

The world's factory strikes back

BY MAX J. ZENGLEIN



About MERICS

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White paper abstract

Economic security is driving a new era of globalization where dependencies are increasingly potential vulnerabilities. But efforts by advanced economies to diversify away from China are not happening in isolation. China is leveraging its dominance in supply chains by competing with emerging and advanced economies. As supply chains begin to shift, China will make the process as costly as possible for its rivals.

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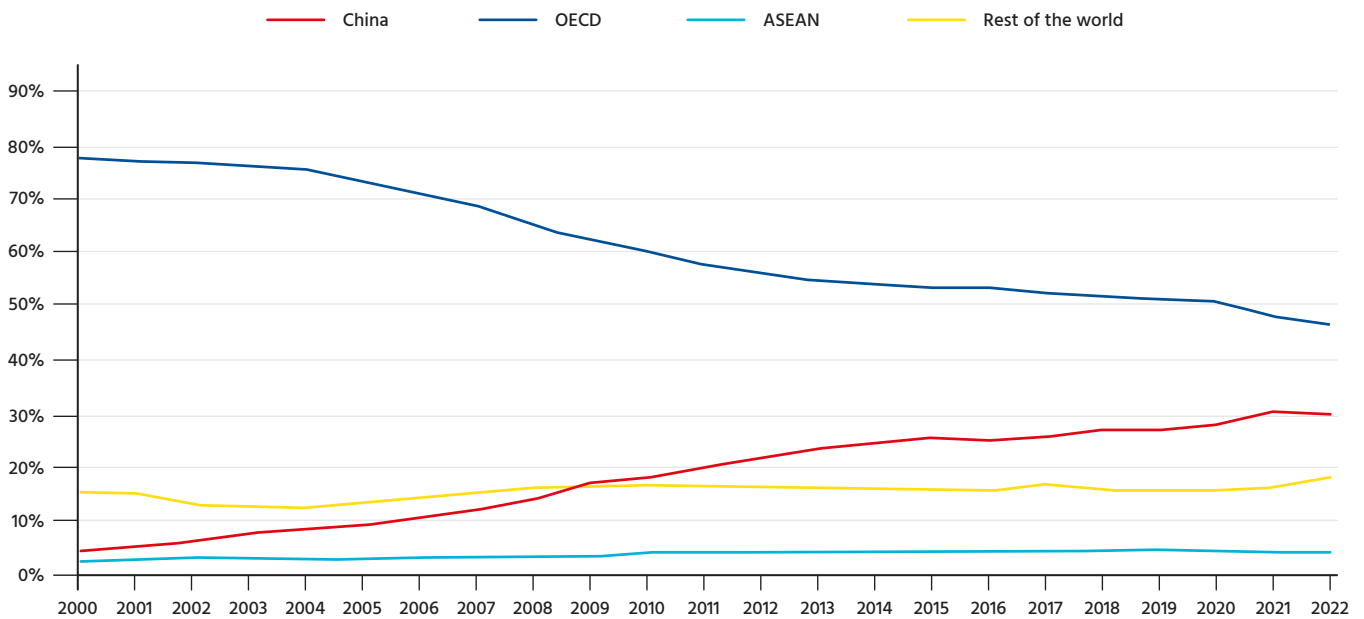
Introduction

Efforts by advanced economies to diversify away from China are not happening in isolation. As supply chains begin to shift, China will make the process as costly as possible for its rivals.

China-centered globalization, the central paradigm underpinning the last two decades of global business activity and trade policies, is becoming more contested. Governments in major economies in the European Union, US, and Japan have rolled out new policies to reduce their high dependency on China for manufactured goods, now viewed with growing political discomfort. De-risking, re-shoring, friend-shoring, or China+1 are emerging strategies shaping the next era of globalization, emphasizing economic security and systemic competition over fostering trade liberalization. Despite a growing sense of urgency triggering policy adjustments in many countries, strategic shifts to reshape globalization have only just started. The resulting changes are poised to challenge China's dominant role in manufacturing, but China is not sitting idly by and is itself trying to expand and deepen its position in the global geoeconomic architecture. The cocktail of policy responses risks being explosive for global markets.

China's integration into the global economy led to a rapidly rising share of manufacturing in its economy. After peaking at 32.4% in 2006, the share of manufacturing in China's GDP has been gradually declining. But after falling to 26.3% in 2020, the share has again increased. Its share remains significantly higher than Germany's or Japan's, which stand just below 20% of GDP and Vietnam at

Figure 1 – Share of global manufacturing (value-added at current US\$)



Source: World Bank

25%.¹ China has developed highly competitive industrial clusters, enabling it to reach a dominant position across diverse manufacturing sectors and putting itself at the center of global supply chains and production networks. As a result, over the past 20 years, China's share in global manufacturing increased from around 5% to over 30%, while the share of Organisation of Economic Co-operation and Development (OECD) countries fell by around half over the same period (see Figure 1). While it is often said that there is no "second China", it should also be kept in mind that its manufacturing dominance is the result of a mix of unusually favorable conditions, including sporadic periods of domestic reform and economic liberalization that have been ratcheted back in recent years.

The Covid pandemic and shipping disruptions underscored China-centered supply chain vulnerabilities in recent years. However, the real catalyst for change has been an increased focus by governments and corporates on national and economic security. To mitigate risks, governments in Europe, the US, and Japan have stepped up efforts to facilitate change particularly in sensitive areas such as high tech, raw materials, and healthcare. The measures can be broadly categorized as follows:

1. **Technology reshoring:** Measures such as the CHIPS and Science Act in the US, backed by US\$280 billion and Europe's 43-billion-euro Chips Act aim to bring semiconductors and the high-tech value chains back to home markets.²
2. **Finished goods and inputs diversification:** Diversification goals in EU are geared toward paving the way for companies to pursue new opportunities while Japan is similarly trying to move mid- and downstream manufacturing suppliers back home or to markets other than China.³
3. **Raw and refined materials diversification:** The EU Critical Minerals Act and Japan's rare earth diversification and recycling program are meant to build resilience in extraction and refining of raw materials needed for high tech as well as the green energy transition.⁴

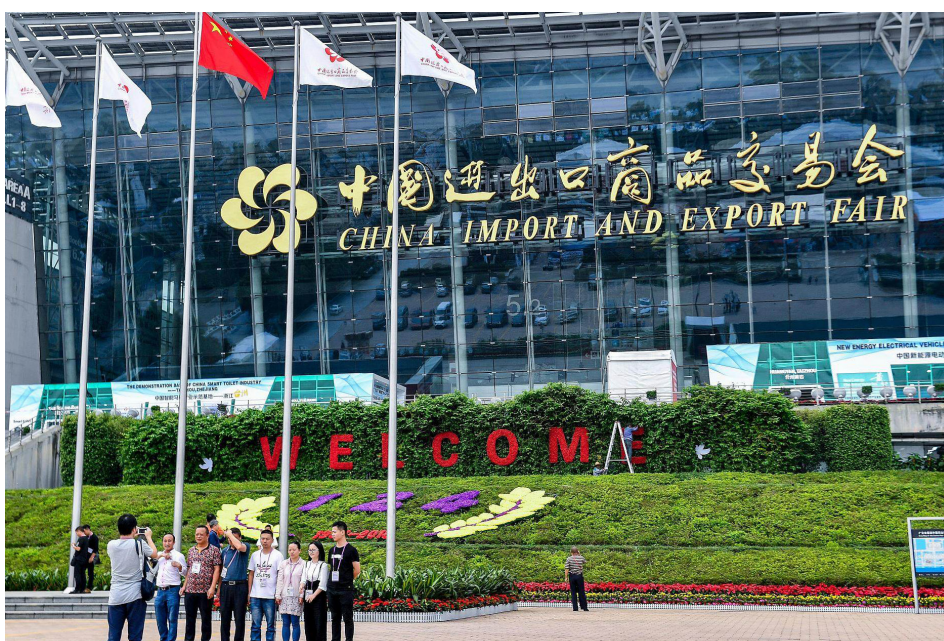
China is also adapting to the changing landscape for global trade:

1. **Technological self-reliance:** China is massively investing in semiconductors but also attempting to strengthen the industrial base with initiatives such as the "little giants program", geared at fostering innovative small and medium sized companies.⁵
2. **Supply chain securitization:** Supply chain security and the threat of losing access to technology as resulted in stricter localization requirements and on-shoring of supply chains in China.⁶
3. **Market diversification:** China's Belt and Road Initiative includes massive investments transportation infrastructure and an emphasis on nurturing ties with the Global South aimed at developing new markets and access to raw material supplies.⁷

The newly introduced measures will impact global trade patterns. However, China's production power and scale of manufacturing capacity will continue to shape this period of re-globalization. Diversification away from China to producers in alternative markets are likely to remain dependent on Chinese-made inputs in the production process. Despite efforts to reduce reliance on

Chinese manufacturing and sourcing, its industrial capabilities, cost efficiency, and comprehensive supply chain infrastructure ensure China remains deeply embedded in supply chains even if direct dependence is reduced.

Economic diversification in service of national security will still need to make economic sense for companies or be prohibitively expensive. Of course, companies cannot escape the new realities affecting global trade and require a strategic reassessment of supply chain risks. But equally, they cannot afford to abruptly abandon the efficiencies of globalization despite growing geopolitical frictions threatening global supply chains and a greater emphasis on economic security. A significant escalation in tit-for-tat trade tensions or over geopolitical flashpoints could change the economics behind and speed of diversification. Striking the right balance between risk mitigation and efficiency will be fundamental in getting economic security right.



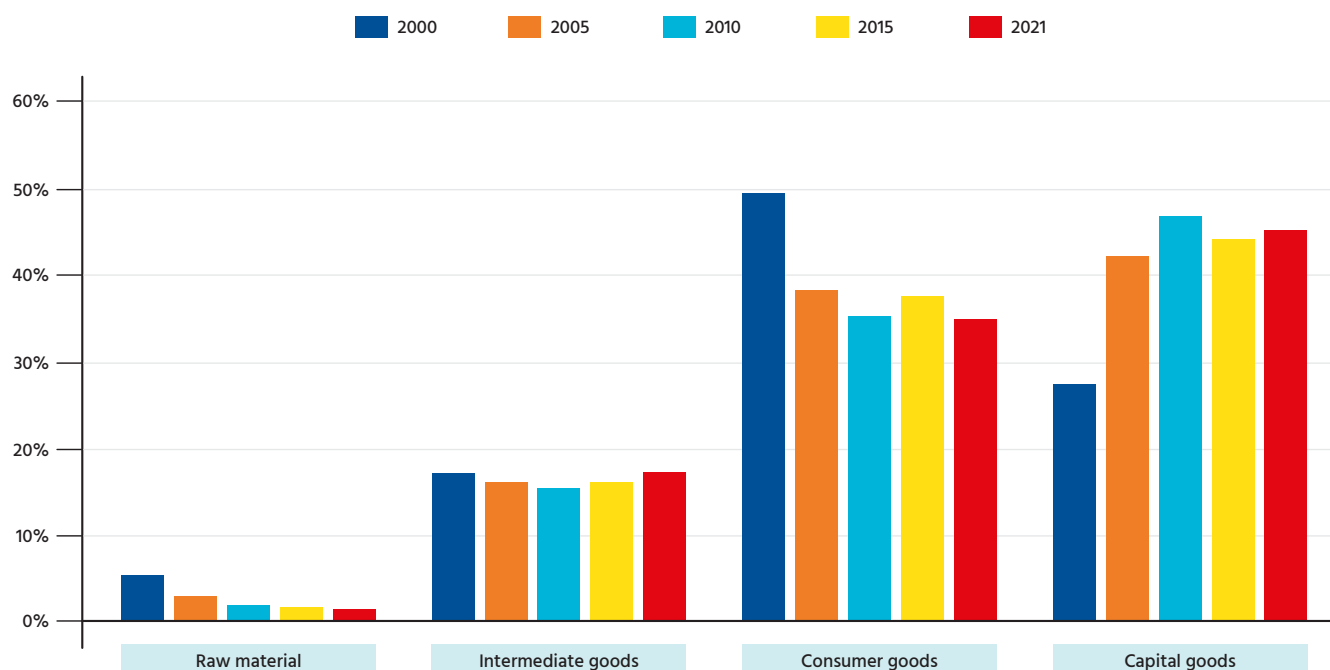
China is not sitting idly by as governments in major economies roll out new policies to reduce their high dependency on the Middle Kingdom for manufactured goods. (Source: Visual China Group)

Sticky dominance: China's manufacturing has weathered rising labor costs

Trade liberalization in the late 1990s resulted in substantial shifts in global manufacturing capacity. In the post-Cold War era, multilateral initiatives fostered economic openness and paved the way for highly efficient global supply chains. China's economic reforms since the 1980s, abundant labor, cost advantages, and unrestricted access to global inputs, coupled with its entry into the World Trade Organization in 2001, provided the foundation for China's emergence as the "world's factory."

Foreign investors leveraged these advantages by shifting production and supply chains to China to reduce costs and maximize profits. The evolution of the electronics industry serves as a prime example. International firms collaborated with local suppliers in China, progressively broadening local production capabilities. This strategic collaboration consolidated China's dominant position in critical inputs from printed circuit boards to final products such as computers or mobile phones. Similar developments were observable in other sectors with varying degrees of sophistication not limited to, but especially in, the production of labor-intensive consumer goods such as toys, apparel, or furniture.

Figure 2 – Share of China's exports by product categories



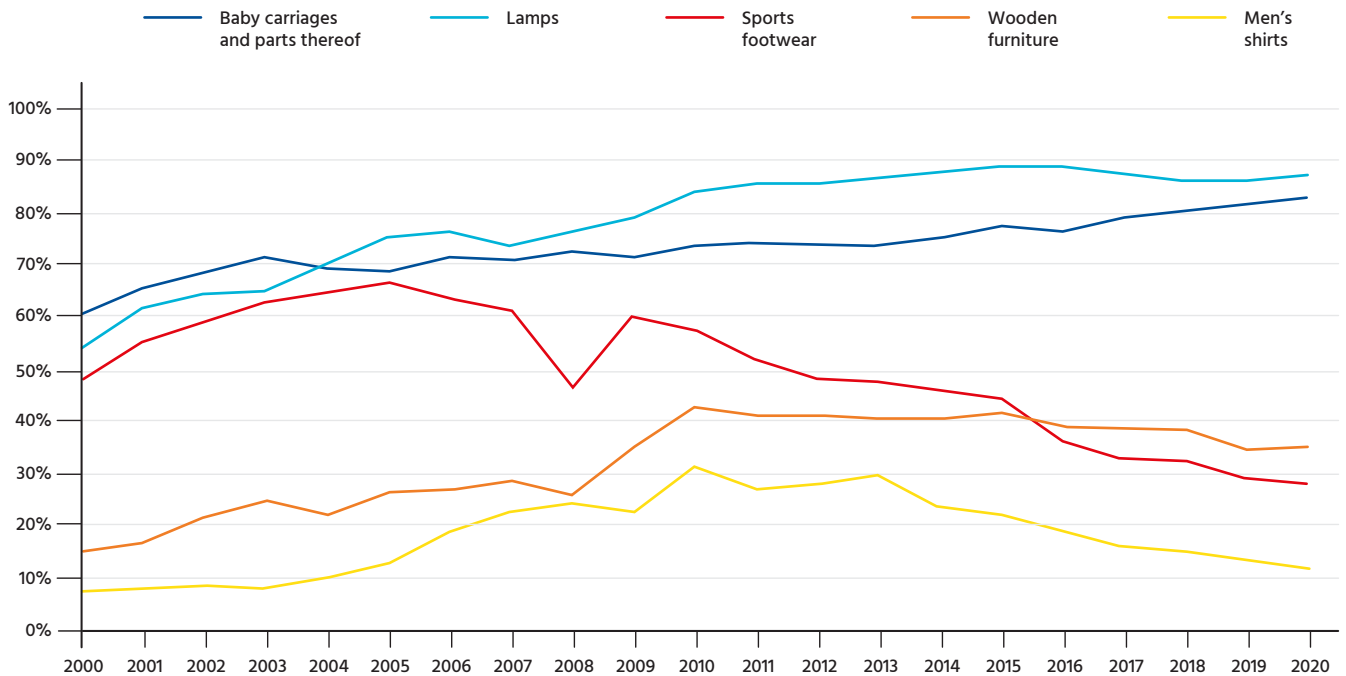
Source: WITS

Despite some observable shifts in production to other economies, rising wages, and a shrinking labor force, China's position in lower-end industries remains highly competitive.

China's ability to build industrial clusters with specialized companies in a highly competitive environment is central to lifting its productivity – to an extent.⁸ The heavy concentration in export-oriented industries, for example, in the Pearl River and Yangtze River Delta, led to a high degree of agglomeration of industrial production capacity and formed the foundation of its unparalleled speed and flexibility of production. The resulting economies of scale, sophisticated supplier networks within these industrial clusters, efficient logistics infrastructure, and customs regime gave China a competitive edge.

China has maintained its strong position in global manufacturing despite rising wages and a shrinking labor force, underlining its strong economic fundamentals. In the first decade since joining the World Trade Organization (WTO) in 2001, average national manufacturing growth increased fourfold, an average of 11.9% annually. A period of slow appreciation of the renminbi, China's currency after policy reforms from 2005 to around 2013 effectively spurred wage growth by more than fivefold in US dollar terms.⁹ Growth in China's export hubs in the eastern coastal areas outpaced other regions.¹⁰ By 2022, manufacturing wages had more than doubled again, according to China's National Bureau of Statistics data. This coincided with employment in manufacturing peaking at 232 million in 2012 and falling to 211 million by 2022.

Figure 3 – China's share of global exports in selected low-value-added consumer goods



Source: CEPII (Baci) and MERICS computations

Facing rising production costs, the manufacturing structure would be expected to change from less labor-intensive production to higher-value goods production and a higher share of consumption to gross domestic product. But despite some observable shifts to other economies, China's position in lower-end industries remains highly competitive, and the measurable impact remains limited. China's share in global manufacturing increased over the past decade, and consumer goods as a share of total exports remain unchanged (see Figure 2). There has been no noticeable shift in manufacturing to lower-income economies at China's expense. For example, the Association of Southeast Asian Nations' (ASEAN) share in global manufacturing has remained almost unchanged over the past two decades (see Figure 1) despite rising costs in China. In an era of heightened geopolitical risks, China's manufacturing competitiveness remains largely unchallenged.

The textile and garment industries showcase China's persistent dominance despite some relocation to other countries in Southeast Asia. While employment in the sector's manufacturing fell from a peak of over 10 million in 2011 to just 5 million by 2022, China remains the top producer, accounting for over 30% share of global apparel trade.¹¹ These changes were uneven, with global shares in apparel falling from their peak around 2010 (see Figure 3). But China has expanded its share in other consumer goods, in some cases to near-monopoly positions.

China's manufacturing sector, even in the realm of lower-value goods, remains highly competitive, and the leadership in Beijing is steadfast in retaining its pivotal role in manufacturing and building its vision of a modern industrial system. Leveraging and expanding its position inevitably influences the pace and extent of diversification efforts in prospective alternative markets such as in Southeast Asia or India. Whether it is about the future geography of globalization, company-level competition, or market distortions, the persistence and features of China's manufacturing power will matter tremendously for the global economy.

Reducing dependencies on China is a gradual process

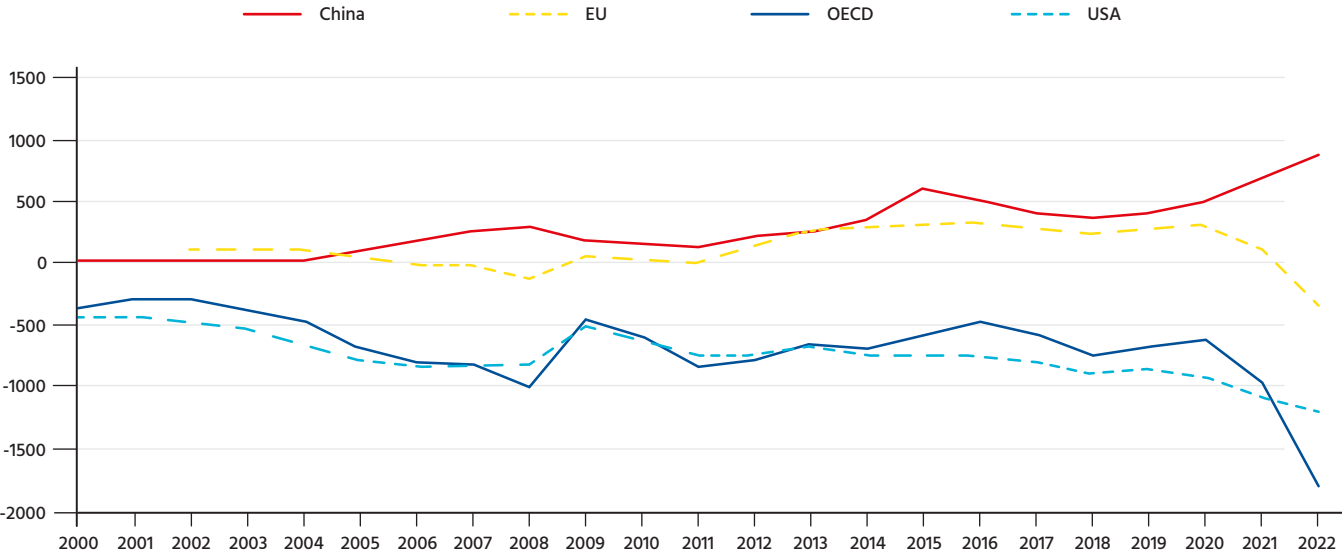
ASEAN has been attracting record inflows of FDI in manufacturing since 2018 when US-China relations deteriorated. But concluding that shifts in investment flows is evidence for diversification out of China could be misleading.

In many sectors, China remains the world’s largest producer and exporter, highlighting the resilience of China’s manufacturing ecosystem despite economic factors like rising wages and a shrinking labor force. Shifts currently underway are driven less by traditional economic challenges but by concerns for national security.

China accounts for over 50% of global exports in around 5,000 categories under the global Harmonized System (HS) of traded product taxonomy. Research finds that once China reaches a dominant position, this persists over time.¹² This means China has kept its leading position in most consumer goods while making inroads into higher-value goods. In 2023, China eclipsed Japan as the world’s largest car exporter.

China’s share of imports in significant markets, including the EU, US, and Japan, has declined since peak levels in 2018.¹³ This indicates ongoing trade diversification, but changing bilateral trade might give a distorted picture of diversification. Even during the pandemic, Chinese exports surged to record levels. Although exports slowed in 2023, they remain 30% over pre-pandemic levels. With weak import demand, China’s trade surplus has reached record levels (see Figure 4). At the same time, research has also shown that rising shares of exports into the US, for example, from alternative markets such as Mexico or Thailand over the past three

Figure 4 – Net trade in goods in billion US\$



Source: OECD

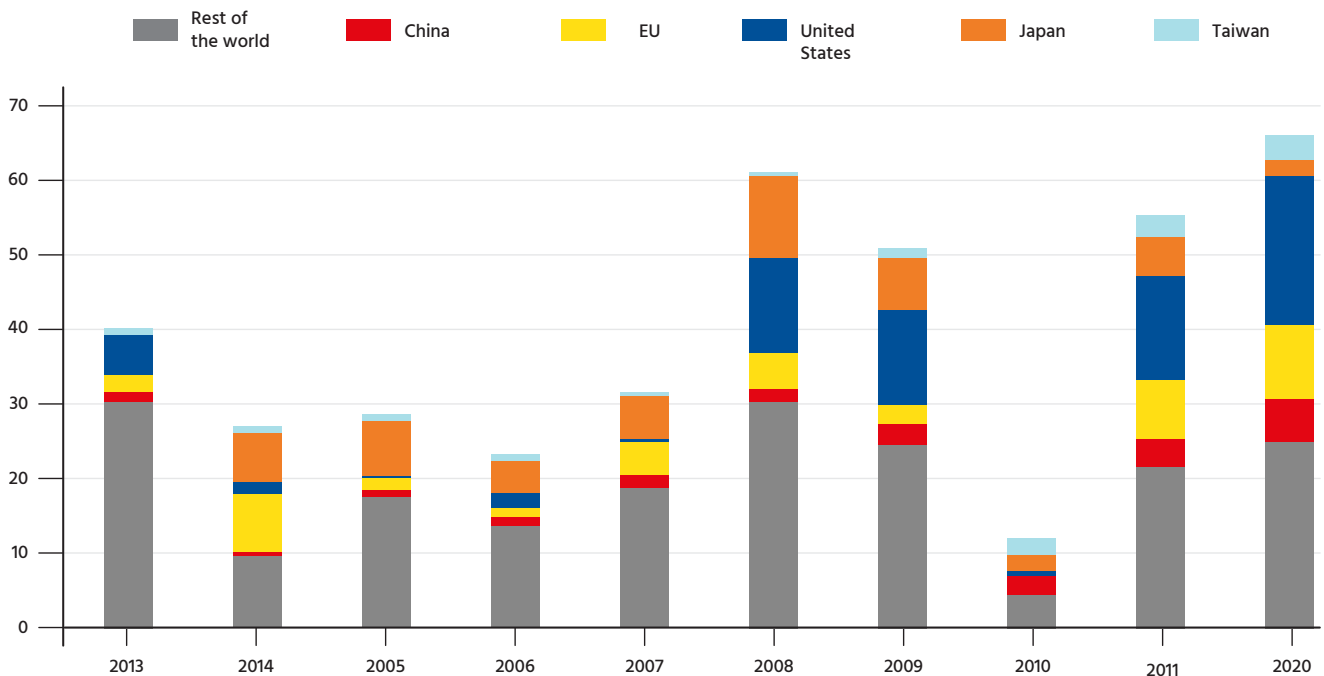
Rising shares of exports into the US from alternative markets such as Mexico or Thailand over the past three years has corresponded with skyrocketing Chinese exports to these countries.

years has corresponded with skyrocketing Chinese exports to these countries during the same time period.¹⁴ Breaking away from China’s highly competitive industrial clout thus seems challenging despite growing political will.

Globalization is ongoing, but more marginally and gradually than often believed. Reports of multinational corporations such as Apple or Samsung diversifying to India or Vietnam or major sourcing companies such as Walmart announcing plans to increase imports from India provide evidence of this ongoing transition.¹⁵ Chinese companies from Build your Dreams (BYD) to Contemporary Amperex Technology Co., Limited (CATL) have also announced plans to expand production outside China, and Hong Kong-based global sourcing giant Li & Fung has reported a declining China share in its purchasing volume.¹⁶ ASEAN has been a beneficiary of these shifts, attracting record inflows of foreign direct investment in manufacturing, reaching US\$65.9 billion in 2022 with a notable uptick in 2018 when US-China relations deteriorated (see Figure 5). This eclipsed the almost US\$50 billion in foreign direct investment that China attracted for manufacturing in 2022 but is hardly strong enough to indicate a significant shift in global manufacturing capacity away from China.¹⁷

Survey results from the EU Chamber of Commerce in China (EUCCC) show that the share of companies planning not to increase their investment in China over the next two years jumped to almost 30%.¹⁸ Similarly, survey results by the US-China Business Council show an uptick in the share of companies moving parts of their

Figure 5 – ASEAN FDI inflows in manufacturing by origin in billion US\$

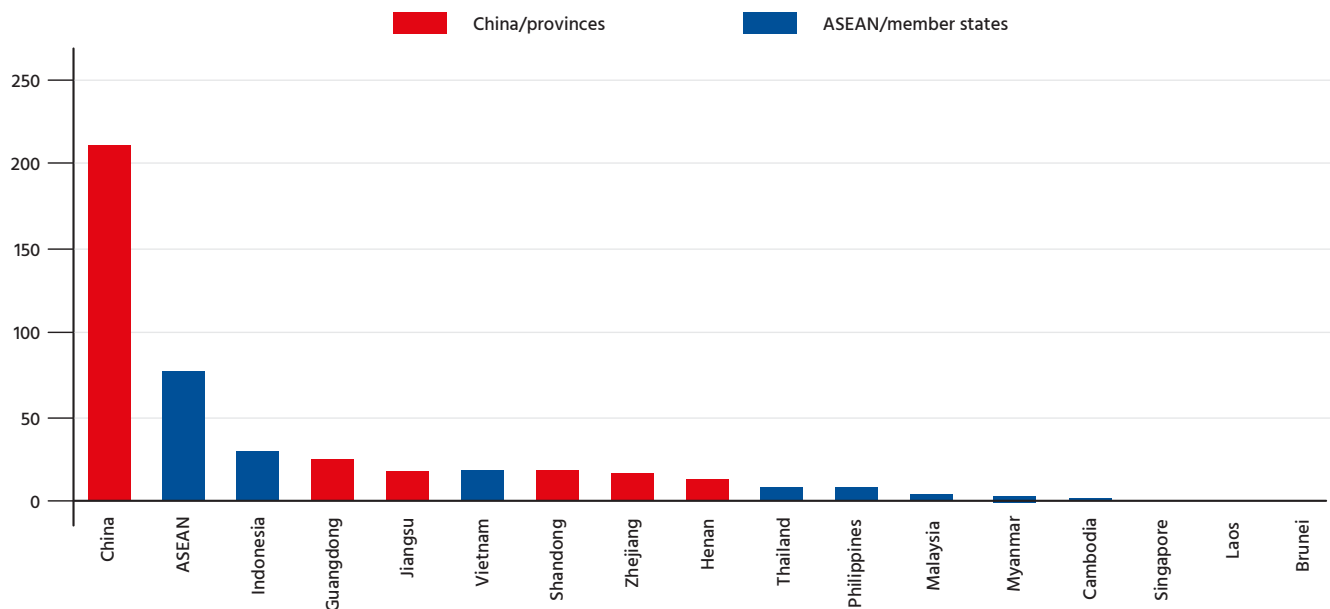


Source: ASEANstats

supply chain out of China.¹⁹ These developments coincide with China’s balance of payments recording the flow of foreign investments turning negative in 2023 for the first time in 25 years. However, concluding that the shift in investment flows is evidence for diversification out of China is misleading. Economic factors such as higher interest rates in the US or euro area, disappointing economic growth in China, and a fragile global economy are all factors contributing to reallocation of corporate capital such as undistributed profits to outside of China. Data by the Ministry of Commerce still shows that China’s manufacturing sector attracted around US\$45 billion in utilized foreign direct investments.²⁰

Emerging markets in Asia are prone to benefit from ongoing diversification efforts. Still, there will be limits to replacing the economies of scale China’s manufacturing base can provide any time soon. A large domestic market and a large labor force provide foundations that are difficult to find elsewhere. Despite a shrinking labor force, employment in manufacturing is still 2.7 times the size of ASEAN (see Figure 6). The combined labor force in China’s five provinces with the largest number of industrial workers already amounts to 94 million, well above ASEAN’s 78 million. India’s current 60 million workers in manufacturing would still dwarf China’s labor force – irrespective of non-labor-related factors such as infrastructure and technological capabilities.²¹ Even in the best conditions, building alternative production bases will face significant constraints and, more importantly, take time and massive investments.

Figure 6 – Manufacturing labor force by millions of workers, 2022



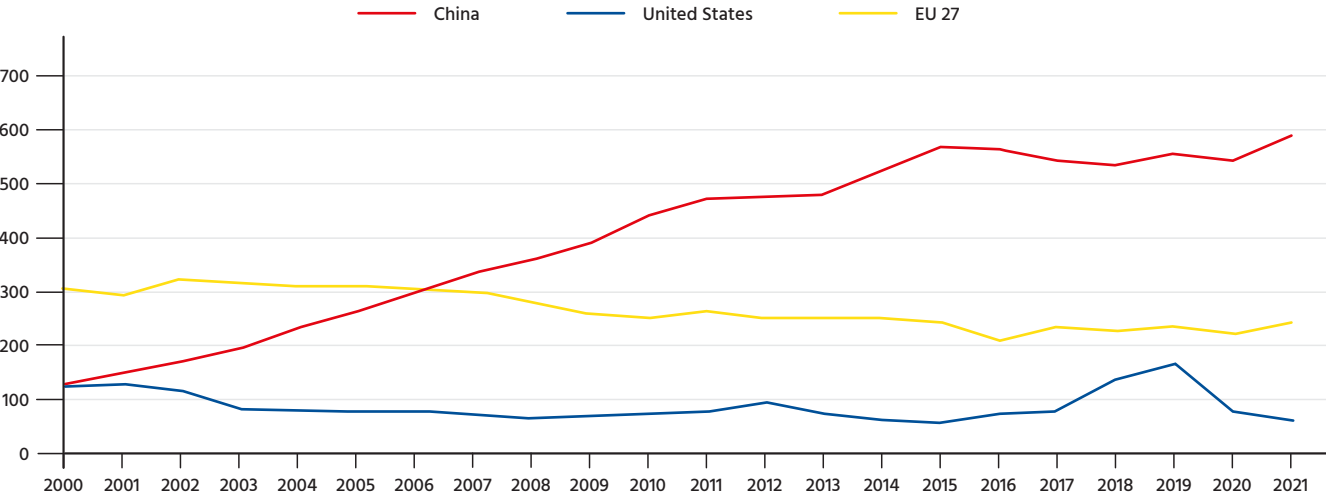
Source: ASEANstats, World Bank, MERICS estimates

China competes with both emerging and advanced economies

In 2015, Beijing’s Made in China 2025 strategy marked a shift in prioritizing ascending global value chains, particularly in high-tech sectors—the policy shift aimed to cultivate expertise and innovation in cutting-edge technologies by ascending the value chain. With rising income levels, it could be seen as a departure from its comparative low-cost manufacturing for original equipment manufacturers (OEM) towards more innovation-driven growth. China has made tremendous progress, and its companies are directly competing with those from advanced economies. Chinese companies have significant global market share in many sectors, from high-speed rail to telecommunication equipment (see Figure 8).²² In emerging sectors such as electric vehicles and battery production, China has leveraged its large market to build production capacity to leapfrog foreign competition.²³

Xi Jinping has profoundly transformed China’s political economy and reform trajectory. The ongoing changes in China’s economy highlight the systemic characteristics of “Chinese-style modernization.”²⁴ The CCP aims to achieve technological and supply chain self-reliance by prioritizing the localization of supply chains and closing technology gaps within China. This strategic move seeks to secure value chains within the country’s borders. The objective is to eliminate vulnerabilities tied to dependence on other countries for resources, technology, capital, or market access, ensuring China’s autonomy and resilience in these critical domains.

Figure 7 – Number of product categories China dominates in global exports



Source: CEPII (Baci) and MERICS computations
 Note: Concentrated export structure are products with an HHI above 0.5 in terms of world exports.

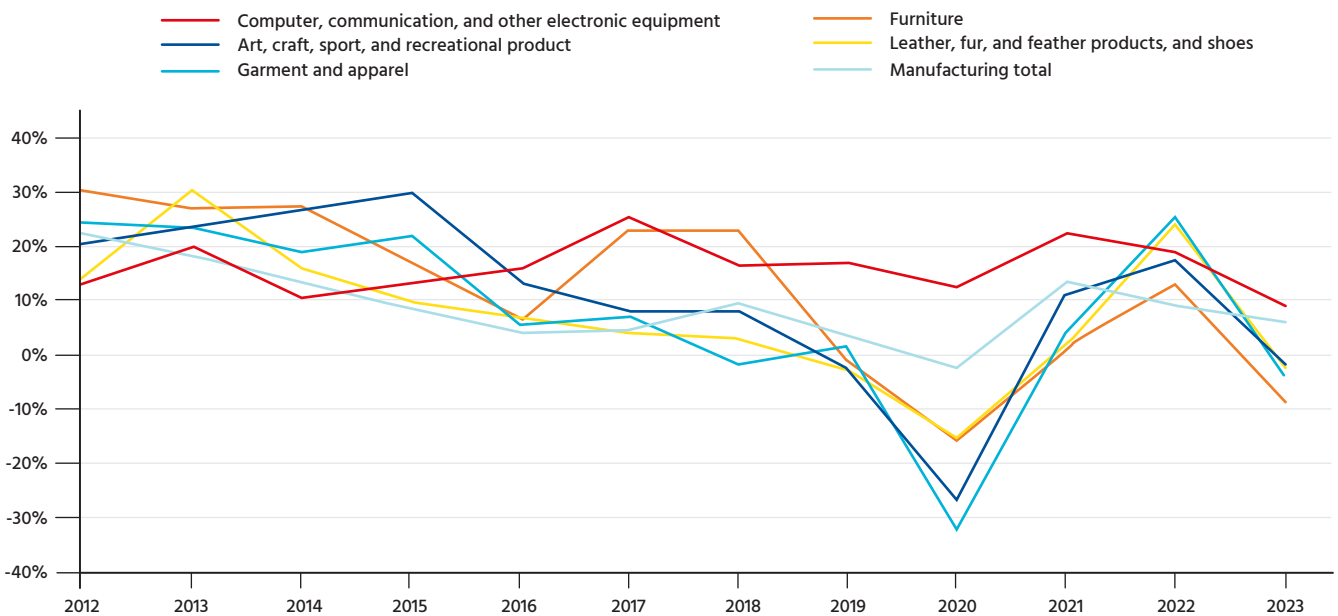
For Beijing, industrial upgrading is not only about technological leadership but also about modernizing traditional manufacturing. This strategic move is crucial for securing China's position in all aspects of the value chain.

But high-tech competition is only one aspect. The Chinese leadership is not about to give up the nation's strong position in manufacturing by allowing production and assembly operations to progressively relocate to cheaper destinations offshore while focusing on higher-value pre- and post-production activities such as innovation and brand development. China was the primary beneficiary of these geoeconomic shifts over the past decades. As China ascends the value chain, economic policy is steadfast in retaining production of lower-end value-added production.

For Beijing, industrial upgrading is not only about technological leadership and reduced dependence on foreign technology but also about modernizing traditional manufacturing. Industrial transformation and upgrading also means that China aims to defend its competitive position in low-end sectors. This strategic move is crucial for enhancing the resilience and safety of China's manufacturing base and supply chains.

Annual investment growth in traditional consumer-oriented sectors has outperformed overall investments in manufacturing for the bulk of the last decade (see Figure 8). Despite already occupying a dominant position in global markets, the unweighted average investment growth for information and communication technology, furniture, recreational products, leather (including shoes), and garments was 10.9% compared to 9.1% growth in overall manufacturing. The pandemic heavily impacted investment, but China's policy direction and focus on strengthening the real economy seem favorable to increasing inbound investment in coming years.

Figure 8 – Growth fixed asset investment by industry in China



Source: NBS

China is struggling to shift toward a consumption-driven growth model as it simultaneously aims to maintain industrial policy objectives and upgrade China's tech and manufacturing ecosystem. This emphasis on resilience is a strategic response to navigate a geopolitically challenging environment as part of the broader goal of achieving "national rejuvenation." Hence, maintaining China's strong position in lower-value goods is of strategic interest to China. The dominant position across many sectors and its ability to produce nearly any product are strategic advantages China aims to keep as geopolitical tensions rise.

During the 20th Central Financial and Economic Affairs Commission meetings in May 2023, President Xi Jinping emphasized the imperative of advancing the transformation and upgrading of traditional industries.²⁵ He rejected categorizing them as 'low-end'. Instead, the crucial role of traditional industries in the national economy and their role as a foundation for building a "modern industrial system anchored in the real economy" were emphasized. The goal of transforming and upgrading traditional industries was again reiterated prominently in the Central Economic Work Conference in December 2023 which outlined critical economic policy priorities for 2024.²⁶

In December 2023, the Ministry of Industry and Information Technology (MIIT) and eight other departments followed up on the policy priority issued earlier in the year by issuing "Guiding opinions on accelerating the transformation and upgrading of traditional manufacturing industries."²⁷ The document focuses on three key areas to modernize manufacturing.

Intelligent manufacturing: The document calls for accelerated use of intelligent manufacturing and smart factories, including in small and medium-sized enterprises. The focus extends beyond manufacturing to include digitalizing supply chain logistics and improving the digital infrastructure in industrial parks at the heart of China's highly competitive industrial clusters.

Green manufacturing: To facilitate carbon reduction in manufacturing, including energy-intensive ones, the government aims to implement policies to enable energy saving. The ambition of strengthening "green factories" also seeks to reduce water usage and more efficient use of inputs, including materials recycling.

Network manufacturing: Improving information flow between and within industries aims to increase efficiency and encourage cross-industry application of technology. Strengthening research, design, logistics, and finance networks facilitate "new models" such as customization, shared manufacturing, or whole life cycle management.

The MIIT document sets 2027 as a deadline to attain goals in intelligent, green, and integrated manufacturing in traditional sectors. While vague on specifics, it aims to increase the penetration rate of digital R&D and design tools in industrial enterprises to 90% , while wastewater usage should decrease by 13% from 2023 level. As with other general policy directions given by the State Council or ministries, more detailed and industry-specific policies are likely to follow. But the general direction is set. China's policies embrace technological developments in the digital and green tech space to modernize manufacturing and other parts of the value chain, such as design and logistics, to strengthen the entire industrial ecosystem. These measures aim to help defend its global competitiveness in traditional manufacturing and prevent the hollowing out of the industrial base experienced in advanced economies.

As China moves to defend its traditional industries, replicating its successful model for export-oriented development might prove more difficult for emerging economies.

However, the impact and strategic implications go beyond just maintaining competitiveness. Traditional industries play a crucial role in supporting the development of emerging industries and technologies. Contrary to being seen as separate or conflicting goals, the transformation and upgrading of traditional industries and the growth of emerging industries are mutually reinforcing. The modernization drive offers diverse application scenarios for emerging technologies, such as the new generation of information technology and intelligent manufacturing, but also creates an expansive market space for Chinese suppliers of related high-tech equipment and technologies. This interconnected relationship highlights the symbiotic nature of their development, emphasizing how advancements in traditional sectors can catalyze and provide fertile ground for China's global high-tech ambitions.

A case in point for this development is industrial robots. China's domestic production reached around 440,000 units in 2022. Robot installation increased 13% between 2017 and 2022, with China accounting for 58% of global installations.²⁸ China's use of industrial robots per 10,000 workers has reached 322, already eclipsing the US and on the verge of overtaking Germany within the next few years.²⁹

While much focus has been on China's growing competitiveness in the world's most sophisticated industries, from semiconductors, aviation, green energy, automobiles, and artificial intelligence, its policy direction also has implications for emerging economies. Under such conditions, replicating China's successful model for export-oriented development might prove more difficult. Defending lower-value manufacturing through implementing industrial upgrading while moving up the value chain aims to enable China to secure all aspects of the value chain. This means that China is simultaneously competing with both emerging and advanced economies. It also suggests that efforts to improve economic security in Western countries could be slowed down or become more costly as China remains competitive in various sectors.

Conclusion: China will make improvements in global economic security costly

Chinese producers have intensified their focus on external markets amid weak domestic demand. The resulting price competition and market distortions could further complicate efforts to break the reliance on China.

The desire to reduce trade dependency on China in Western countries will persist as geopolitical tensions will unlikely subside in coming years. But even in seemingly unsophisticated consumer goods, the erosion of China's competitiveness and dominance in the value chain is likely to be gradual. It will get even more complicated in sophisticated industries such as electronics. Chinese industrial policy will try to make the process as costly as possible. Any rapid and broad de-risking efforts are likely to fail to a large extent.

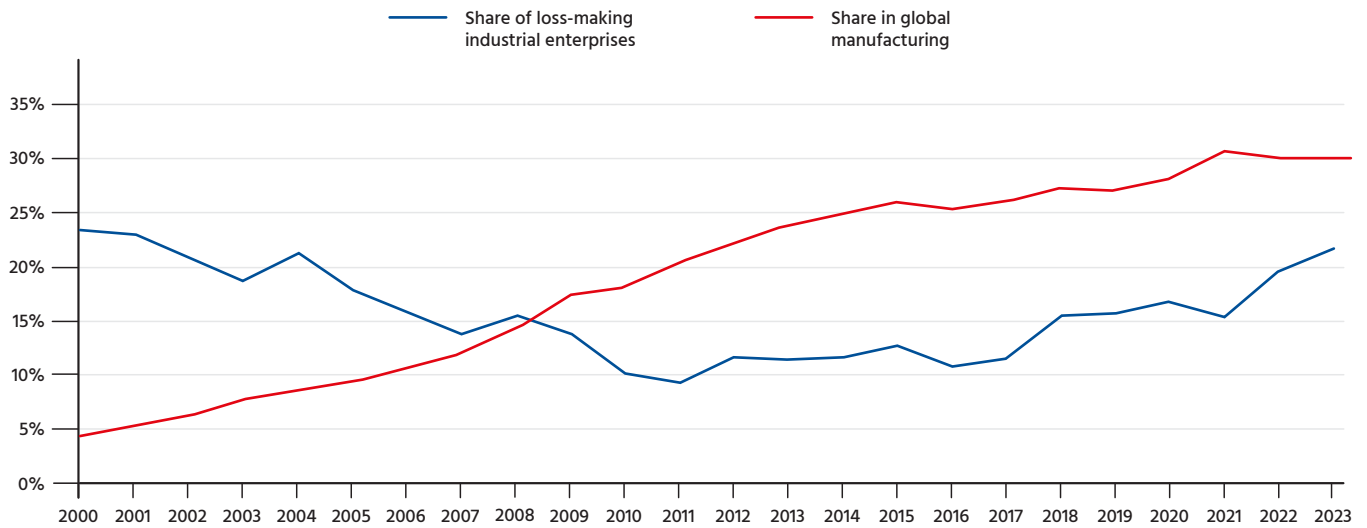
China's economic competitiveness can only be forcefully reduced in a rapidly escalating trade war, including massive tariffs or in the event of military conflict breaking out. Such gloomy scenarios causing havoc to globalization would be tremendously costly and signify a major shock to the global economy. But in the absence of such worst-case scenarios, relocating supply chains cannot be expected to happen in a matter of years but rather decades. China also did not get to its current role within a few years but only after substantial investments, domestic reforms, and international cooperation. China's dominant position in large parts of the supply chain is far from retreating, complicating any meaningful diversification effort in other parts of the global economy. The process will be highly strategic with each actor trying to maximize its own position in terms of improving economic security while minimizing the associated costs.

China's disappointing post-pandemic recovery in 2023, marked by economic struggles amid crackdowns of various sectors and weak consumption, are additional factors impacting efforts to adjust global trade flows. Reflecting inadequate demand, the manufacturers' purchasing price index has been contracting since October 2022. As a result, the share of loss-making industrial enterprises has surged to almost 25% in 2023, the highest level in decades. Chinese exporters' international price competitiveness has been aided by a depreciating exchange rate to the US dollar, which fell to a 16-year low in August 2023. In response to weak domestic demand, Chinese producer have intensified their focus on external markets. With the growth outlook for China's economy not improving much in 2024, this has raised concerns about mounting global overcapacities and the flooding of global markets with cheap Chinese exports.

The result will be brutal price competition and market distortions. China's share in global manufacturing has surpassed 30%. This will result in rising trade tensions as Chinese companies battle for more global market share. Falling prices and the abundance of Chinese-made final and intermediate products ranging from low- to high-tech goods and services will challenge the financial viability of companies. This will more than complicate efforts to break the reliance on China's highly competitive manufacturing sector.

It also serves as a reminder that improving economic security comes with a price tag. The challenge lies in following a path that ensures resilience against potential threats without unnecessarily compromising the benefits of the international division of labor. This underscores the intricate balance between bolstering economic security and maintaining economic competitiveness.

Figure 9 – Share of loss-making industrial enterprises in China and China’s share in global manufacturing on a value-added basis



Source: NBS, World Bank

The priority for Western countries will be to prevent the loss of industrial manufacturing capacity in high-tech areas, which China is challenging. Defensive measures combined with industrial policy will seek to stop China from further eroding the rest of the world’s manufacturing base. Advanced economies will also pursue partnering up with emerging economies to begin the gradual process of diversification. In areas of high significance, the economic viability of decision-making will be less of a priority and likely the areas where diversification will advance fastest. But the broader the scope, the more costly and inefficient such efforts will become.

Without a doubt, globalization has started to reorganize itself. But this is only the beginning of a highly complex and fluid process. Setting false expectations for speed might result in prohibitively costly economic policy decisions. More importantly, it is about identifying the right priorities and not disbanding economic competitiveness entirely.

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Max J. Zenglein's research focuses on China's macroeconomic development, international trade and industrial policies. He has a particular interest in China's evolving economic system and the economic conditions in Hong Kong, Macau, and Taiwan.

Max has over ten years of professional experience working on China-related economic issues. Before joining MERICS he was an economic analyst for the German Chamber of Commerce in Shenzhen and Beijing. He is an economist by training and has studied at the University of New York at Buffalo, the Berlin School of Economics and Law, the University of Hong Kong and the University of Kassel. He received his PhD from the University of Kassel in 2015.



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