China and the Evolving Nature Of Global Value Chains

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Roadmap to presentation

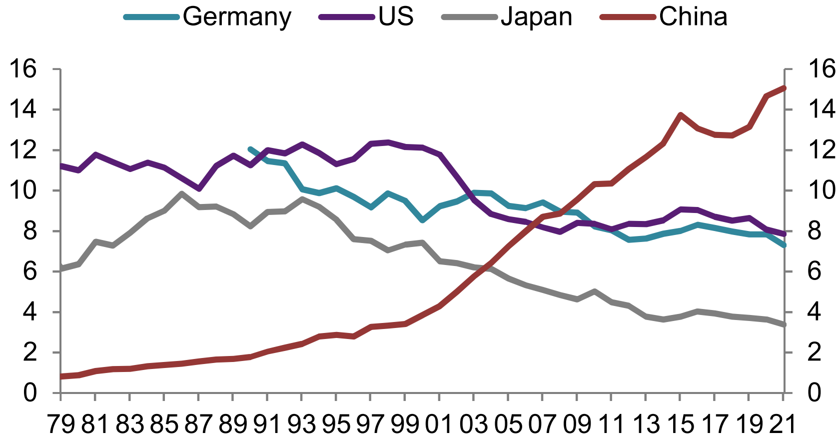
- China’s ascent from the periphery to the center of global value chain
- Resilience of global value chains and related risks
- Developed economies taking measures to increase supply chain resilience
- What has happened so far in terms of supply chain reshuffling

China’s ascent from the periphery to the center of global value chain

Integration into international trade and capital market

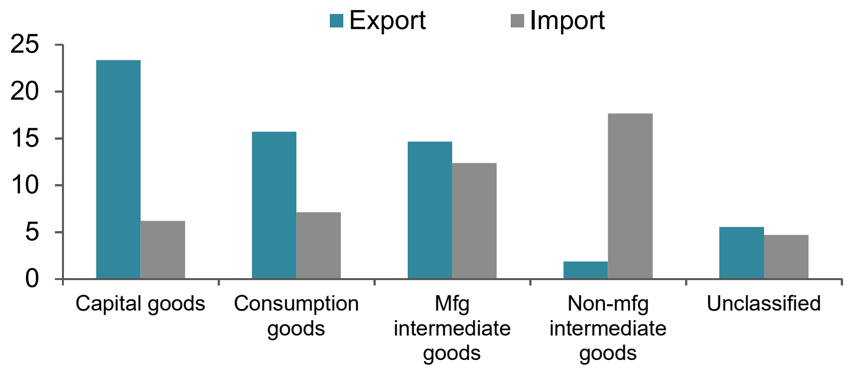
The proportion of China's exports in global trade increased from less than 1% in 1978 to 13% in 2019, well above other major exporting nations. The biggest difference between exports and imports is in capital goods

Market Share of Global Gross Exports (%)



Source: Natixis, UNCTAD

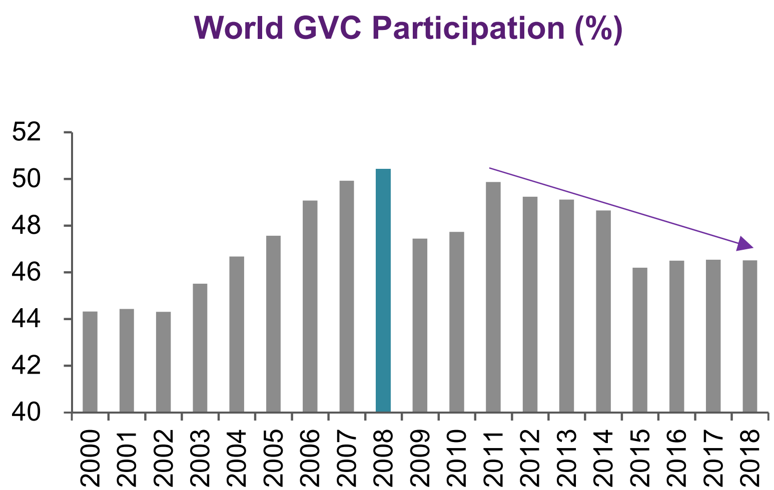
Share of China in global trade (by stage of production, %)



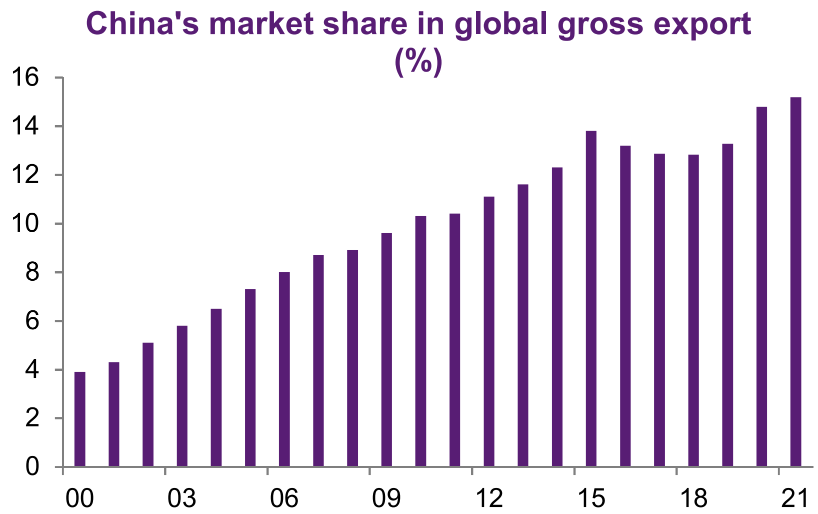
Source: Natixis, UNCTAD
N.B.: As of 2018. Product classified under the Broad Economic Categories.

Still gross trade data does not offer all clues. Input-output data can hep us better understanding the evolution of global value chains (GVCs)

Global Value Chains peaked in 2008. China global market share in gross exports has been rising until 2015 and again since the pandemic. How can we put these two findings together?



Source: UNCTAD-Eora database, Natixis
N.B. Results for 2016-2018 are forecasted by UNCTAD-Eora

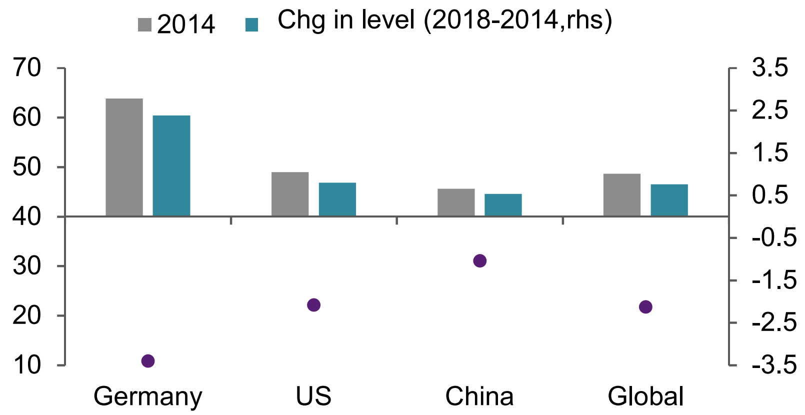


Source: UNCTAD, Natixis

Faster vertical integration

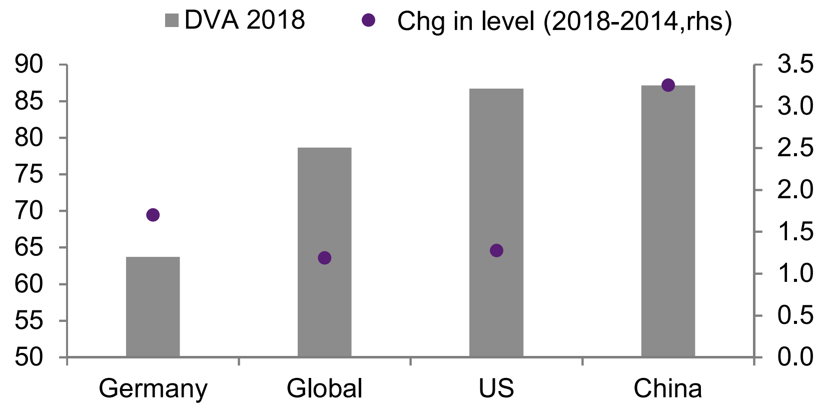
Germany's integration into GVC is shrinking faster than China. But the reduction in Germany's participation cannot be explained by additional vertical integration. The opposite is true for China

GVC Participation (%)



Source: UNCTAD-Eora database, Natixis
N.B. Results for 2016-2018 are forecasted by UNCTAD-Eora

Domestic value added in export (%)



Source: UNCTAD-Eora database, Natixis
N.B. Results for 2016-2018 are forecasted by UNCTAD-Eora

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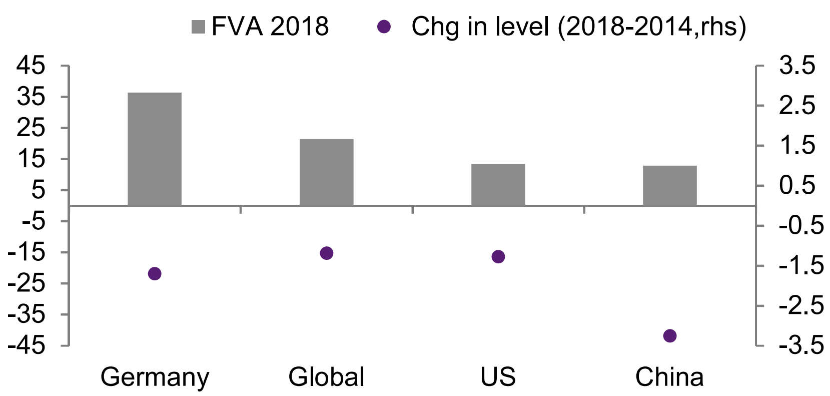
Faster vertical integration

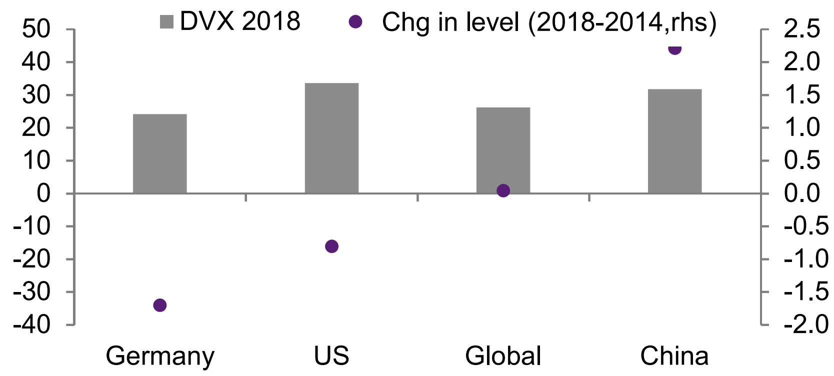
Germany's decreasing integration in the GVC is mainly driven by reduction in its domestic value added in third country's exports. The mirror opposite is China.

Foreign value added in export (%)



Source: UNCTAD-Eora database, Natixis
N.B. Results for 2016-2018 are forecasted by UNCTAD-Eora

Domestic value added in third country's export or DVX (%)



Source: UNCTAD-Eora database, Natixis
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Resilience of global value chains and related risks

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World’s dependence on Chinese exports

The world’s dependence on Chinese exports has only increased over time, all the more since the Covid pandemic started in 2020. China dominates some export markets by more than 50% such as office machines, telecommunication equipment, textile products, and electrical machinery.

Table 1
World’s most dependent goods on China with import value exceeding 100 bn USD

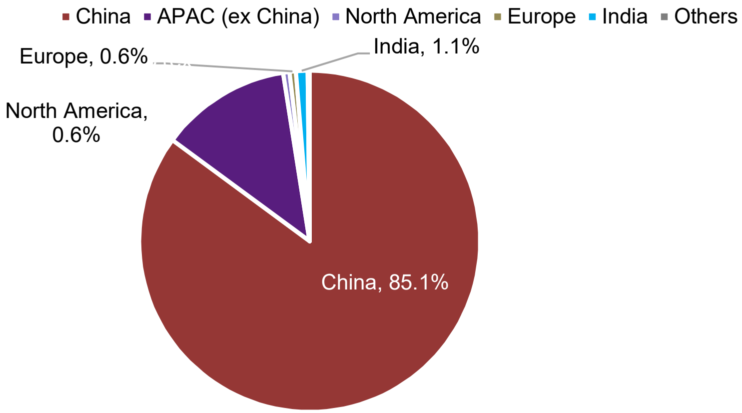
Items	ROW imports from China (USD bn)	ROW all imports (USD bn)	ROW dependency on China (China % share of all imports)
Office machines and automatic data processing machines	363	687	52.9
Telecommunication and sound recording apparatus	357	684	52.2
Textile yarn and related products	104	267	38.8
Articles of apparel & clothing accessories	148	457	32.3
Electrical machinery, apparatus and appliances, n.e.s.	468	1,533	30.5
Miscellaneous manufactured articles, n.e.s.	185	645	28.8
Manufactures of metal, n.e.s.	110	404	27.2

Source: Natixis, UNCTAD

In the case of green technologies, China’s dominance is even larger

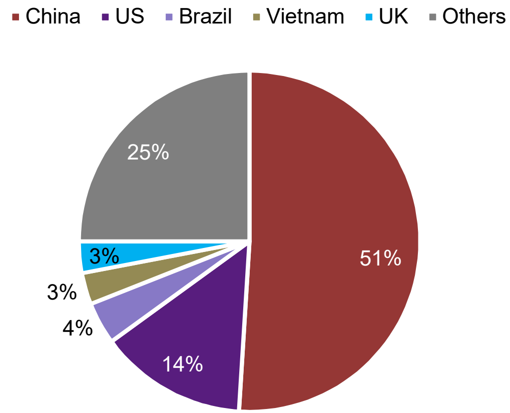
Solar panels are a very good example with 85% of global manufacturing capacity followed by wind turbines

Solar Cell Manufacturing Capacity by Country in 2021 (%)



Source: Natixis

Wind Turbine Installed Capacity by Country in 2021 (%)



Source: Natixis, IEA

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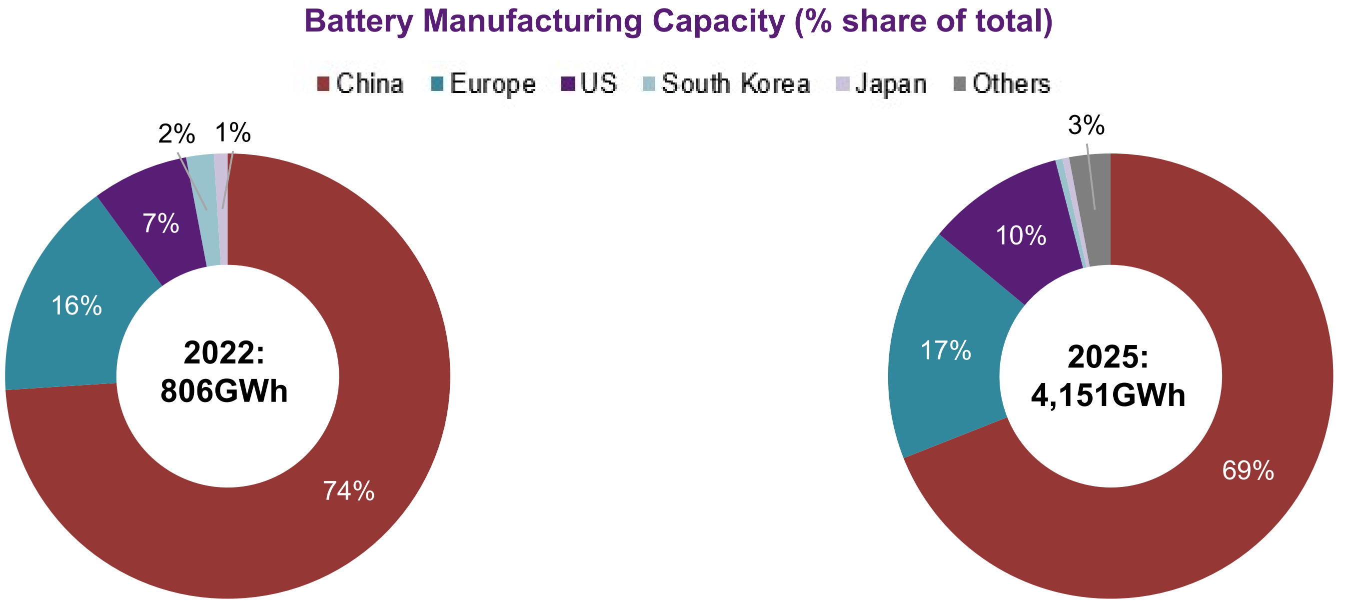
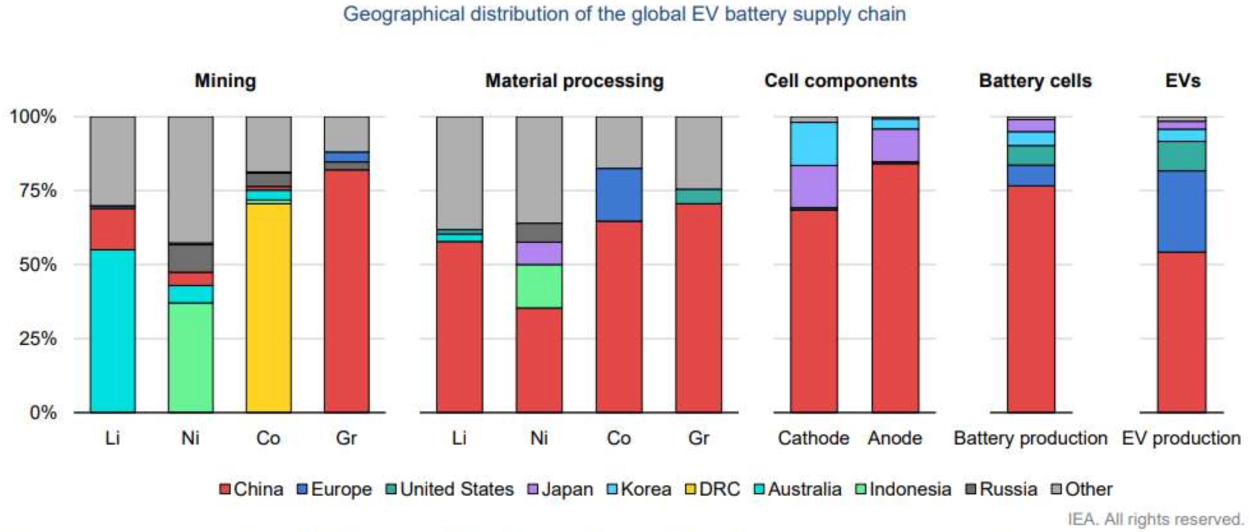
For electric batteries, China’s dominance is expected to increase further



Source: BloombergNEF. Note: GWh = gigawatt-hours. 2022 includes facilities commissioned up to May 2022.
Based on current announcements with de-risking.

Since it hinges on China's pervasive control of the processing of critical materials for EV batteries

China dominates the entire downstream EV battery supply chain



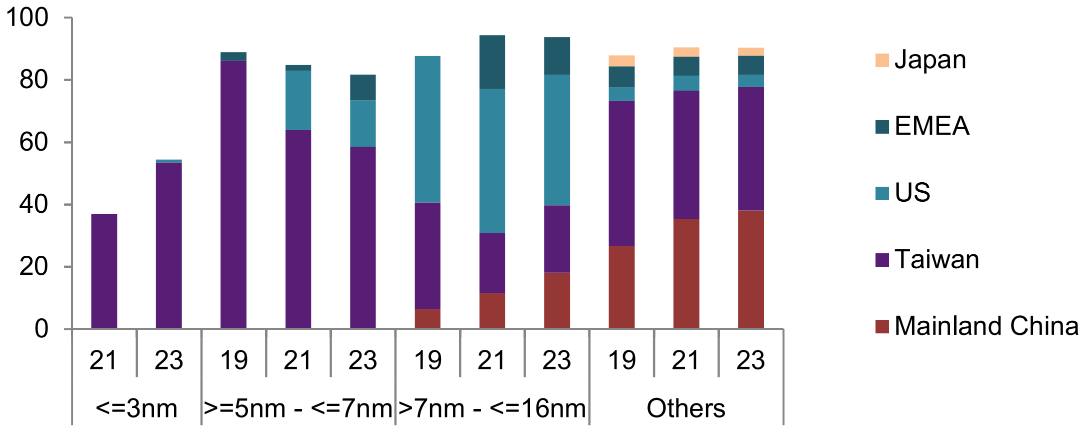
Notes: Li = lithium; Ni = nickel; Co = cobalt; Gr = graphite; DRC = Democratic Republic of Congo. Geographical breakdown refers to the country where the production occurs. Mining is based on production data. Material processing is based on refining production capacity data. Cell component production is based on cathode and anode material production capacity data. Battery cell production is based on battery cell production capacity data. EV production is based on EV production data. Although Indonesia produces around 40% of total nickel, little of this is currently used in the EV battery supply chain. The largest Class 1 battery-grade nickel producers are Russia, Canada and Australia.

Sources: IEA analysis based on: EV Volumes; US Geological Survey (2022); Benchmark Mineral Intelligence; Bloomberg NEF.

Semiconductor supply chain also too concentrated, especially for fabrication

Another potentially huge shock for the functioning of global supply chains could come from a crisis in the Taiwan Strait as Taiwan accumulates the bulk of the production of advanced semiconductors.

Global: Share of Fabrication Capacity of Foundries by Location and Node Process (%)



Source: Natixis, SEMI, Bloomberg

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3 Some developed countries taking measures to increase supply chain resilience

Some governments are introducing ad-hoc legislation

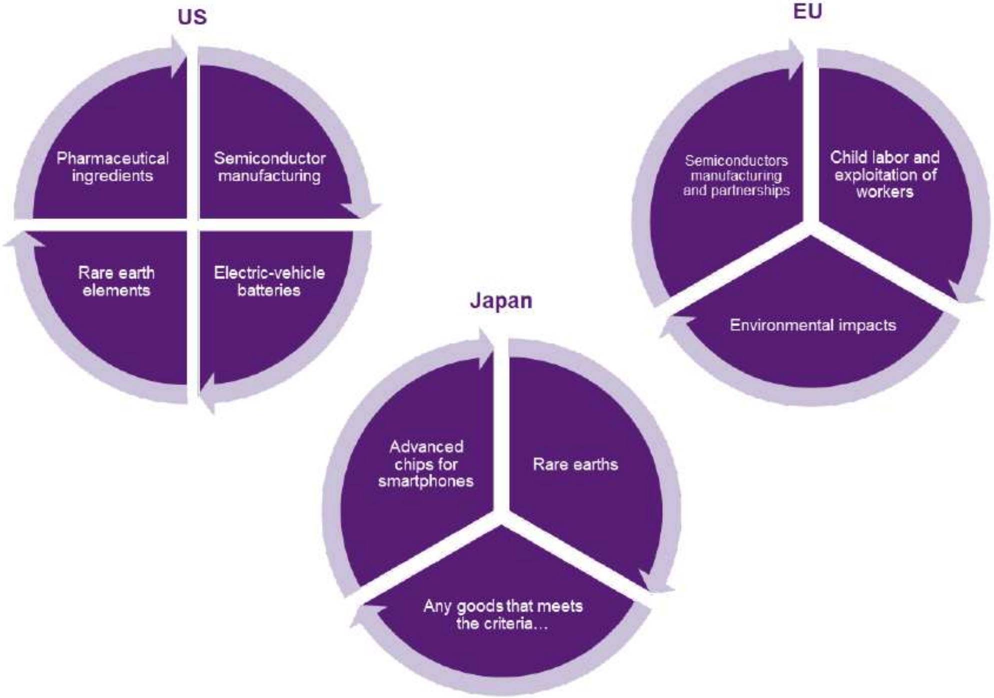
The objective is to reduce the risks of excessive concentration in their supply chains.

Country	Name	Last update	Status
US	Executive Order on America's Supply Chains Bipartisan Infrastructure Law United States Innovation and Competition Act of 2021	2/24/2021 11/15/2021 3/28/2022	Signed Passed Passed
EU	Directive on corporate sustainability due diligence European Chips Act	2/23/2022 5/12/2022	Passed In progress
Japan	Act for the Promotion of Economic Security by Integrated Implementation of Economic Measures	5/11/2022	Passed
South Korea	Act on Supporting the Return of Overseas Korean Enterprises	6/27/2013	Passed

Source: White House, European Commission, Cabinet of Japan

Key sectors

Sectoral policies developed by governments have dedicated chapters on enhancing supply chain resilience in key areas such as pharmaceutical ingredients, semiconductor manufacturing, etc.



Source: White House, European Commission, Cabinet of Japan

4 What has happened so far in terms of supply chain reshuffling

Risk of decoupling

The European Chamber Business confidence Survey in 2022 clearly points to growing challenges of doing business in China, respondents express severe concerns about growing geopolitical tensions and the increasing risks of decoupling. Japanese companies also express preference for India, Vietnam, Taiwan, Indonesia or Malaysia

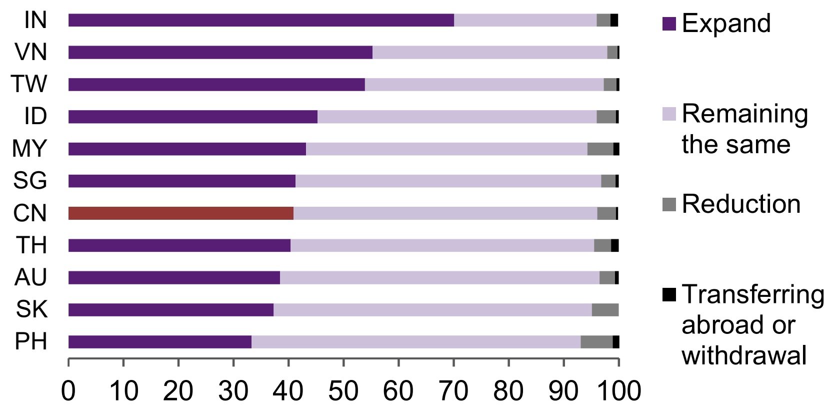
Table 3

European Chamber Survey on Decoupling (%)

	All negative (significant negative) in %	No Impact In%	All positive In%
Digital/telecoms	85 (34)	12	0
Dara Governance	76 (24)	16	4
Financial	70 (23)	23	1
Supply Chains	68 (23)	23	6
Standards	68 (15)	22	5
Self-sufficiency	64 (15)	26	6
Political	59 (12)	34	0
Critical Inputs	49 (15)	42	3

Source: Natixis, European Chamber survey on decoupling conducted in September 2020

Survey on Overseas Japanese Companies: Business plan in next 2 years

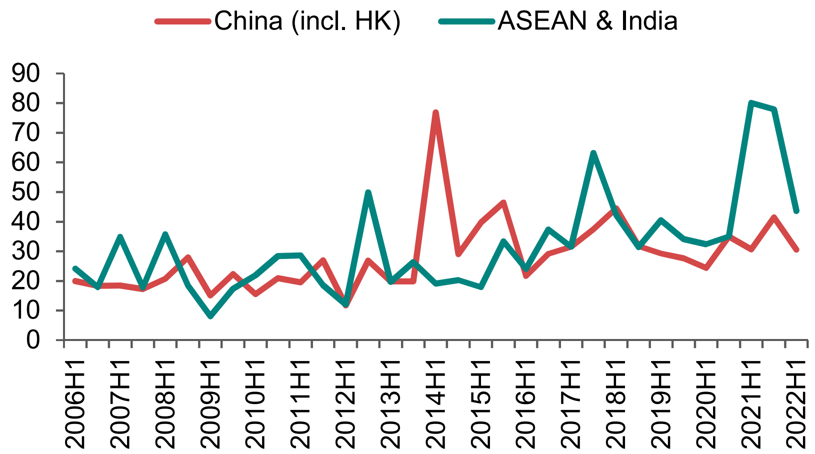


Source: Natixis, JETRO. Survey conducted in 2021.

Latest trends in cross-border mergers and acquisitions (M&A) show faster reduction of deals into China

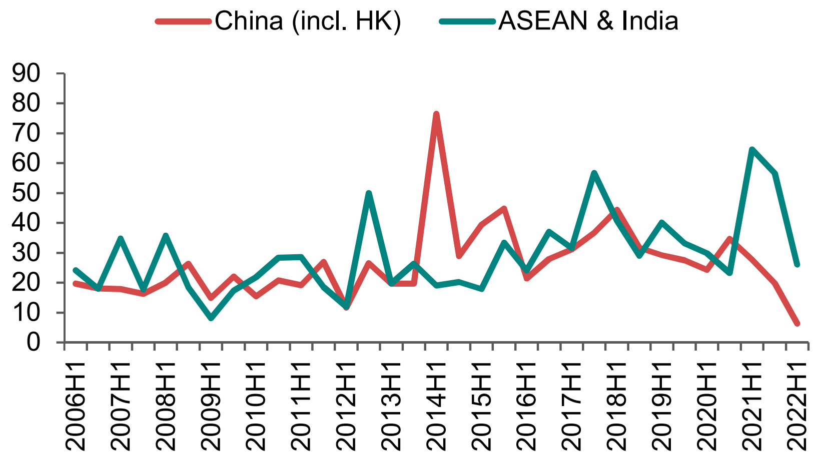
A significant drop in cross-border M&A deals into China can be found. Meanwhile, ASEAN, India, and Australia, attracted significantly more capital since 2020, reflecting rising need for diversification of supply chains, demand and securing energy sources.

Announced M&A deals by recipient (USDbn)



Source: Natixis, Mergermarket

Completed M&A deals by recipient (USDbn)



Source: Natixis, Mergermarket

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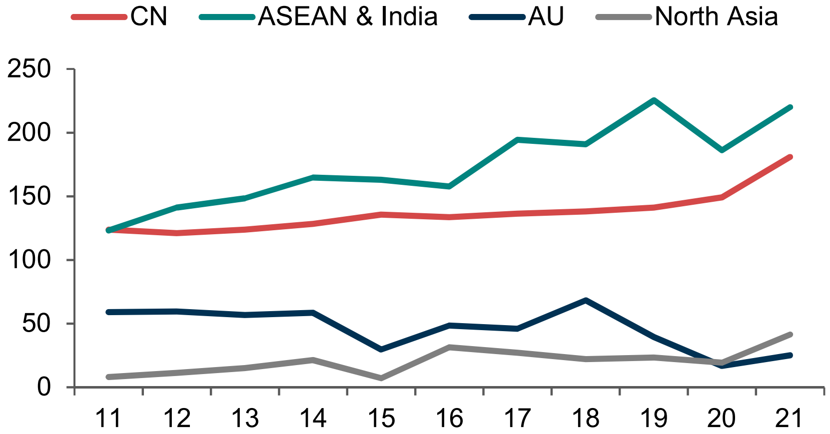
On a larger horizon, ASEAN + India have long been receiving more FDI than China

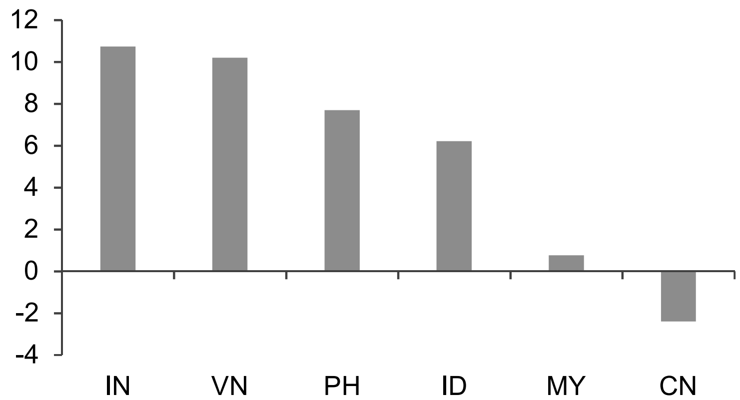
So the reason might not be geopolitical only but economic is particularly the case for manufacturing

FDI Inflows (USDbn)



Source: Natixis, UNCTAD

Manufacturing FDI Inflow (%, average annual growth rate)



Source: Natixis, CEIC. 2014-2019 average used.

Conclusions

- Global supply chains have been growing, but also evolving, for decades. China has been acquiring an increasingly central role in global value chains but things might be starting to change.

- Companies, as well as governments, are focusing more on resilience than efficiency, which is bringing about some reshuffling of supply chains already, according to available surveys.

- Government action, including legislation, has been introduced in several countries, such as Japan, South Korea but also the European Union and the US, to increase the resilience of global value chains.

- Many of the companies' decisions to reshuffle part of the production away from China are economic, based on worsening prospects, and not so much driven by changes in legislation. In other words, companies diversifying their production away from –as shown from the recent slow-down in mergers and acquisition into China while increasing in India and ASEAN - might be a more natural process than originally thought, based on an economic rationale and not necessarily legal pressure stemming from new legislation.

- This does not need to be a problem for China as it can also be part of that reshuffling with its own companies, as long as the reasons are not geopolitical but economic.

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