

# ***The US-China trade war and technological race***

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## ***OUTLINE***

- ***PHASES AND BATTLES OF THE TRADE WAR***
- ***THE IMPACT OF THE TRADE WAR***
- ***FACTORS PAVING THE WAY FOR THE TRADE WAR***
- ***IS DECOUPLING TAKING PLACE?***
- ***TOWARDS A NEW COLD WAR?***

On Monday, November 14, a day before the G20 summit held in Bali, US President Joe Biden told Chinese counterpart Xi Jinping they were both responsible for preventing their competition from turning into conflict.

International Monetary Fund Managing Director Kristalina Georgieva said that the meeting was a *“very constructive”* signal that may ease trade tensions between the world’s two largest economies.

Michael Spence wrote: *“the tide might be turning away from confrontation toward renewed cooperation in the international arena”*.

But, maybe, all is not gold that glitters, at least as far as trade policy is concerned.

## ***PHASES AND BATTLES OF THE TRADE WAR***

## The stages of the tariff war

- Overall, the tariff war has proceeded in various stages since June 2018, when it was launched by the Trump administration, culminating in the truce of the Phase One Agreement in February 2020.
- A brief look at the Market Access Map of the International Trade Centre shows that:
  - ✓ tariffs rapidly escalated : US average tariffs on Chinese exports, from a low of 3% to a high of 19%, while Chinese average tariffs in retaliation increased from 8% to 21.%.
  - ✓ US tariffs cover 66 % of US imports from China, while China's retaliatory tariffs cover 58 % of imports from the US (all rounded figures).
- Despite the phase one agreement and the new US administration, tariffs between the two countries have remained rather stable and high.

**TABLE 1 - Major Chinese exports hit by U.S. tariffs**

25%	7.5%	No tariffs
<ul style="list-style-type: none"><li>➤ Selected IT hardware and consumer electronics including data servers, modems, routers, wireless headphones, smartwatches</li><li>➤ Auto parts</li><li>➤ Furniture</li><li>➤ Semiconductors</li></ul>	<ul style="list-style-type: none"><li>➤ Clothing and footwear</li><li>➤ Personal Protective Equipment (PPE) and COVID-19 products</li><li>➤ Exercise equipment</li><li>➤ Lithium batteries, including for electric vehicles</li></ul>	<ul style="list-style-type: none"><li>➤ Laptops and monitors</li><li>➤ Phones, including smartphones</li><li>➤ Video game consoles</li><li>➤ Toys</li></ul>

*Source: ITC, Market Access Map*

**TABLE 2 - Major US exports hit by Chinese tariffs**

<b>40-50%</b>	<b>20-30%</b>	<b>10-20%</b>	<b>1-3%</b>
<ul style="list-style-type: none"><li>➤ Autos and parts</li><li>➤ Soybeans (33%)</li><li>➤ Other farm and fish products (excl. soybeans)</li></ul>	<ul style="list-style-type: none"><li>➤ Petroleum</li><li>➤ Wood, paper, and metal products</li><li>➤ Chemicals, plastics, and rubber products</li><li>➤ Electrical machinery and equipment</li></ul>	<ul style="list-style-type: none"><li>➤ Mechanical machinery and appliances</li><li>➤ Optical, medical, and measuring instruments</li></ul>	<ul style="list-style-type: none"><li>➤ Aircraft</li><li>➤ Pharmaceuticals</li></ul>

*Source: ITC, Market Access Map*

## *The three main tools of US trade policy*

US trade policy tools fall into three main categories:

- 1) renewed use of safeguard protection, on products like solar panels and washing machines.
- 2) national security tariffs on steel and aluminum.
- 3) tariffs and other remedies to address China's potential misuse of American intellectual property, forced technology transfer, and cybertheft.



## The importance of semiconductors in trade policy

The tool number 3 seems to be at the core of the present U.S. trade policy vis-à-vis China.

*“Semiconductors are ground-zero in this technological competition and central to our new investment strategy. They drive innovation in nearly every emerging technology and support critical national security applications. The U.S. invented the semiconductor industry and once led the world in producing the most advanced chips. Today, we no longer manufacture the world’s most advanced semiconductors and produce only 10 percent of global chip capacity. Meanwhile, since 2020, nearly 75 percent of the new global capacity for certain mature chips has been added in China”* (Remarks by U.S. Secretary of Commerce Gina Raimondo on the U.S. Competitiveness and the China Challenge, U.S. Department of Commerce, November 30, 2022)

- America is falling behind in manufacturing, production is being concentrated in East Asia. The manufacturers at the industry’s cutting-edge making the most advanced chips are two firms : TSMC in Taiwan and Samsung in South Korea. Taiwan represents 85% of the world production of semiconductors.
- China is seeking self-sufficiency. China imports over \$300bn-worth of chips a year because it lacks the manufacturing capability to meet its own needs. Chips have featured in government plans since the 1950s: large subsidies were offered by the government, while top universities have amplified their chip programmes.
- The trade tool chosen by the U.S. Administrations has been an **export control policy** affecting American sales of semiconductors, software, and manufacturing equipment.

## Safeguarding US semiconductor supremacy on national security grounds

*The U.S. Department of Commerce, Bureau of Industry and Security, Export Administration Regulations (EAR)* contain the *Specially Designated Nationals and Blocked Persons ("SDN") List*, a list of names of certain foreign entities – including businesses, research institutions, government and private organizations, individuals, and other types of legal persons – that are subject to specific license requirements for the export, reexport and/or transfer (in-country) of specified items. This entity list is revised and updated on a periodic basis. The data provided through the years reveal the progression of the export control policy applied by the U.S. Administrations to China on the items concerned:

- Already with the Obama administration, American companies could not sell goods or services to the Chinese telecommunications company *Zhongxing Telecommunications Equipment Corporation ("ZTE")* without a license. Under the Trump administration, export controls prevented ZTE from buying American components for seven years.

**But the major worry involved Huawei**, whose main business is telecommunications infrastructure equipment, providing hardware for many countries' 5G (fifth generation wireless technology) networks. Huawei provided 27.5 percent of the global 5G base station market in 2019 and leads the race to develop 5G.

- In January 2019 Huawei was accused of financial fraud, money laundering, conspiracy to defraud the United States, obstruction of justice, and sanctions violations. In May, restrictions applied to Huawei's access to items produced in the United States. American companies cannot sell goods or services to Huawei without a license. In August almost 70 Huawei affiliates around the world were added to the list, while Huawei designations were expanded to include its fabless semiconductor subsidiary, HiSilicon, plus 46 new designations, pushing the total number of Huawei entities designated to over 100.

## Safeguarding US semiconductor supremacy on national security grounds, cont.

- In May 2020 further restrictions applied to Huawei's acquisition of American software and technology used in semiconductor manufacturing from foreign companies. In August, the same licensing restrictions were implemented in the case of semiconductors developed outside the US that use American software or technology as chips manufactured within the United States itself. Finally in December, US sales limitations were applied to another firm, the Semiconductor Manufacturing International Corporation (SMIC), a major Chinese semiconductor producer.
- The Biden administration not only continued this kind of policy, but it even reinforced it. In August 2022, President Biden signed the CHIPS and Science Act into law, which included billions of dollars of tax credits to foster semiconductor manufacturing in the United States and shortly afterwards additional export limits were placed on semiconductor EDA (electronic design automation) software from U.S. companies like Cadence and Synopsys and on advanced chips linked to artificial intelligence and advanced computing from Nvidia and Advanced Micro Devices. In October, new controls were applied on advanced computing and semiconductor manufacturing exports to China. License will be needed to export certain chips to China to be used in advanced AI calculations and supercomputing. The US also blocked foreign-made chips that are manufactured with American technology from being sold to China. Further controls were being placed on items China could use to develop its own manufacturing-equipment industry. By the end of the same month, the US Commerce Department added seven Chinese space, aerospace, and related technology entities to the Entity List. With this action, the Commerce Department has around 600 Chinese entities on the Entity List – more than 110 of which have been added under the Biden Administration.

## China's retaliation on export controls

After the U.S. ban of public sector procurements of Huawei, in December 2019, in a tit-for-tat move, the Chinese government instructed public organisations and state offices to replace all non-Chinese computer equipment within three years. As reported by the Financial Times, some estimates suggest that as many as 30 million separate items of computer equipment might need to be replaced. The numbers may even be larger, due to the complex connections between the public and private sectors in China.

However, apart some counter-sanctions on a few American citizens and entities using a new anti-foreign sanctions law, China's actions have been characterized prevalently by the enactment of new legislation. Starting from 2017, the Chinese Ministry of Commerce ("MOFCOM") and China's Standing Committee of the National People's Congress ("NPC") published various revised versions of the drafts of the **Export Control Law** of the People's Republic of China (by the end of 2020 collectively known as the "Draft Laws"). China's Export Control Law is the first comprehensive export control legislation that will regulate the export of sensitive materials and technologies from China to overseas, obliging both Chinese exporters and foreign customers to scrupulously comply to Beijing's export control policy or be liable to penalties. More recently, China's State Council released a white paper on China's export control regime, laying out China's policy objectives (State Council Information Office of the People's Republic of China, white paper, "China's Export Controls", December 29, 2021), saying that "China maintains a **holistic approach** to national security, which means coordinating development and security, opening up and security, traditional security and non-traditional security, and China's own security and the security of others."

One should finally note that the import and export of technologies is covered by a separate set of regulations, i.e., the Regulations for the Administration of the Import and Export of Technology ("**Technology Regulations**") that require licences for the export of, amongst others, artificial intelligence interactive interface technologies; speech synthesis and evaluation technologies; scanning and photo recognition technologies; cryptographic security technologies; information countermeasure and defence technologies; laser technologies; and space and aerospace-related technologies.

## China's retaliation: no published entity list yet, but broad discretion

In May 2019 the Ministry of Commerce announced that China would introduce an “unreliable entity list” characterized by the following factors: (a) whether such entities have implemented a blockade, cut-off of supplies, or other discriminating measures targeting Chinese entities; (b) whether such entities’ conducts are based on non-commercial purpose and violate market rules and the spirit of contract; (c) whether such entities’ conducts have caused substantial damage to Chinese companies or relevant industries; (d) whether such entities’ conducts pose a threat or potential threat to national security.

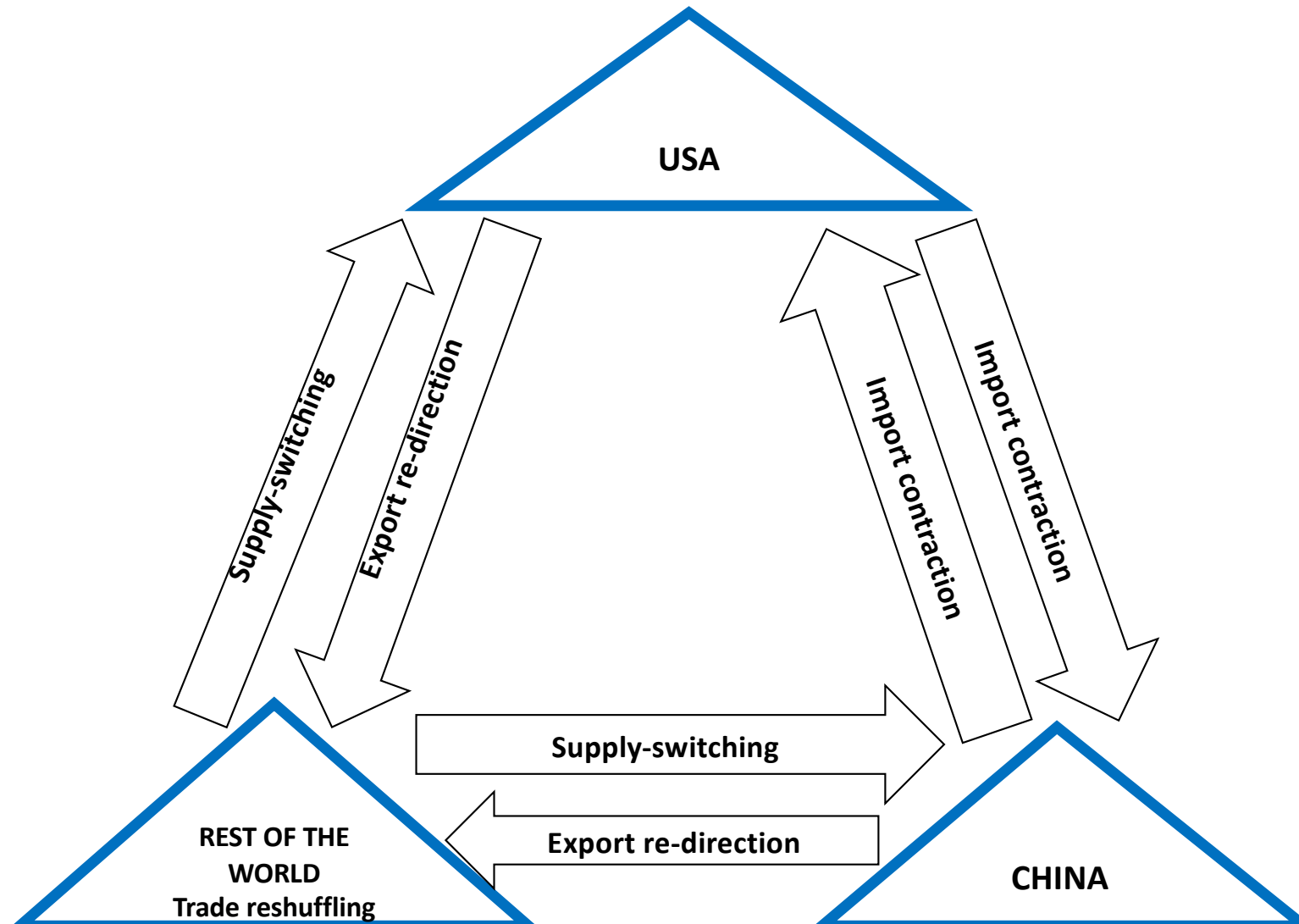
Unlike its U.S. counterpart, China’s Ministry of Commerce has **not yet published a list of U.S. entities** that would be the target of retaliation.

However, the implementation of China’s Export Control Law may provide China with ample ammunitions to counter U.S. export control measures targeting China. Among others, it formally introduces trade concepts such as embargoes and “blacklists,”; it allows national export control authorities to conduct an assessment of countries and regions where controlled items are exported, identify the level of risks, and take corresponding control measures; it makes it possible for national export control authorities to ban the export of certain items or to certain countries or regions or to certain persons (both individuals and entities), in order to “safeguard national security”; finally the reference to extraterritoriality means that China’s new export control regime, if and when the extraterritoriality is enacted, will impact businesses within and outside China that deal with Chinese controlled items.

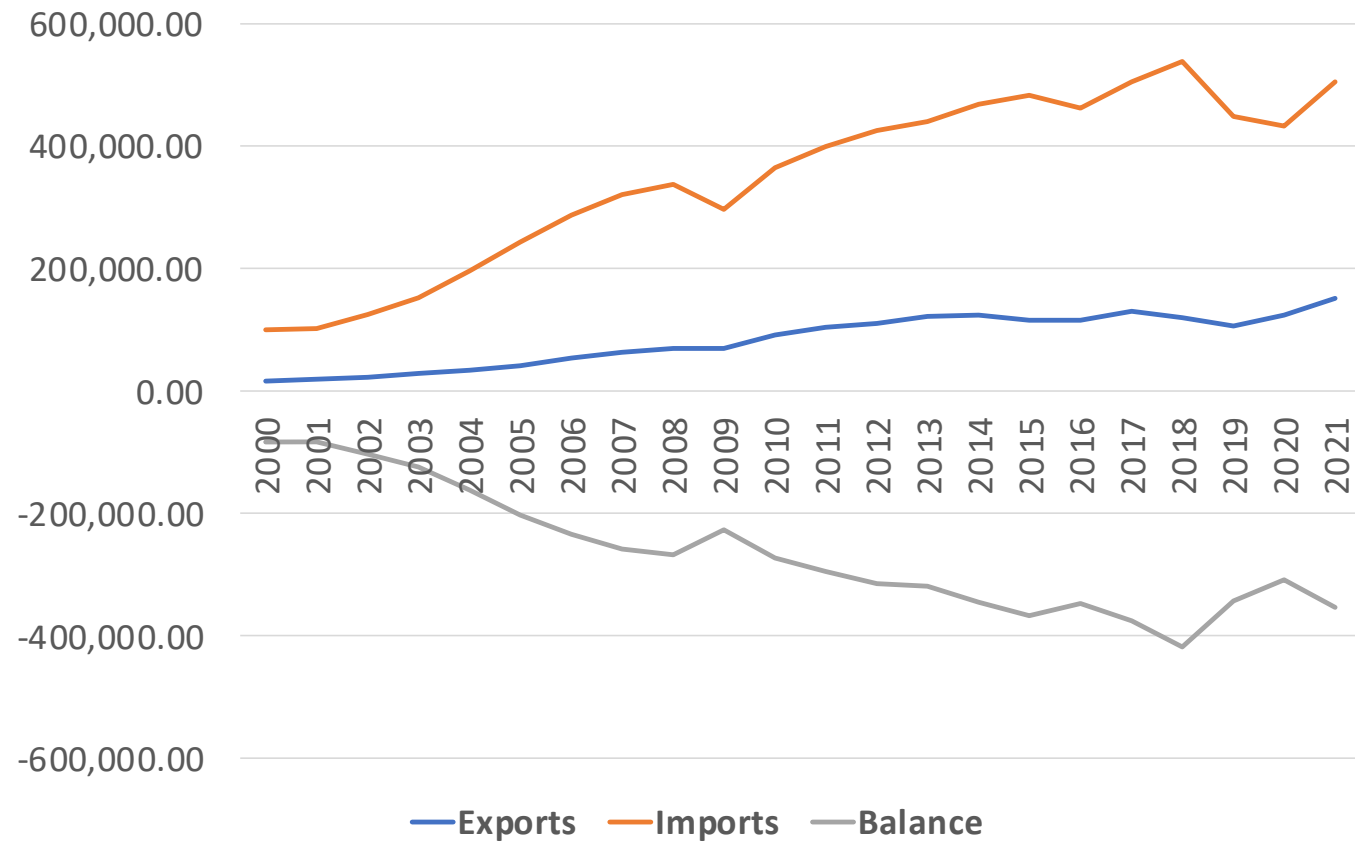
All these features provide a legal framework and **broad discretion** for China to impose export control measures whenever it wants. Together with licences, controls and the like, they make the compliance to the China’s new export control regime a very time consuming, cumbersome and uncertain process for the firms involved.

## ***THE IMPACT OF THE TRADE WAR***

*The fourfold impact of the trade war on trade flows and some unintended short-term consequences*



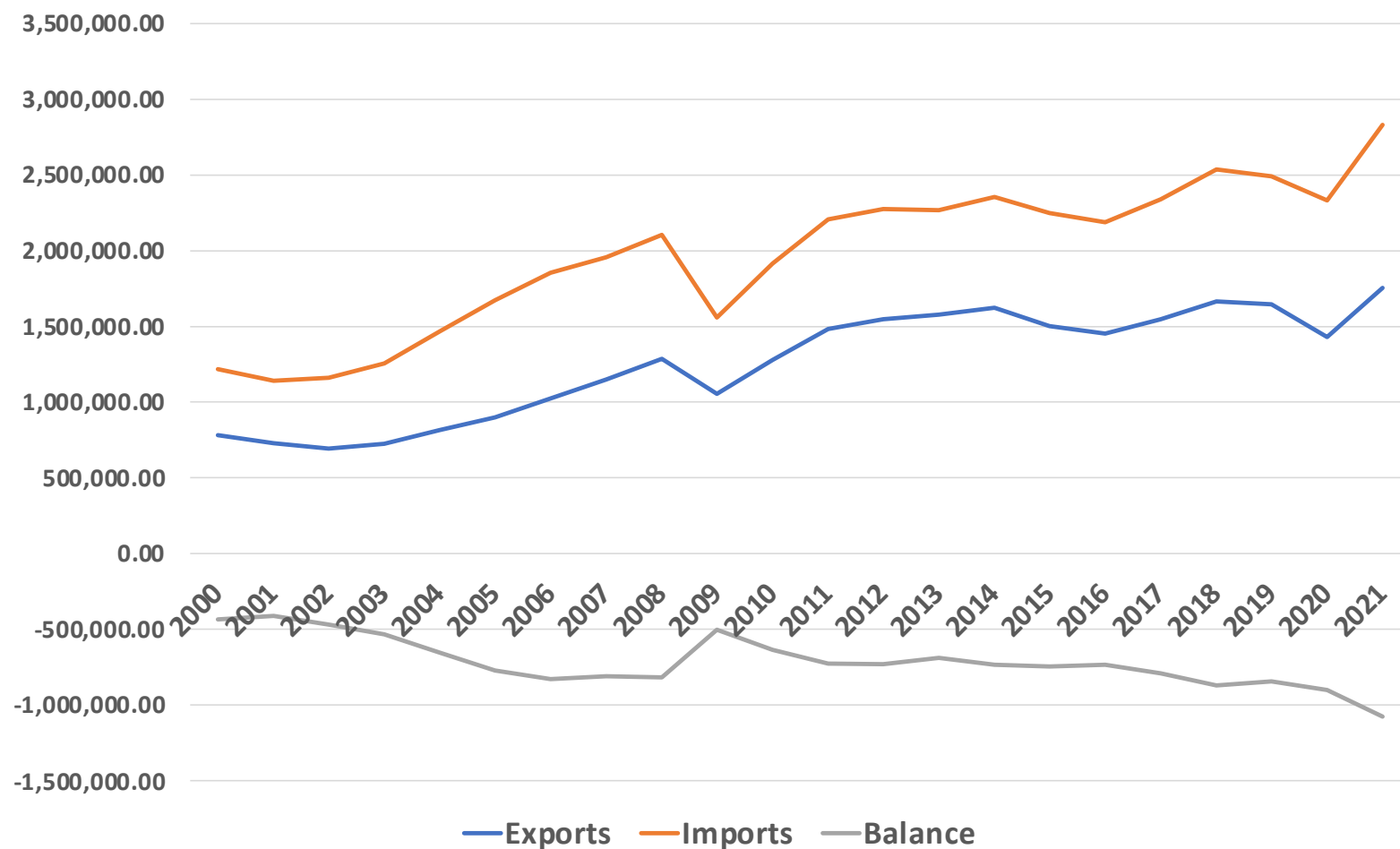
**CHART 1 - U.S. trade in goods with China**  
*(in millions of U.S. dollars on a nominal basis)*



Source: calculated from U.S. Census Bureau



CHART 2 - U.S: trade in goods with World, seasonally adjusted



Source: calculated from U.S. Census Bureau



Source: calculated from U.S. Census Bureau

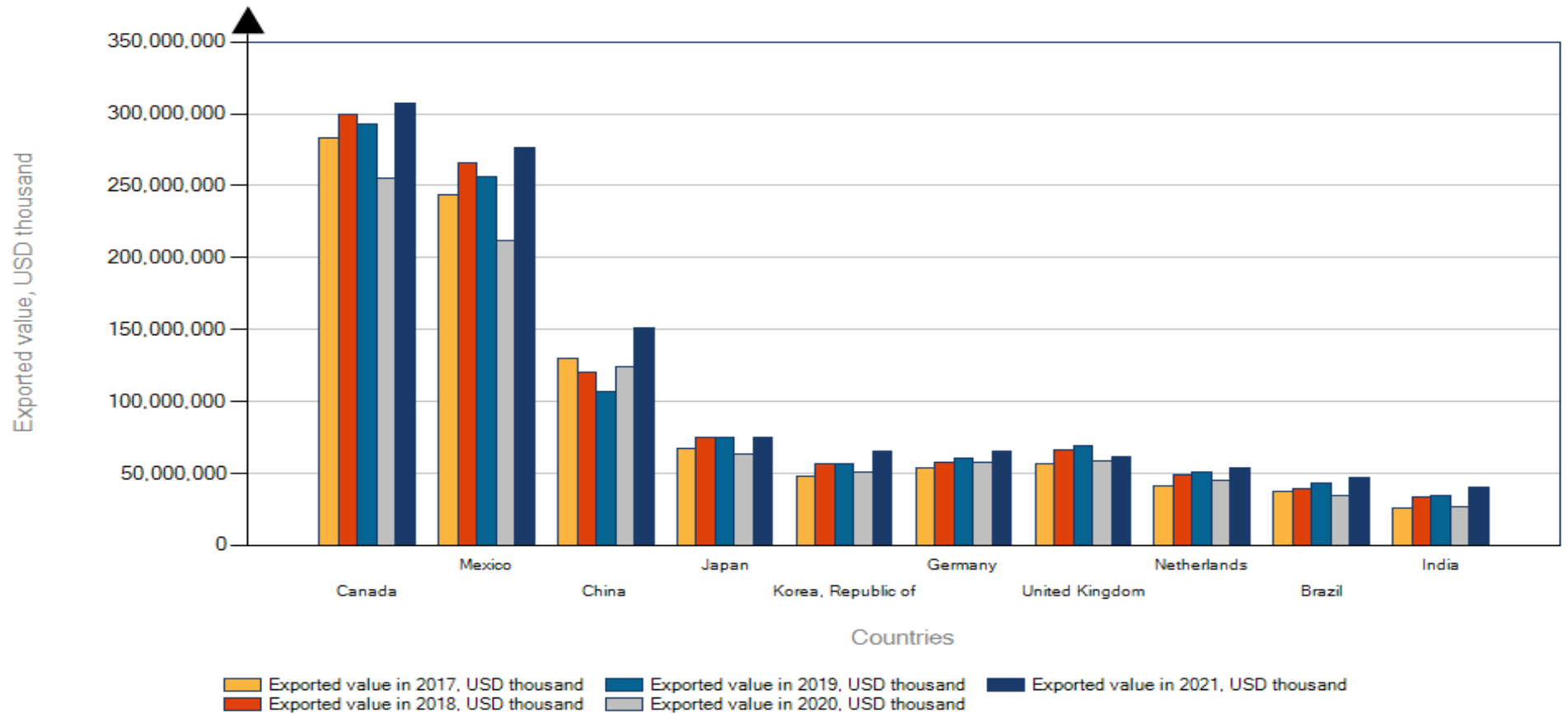
## Winners and losers in the trade war

### *In the short term:*

- **Winners in the US:** domestic steel and aluminium producers, other protected industries and the US government (through the tariff revenues). But these gains are more than compensated by losses of millions of consumers plus the losses of producers who suffer from the price increase of their inputs.
- **Winners in the rest of the world** through export re-direction and supply-switching: apart from some advanced countries (EU, Canada, Australia), Mexico and Argentina in Latin America; Vietnam, Malaysia, South Korea, Taiwan, Singapore, India, Pakistan and Thailand in Asia (charts 4-7).
- **Losers:** these gains are more than compensated in the US by losses of millions of consumers plus the losses of producers who suffer from the price increase of their inputs. China appears to be a big loser altogether, apart from the tariff revenues accruing to the government.
- **So, of the two contenders, neither side has really won, on a net basis.**

## CHART 4 - US total exports by main destination, 2017-2021

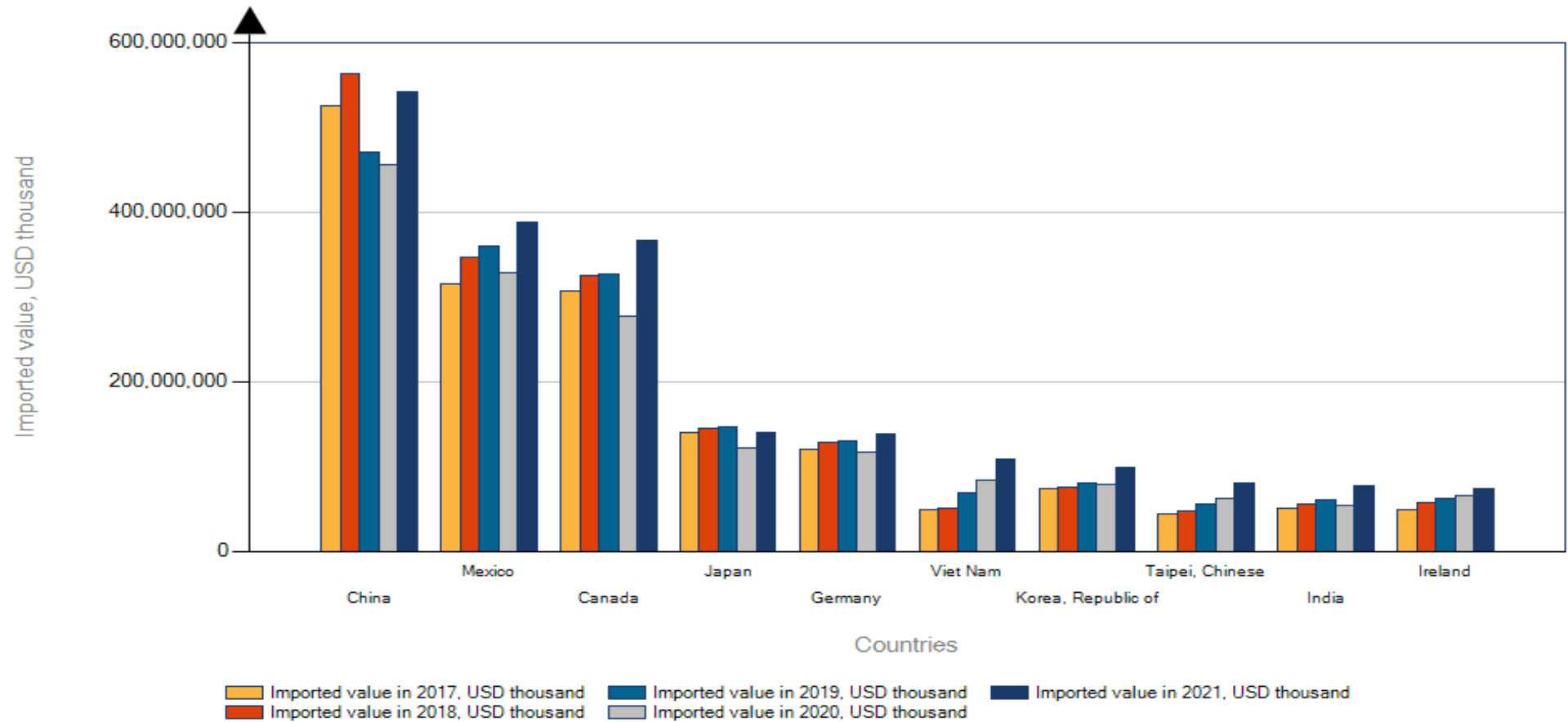
List of importing markets for a product exported by United States of America  
Product: TOTAL All products



Source: calculated from U.S. Census Bureau

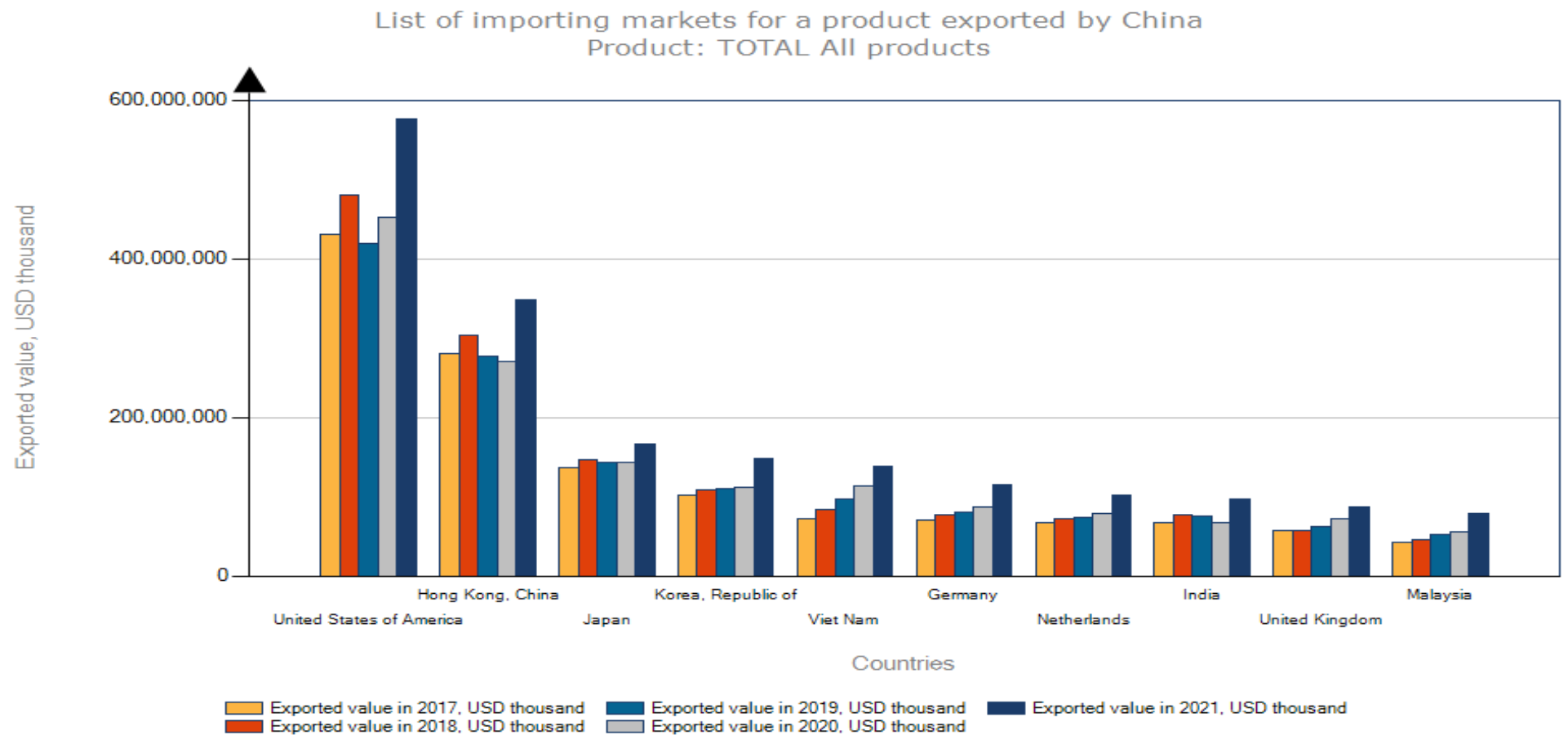
## CHART 5 -US total imports by main supplying markets, 2017-2021

List of supplying markets for a product imported by United States of America  
Product: TOTAL All products



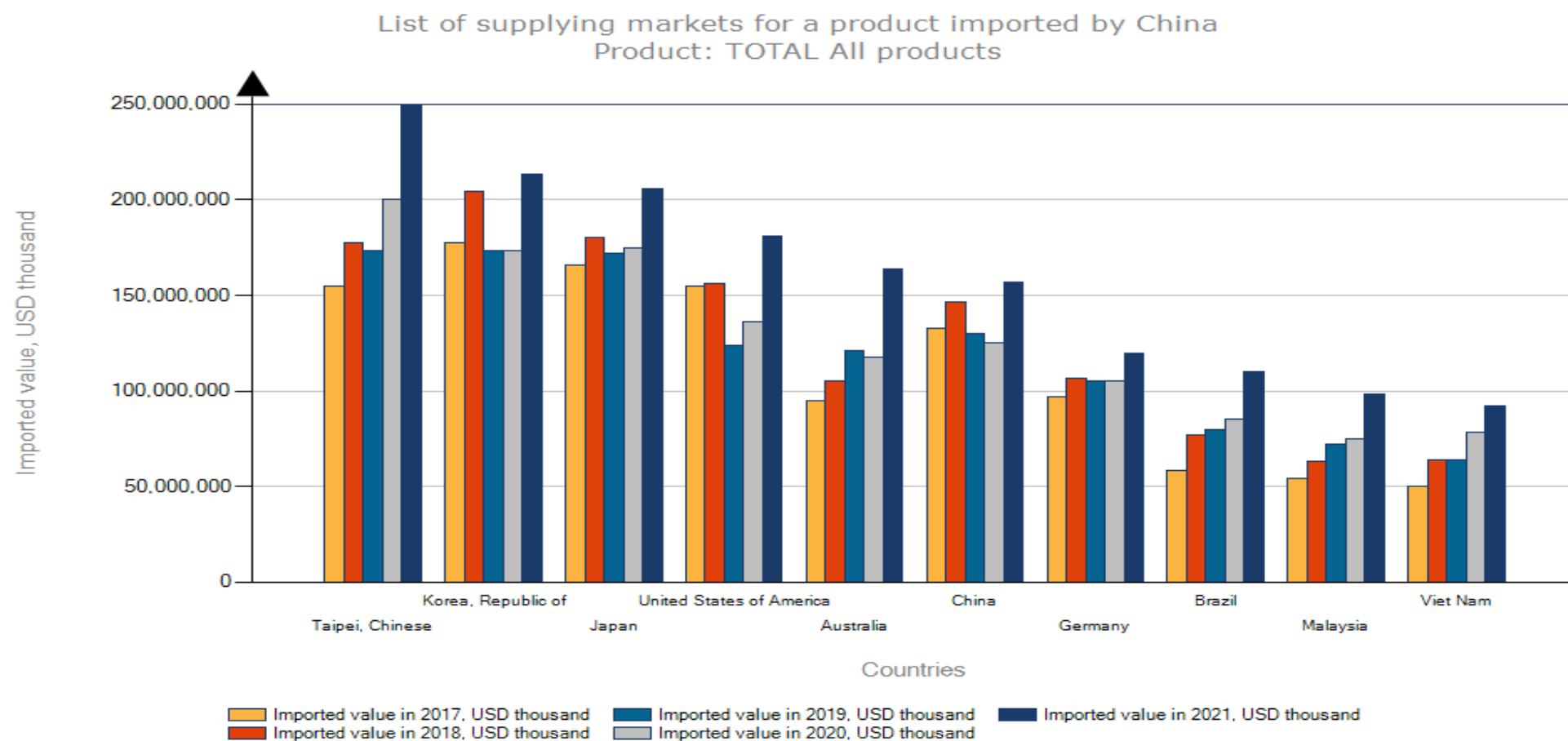
Source: calculated from U.S. Census Bureau

## CHART 6 - China's total exports by main destination, 2017-2021



Source: calculated from U.S. Census Bureau

## CHART 7 - China's total imports by main supplying markets, 2017-2021



Note: in this graph the sixth main supplying market, China, stands for Hong Kong, China.

Source: calculated from U.S. Census Bureau

## The costs for China

- ❖ In the short run, China's total exports to the US went down (see chart 6). The decline was particularly sharp in all the groups of products on which tariffs were imposed, concerning, inter alia, many intermediate products, auto parts, machinery, rubber and plastics.
- ❖ Moreover, China's retaliatory tariffs on US goods ended up hurting Chinese importers of those goods.
- ❖ However, China seems to have succeeded in re-directing a substantial amount of exports away from the US towards other destinations. The largest amount was destined to the EU. Among the emerging countries, Vietnam and Malaysia come way in front of the others, followed by Taiwan and Mexico (see chart 6)
- ❖ Some Chinese-headquartered firm may have moved, through a subsidiary, to other locations, like Vietnam, in order to avoid tariffs. So there could have been a loss of Chinese employment at the assembly line. But, if the product continues to use the same amount of intermediate inputs from Chinese suppliers, the loss will be limited. US tariffs may not be the only cause: some labour-intensive production was likely relocating anyway, because China was losing competitiveness in those industries.
- ❖ In the longer term, the U.S. export control policy could substantially impair China's domestic chip industry – at least until it is able to produce these components on its own.



## US losses due to China's retaliatory tariffs

- as China imposed retaliatory tariffs, the **US total exports to China declined** (see chart 1). The sectors most affected were agricultural commodities and products, chemicals, motor vehicles, various types of machinery, paper waste and cotton.
- Chinese tariffs on US manufacturing exports made it **harder for many American companies to maintain their access to the Chinese market**.
- There were a few cases of **hollowing out the US manufacturing base**. In July 2018, China retaliated with a 25 percent tariff on US autos, while it simultaneously lowered its auto tariff on imports from the rest of the world. US exports to China fell by more than a third. Tesla accelerated construction of a new plant in Shanghai, arguing that the uncertain trade picture, made it no longer competitive to manufacture electric vehicles destined for China in the United States. For similar reasons, BMW shifted some production destined for China out of South Carolina.

## Some unintended consequences: economic costs to the United States of its own tariffs

- Trade wars have **redistributive effects at the level of firms**: they protect specific import-competing industries, but other related downstream sectors will lose due to the higher costs associated. Tariffs on inputs like steel, aluminium, or the hundreds of “parts”, enter the US goods manufacturing process, frequently through cross-border supply chains and are then exported by the USA to third markets.
- Raising the prices of intermediate inputs **raises the costs to downstream US industries and makes American firms less competitive both in the North American and global markets.**
- These **price hikes are then passed onto consumers or eat into profits.**

### ❖ *Costs on consumers:*

- ❖ higher prices
- ❖ lower volume
- ❖ reduced access to foreign varieties

which **outweigh the limited gains to local producers** who face less import competition.

## Eight possible negative implications of the US export control policy

- 1) companies now face pressure to avoid setting up semiconductor, software, or toolmaking facilities in the United States. Even firms currently manufacturing in the United States may explore moving production and activities offshore to escape US export controls.
- 2) substitutes from the world's other major equipment providers are currently available from other countries that are not subject to controls. Japanese or Dutch suppliers of competing semiconductor manufacturing equipment suddenly look more attractive to foundries in foreign countries.
- 3) major foreign consumers of US-made semiconductors may look elsewhere in the future, concerned that their supplies will get cut off, even if they make products that do not pose a national security risk.
- 4) requires a new US bureaucracy, creating concerns over preferential treatments, non-transparency and discrimination.
- 5) cutting off an important revenue source for American chipmakers, software designers, and toolmakers jeopardizes the research and development (R&D) that supports thousands of American jobs. Less R&D also means less American innovation.
- 6) forces the industry to demand tens of billions of dollars of new federal subsidies as compensation.
- 7) China is likely to retaliate with its own export controls.
- 8) gives China an incentive to develop its own alternatives faster.

## On the whole several WTO rules and practices have been undermined

- ❖ Until the recent past, most of the US trade disputes were treated through the WTO, but not by the Trump administration.
- ❖ Moreover, the United States had established a long-term strategy of writing new trading rules through megaregional agreements like the proposed Trans-Pacific Partnership, to address many of the limitations of current trade agreements. These rules were written with China in mind, anticipating that economic incentives would push Beijing to seek accession to the agreement. President Trump withdrew the United States from the TPP agreement, while now China is considering to enter it.
- ❖ The Trump administration kept and even expanded only the first part of the previous US trade policy strategy, i.e. tariffs, completely reneging on bilateral, plurilateral, and multilateral forms of engagement with China on trade. The Trump administration's refusal to appoint new members to the WTO's Appellate Body effectively ended the agreed-upon rules within the WTO.
- ❖ The Biden administration has kept the level of tariffs established under the previous administration and has hardened the export policy control. In words, it wants to return to the WTO and to multilateral negotiations. It lifted the tariffs on allied countries, but did not contribute so far to nominate the missing member of the Appellate Body and has not signed into the Pacific Partnership agreement.
- On the other end, China retaliated outside the WTO rules, while declaring to formally abide by the WTO trade rules and betraying them in practice.
- As a result the two largest partners of the trading system are no longer respecting the WTO rules.

## ***FACTORS PAVING THE WAY FOR THE TRADE WAR***

## The 4 main ingredients of the “economic embrace” since China’s opening to the world



## Trade conflicts before the 2018 war

The relationship was not smooth. Both competitors contributed to the onset of the conflict. China's admission into the WTO, while giving an important boost to this embrace, marked at the same time the first crack in the story.

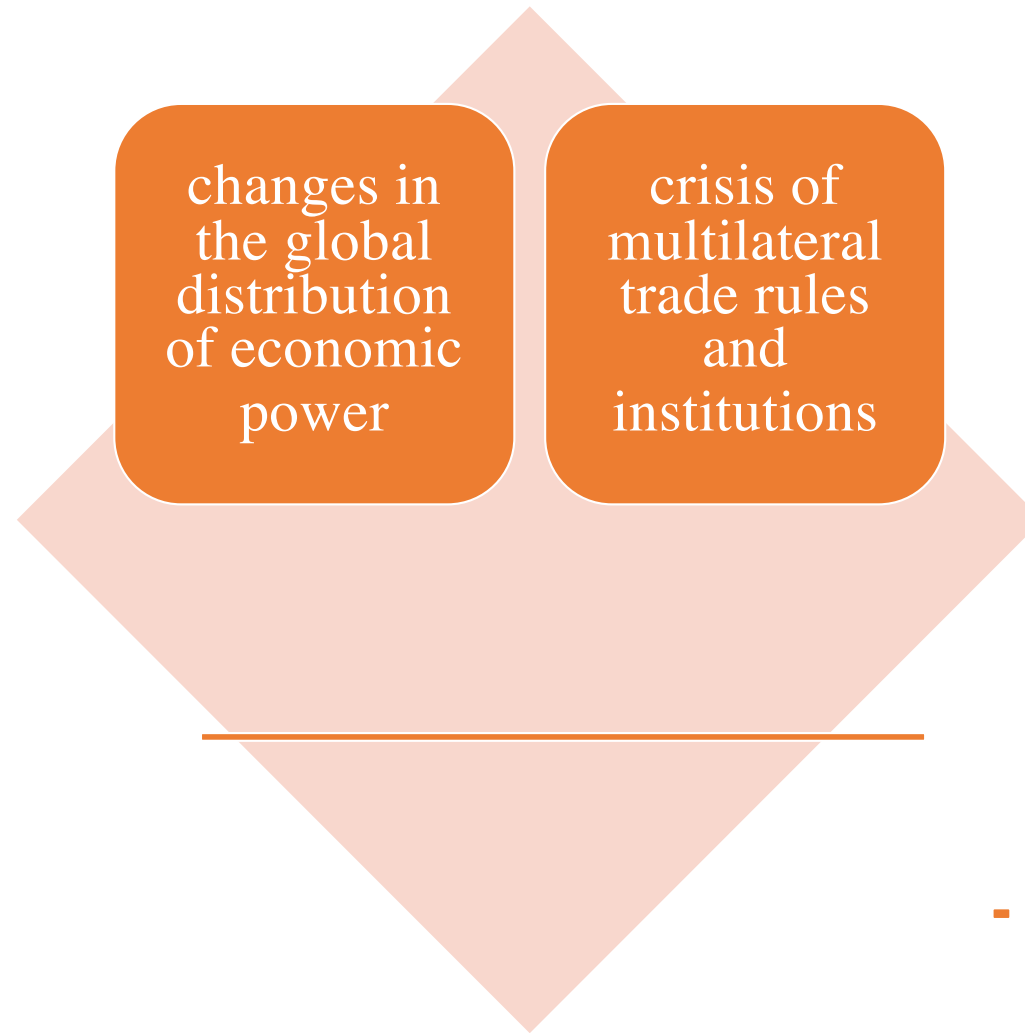
When China acceded to the WTO, it voluntarily agreed to accept the WTO's open, market-oriented approach and to embed it in China's trading system and institutions. During the decade and a half following its WTO entry China continued with reforms, becoming more market oriented. But later, especially with the first Presidency of Xi Jinping in 2013, the process of reforms started slowing down, in favour of a (party)state-led, non-market approach to the economy. In numerous instances, China appeared to be violating, disregarding and evading WTO rules to achieve its industrial policy objectives through "unfair trade practices", including preferential treatment for state enterprises, data restrictions, inadequate enforcement of intellectual property rights and cyber theft.

For a long time this Chinese behaviour of formally abiding by the WTO trade rules and bignoring them in practice was tolerated by the other partner because of convenience. American multinationals were too eager to expand their business and the US governments did not feel the threat deriving from a country still considered in the developing stage.

Trade conflicts arose soon: the US launched 27 cases at the WTO against China and secured victories in every case that was decided. At the same time, even after China's entrance into the WTO, tariff protection (under the technical and more neutral term of "trade remedies") was used by the US against increasing imports from China. Apart from tariffs, before the Trump administration the United States used a double negotiating approach in order to push China to continue its path of liberalization and market reforms: bilateral investment treaty negotiations and high-level bilateral meetings, on one hand, and indirect pressure, on the other, through the negotiation of regional agreements.

Then came the trade war launched by the Trump administration.

## Main international factors paving the way for the trade war





**TABLE 3 -The global shift in the world economy: the recent past**  
**GDP in PPPs, % of world total and rankings, main countries, 1983 and 2018**

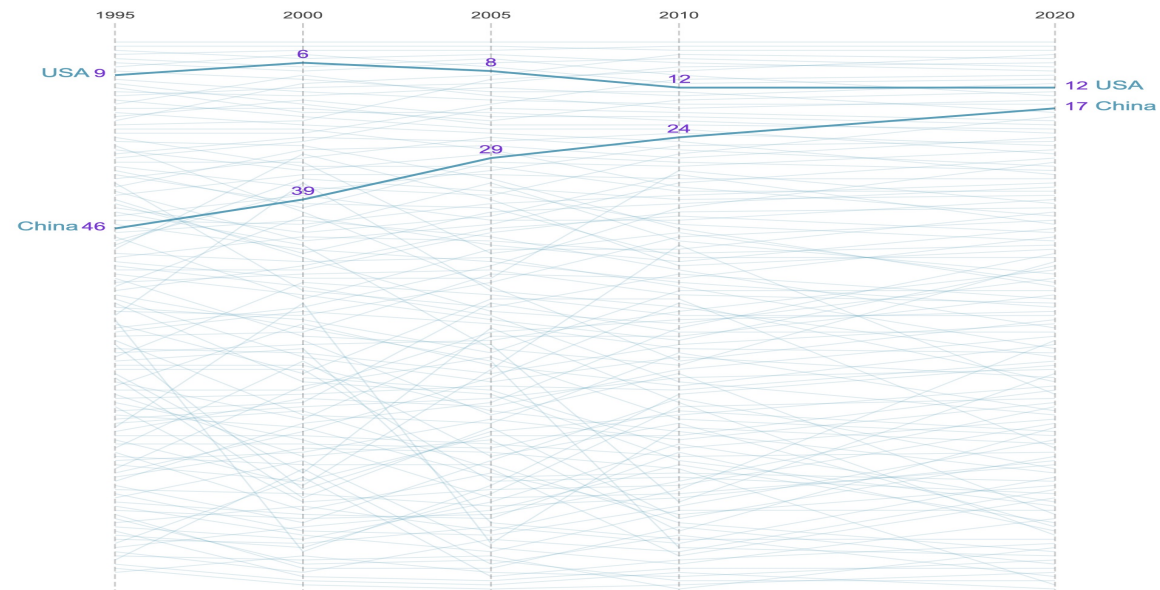
	1983		2018	
	ranking	% of world	ranking	% of world
United States	1	22.0	2	15.2
Japan	2	8.1	4	4.2
Germany	3	6.4	5	3.2
France	4	4.7	10	2.2
Italy	5	4.3	12	1.9
Russia	6	4.2*	6	3.2
United Kingdom	7	3.9	9	2.2
Brazil	8	3.4	8	2.5
India	9	3.3	3	7.7
Mexico	10	3.0	11	1.9
China	11	2.8	1	18.7
Canada	12	2.4	16	1.4
Spain	13	2.3	15	1.4
Indonesia	14	1.0	7	2.6
Korea (South)	15	0.9	14	1.6
MEMO:				
Advanced economies	63.8		41.9	
Emerging market and developing economies	36.2		58.1	
NOTE: * data for Russia refer to 1992				
Source: calculated from IMF, World Economic Outlook Database, October 2018 ( IMF staff estimates)				

**TABLE 4 - The great shift: major exporting countries, 2020 vs 1980, \$bn**

Rank in 2020		2020	Rank in 1980
1	China	2591	(24)
2	United States	1432	(1)
3	Germany	1380	(2)
4	Netherlands	674	(8)
5	Japan	641	(3)
6	Hong Kong	549	(20)
	<i>Domestic exports</i>	35	
	<i>Re-exports</i>	514	
7	South Korea	512	(26)
8	Italy	496	(7)
9	France	488	(4)
10	Belgium	419	(10)
11	Mexico	418	(30)
12	United Kingdom	403	(5)
13	Canada	391	(9)
14	Singapore	363	(21)
	<i>Domestic exports</i>	158	
	<i>Re-exports</i>	205	
15	Taiwan	347	(25)

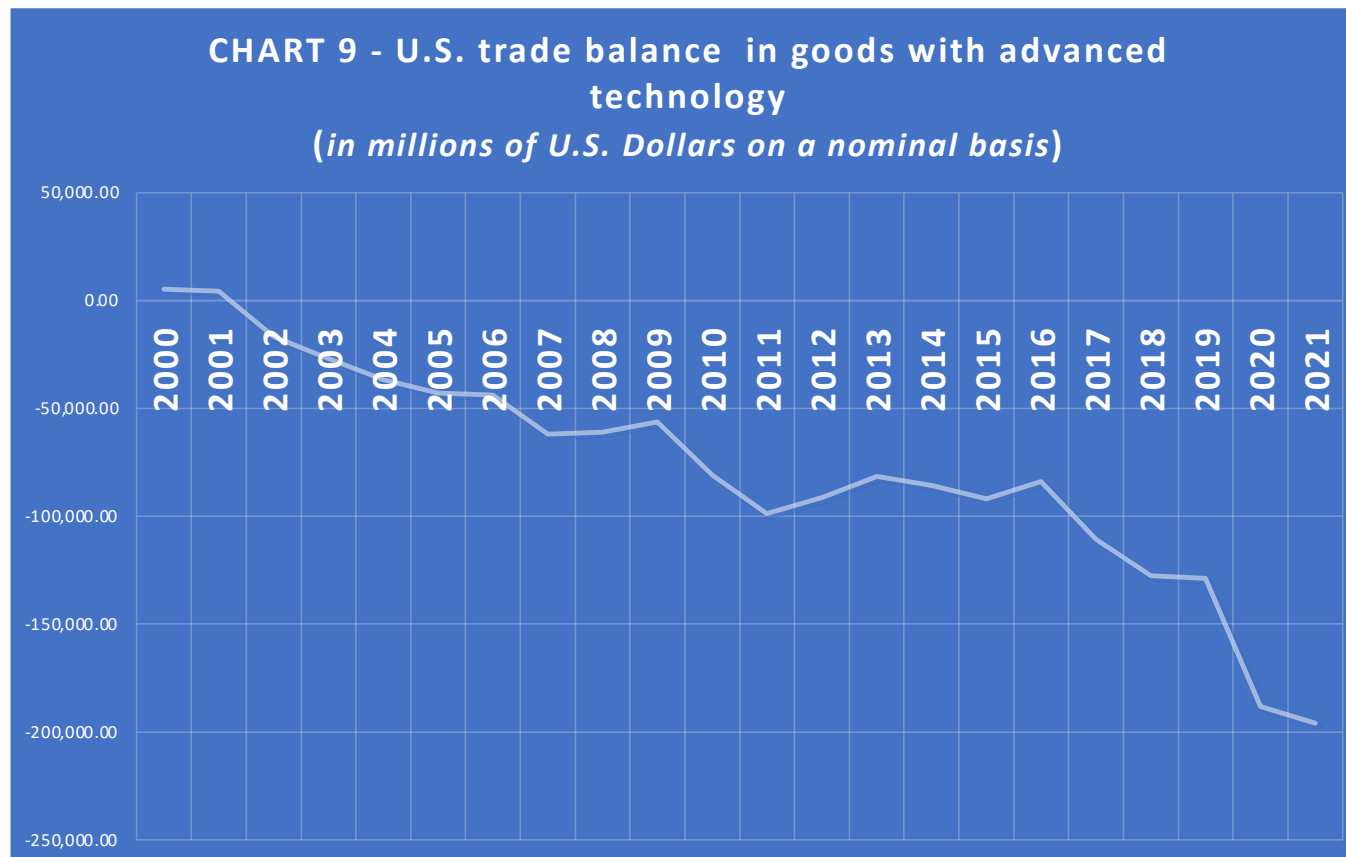
Source: WTO for 2020 and IMF, Direction of Trade for 1980 Statistics. Rounded figures for 1980.

## CHART 8 - Economic complexity index ranking



Economic complexity is a measure of the knowledge in a society as expressed in the products it makes. The economic complexity of a country is calculated based on the diversity of exports a country produces and their ubiquity. Countries that are able to sustain a diverse range of productive know-how, including sophisticated, unique know-how, are found to be able to produce a wide diversity of sophisticated goods, including complex products that few other countries can make.

**Source:** HARVARD GROWTH LAB. at the Center for International Development (CID), Harvard University. In 2015-2020 China gained 4 positions, the USA lost 3 positions.



**Source: calculated from U.S. Census Bureau.** According to the Foreign Trade Division of the U.S. Census Bureau, the term Advanced Technology Products (ATP) refers to about 500 of some 22,000 commodity classification codes used in reporting U.S. merchandise trade. They meet the following criteria: products whose technology is from a recognized high technology field (e.g., biotechnology); products representing leading edge technology in that field. This product and commodity-based measure of advanced technology differs from broader industry-based measures which include all goods produced by a particular industry group, regardless of the level of technology embodied in the goods.

## The rise of China as a technological powerhouse

Since the early days of the Cold War, the United States has led the world in technology. Until the beginning of this century, its balance in goods with advanced technology used to be positive, but started to be increasingly negative ever since (see chart 9).

Over the past two decades, China has evolved from a country that largely imitates technology to one that now also improves and even pioneers it.

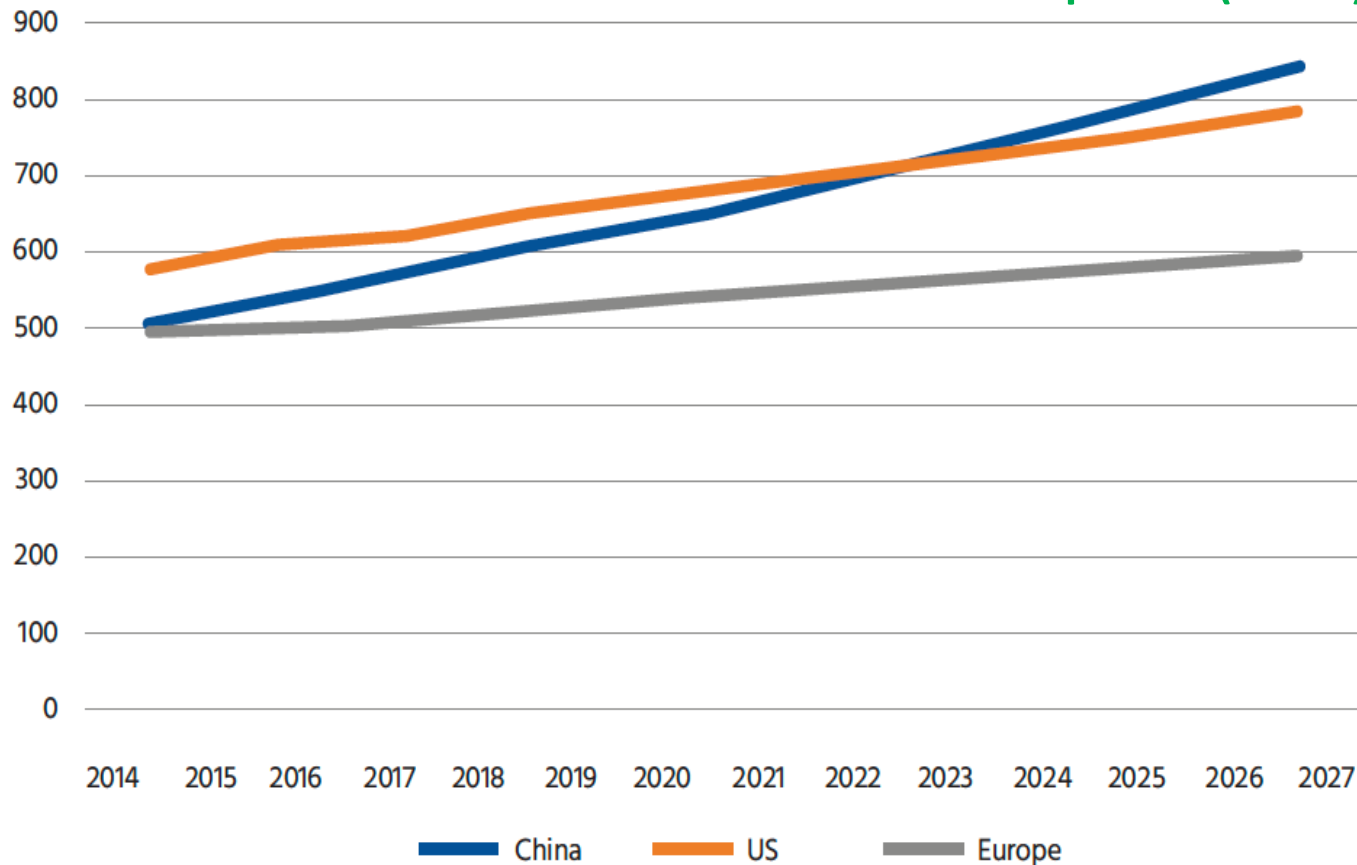
This is the result of the state's deliberate, long-term focus. China has invested massively in R & D. If current trends continue, China is expected to overtake the US in such spending by 2025 (see chart 10).

In recent years China has undertaken an impressive investments in robotics, artificial intelligence, microelectronics, green energy.

Central to China's drive has been a strategy of "military-civil fusion," a coordinated effort to ensure cooperation between the private sector and the defense industry. Support might come in the form of research grants, shared data, government-backed loans, or training programs. The government is creating whole new cities dedicated solely to innovation.

The competitive threat from China encompasses semiconductor manufacturing, 5G technologies and synthetic biology, as well as AI and machine-learning.

**CHART 10 - Gross domestic expenditures on research and development (GERD)**



China's global R&D expenditure has increased enormously in recent years. **Today, spending on domestic R&D is the second-highest figure in the world,** behind the United States, but some forecasts say that it will surpass it in the coming years.

Chinese R&D expenditures **as a share of GDP amount to 2.2%,** still lower than the US (3%), but on the increase, having just surpassed the EU27 (2.1%).

## AI, a race for global domination

- Chinese researchers are publishing more scientific papers in the field of AI than American ones do.
- Chinese companies, like Ali-baba, Baidu, Tencent, SenseTime, have woven a global web of data-gathering apps that collect Chinese and foreigners' private information. **Important linkage between access to this enormous amount of data and innovation.**
- the **'Thousand Talents Program'** targets high-level scientists and other experts from overseas, including foreign scientists. It offers significant financial support to relocate to China for conducting research in high-tech industries and technologies of the future.
- **supports "national champion" firms** (including Huawei, Baidu, Alibaba, Tencent, iFlytek, and SenseTime) to lead development of AI technologies at home, advance state-directed priorities that feed military and security programs under the rubric of military-civil fusion, and capture markets abroad
- funds massive digital infrastructure projects across several continents
- **is trying to set global technical standards for AI development.**

*The chairman of a special US commission on artificial intelligence recently warned the Congress that the **United States is only one to two years ahead of China in developing artificial intelligence.** For the near future, the **US is likely to remain the world leader in AI, but trends are concerning.***

## But China still lags behind in many tech sectors

- She is not technology leader in the main economic sectors, although she is runner up in more than half of them
- does not appear among the 10 most innovative economies in the world
- lags far behind as far as robot density in the manufacturing industry is concerned
- depends on imports of some core technologies: more than half of purchases of foreign R&D comes from only three countries — United States, Japan, and Germany
- The US still appears to lead in the "creation" stage, that produces the breakthroughs in core technology or invention of new paradigms for user interaction



## The crisis of multilateral trade rules and institutions paving the way for the trade war

- growing outdatedness or obscurity of WTO rules (i.e. on subsidies) and controversies associated with its dispute settlement mechanism. At present, non-functioning of the Appellate Body.
- the WTO litigation represents a complex and cumbersome process.
- the stalemate of the Doha negotiations and the lack of progress in multilateral trade liberalization is also due to the fact that the negotiated agreements often do not cover some of the most salient trade issues in the twenty-first century, including issues such as SOEs, services trade, IPR protection and industrial policy. This has created incentives for major powers to address their concerns by resorting to the unilateral exercise of power.
- American frustrations with the ineffectiveness of the WTO to discipline China's market-distorting behaviour and to facilitate the convergence between the Chinese and Western economic models: when China acceded to the WTO, it voluntarily agreed to embrace the WTO's open, market-oriented approach and to embed it in China's trading system and institutions (whether these commitments were realistic or not in the first place is not being discussed here. The fact remains that they were accepted by both parties).

***IS DECOUPLING TAKING PLACE?***

## Decoupling: the evidence so far

If we look at trade data provided by the U.S. Census Bureau, some decoupling has taken place. In 2017, before the onset of the trade war, China represented 21.8% of global US goods imports. In 2021 it was down to 18.4%. At the product level, as expected, the trade war has had the largest impact on imports from China of products hit with the highest US tariffs, mostly intermediates, largely related to the technological sphere. But many other imports, where no or very low US tariffs were applied, like laptops and computer monitors, phones, video game consoles and toys gained market shares (see tables 1 and 2 on the applied tariffs). On the other side, U.S. exports to China increased from 8.4% to 8.6% of total U.S. exports to the world, in the respective years, largely pulled by American goods not affected by Chinese retaliatory tariffs.

Data provided by the General Customs Administration of China show that in 2017 the U.S. constituted 19% of China's global goods exports. In 2021 it was down to 17.2%. On the import side, in 2017 the U.S. represented 8.4% of China's imports from world, going down to 6.8% in 2021. In the case of China, while some delinking is taking place with the U.S., data provided by the WTO show that **China is still one of the main hubs of global value chains** (see table 5).

Although trade presents contrasting evidence on decoupling between the two superpowers, **the main ingredients of the “economic embrace” are still there:**

- masses of Chinese cheap consumer goods are still flooding the US market (as an example, 74 percent of US imports of phones are still sourced from China) representing an enormous benefit for American consumers
- at the same time they continue to fuel China's export-led growth, providing it with millions of jobs
- US FDI in China, after decreasing in 2019, have continued the upward trend. Chinese FDI decreased slightly in 2018 and 2020, but resumed in 2021. There is some anecdotal evidence on reshoring and nearshoring, but it does not appear to be a tide
- China is still the second world holder of US debt behind Japan

**TABLE 5 - Trade in intermediate goods (IG), 2021**

Top IG exporters			
Rank	Exporter	US\$ bn	YoY change (%)
1	China	418	33
2	United States	213	17
3	Germany	177	8
4	Hong Kong, China	130	24
5	Korea, Rep. of	110	23
6	Japan	102	10
7	Chinese Taipei	92	26
8	Netherlands	83	22
9	Belgium	74	39
10	Singapore	71	21
11	France	65	20
12	Italy	65	9
13	United Kingdom	63	34
14	Canada	54	15
15	Malaysia	52	28

Source: Trade Data Monitor.

Top IG importers			
Rank	Importer	US\$ bn	YoY change (%)
1	China	439	19
2	United States	268	24
3	Germany	154	15
4	Hong Kong, China	128	25
5	India	89	42
6	Japan	81	29
7	Korea, Rep. of	81	31
8	Netherlands	78	26
9	Mexico	75	23
10	France	72	16
11	United Kingdom	71	-12
12	Italy	67	24
13	Belgium	64	36
14	Singapore	63	23
15	Chinese Taipei	60	29

Source: Trade Data Monitor.

**Note:** IG are inputs used to produce a final product. They range from crops used in food production to textiles and metals needed to manufacture goods. Trade in IGs is an indicator of activity in supply chains. The share of IGs in total trade (excluding fuels) in Q4 2021 was 51 per cent, a ratio that has remained constant over the last decade.

**Source:** WTO

## **Decoupling as a policy objective?**

**Even if a clear decoupling does not appear in the data provided above, some future technological delinking of the two superpowers might be suggested by the new directions taken by their policy.**

## China's position

- President Xi Jinping at the 20th National Congress of the Chinese Communist Party speaks of *“fighting spirit”*, *“national rejuvenation”* *“strategic opportunities, risks and challenges”* *“prepared to deal with worst-case scenarios”*, *“potential dangers”*, *“be ready to withstand high winds, choppy waters and even dangerous storms”*. *“No matter what stage of development it reaches, China will never seek hegemony or engage in expansionism”* but *“increasing China's international standing and influence and enabling China to play a greater role in global governance”*.
- At the same time the two key components of his domestic development strategy (the so-called **double circulation**) seem to be the **expansion of the internal market and technological self-sufficiency**. This might imply a reorganisation of the global value chains.
- One important card: the Regional Comprehensive Economic Partnership (RCEP), the world's largest trade agreement among 15 countries, representing about 30% of world GDP, global population, and total trade flows. It constitutes China's first mega trade agreement, it creates for the first time preferential trade flows amongst the three largest Asian economies (China, Japan, and the Republic of Korea). **RCEP might signal a push toward diversifying trade away from the United States in favour of intra-Asian commerce.**

## The U.S. position

Apart from paying lip service to WTO trade rules, the Biden Administration's trade policy toward China shows considerable continuity in respect to the previous administration. It speaks of *"increasing competition from an ambitious and expansive China."* *"China's actions pose a threat to a rule-based order"* *"a significant imbalance in our trading relationship"* *"Buy American"* policy for government procurement.

### The US **strategic approach**:

- engage China on the United States' most fundamental concerns with China's state-led, non-market approach to the economy and trade, which includes China's industrial policies.
- update or create new domestic trade tools necessary to secure a more level playing field for U.S. businesses.
- **work more intensely and broadly with allies and like-minded partners** (*this is one notable difference from the previous administration*)
- bolster supply chain resiliency to mend disruptions and major vulnerabilities
- all out attack on China's technological capabilities, trying to prevent Chinese companies from not only having access to the latest high-performance chips and technology, but from having the ability to manufacture comparable technology itself.
- launching the Indo-Pacific Economic Framework (IPEF) - with Australia, Brunei Darussalam, Fiji India, Indonesia, Japan, the Republic of Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand, and Vietnam - aimed at "expanding US economic leadership" – and therefore curbing Chinese influence – in the region.
- In July 2022 Treasury Secretary Janet Yellen, speaking at an LG Group research facility in Seoul, South Korea, called for a reorientation of the world's trading practices, pushing for countries to become **less reliant on China for critical components** like semiconductors and adopting a so-called **"friend-shoring"**, i.e. the US and its allies should trade more closely with one another and less with geopolitical rivals.

***TOWARDS A NEW COLD WAR?***



## The contest for economic power remains and looms in the back

All in all the trade dispute appears to be a disguise of a *structural conflict*.

Current frictions run much deeper than the trade confrontations and have more to do with control over technologies such as artificial intelligence, key inputs such as energy sources for electric vehicles, and command over connectivity, both physical and digital.

The *struggle for technological leadership (a strategic rivalry)* seems to be at the core of the present confrontation.

## The future: two possible scenarios

**‘Thucydides trap’** – pessimistic scenario, possible, but unlikely for the moment. There may be an inherent dynamic through which clashes between the relatively declining hegemon and the rising power become inevitable during the transition period, even causing a war.

**‘Kindleberger trap’** as in the 1930s, when the declining United Kingdom no longer had the capability to lead and the rising United States did not yet have the power to do so – most likely scenario. This scenario seems also in line with the Chinese leadership view: the decline of U.S. power naturally creates opportunities for China’s own rise, but there are huge risks for China during this rebalancing period because it is not yet strong enough to challenge the US leadership.

*History shows that in a few cases nations may come to agreements to avoid larger conflicts!*

***Thank you for your attention***