



## China and the Evolving Nature Of Global Value Chains

Alicia Garcia Herrero – Chief Economist Asia Pacific, Natixis  
+852 3900 8680 – [alicia.garciaherrero@natixis.com](mailto:alicia.garciaherrero@natixis.com)

## 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



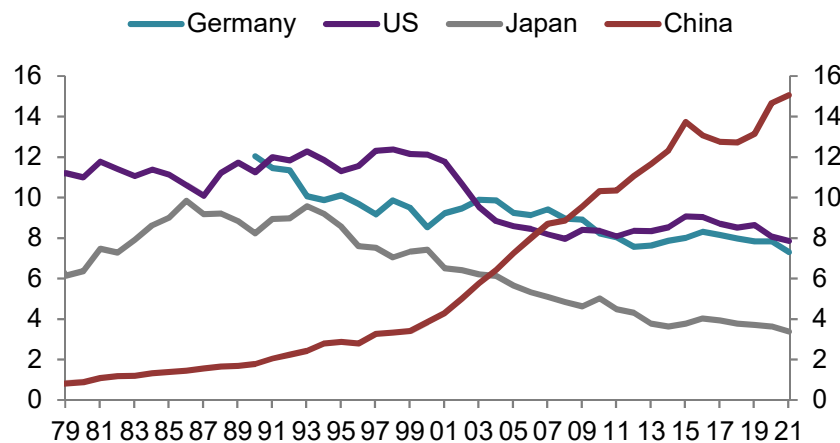
# China's ascent from the periphery to the center of global value chain

•

## Integration into international trade and capital market

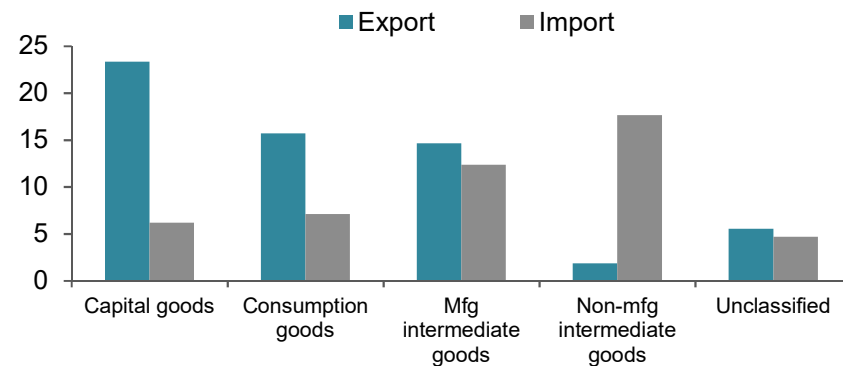
The proportion of China's exports in global trade increased from less than 1% in 1978 to 13% in 2019, well above other major exporting nations. The biggest difference between exports and imports is in capital goods

Market Share of Global Gross Exports (%)



Source: Natixis, UNCTAD

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



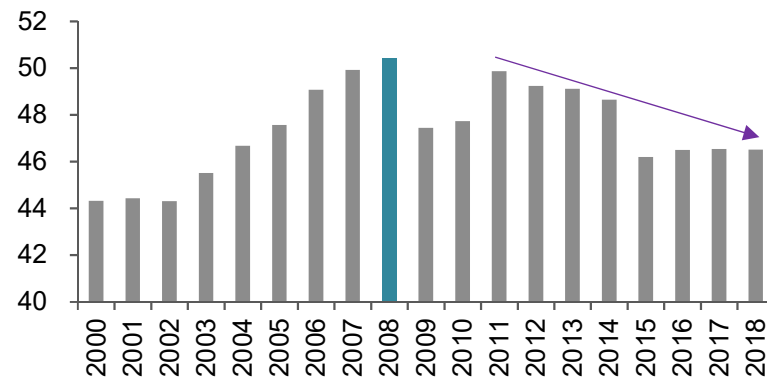
Source: Natixis, UNCTAD

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 help us better understanding the evolution of global value chains (GVCs)**

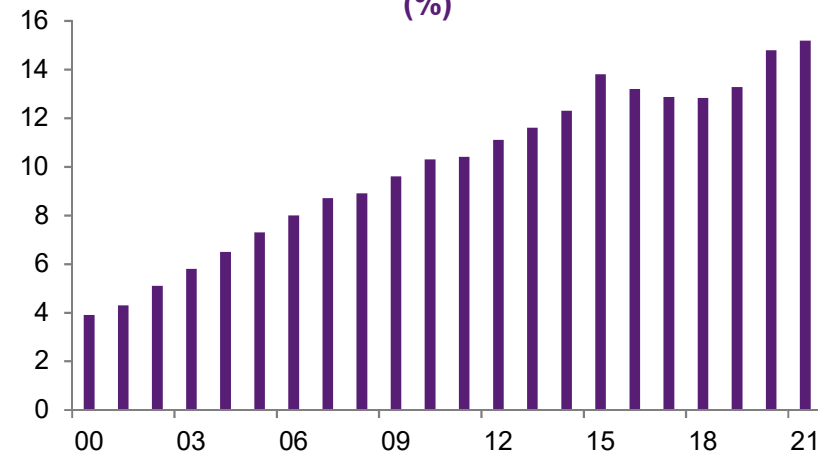
Global Value Chains peaked in 2008. China global market share in gross exports has been rising until 2015 and again since the pandemic. How can we put these two findings together?

World GVC Participation (%)



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

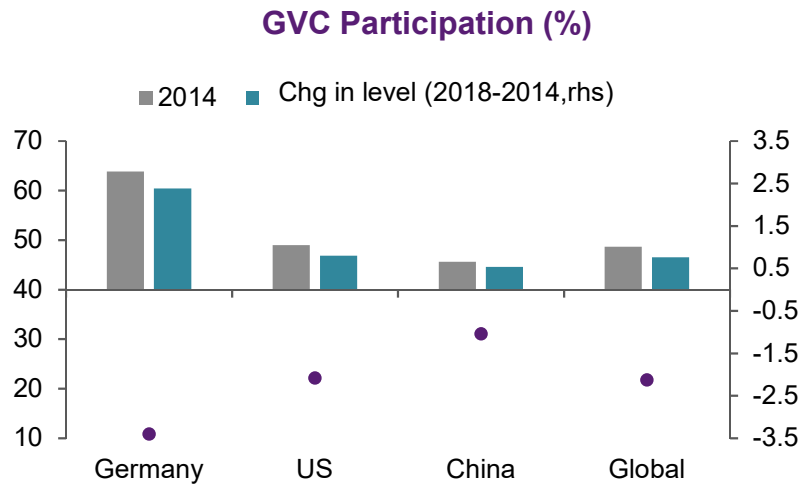
China's market share in global gross export (%)



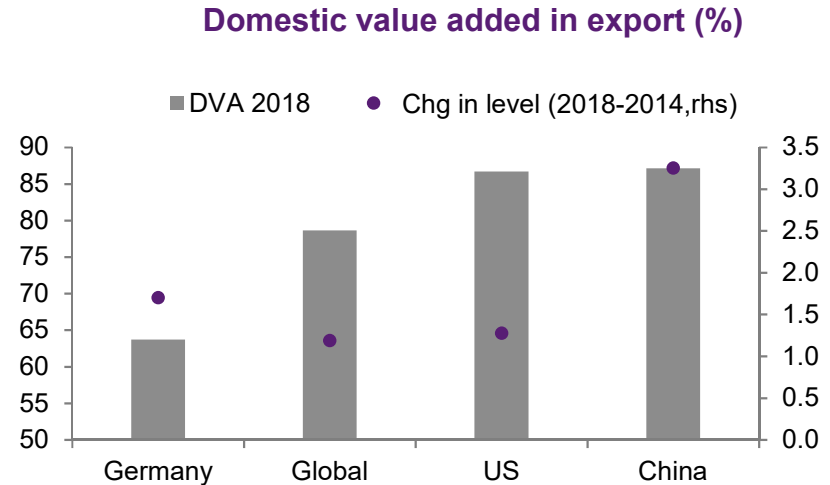
Source: UNCTAD, Natixis

## 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



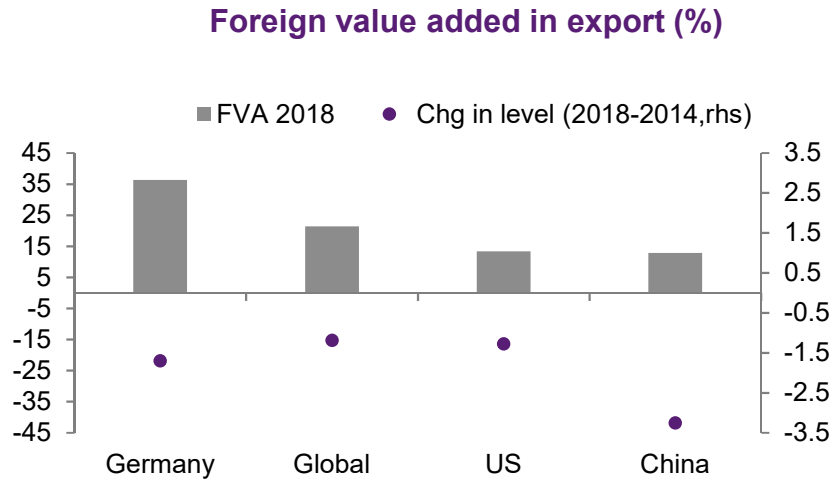
Source: UNCTAD-Eora database, Natixis  
N.B. Results for 2016-2018 are forecasted by UNCTAD-Eora



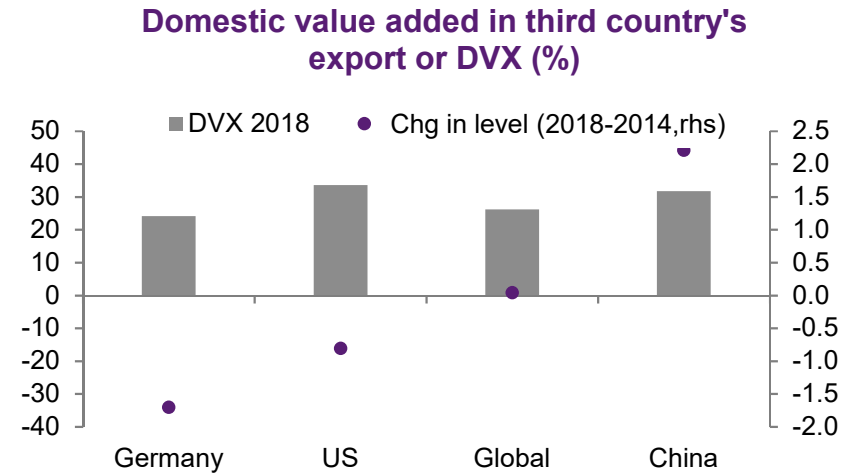
Source: UNCTAD-Eora database, Natixis  
N.B. Results for 2016-2018 are forecasted by UNCTAD-Eora

## 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.



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



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



## **Resilience of global value chains and related risks**

•



## 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

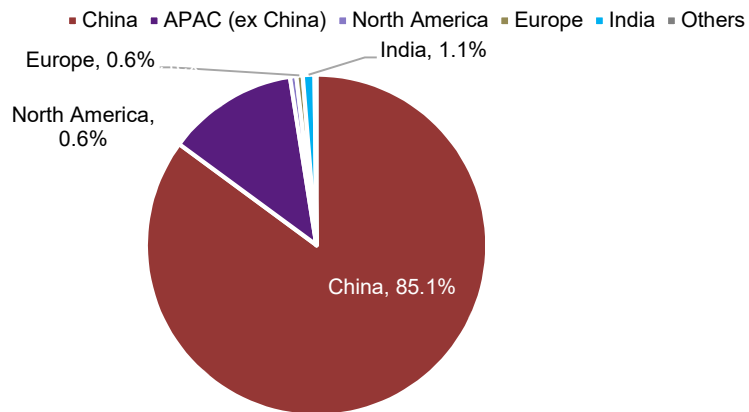
Items	ROW imports from China (USD bn)	ROW all imports (USD bn)	ROW dependency on China (China % share of all imports)
Office machines and automatic data processing machines	363	687	52.9
Telecommunication and sound recording apparatus	357	684	52.2
Textile yarn and related products	104	267	38.8
Articles 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

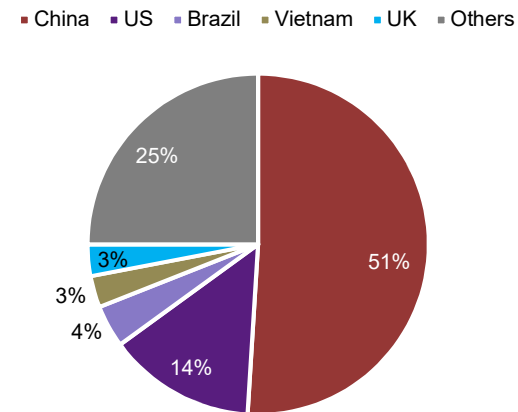
Solar panels are a very good example with 85% of global manufacturing capacity followed by wind turbines

### Solar Cell Manufacturing Capacity by Country in 2021 (%)



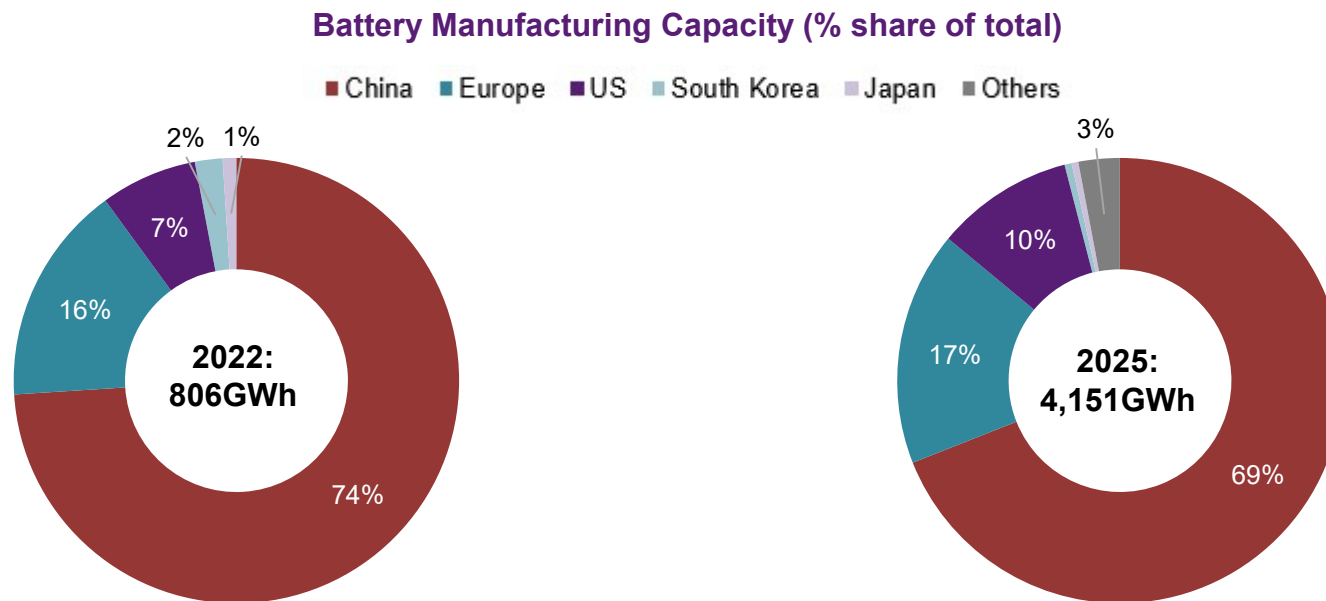
Source: Natixis

### Wind Turbine Installed Capacity by Country in 2021 (%)



Source: Natixis, IEA

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

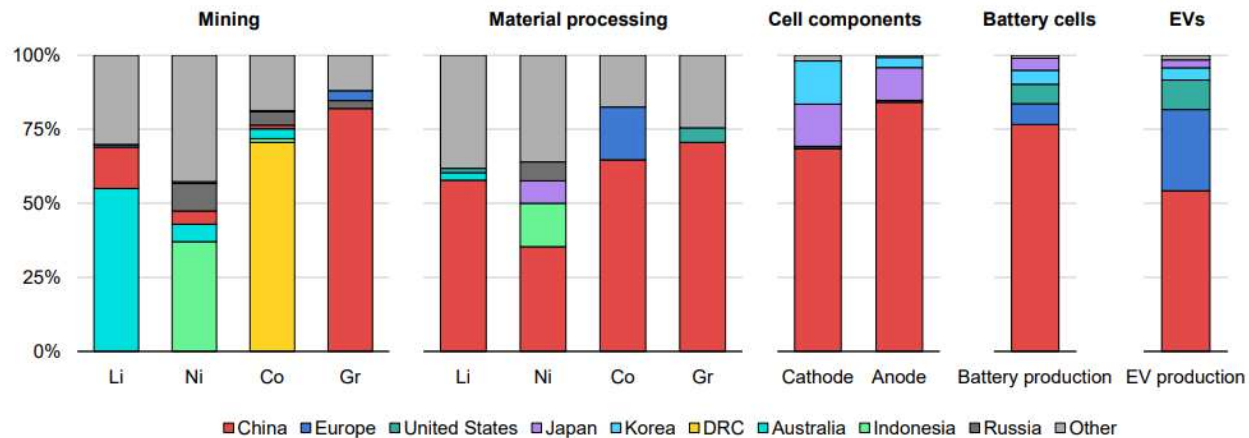


Source: BloombergNEF. Note: GWh = gigawatt-hours. 2022 includes facilities commissioned up to May 2022. Based on current announcements with de-risking.

## 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

Geographical distribution of the global EV battery supply chain



IEA. All rights reserved.

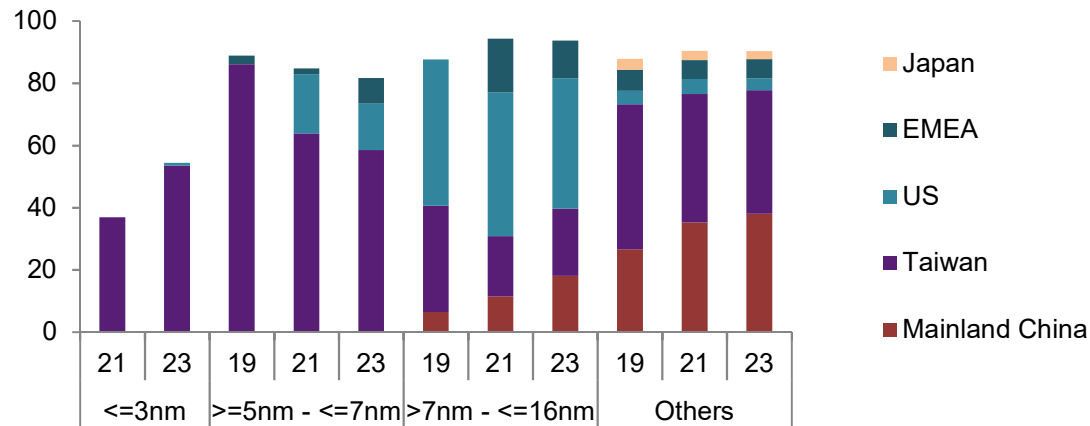
Notes: Li = lithium; Ni = nickel; Co = cobalt; Gr = graphite; DRC = Democratic Republic of Congo. Geographical breakdown refers to the country where the production occurs. Mining is based on production data. Material processing is based on refining production capacity data. Cell component production 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



## **Some developed countries taking measures to increase supply chain resilience**

•

## Some governments are introducing ad-hoc legislation

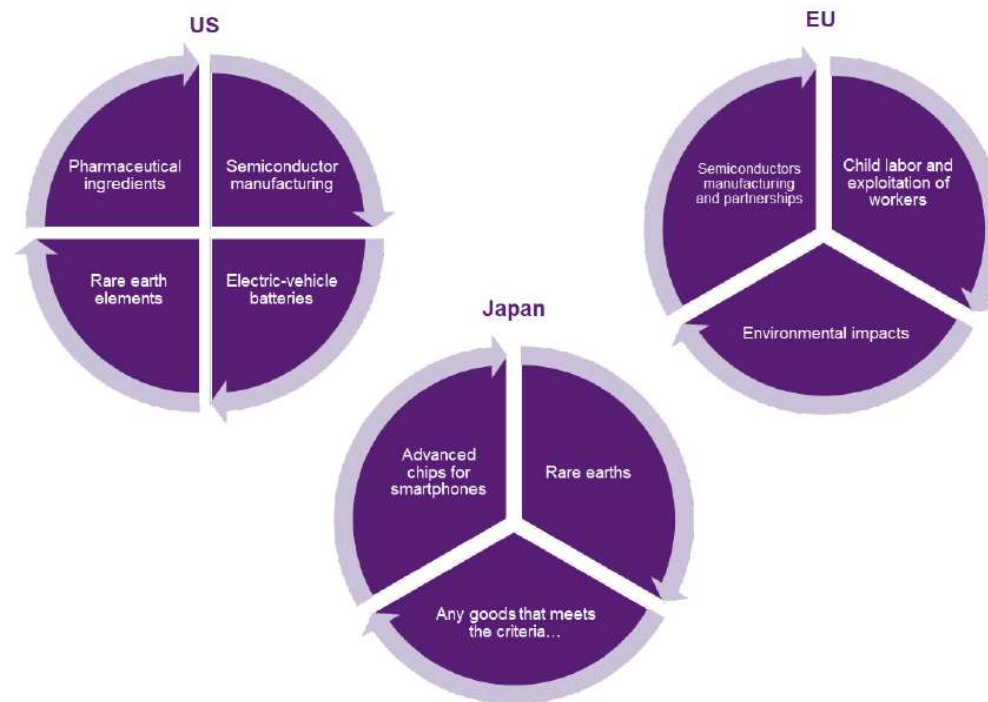
The objective is to reduce the risks of excessive concentration in their supply chains.

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





## **What has happened so far in terms of supply chain reshuffling**

•

## Risk of decoupling

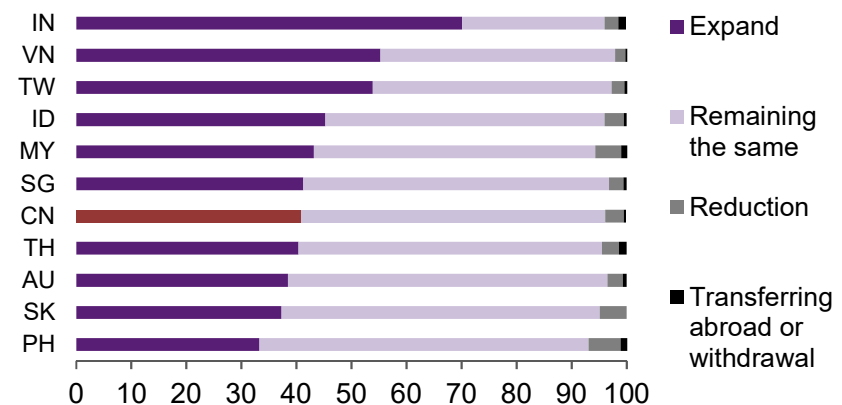
The European Chamber Business confidence Survey in 2022 clearly points to growing challenges of doing business in China, respondents express severe concerns about growing geopolitical tensions and the increasing risks of decoupling. Japanese companies also express preference for India, Vietnam, Taiwan,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

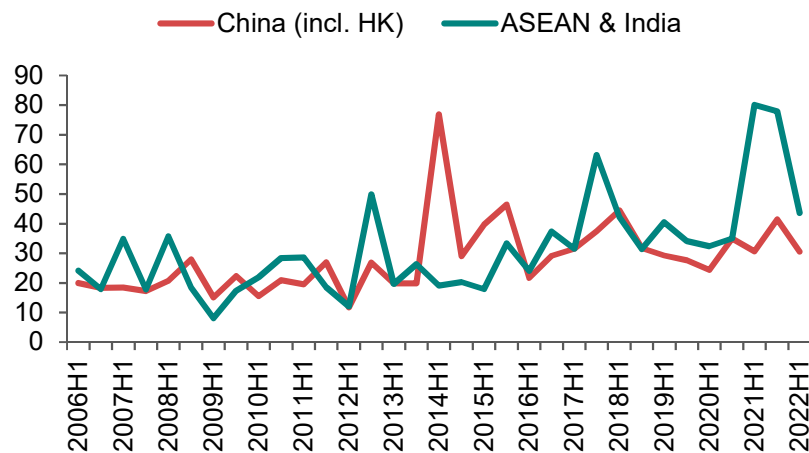


Source: Natixis, JETRO. Survey conducted in 2021.

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

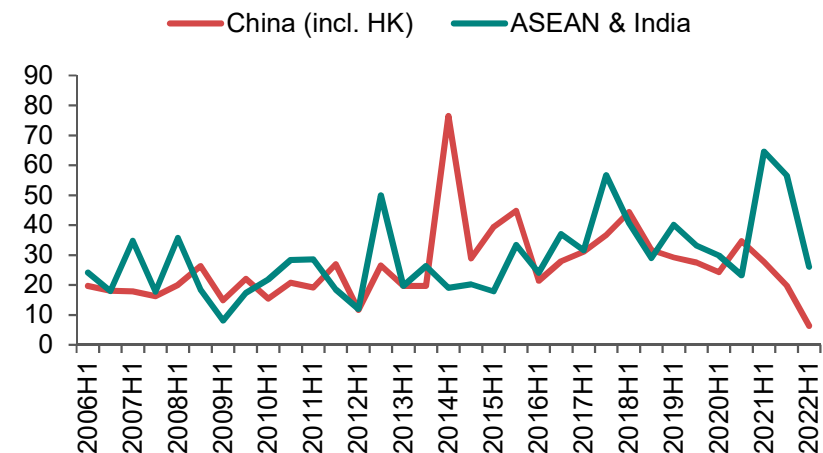
A significant drop in cross-border M&A deals into China can be found. Meanwhile, ASEAN, India, and Australia, attracted significantly more capital since 2020, reflecting rising need for diversification of supply chains, demand and securing energy sources.

Announced M&A deals by recipient (USDbn)



Source: Natixis, Mergermarket

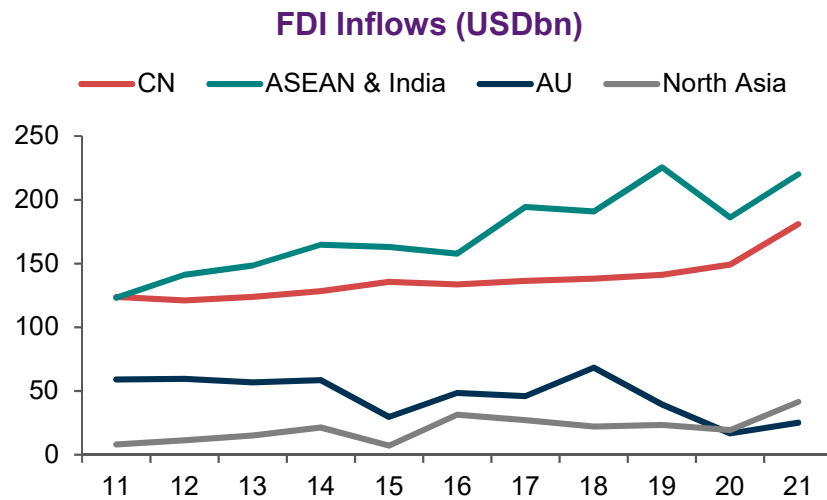
Completed M&A deals by recipient (USDbn)



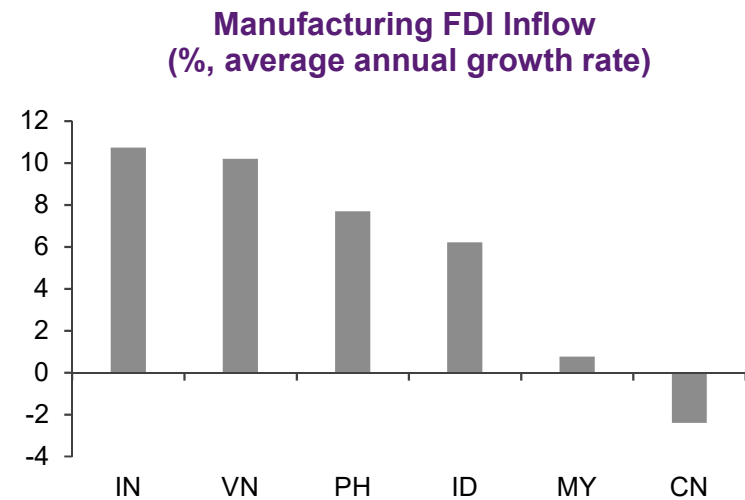
Source: Natixis, Mergermarket

## 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



Source: Natixis, UNCTAD



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.

## Disclaimer

The information contained in this publication and any attachment thereto is exclusively intended for a client base consisting of professionals and qualified investors. This document and any attachment thereto are strictly confidential and cannot be divulged to a third party without the prior written consent of Natixis. If you are not the intended recipient of this document and/or the attachments, please delete them and immediately notify the sender. Distribution, possession or delivery of this document in, to or from certain jurisdictions may be restricted or prohibited by law. Recipients of this document are required to inform themselves of and comply with all such restrictions or prohibitions. Neither Natixis, nor any of its affiliates, directors, employees, agents or advisers or any other person accepts any liability to any person in relation to the distribution, possession or delivery of this document in, to or from any jurisdiction.

This document has been developed by our economists. It does not constitute a financial analysis and has not been developed in accordance with legal requirements designed to promote the independence of investment research. Accordingly, there are no prohibitions on dealing ahead of its dissemination.

This document and all attachments are communicated to each recipient for information purposes only and do not constitute a personalized investment recommendation. They are intended for general distribution and the products or services described herein do not take into account any specific investment objective, financial situation or particular need of any recipient. This document and any attachment thereto shall not be construed as an offer nor a solicitation for any purchase, sale or subscription. Under no circumstances should this document be considered as an official confirmation of a transaction to any person or entity and no undertaking is given that the transaction will be entered into under the terms and conditions set out herein or under any other terms and conditions. This document and any attachment thereto are based on public information and shall not be used nor considered as an undertaking from Natixis. All undertakings require the formal approval of Natixis according to its prevailing internal procedures.

Natixis has neither verified nor carried out independent analysis of the information contained in this document. Accordingly, no representation, warranty or undertaking, either express or implied, is made to the recipients of this document as to or in relation to the relevance, accuracy or completeness of this document or as to the reasonableness of any assumption contained in this document. Information does not take into account specific tax rules or accounting methods applicable to counterparties, clients or potential clients of Natixis. Therefore, Natixis shall not be liable for differences, if any, between its own valuations and those valuations provided by third parties; as such differences may arise as a result of the application and implementation of alternative accounting methods, tax rules or valuation models. The statements, assumptions and opinions contained in this document may be changed or may be withdrawn by Natixis at any time without notice.

Prices and margins are indicative only and are subject to change at any time without notice depending on, inter alia, market conditions. Past performances and simulations of past performances are not a reliable indicator and therefore do not anticipate any future results. The information contained in this document may include results of analyses from a quantitative model, which represent potential future events that may or may not be realised, and is not a complete analysis of every material fact representing any product. Information may be changed or may be withdrawn by Natixis at any time without notice. More generally, no responsibility is accepted by Natixis, nor any of its holding companies, subsidiaries, associated undertakings or controlling persons, nor any of their respective directors, officers, partners, employees, agents, representatives or advisers as to or in relation to the characteristics of this information. The statements, assumptions and forecasts contained in this document reflect the judgment of its author(s), unless otherwise specified, and do not reflect the judgment of any other person or of Natixis.

The information contained in this document should not be assumed to have been updated at any time subsequent to the date shown on the first page of this document and the delivery of this document does not constitute a representation by any person that such information will be updated at any time after the date of this document.

Natixis shall not be liable for any financial loss or any decision taken on the basis of the information disclosed in this presentation and Natixis does not provide any advice, including in case of investment services. In any event, you should request for any internal and/or external advice that you consider necessary or desirable to obtain, including from any financial, legal, tax or accounting adviser, or any other specialist, in order to verify in particular that the transaction described in this document complies with your objectives and constraints and to obtain an independent valuation of the transaction, its risk factors and rewards.

Natixis is authorized in France by the Autorité de Contrôle Prudentiel et de Régulation (ACPR) as a Bank -Investment Services Provider and subject to its supervision.

Natixis is regulated by the Autorité des Marchés Financiers in respect of its investment services activities.

Natixis is authorized by the ACPR in France and regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority in the United Kingdom. Details on the extent of regulation by the FCA and the Prudential Regulation Authority are available from Natixis' branch in London upon request.

Natixis is authorized by the ACPR and regulated by the BaFin (Bundesanstalt für Finanzdienstleistungsaufsicht) for the conduct of its business under the right of establishment in Germany.

Natixis is authorized by the ACPR and regulated by Bank of Spain and the CNMV (Comisión Nacional de Mercado de Valores) for the conduct of its business under the right of establishment in Spain.

Natixis is authorized by the ACPR and regulated by Bank of Italy and the CONSOB (Commissione Nazionale per le Società e la Borsa) for the conduct of its business under the right of establishment in Italy.

Natixis is authorised by the ACPR and regulated by the Dubai Financial Services Authority (DFSA) for the conduct of its business in and from the Dubai International Financial Centre (DIFC). The document is being made available to the recipient with the understanding that it meets the DFSA definition of a Professional Client; the recipient is otherwise required to inform Natixis if this is not the case and return the document. The recipient also acknowledges and understands that neither the document nor its contents have been approved, licensed by or registered with any regulatory body or governmental agency in the GCC or Lebanon.

All of the views expressed in this research report accurately reflect the research analyst's personal views regarding any and all of the subject securities or issuers. No part of analyst compensation was, is or will be, directly or indirectly related to the specific recommendations or views expressed in this research report.

I(WE), ANALYST(S), WHO WROTE THIS REPORT HEREBY CERTIFY THAT THE VIEWS EXPRESSED IN THIS REPORT ACCURATELY REFLECT OUR(MY) PERSONAL VIEWS ABOUT THE SUBJECT COMPANY OR COMPANIES AND ITS OR THEIR SECURITIES, AND THAT NO PART OF OUR COMPENSATION WAS, IS OR WILL BE, DIRECTLY OR INDIRECTLY, RELATED TO THE SPECIFIC RECOMMENDATIONS OR VIEWS EXPRESSED IN THIS REPORT.

The personal views of analysts may differ from one another. Natixis, its subsidiaries and affiliates may have issued or may issue reports that are inconsistent with, and/or reach different conclusions from, the information presented herein.

Natixis, a foreign bank and broker-dealer, makes this research report available solely for distribution in

the United States to major U.S. institutional investors as defined in Rule 15a-6 under the U.S. securities

Exchange Act of 1934. This document shall not be distributed to any other persons in the United States. All major U.S. institutional investors receiving this document shall not distribute the original nor a copy thereof to any other person in the United States. Natixis Securities Americas LLC, a U.S. registered broker-dealer and member of FINRA, is a subsidiary of Natixis. Natixis Securities Americas LLC did not participate in the preparation of this research report and as such assumes no responsibility for its content. This research report has been prepared and reviewed by research analysts employed by Natixis, who are not associated persons of Natixis Securities Americas LLC and are not registered or qualified as research analysts with FINRA, and are not subject to the rules of the FINRA. In order to receive any additional information about or to effect a transaction in any security or financial instrument mentioned herein, please contact your usual registered representative at Natixis Securities Americas LLC, by email or by mail at 1251 Avenue of the Americas, New York, NY 10020.