy is more dependent on Chinese made goods than the headline number suggests largely because China's exports are geographically more diverse than America's or Germany's; are heavily concentrated in manufacturing; and have expanded very rapidly in recent years, aided by significant and impactful industrial policy.

China's increased export presence reflects the growth it has seen in manufacturing. Again, using World Bank data, China saw a 2.4 percentage point increase in its world market share in manufacturing between 2019 and 2021, with China's manufacturing value added rising by just more than \$1 trillion during the 24-month period from \$3.83 trillion to \$4.87 trillion. Given that world manufacturing grew by only \$2.43 trillion in the same period, China accounted for a staggering 43% of the incremental growth in manufacturing between 2019 and 2021.

China has made no secret of its intention to dominate advanced manufacturing. Indeed, the "Made in China 2025" initiative, that was announced in 2015, set out China's plans to dominate advanced manufacturing in black and white. Analysis of various industry supply chains such as the solar industry and electric vehicle batteries suggests that China is indeed creating monopolistic positions in a range of industries of the future. Clearly, 5G telecommunications and the associated Internet of Things (IOT) and smart cities technology are other areas in which China is establishing dominance.

Furthermore, while Made in China 2025 is about manufacturing dominance, "China standards 2035" is a landmark initiative aimed at translating that manufacturing dominance into setting technology and governance standards. The aim is for China to establish its own technology standards at the international level, thus reducing the cost of technology licensing, garnering revenue from licensing Chinese technology and dominating the governance of standards in next generation technology. This in turn will help further promote manufacturing dominance in a virtuous circle, increasing China's monopolistic power.

Our analysis suggests that China's export dominance in manufacturing is both increasing and producing dependencies in third countries that bring China significant influence over such countries' geopolitical alignment or their freedom of action. For example, in 2021, China exported more than four times the value of the United States, Germany and Japan combined in the railway equipment sector (HS86). In 2021, in the electrical machinery and equipment sector (HS85), China exported 1.9 times as much as the United States, Germany and Japan combined and in the mechanical machinery and boiler sector (HS84) China almost matched the three next largest economies in the world combined exports.



China's export dominance in manufacturing is producing dependencies in third countries that bring China significant influence over such countries' geopolitical alignment or their freedom of action.

As China's influence over its trading partners rises, so its ability to bend those trading partners to its will increases. This has the potential to reorder the global governance system in a fashion more friendly to China's state capitalism and hence reinforce China's economic hegemony.

Because of this manufacturing hegemony, import dependency on China has increased. Recent votes in the UN show a tendency, particularly among developing countries, to align themselves with China. This was evident, for example, in the vote at the United Nations General Assembly condemning Russia's invasion of Ukraine in which China abstained along with a significant number of Asian and African nations.

Almost five years after the President Trump's 2018 tariffs were slapped on solar panels and washing machines, there is little evidence to suggest that a policy pushback against China's manufacturing dominance is reducing trade dependencies on China. On the contrary, dependency appears to be rising as China's subsidies to key strategic industries increase.<sup>16</sup> As China's influence over its trading partners rises, so its ability to bend those trading partners to its will increases. This has the potential to reorder the global governance system in a fashion more friendly to China's state capitalism and hence reinforce China's economic hegemony. The next paper in this series will examine the policy response to China's hegemonic ambitions so far to ascertain why they have been unsuccessful.

# Researcher bio: Stewart Paterson

Stewart Paterson spent 25 years in capital markets as an equity researcher, strategist and fund manager. He has worked in London, Mumbai, Hong Kong and Singapore in senior roles with Credit Suisse, Credit Suisse First Boston, CLSA and more recently, as a Partner and Portfolio Manager of Tiburon Partners LLP.

Having started his career with Hill Samuel in London in 1991, Stewart has covered the full spectrum of global markets equity strategy, developed market equities and emerging market equities. In 2007, he co-founded Riley Paterson Investment Management in Singapore, where he ran a macro-driven hedge fund. He returned to the UK in 2012.

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# Endnotes

1. See Why The UK Should Remain In The EU, Richard Branson: <https://www.linkedin.com/pulse/why-uk-should-remain-eu-richard-branson/>
2. See Why Germany Can't Just Pull the Plug on Russian Energy, New York Times: <https://www.nytimes.com/2022/04/05/business/germany-russia-oil-gas-coal.html>
3. See: China's Economic Statecraft: Co-optation, Cooperation And Coercion, – William J Norriss.
4. Comtrade database <https://comtrade.un.org/>.
5. In 2020 Cambodia exports totaled \$17.4 billion according to the ASEAN database of which \$5.2 billion (30%) were knitted apparel (HS 61) and \$2.3 billion (13%) were not knitted (HS 62). A further \$1.1 billion (6%) was footwear (HS64).
6. See ASEAN secretariat database. <https://data.aseanstats.org/>
7. See IEA report: Solar PV global supply chains <https://www.iea.org/reports/solar-pv-global-supply-chains/executive-summary>
8. See: The Chinese Government as Solar Power Entrepreneur and the Examples of Suntech and Longi Green Energy Technology Company, Climate Scorecard: <https://www.climatescorecard.org/2021/04/the-chinese-government-as-solar-power-entrepreneur-and-the-examples-of-suntech-and-longi-green-energy-technology-company/#:~:text=Chinese%20Government%20support%20for%20the%20solar%20industry%20started,governments%20and%20designed%20as%20a%20poverty%20alleviation%20program.>
9. Ibid
10. The container was invented by Keith Tantlinger
11. See: Value of Containerized Trade 2020, UNCTAD: <https://porteeconomicsmanagement.org/pemp/contents/part1/maritime-shipping-and-international-trade/value-containerized-trade/#:~:text=About%2070%25%20of%20the%20value%20of%20international%20trade,about%20%2454%2C500%20per%20TEU%20or%20%24109%2C000%20per%20FEU.>
12. See Assessment of P.R.C. control of container and intermodal chassis manufacturing, Federal Maritime Commission: <https://www.fmc.gov/wp-content/uploads/2022/03/ContainerandChassisManufacturingFinalReport.pdf>
13. See China Dominates the Lithium-ion Battery Supply Chain, but Europe is on the Rise, Bloomberg NEF: <https://about.bnef.com/blog/china-dominates-the-lithium-ion-battery-supply-chain-but-europe-is-on-the-rise/>
14. China solidifies dominance in rare earth processing, James Kennedy: [https://www.jstor.org/stable/27022505#metadata\\_info\\_tab\\_contents](https://www.jstor.org/stable/27022505#metadata_info_tab_contents)
15. Some jurisdictions have changed over the period and the datasets are not necessarily composed entirely of the same reporting jurisdictions.
16. Red Ink: Estimating Chinese Industrial Policy Spending in Comparative Perspective, Center for Strategic and International Studies: <https://www.csis.org/analysis/red-ink-estimating-chinese-industrial-policy-spending-comparative-perspective>

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