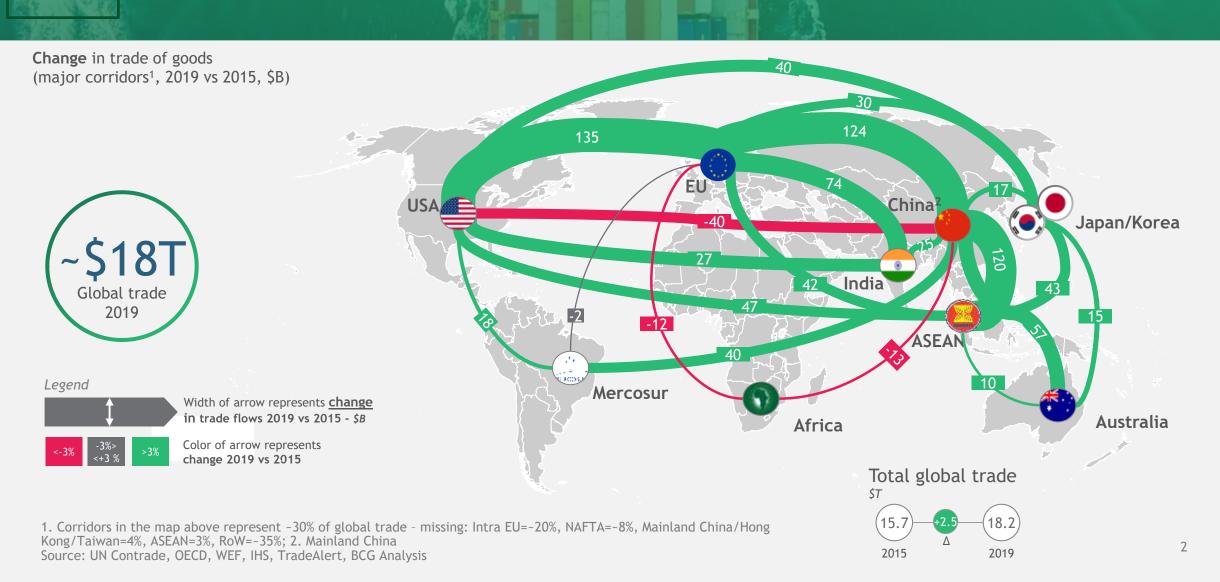




The context: Global trade expanded over 2015-2019, with US-China being an exception



Trend visible pre-COVID: 2019 drop in US-China imports

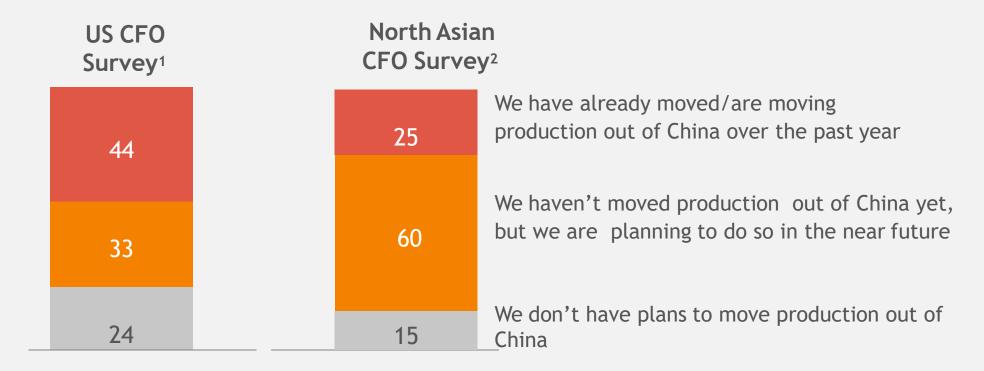
% change in US goods imports ('18-'19)		ASEAN	India	China	JP/KR ¹	EU	Mexico	Brazil	Turkey	RoW ³	World
Health Care	Biopharma	-19%	19%	-14%	10%	17%	-6%	-7%	1%	2%	10%
	MedTech	23%	9%	-2%	-2%	5%	11%	31%	-13%	5%	6%
Consumer Goods	Consumer Durables	33%	10%	-19%	6%	3%	1%	26%	1%	5%	-4%
	Fashion & Luxury	12%	5%	-11%	2%	3%	-6%	-3%	8%	5%	0%
	Packaged Food	6%	15%	-36%	11%	6%	10%	-8%	13%	4%	4%
Tech, Media & Telco	Consumer Electronics	24%	100%2	-13%	-25%	9%	14%	108%2	138%2	15%	-8%
	Equip. & Data Center Solutions	-2%	-12%	-31%	-19%	-2%	-4%	23%	-45%	69%	-13%
	Semiconductor & Materials	14%	36%	-53%	-3%	-7%	-14%	-41%	33%	-3%	0%
Energy	Energy	-40%	18%	-68%	34%	3%	-19%	-2%	10%	-14%	-13%
Industrial Goods	Aerospace	-14%	39%	-9%	3%	18%	21%	31%	21%	12%	13%
	Agribusiness	-8%	0%	-23%	9%	3%	10%	6%	-13%	1%	1%
	Automotive - Components	24%	1%	-17%	1%	-1%	2%	-4%	10%	0%	-2%
	Automotive - Vehicles	12%	4%	-19%	1%	-2%	11%	-36%	-12%	1%	3%
	Chemicals	11%	10%	-16%	4%	-1%	5%	0%	7%	-7%	-4%
	Electrical machinery	10%	21%	-18%	1%	3%	7%	14%	11%	7 %	-3%
	Mechanical machinery	13%	6%	-37%	3%	2%	5%	9%	22%	10%	-7%
	Metals	2%	-1%	-15%	-1%	-4%	-2%	-12%	-31%	-8%	-7%
	Mining	-38%	5%	-22%	10%	-27%	30%	16%	-2%	2%	2%
	Non-metal building materials	45%	38%	-29%	6%	0%	6%	3%	21%	0%	-4%

Source: IHS Markit Global Trade Atlas; BCG analysis

pht © 2020 by Boston Consulting Group. All rights rese

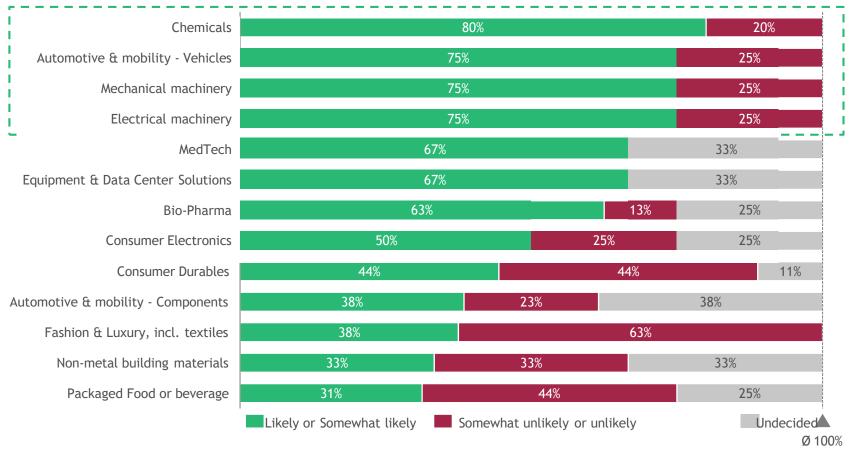
2020 has accelerated this: at company level, "exit China" now top-of-mind ...

Which of the following statements best describes your strategy of moving production out of China?



... with stated intent highest in the Chemicals sector

Survey question | How likely is your company to shift some or all of the international manufacturing supply chain operations out in the next 3 years?¹



^{1.} Semiconductors, Metals and Aerospace not included due to low N Source: Manufacturing field survey; N = 100; Due to limitations in sampling, some industry responses include only low N.

Action is matching intent - China shift is real (across sectors)

60+ companies analyzed across 15 sectors RALPH & LAUREN Extreme **KOMATSU** HANES Brands Inc shift RICOH Rigeh Inc. SUMITOMO ELECTRIC # fitbit PVH Nidec Google at home * Heineken FOXCONN Large I(eurig DrPepper MANWAH shift SANOFI iRobot 😘 POLARIS COOPERTIRES BÜNGE Small Ŧ VAREX allalla shift Honeywell Sumitomo **KYOCER**a HÎKAL CISCO Cargill Tyson Z-\GG varian Cactus **BURBERRY** No change TEXAS INSTRUMENTS **ENTER** intel Reinforce (BOEING China ExonMobil Medtronic Ingredion. Micron **Panasonic** Telco eqpt &

Consumer

electronics

Consumer

packaged

Energy

Consumer

durables

Chemicals

Auto parts &

vehicles

Agribiz

Aerospace

Fashion &

luxury

Machinery

MedTech &

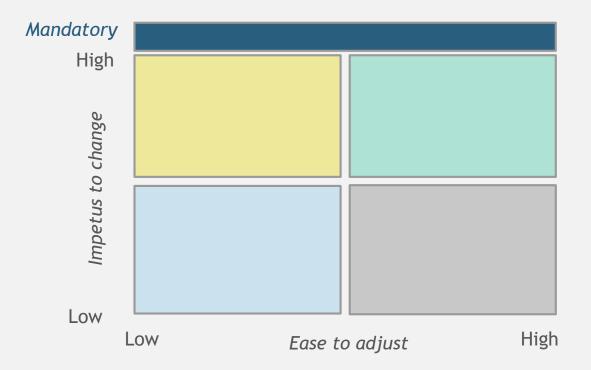
Pharma

semicon.

Copyright © 2020 by Boston Consulting Group. All rights reserved.

Assessing future evolution: Sector response driven by two key factors

Impetus to change vs ease to adjust matrix





Impetus to change

Magnitude of SC at risk, leading to greater willingness to adapt supply chain

- Import dependency & partner reliability
- Supply chain structural risk
- Potential increase of protectionist measures



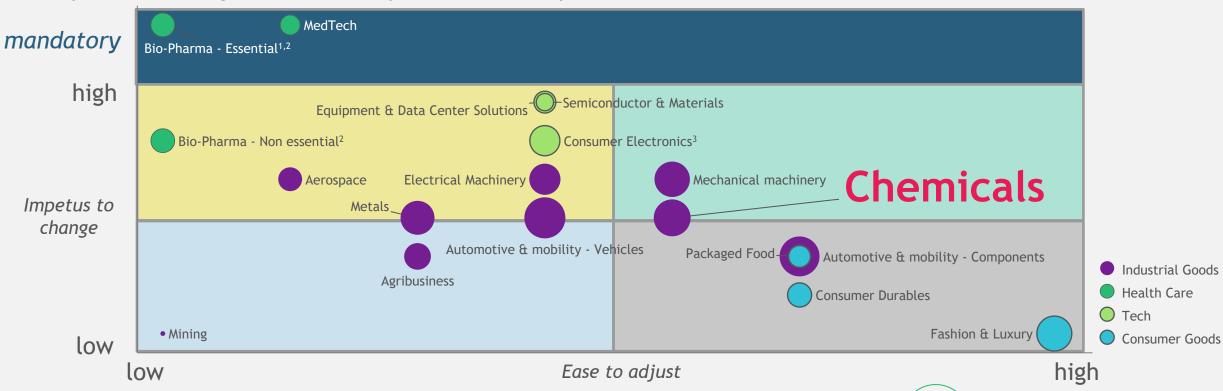
Ease to adjust

Effort to update companies' supply chain

- Cost/capital required
- Ecosystem relevance
- Regulatory requirements

USA view: Chemicals clearly a priority sector for readjustment; similar for EU

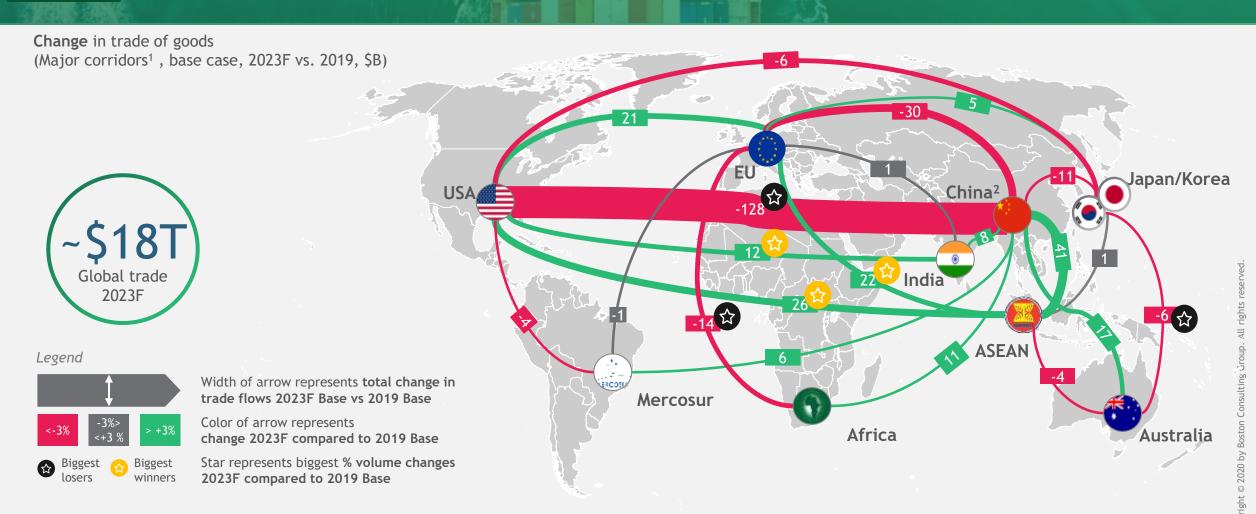




^{1.} Considers meds for public health (vaccines, antibiotics, antivirals) 2. Total imports distributed 50/50 for essential and non essential Biopharma given data limitations 3. Cell phones included Note: Drivers of Impetus to change include imports dependency, supplier country risk, SC structural risk and potential increase of nationalism; Drivers of Ease to adjust include capital intensity, access dependency and regulatory requirements: Source: WTO: OECD: Oxford economics, BCG Analysis



Overall: Trade expected to bounce back by 2023F, with large trade shift mix



^{1.} Corridors in the map above represent ~32% of global trade. Intra EU=~20%; NAFTA=~8%; Mainland China/Hong Kong/Taiwan=4%; ASEAN=3%, RoW=~32%

^{2.} Mainland China

New supply chain models will emerge | Creating opportunities for India

Illustrative example for a firm traditionally manufacturing in China and selling globally

Global supply chains

Global supply chains with added redundancy, but limited footprint changes due to cost & access



Migrated supply chains

Global supply chains shifting to new geographies to reduce geopolitical risk exposure



Regionalized supply chains

Supply chains moving closer to end-markets, due to gov't incentives and/or risk mitigation



Opportunities for Indian ChemCos

Imperatives: The call to action

Trade flow changes are real - intent will match sentiment

Competition for this trade will be intense - Indian companies not necessarily the "automatic" choice

Winning will require proactive outreach in roadshows; early enough in the process to be "selected"

Disclaimer

The services and materials provided by Boston Consulting Group (BCG) are subject to BCG's Standard Terms (a copy of which is available upon request) or such other agreement as may have been previously executed by BCG. BCG does not provide legal, accounting, or tax advice. The Client is responsible for obtaining independent advice concerning these matters. This advice may affect the guidance given by BCG. Further, BCG has made no undertaking to update these materials after the date hereof, notwithstanding that such information may become outdated or inaccurate.

The materials contained in this presentation are designed for the sole use by the board of directors or senior management of the Client and solely for the limited purposes described in the presentation. The materials shall not be copied or given to any person or entity other than the Client ("Third Party") without the prior written consent of BCG. These materials serve only as the focus for discussion; they are incomplete without the accompanying oral commentary and may not be relied on as a stand-alone document. Further, Third Parties may not, and it is unreasonable for any Third Party to, rely on these materials for any purpose whatsoever. To the fullest extent permitted by law (and except to the extent otherwise agreed in a signed writing by BCG), BCG shall have no liability whatsoever to any Third Party, and any Third Party hereby waives any rights and claims it may have at any time against BCG with regard to the services, this presentation, or other materials, including the accuracy or completeness thereof. Receipt and review of this document shall be deemed agreement with and consideration for the foregoing.

BCG does not provide fairness opinions or valuations of market transactions, and these materials should not be relied on or construed as such. Further, the financial evaluations, projected market and financial information, and conclusions contained in these materials are based upon standard valuation methodologies, are not definitive forecasts, and are not guaranteed by BCG. BCG has used public and/or confidential data and assumptions provided to BCG by the Client. BCG has not independently verified the data and assumptions used in these analyses. Changes in the underlying data or operating assumptions will clearly impact the analyses and conclusions.



bcg.com

