

Dinamika Baru dalam Hubungan Internasional: Technological Decoupling dan Friendshoring

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Gambir Trade Talk

Jakarta, 15 Mei 2024

Outline

- 1) Konteks & Latar Belakang
- 2) Friendshoring
- 3) Technological Decoupling
- 4) Dinamika 2 Industri: Semikonduktor & Baterai/EV
- 5) Perspektif ASEAN

Konteks & Latar Belakang (1/2)

1) Perlambatan dan ketidakpuasan publik terhadap globalisasi

- Masa keemasan globalisasi dan global value chain sebelum GFC. Interkoneksi produksi dan ekonomi antar-negara meningkat signifikan.
- Ketimpangan meningkat, keraguan publik terhadap globalisasi meningkat.

2) Pertumbuhan ekonomi dan teknologi Tiongkok

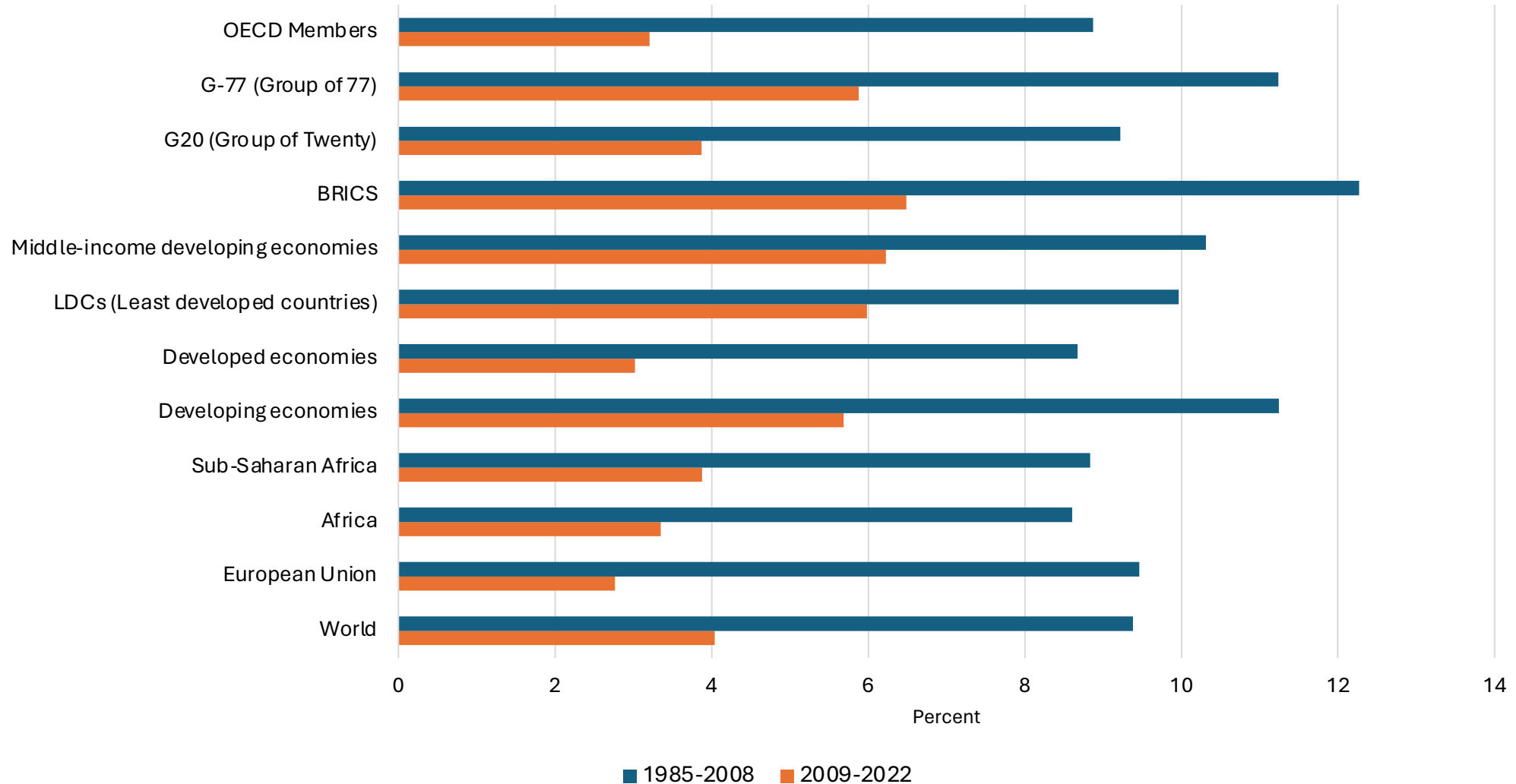
- *Catch-up* ekonomi & teknologi Tiongkok di abad 21.
- Industrialisasi, FDI, JV, adopsi dan transfer teknologi, R&D
- AI, robot, nanoteknologi, bioteknologi, IT & quantum computing, EV & baterai

3) Rivalitas dan ketegangan AS vs Tiongkok

- *China shock* di AS, Trump, perang perdagangan AS-Tiongkok
- Dari ranah perdagangan/ekonomi, kemudian tereskalasi ke ranah teknologi
- Persaingan untuk supremasi global di berbagai bidang.

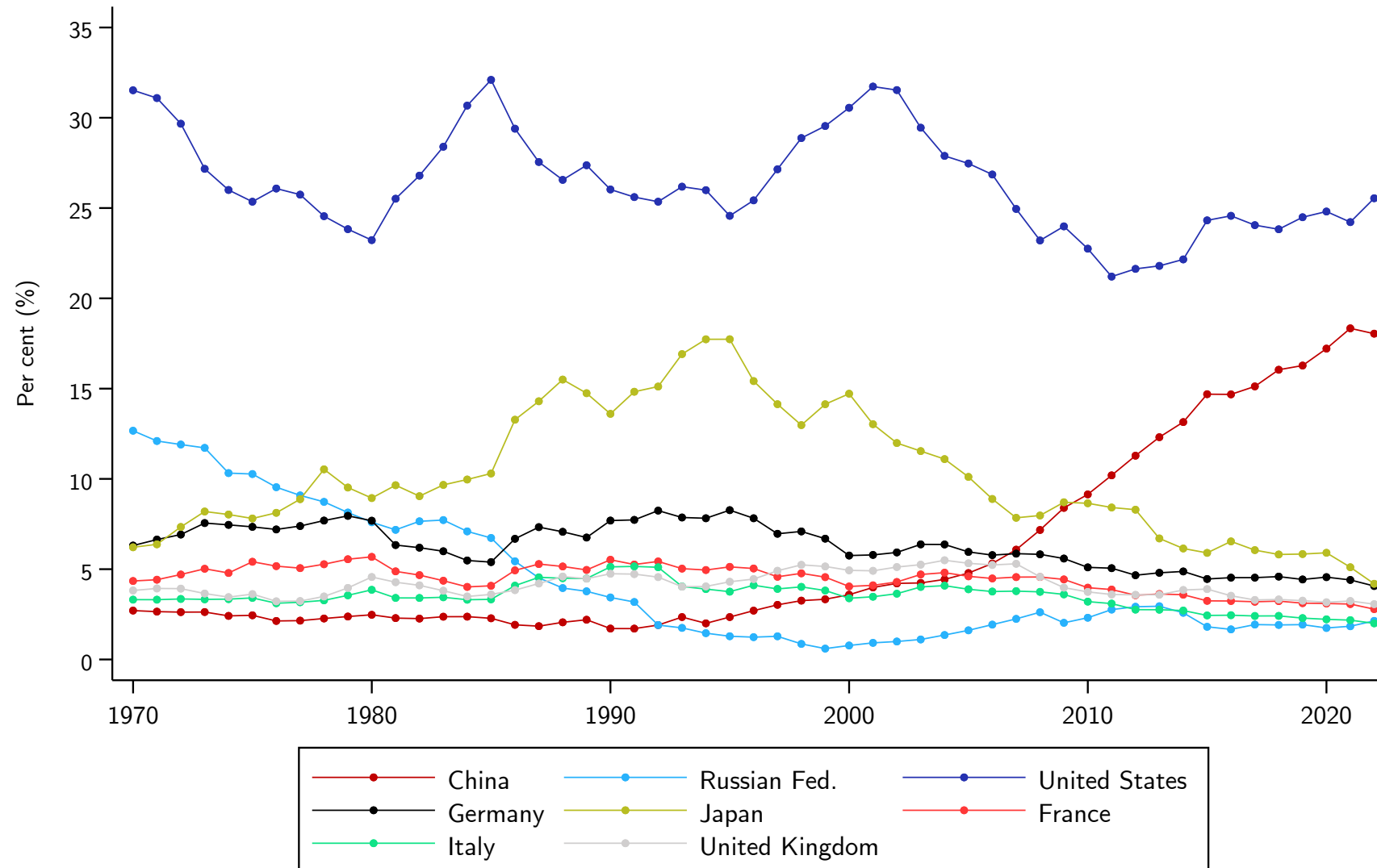
Perlambatan Globalisasi Setelah GFC 2008

Rata-rata Pertumbuhan Tahunan dalam Total Nilai Perdagangan, berdasarkan kelompok negara



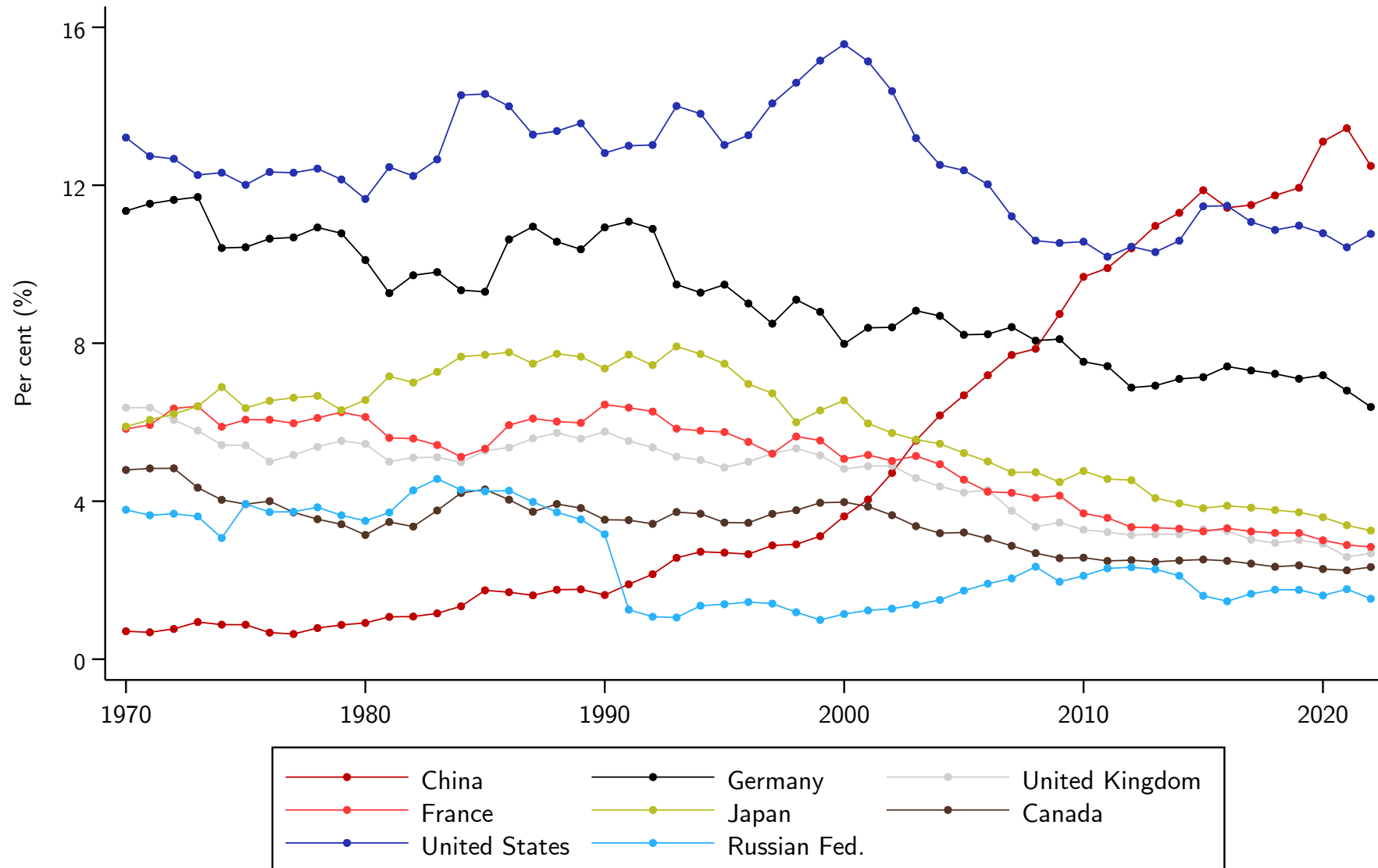
Sumber: Calculation from UNCTAD Stat

Pertumbuhan Peran Tiongkok di Ranah Global: PDB



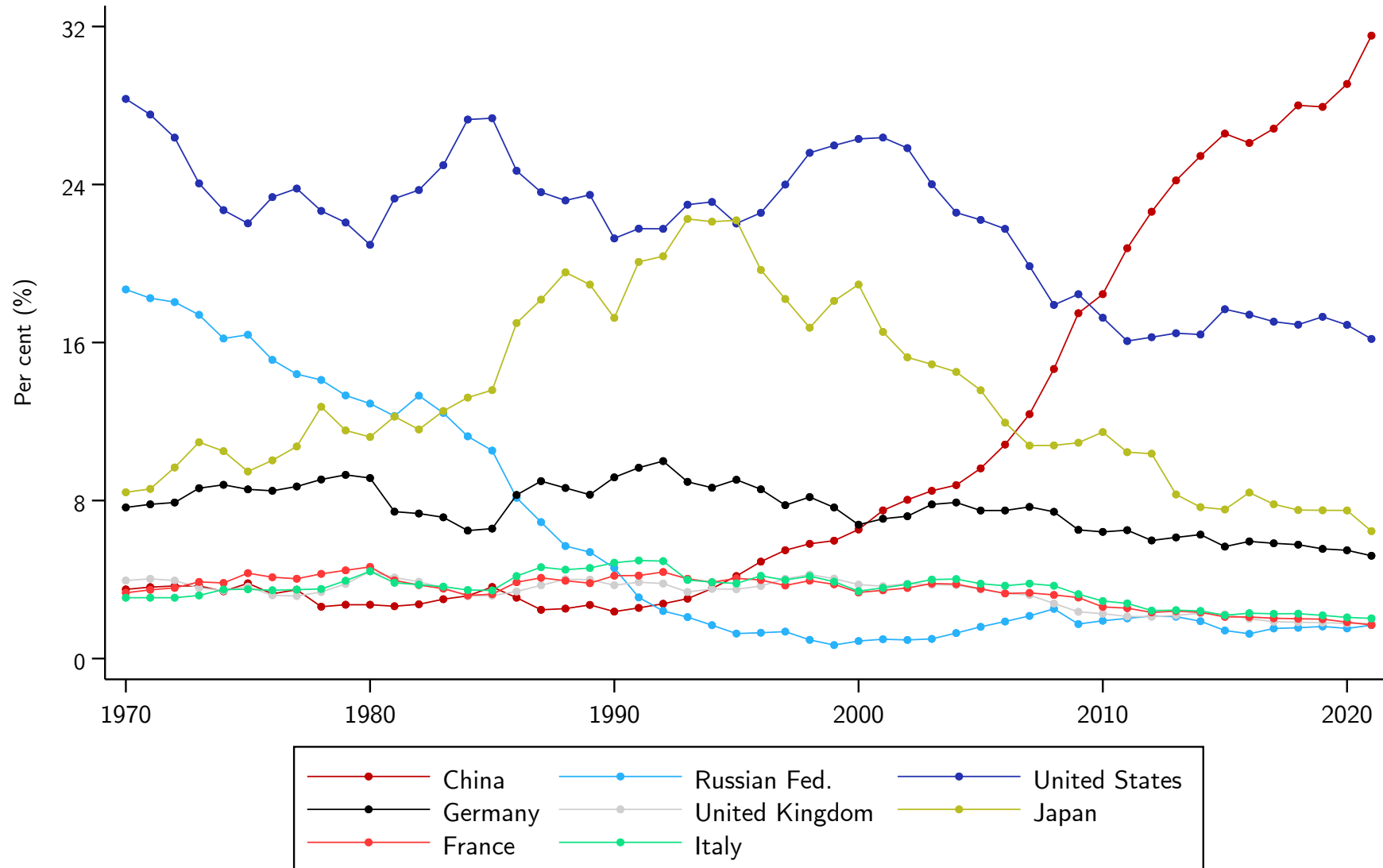
Sumber: Ing & Lin (2024)

Pertumbuhan Peran Tiongkok di Ranah Global: Perdagangan



Sumber: Ing & Lin (2024)

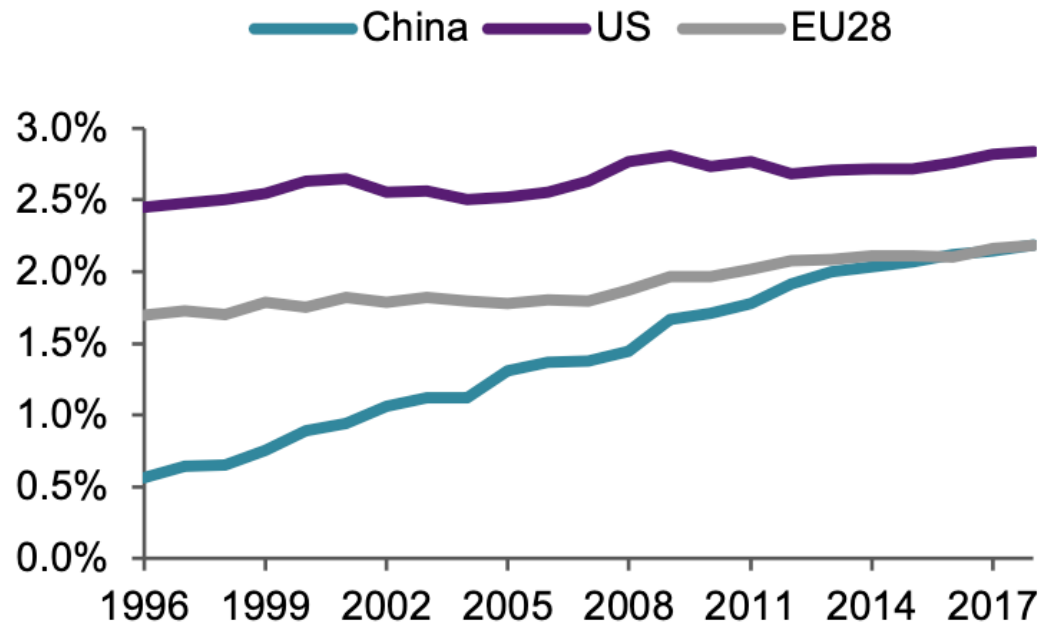
Pertumbuhan Peran Tiongkok di Ranah Global: Manufaktur



Sumber: Ing & Lin (2024)

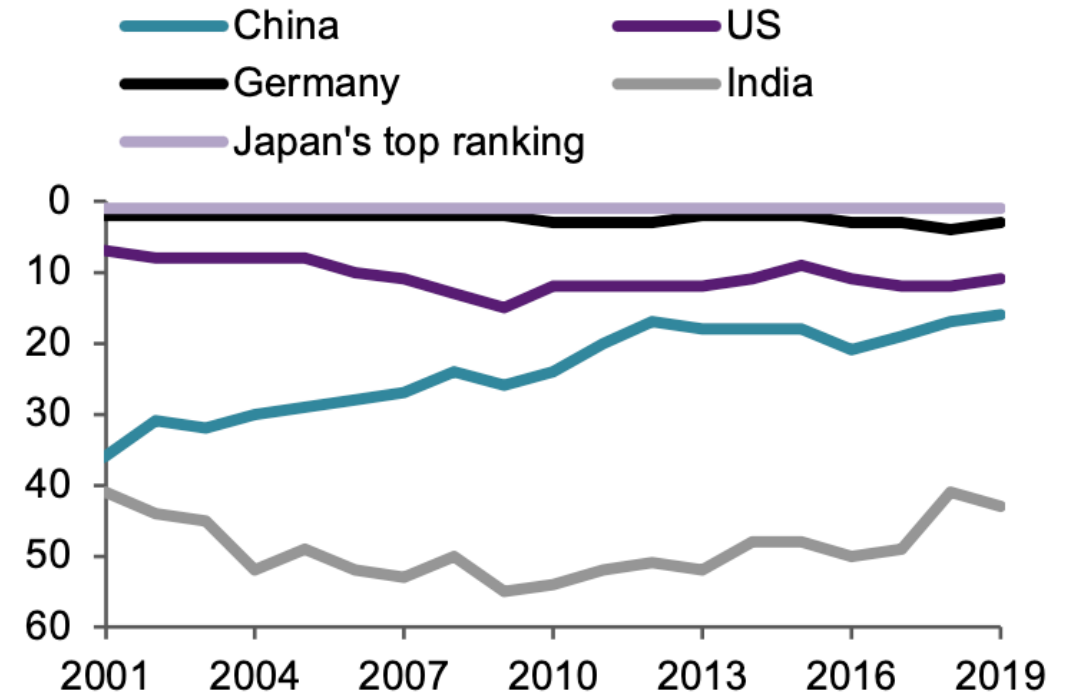
Perkembangan Teknologi Tiongkok

Figure 1
R&D as a share of GDP (%)



Source: World Bank

Figure 2
Export complexity rankings



Source: Growth Lab at Harvard

Sumber: Herrero (2021)

Evolusi Rivalitas AS vs Tiongkok: 1980-2022

Four dimensions		1980–1990	1990–2000	2000–2010	2010–2022
Market	US	#1	#1, rising	#1	#1, slow growth
	China	#15 growing just opening up	#10 growing more open	#2 in GDP in 2010 entering WTO in 2001 open further	#2, rising fast #1 in PPP in 2016 80% of US GDP
Supplier	US	#1	#1, rising	#1, outsourcing	#1 in high-tech
	China	#30 growing natural-resource exports	#15 rising low-tech exports	#1 in low-tech manuf. world factory #5 in others	#2 high-tech, #1 in low-tech #2 in others
Competitor	US	#1, superpower	#1, dominant	#1, dominant	#1, stagnant
	China	# 35 growing but still weak	#20 rising but not competitive	#1 in low-tech manuf. # 5 in high-tech. upgrading	#2 in manuf.-IT-tele. Equipment #3 in high-tech
Geopolitical rival	US	#1, superpower	#1, dominant	#1, dominant	#1, dominant
	China	#8, a US ally Internal focus	#7, a US friend Internal focus	#3, a US friend growing global influences	#2, A US rival Asia-Africa BRI and AIIB

Konteks & Latar Belakang (2/2)

4) Disrupsi kunci pada rantai pasok global

- Gempa/tsunami Tohoku 2011, pandemi COVID-19, perang Rusia-Ukraina, dsb.
- Pendekatan manajemen rantai pasok: Just-in-Time menjadi Just-in-Case
- Dorongan untuk diversifikasi serta mengamankan rantai pasok via renasionalisasi (*reshoring, nearshoring, friendshoring*)

5) Nasionalisme ekonomi dan argumen keamanan nasional

- Kebijakan industri, subsidi untuk produksi domestik, larangan ekspor
- Dorongan untuk menjadi mandiri, menghindari ketergantungan asing
 - Dual Circulation Strategy China, Made in China 2025, CHIPS and Science Act 2022, +1 Policy, dsb.
- Pertimbangan politik/geopolitik mendominasi pertimbangan ekonomi



“France supports European efforts to enhance industrial sovereignty and reduce dependence on non-European suppliers. This requires strategic investments, innovation, and closer cooperation with **trusted partners**.”

Emmanuel Macron,
President of France
VivaTech Conference, June 2021



“China will continue to pursue self-reliance in key technologies and strengthen cooperation with **friendly nations** to counter external pressures.”

Xi Jinping,
President of China
China International Import
Expo, November 2020

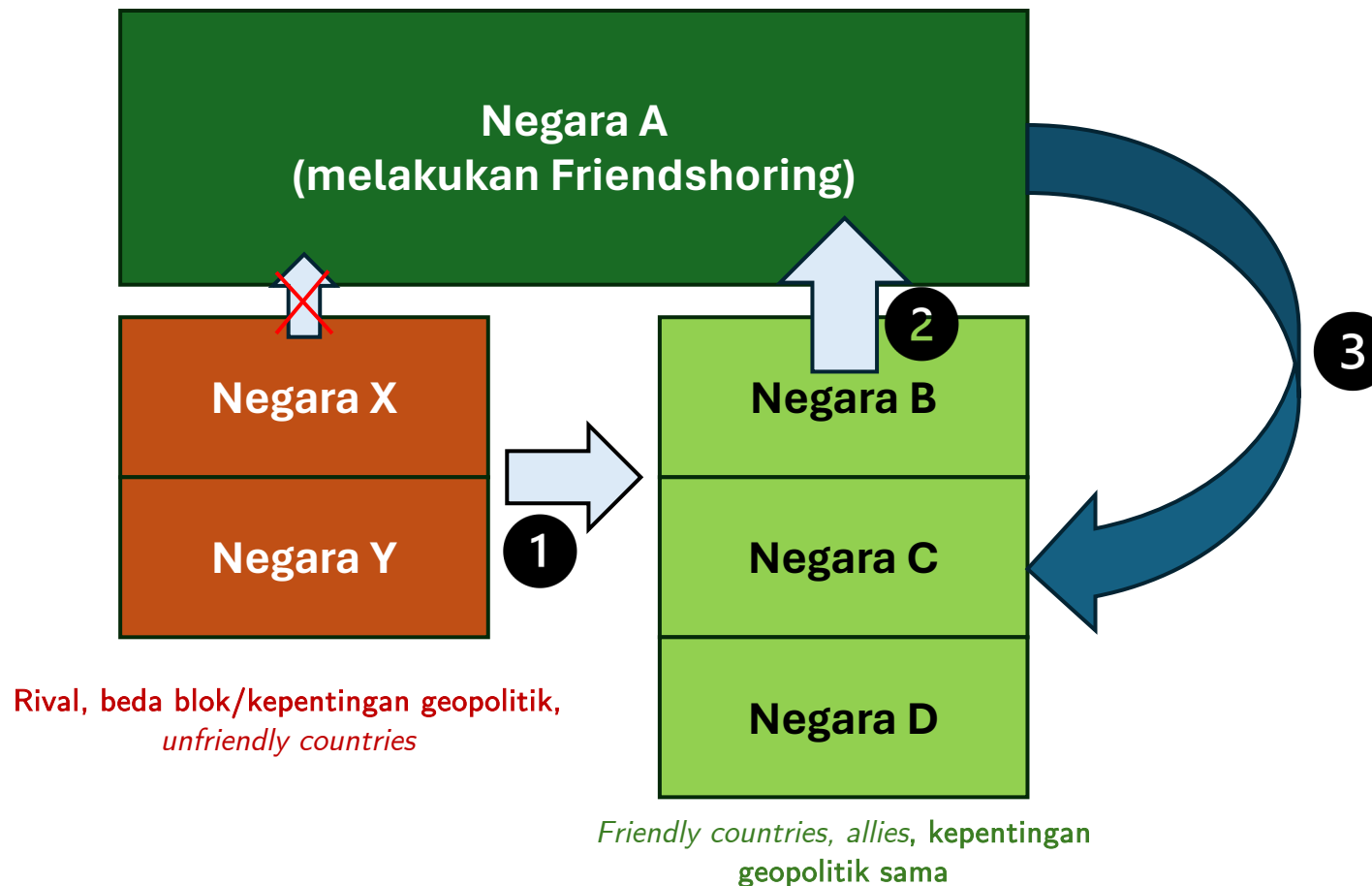


“Favoring the **friendshoring** of supply chains to a large number of **trusted countries**, so we can continue to securely extend market access, will lower the risks to our economy as well as to our trusted trade partners”

Janet Yellen,
US Treasury Secretary
To Atlantic Council, April 2022

Friendshoring

Relokasi fasilitas produksi ke, memperdalam koneksi supply chain dengan, atau mendapatkan barang input (*sourcing*) dari negara-negara sekutu yang memiliki kesamaan posisi atau kepentingan secara geopolitik dan ekonomi, dengan tujuan mengurangi potensi risiko disrupsi produksi dan meningkatkan keamanan nasional.



The rise of nearshoring FDI close to Europe

POWERED BY FDI MARKETS

Manufacturing investment near to western Europe booms amid geopolitics and protectionism

Forbes

FORBES > LEADERSHIP > LEADERSHIP STRATEGY

Near-Shoring: Can Manufacturing Move From China To Mexico?

Bill Conerly Senior Contributor @

I connect the dots between the economy ... and business!

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The ‘Big Man’ Moves Production To Vietnam

11/01/2022

Nike, Adidas, Foxconn, Intel, Samsung... have been expanding their presence in Vietnam, showing that the busir

51% of Nike shoes are “Made in Vietnam”

Recently, CNBC quoted the financial report of Nike, a corporation specializing in sports products, saying the proportion is in China. dropped to 21%. In 2006, China made Nike shoes for 35% of its global production. Notably, even Indonesia has overtaken China as the market share of Nike shoe production in the country inc

TECH

India woos U.S. chip giants as it looks to become a semiconductor superpower

PUBLISHED FRI, JUL 28 2023-9:58 AM EDT

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Snap Analysis

Samsung's shift from China to Noida a boost for Make in India



Samsung, LG shift away from China toward India a production base

By Jie Ye-eun

Published : Feb. 9, 2023 - 15:34

In a shift from China to India & Foxconn isn't letting a good downtn

By Tim Culpnan, Bloomberg • Last Updated: Aug 15, 2023, 09:04:00 AM IST

Synopsis

Foxconn is accelerating its global migration away from China and plans to spend billions of US dollars in India and elsewhere, as a rebound in demand for gadgets fails to materialise and its former mega-factory strategy loses efficiency. Before, China offered labour, logistics and reliability advantages, but now, no country will replace China as the centre of global electronics manufacturing.



Foxconn Technology Group has finally joined titans Taiwan Semiconductor Manufacturing Co. and Apple Inc. in

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What Tesla's Berlin Gigafactory means for its future in China

U.S. EV giant's Shanghai plant is under pressure as rivals catch up



Technology

Foxconn aims to double jobs, investment in India over next 12 months

By Reuters

September 19, 2023 10:16 AM GMT+7 · Updated 8 months ago



A woman drives past the logo of Foxconn Photo [Purchase Licensing Rights](#)

Sept 17 (Reuters) - (This Sept. 1 seeking to move away from Chi

Apple (AAPL) supplier Fox next year, a company executive

Taiwan-based Foxconn, the wo presence in India by investing in

Bharat Petroleum Corporation. Share Price

03:59 PM | 10 May 2024

NTPC. Share Price

03:59 PM | 10 May 2024

Europe moves to end reliance on China EVs with €4.4bn factory plans



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European Markets

Russian government approves sale of IKEA factories - deputy minister

By Reuters

February 16, 2023 11:44 PM GMT+7 · Updated a year ago



Manufacturing

US Offers Intel \$8.5B to Support Semiconductor Chip Plant Projects

The award is the largest to be made under the CHIPS and Science Act program

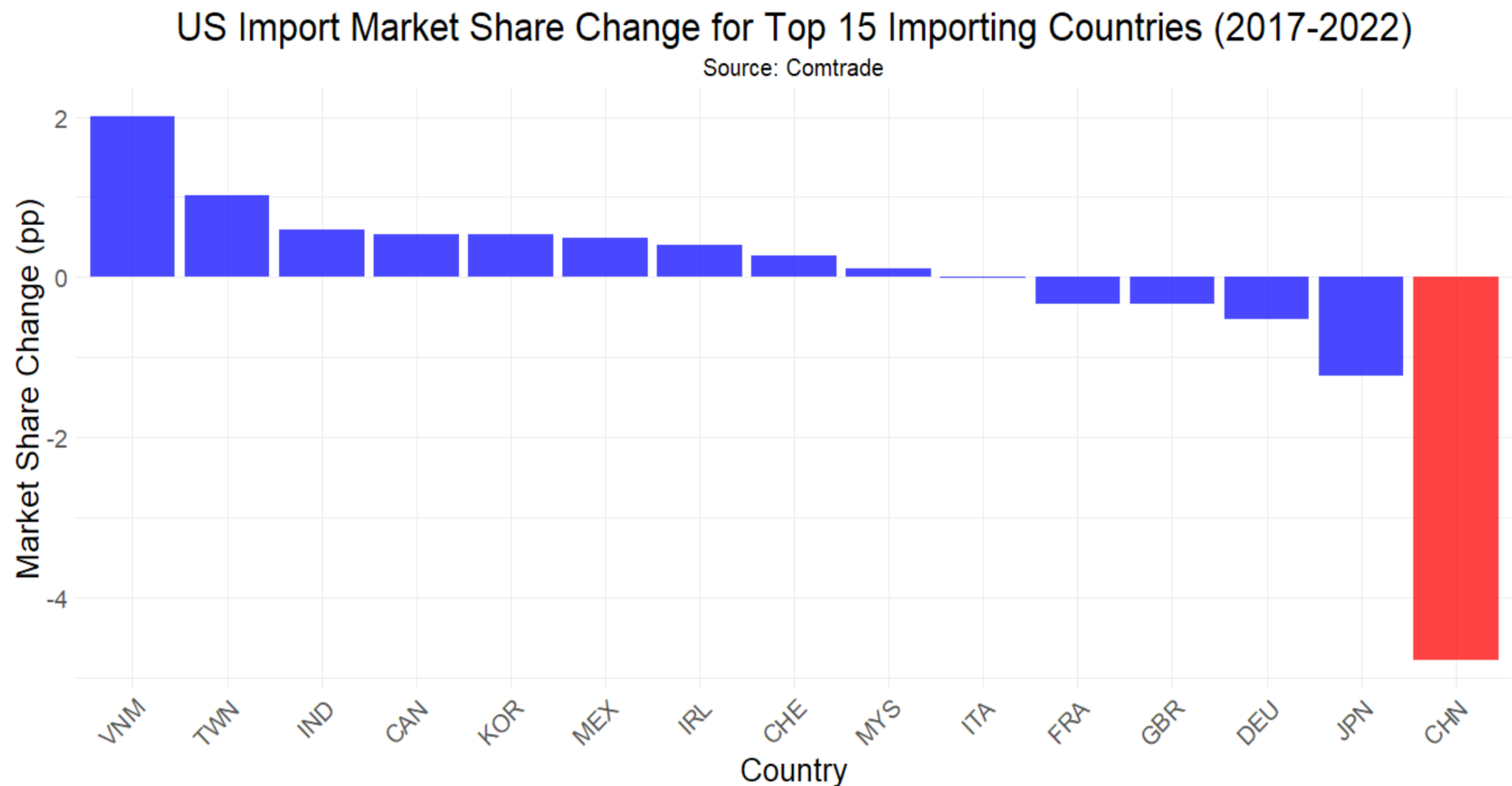
By James Leggate



Friendshoring

- ▶ Relokasi produksi karena friendshoring terjadi di berbagai industri (pharmaceutical, semiconductors, automotive, EV, batteries, electronics, footwear, energy/renewables, dll).
- ▶ Bertujuan mengamankan akses pasar, mendekat produksi ke pasar konsumen final, dan diikuti pertimbangan biaya buruh dan ketersediaan talent/skills.
- ▶ Relokasi dari Tiongkok ke ASEAN (terutama Vietnam) untuk mendapatkan akses pasar ekspor ke AS.
- ▶ Friendshoring dalam konteks perjanjian perdagangan regional (e.g. USMCA)
- ▶ Friendshoring dapat berbentuk usaha diversifikasi rantai pasok dari negara yang dianggap berisiko (e.g. +1 Policy).
- ▶ Friendshoring mengubah pola perdagangan (barang jadi, input, modal) dan investasi.
- ▶ Friendshoring dapat difasilitasi dengan subsidi atau insentif untuk menarik produksi domestik atau regional
 - ▶ Inflation Reduction Act (IRA), CHIPS and Science Act (2022), European Chips Act, Made in China 2025.

Friendshoring Mengubah Pola Perdagangan



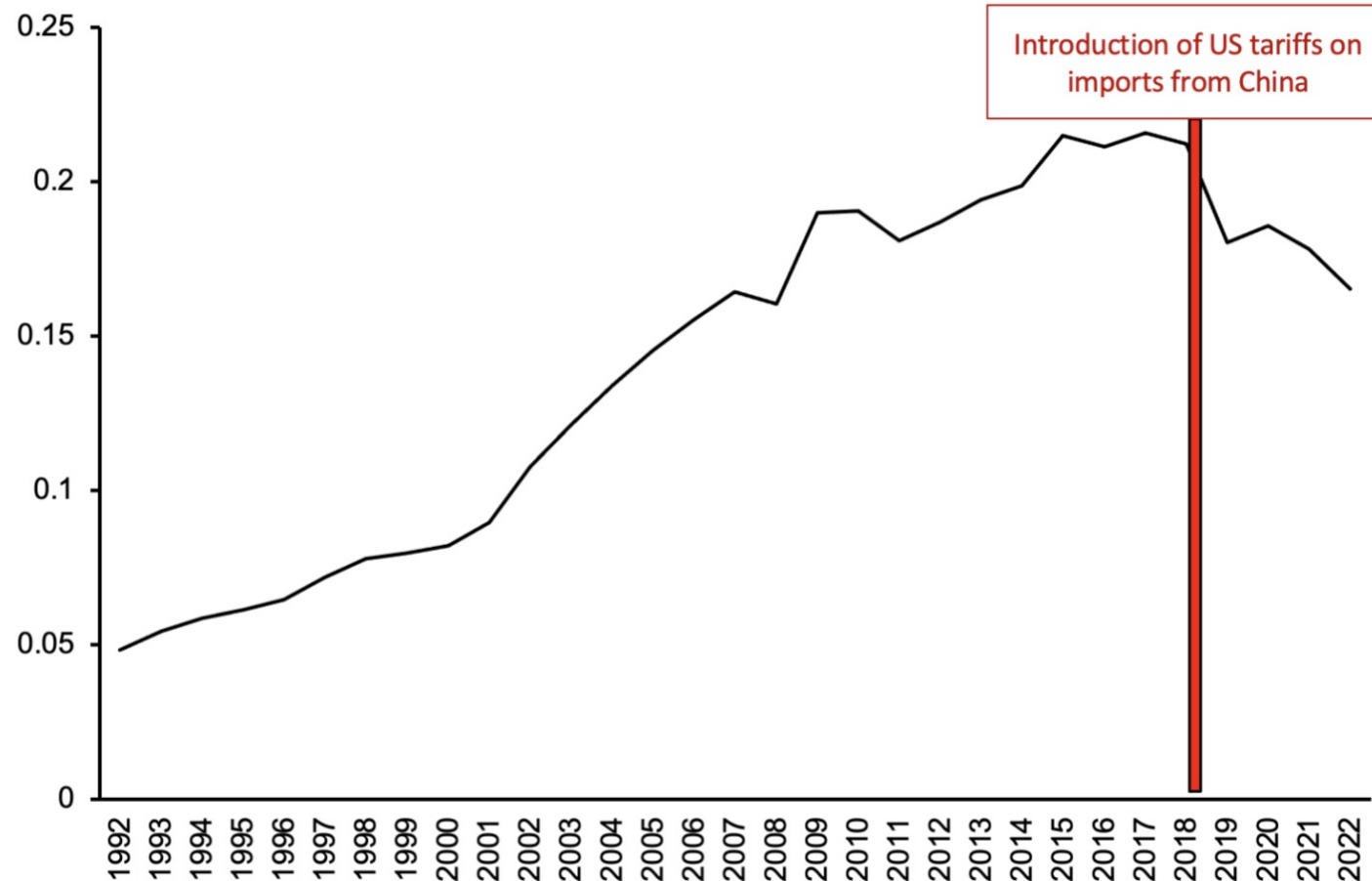
Source: UN Comtrade. Data Downloaded in April 2023.

Sumber: Alfaro & Chor (2023)



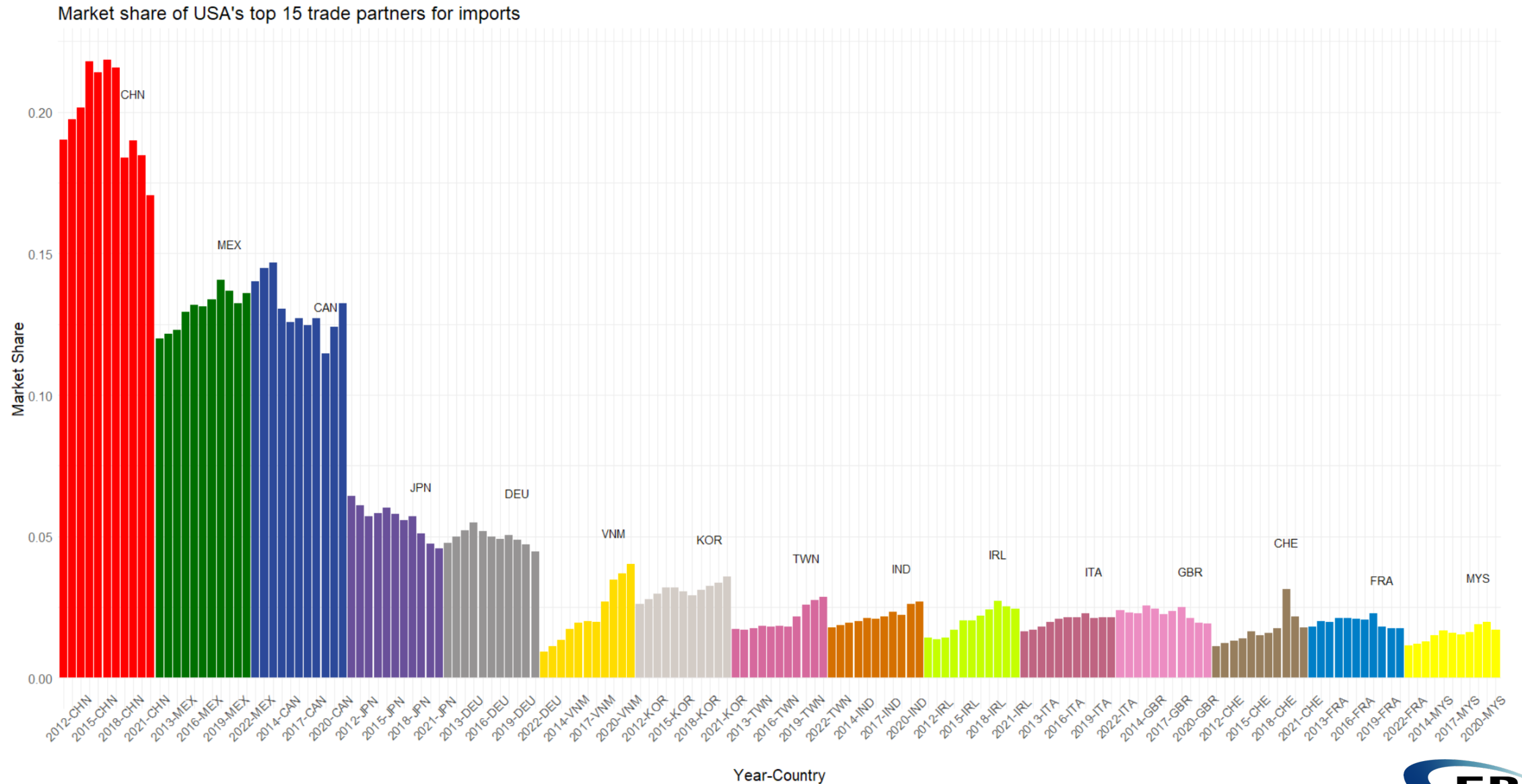
AS Mengurangi Impor dari Tiongkok ...

Proporsi Tiongkok dalam Impor AS



Sumber: Freund et al. (2023)

... dan Meningkatkan Impor dari Kanada, Meksiko, dan Vietnam



Sumber: Alfaro & Chor (2023)

Technological Decoupling

- ▶ **Definisi:** Usaha pembatasan akses/ekspor dan pengurangan tingkat ketergantungan terhadap teknologi tertentu atau barang berkonten teknologi yang dianggap strategis terhadap negara lain/rival.
- ▶ **Latar belakang:** rivalitas dan ketegangan AS vs Tiongkok dan *concern* keamanan nasional, pencurian HAKI, dan spionase.
- ▶ Teknologi sebagai sumber daya strategis untuk mendukung keamanan nasional (termasuk aplikasi militer) dan daya saing ekonomi.
- ▶ Huawei masuk Entity List pemerintah AS pada Mei 2019. Pembatasan ekspor komponen dan teknologi 5G (e.g. semikonduktor, chips, IC, software dan firmware untuk perlengkapan networking, antena dan teknologi frekuensi radio, perlengkapan testing dan validasi 5G).
- ▶ Pada Oktober 2022, AS memperketat kontrol ekspor untuk semikonduktor dan beberapa jenis *semiconductor manufacturing equipment*, persyaratan licensing teknologi yang semakin ketat bagi perusahaan AS yang mengekspor teknologi ke perusahaan Tiongkok.
- ▶ Pembatasan akses dan persyaratan lokalisasi data bagi perusahaan teknologi AS yang beroperasi di pasar Tiongkok.
- ▶ Berpengaruh terhadap kolaborasi penelitian yang melibatkan AS dan Tiongkok, serta proses pengembangan teknologi dan ekosistemnya.

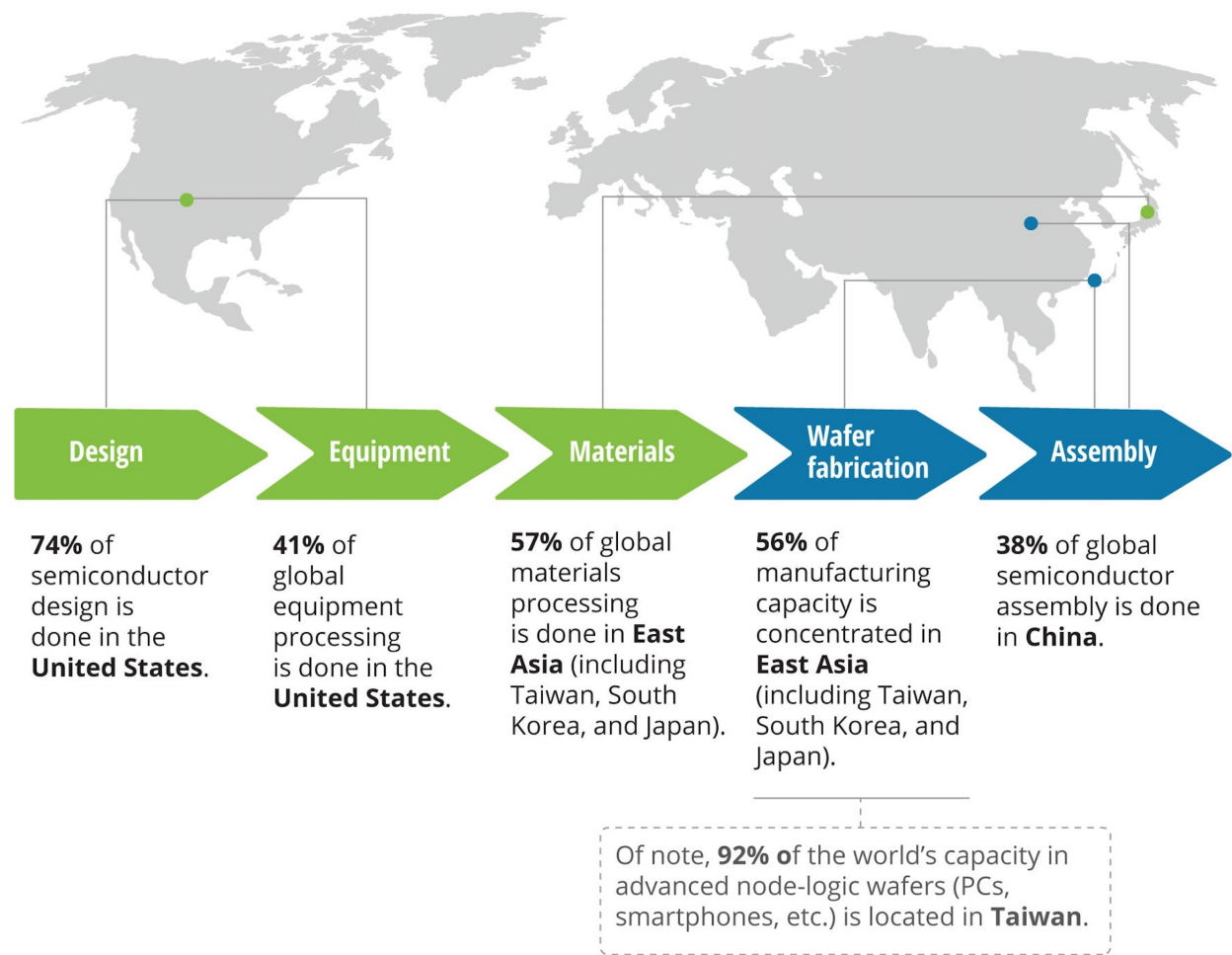
Teknologi yang Berpotensi Mengalami Decoupling

- ▶ Semiconductors (termasuk high-end)
- ▶ 5G/6G networks (telecommunication)
- ▶ Artificial Intelligence
- ▶ Quantum computing
- ▶ Big data
- ▶ Nanotechnology, advanced materials
- ▶ Biotechnology
- ▶ Space technology.

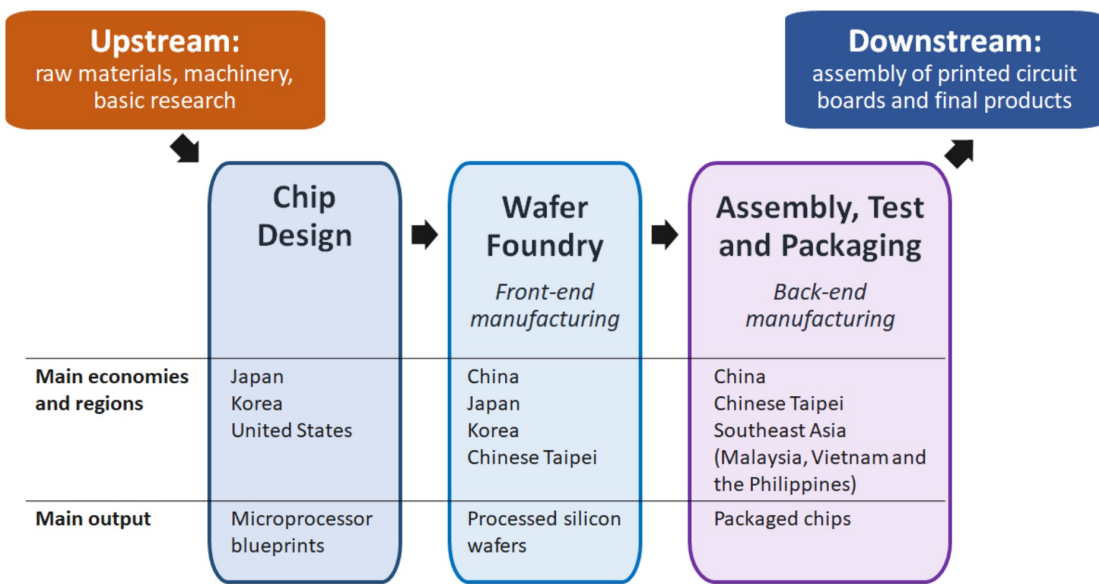
Case 1: Industri Semikonduktor

Semiconductor consolidation

■ Low risk concentration ■ High risk concentration



Source: Deloitte analysis.

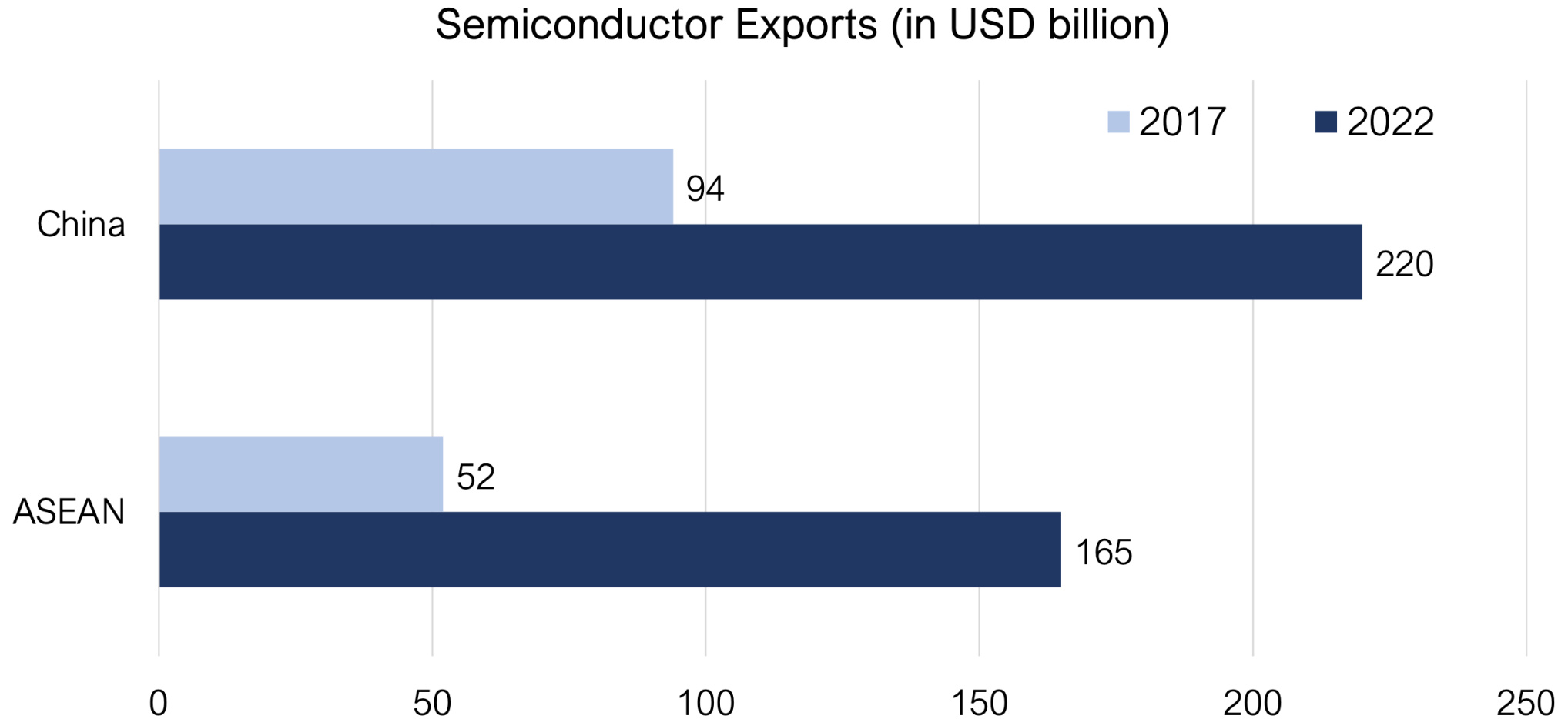


Sumber: Deloitte, Haramboure et al. (2023), OECD

Case 1: Industri Semikonduktor

- ▶ Relevansi semikonduktor dalam dunia modern. Semikonduktor menjadi impor terbesar Tiongkok di 2021, melewati minyak mentah.
- ▶ Industri semikonduktor mengalami friendshoring dan technological decoupling.
- ▶ **Tech Decoupling**
 - ▶ AS melarang ekspor semikonduktor ke Huawei 2019 dan perusahaan dalam Entity List (SMIC di 2020).
 - ▶ Pemberlakuan izin ekspor untuk ekspor semikonduktor dari Tiongkok 2020.
 - ▶ Pembatasan lalu lintas ekspor semikonduktor antar kedua negara.
- ▶ **Friendshoring**
 - ▶ CHIPS & Science Act: \$280 billion: R&D, subsidi, insentif produksi domestik, *loan guarantees*, *tax credit*
 - ▶ Tujuan jangka panjang: meningkatkan kapasitas dan kapabilitas produksi industri semikonduktor di AS.
 - ▶ Menarik investasi untuk relokasi produksi ke AS (e.g. rencana TSMC relokasi produksi fabrication high-end chips ke Arizona, AS)
 - ▶ Relokasi fasilitas produksi ke ASEAN. (e.g. GlobalFoundries di Singapura (waver foundry), Samsung ke Vietnam dan Indonesia (test & packaging), ASE ke Malaysia dan Thailand (assembly, packaging & testing), Infineon Technology (assembly & testing), Texas Instrument ke Filipina (waver fabrication), TSMC ke Vietnam (waver fabrication).

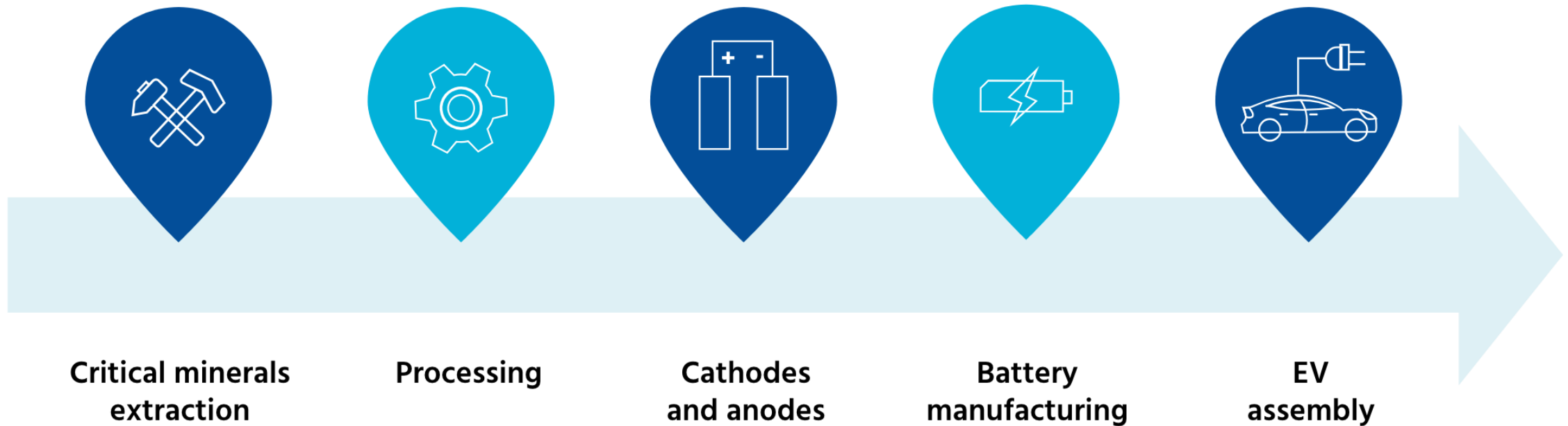
Potensi ASEAN dalam Industri Semikonduktor



Source: ERIA Staff Calculations based on WITS Database [accessed 12 September 2023], semiconductor exports: HS 8541 and 8542

Case 2: Industri Baterai Lithium-Ion & Kendaraan Listrik (EV)

Rantai Pasok Baterai Lithium-Ion & EV



Sumber: US Department of Commerce, Hinrich Foundation (2023)

Case 2: Industri Baterai Lithium-Ion & Kendaraan Listrik (EV)

Pangsa Pasar Global dari 4 Komponen Penting dalam Baterai Lithium-ion

	Cathode materials			Anode materials			Electrolyte			Separator		
	2021	2022	2023 (Projection)	2021	2022	2023 (Projection)	2021	2022	2023 (Projection)	2021	2022	2023 (Projection)
China	83.1%	88.5%	89.4%	88.3%	92.2%	93.5%	81.5%	84.1%	85.0%	74.3%	83.3%	87.4%
Japan	7.5%	4.5%	3.7%	8.0%	4.9%	4.1%	12.1%	9.1%	7.2%	20.0%	13.0%	9.7%
S.Korea	6.0%	5.1%	5.0%	3.7%	2.9%	2.4%	6.4%	6.7%	7.8%	5.7%	3.7%	2.9%
Other	3.4%	1.9%	1.9%	-	-	-	-	-	-	-	-	-
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Sumber: Yano Research Institute

Case 2: Industri Baterai Lithium-Ion & Kendaraan Listrik (EV)

- ▶ Dominasi Tiongkok dalam rantai pasok baterai dan EV (termasuk integrasi vertical).
 - ▶ 5 dari 10 produsen baterai terbesar global berasal dari Tiongkok.
 - ▶ Tiongkok menguasai 70%+ pangsa pasar global di sejumlah komponen utama baterai.
- ▶ AS ingin mengurangi ketergantungan terhadap Tiongkok dalam industri EV dan ingin mengejar dekarbonisasi dan pengembangan EV.
- ▶ Inflation Reduction Act (IRA) memberikan sejumlah insentif untuk produksi baterai di AS dan negara mitra.
 - ▶ Keringanan pajak untuk produsen EV jika 40% critical mineral dan 50% komponen baterai bersumber dari AS atau negara mitra dagang FTA.
 - ▶ Critical Minerals Agreement (CMA) dengan Jepang, dan negosiasi dengan negara lain termasuk Indonesia.
 - ▶ Subsidi dan insentif pajak untuk menarik investasi dari negara mitra AS (i.e. Korea dan Jepang) untuk mendirikan fasilitas produksi baterai di AS [i.e. Friendshoring]

Perspektif ASEAN

- 1) Tech decoupling dan friendshoring akan mengakibatkan *trade creation* dan *trade diversion*. Perdagangan, investasi/FDI, transfer teknologi.
- 2) ASEAN berpotensi mengambil manfaat dari relokasi produksi karena kedua fenomena tsb, termasuk dalam industri semikonduktor (tier *downstream*).
 - ▶ Pasar konsumen besar, posisi geografis, biaya buruh di bawah Tiongkok, integrasi produksi.
- 3) Regulasi melakukan usaha/investasi, kualitas *human capital*, serta identifikasi industri potensial yang tepat menjadi kunci

Thank You