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Decoupling of US and China Value Chains: Challenges for the EU

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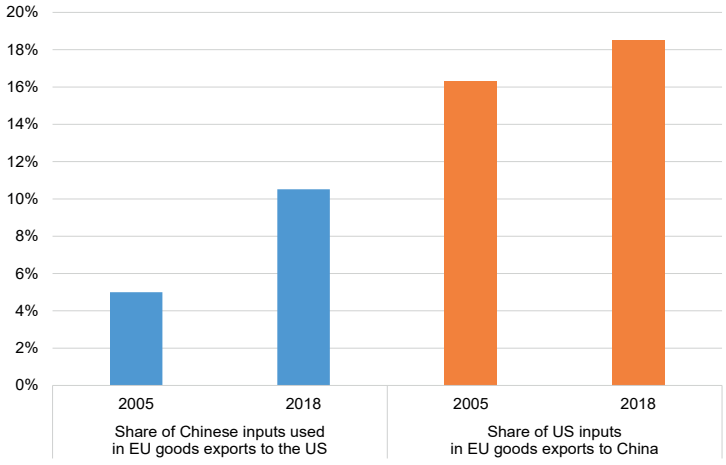
- Over the past two decades, the approaches of the three main trading powers to global trade have changed significantly. While China and the United States have increasingly positioned themselves as suppliers rather than buyers of inputs within global value chains (GVCs), the European Union has done the contrary. Currently, the United States and China, respectively the number one and two suppliers of foreign inputs used in EU exports, are both engaged in a policy of targeted decoupling, which poses a challenge for the EU.

- A significant proportion of EU goods exports to China contains US inputs (see chart). As a result, the EU may be affected by tighter controls by Washington on US exports to China, as these also apply to EU companies whose exports contain «critical» US inputs. France is among those EU countries that use the highest proportion of US inputs in their exports to China. Given the high proportion of Chinese inputs in EU exports to the United States, the EU and EU companies are also at risk from tighter controls introduced by China on their exports to the United States, which mirror those implemented by the US administration. In this case as well, France is one of the EU countries with the greatest exposure.

- Against a broader backdrop of increased geopolitical tension, the EU is bolstering its trade policy and support for industry in order to reduce its dependence on third countries in areas such as semi-conductors, while maintaining openness to trade. Its aim of «strategic autonomy» will help to minimise the knock-on effects that a decoupling by the United States and China could have.

Share of China and US inputs in foreign inputs used in EU goods exports



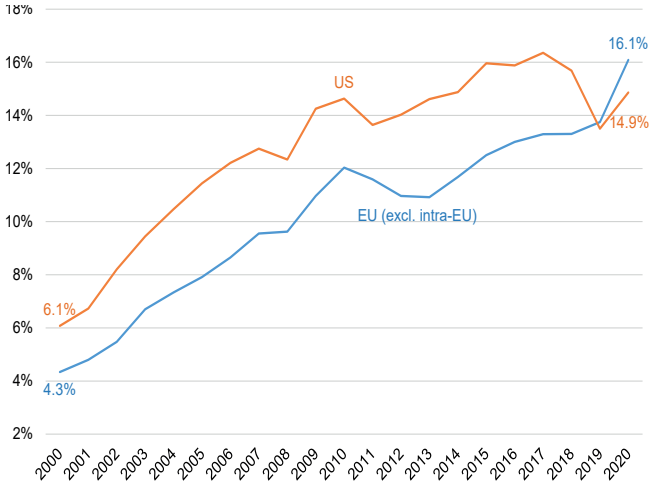
Source: OECD – TiVA database.
How to read this chart: In 2005, 5% of foreign inputs used in EU exports to the US came from China.

1. China has become a major supplier of intermediate goods

1.1 The growth in trade between the EU, the United States and China

Trade between the EU and China has increased significantly in the last two decades, as China has emerged as a major player in world trade (see chart 1). In 2019, China became the third-largest destination for EU exports after the UK and US, and the largest supplier to the EU, ahead of the US. As trade volumes have grown, the EU's trade deficit with China increased fourfold to €165bn, or 1.2% of EU GDP, between 2000 and 2019. EU trade exposure to China varies by Member State. China is the destination for 7% of German exports, 4% of French exports, 3% of Italian exports and 2% of Spanish exports. Unlike most European countries, Germany recorded a net trade surplus with China (€20bn in 2019), driven by the strong performance in its automotive sector.

Chart 1: China's share of total trade in EU and US (sum of exports and imports, %)



Source: IMF – DOTS database.

In 2020, as the Chinese economy quickly recovered and ramped up production of essential goods in the fight against COVID-19, trade with the EU continued to grow, while trade with the rest of the world dropped significantly. Trade flows between the EU and China had also held steady during the 2008-2009 financial crisis.

China has also become the United States' second-largest trading partner, after the EU. Despite an escalating trade war between the two countries that has caused trade between China and the US to slow since 2017,[1] China is still the largest supplier of goods to the United States (18% of US imports) and its fourth-largest customer (7% of US exports). This has left the United States with a large trade deficit with China, equal to €309bn (-1.7% of GDP) in 2019.

1.2 China's increasing role as supplier of inputs to the EU

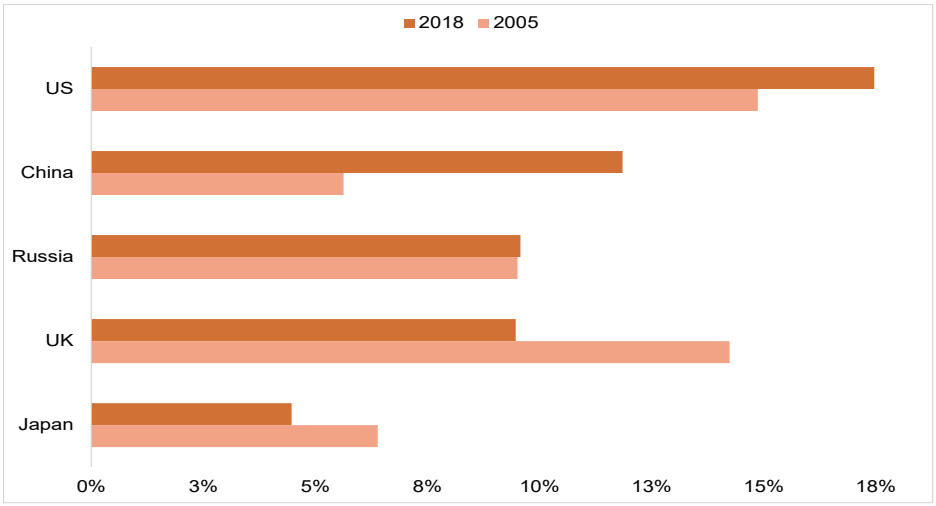
Since the mid-2000s, China's position within global value chains (GVCs) has changed. China has also become a supplier of inputs[2] embodied in exports of its trading partners, in addition to the position it used to occupy in GVCs, when it primarily purchased inputs for export production (see chart on page 1).[3]

This development is the result of a strategy ongoing since the 2000s, in which China sought to move further up the value chain and beyond its traditional role in product assembly. Another reason is that products exported by China are increasingly products of higher quality and therefore better suited to the production process of exporting sectors, which have higher quality standards than industries that trade domestically. Between 2001 and 2019, the share of low-end products in Chinese exports to the EU fell from 70% to 56%, while the share of mid-range products (17% to 25%) and, to a lesser extent, high-end products (14% to 19%) both increased.[4]

China's more influential role as a supplier of inputs in GVCs has fed into its increasing contribution to EU exports (see chart 2). In less than 15 years, China has risen from the fifth-largest to the second-largest source of imported inputs (12%) for the EU, behind the United States (17%). However, the share of US inputs has also rose between 2005 and 2018, while the share of inputs imported from the UK and Japan fell.

(1) O. Chiali, F. Chimits, C. Colin, C. Debever, D. de Waziers, E. Hooper and M. Nakaa (2019), «Effects of initial trade tensions between China and the United States», *Trésor-Éco* No. 244.
(2) Inputs refer to all goods and services incorporated in the production processes of partner countries.
(3) C. Colin, X. Coeln, P.-Y Le Floc'h and L. Vedel (2022), «Emerging Economies in Global Value Chains», *Trésor-Éco* No. 301.
(4) WTFC – CEPII database. A traded good's position in the value chain is determined according to whether its trade unit value is lower (low-end), roughly equal (mid-range) or higher (high-end) than the good's price on global markets.

Chart 2: Contribution of the five leading foreign input suppliers to EU exports, 2018



Source: OECD – TiVA database, DG Trésor figures.
How to read this chart: In 2018, 17% of foreign inputs used in EU exports came from the United States, up from 15% in 2005.

2. Targeted decoupling by the United States and China could affect EU companies

Since 2017, the United States has responded to the distortive effects on competition resulting from China's industrial policies by adopting a range of measures, aimed in particular at the high-tech sectors. In turn, China has adopted or committed to equivalent measures, as well as gearing its industrial policy towards achieving self-sufficiency in a number of key sectors. These parallel measures of «targeted decoupling» could have repercussions on EU goods exports to China that contain components imported from the US, as well as on EU goods exports to the US that contain components imported from China.

2.1 Exposure of EU exports to China to the US policy of decoupling

In the United States, the Trump administration introduced tighter export controls, which have continued under the Biden administration (see box 1). These measures were extended to cover new technologies in so-called «dual»[5] goods while expanding the list of recipients of goods covered by the controls. The policy is in response to China's Military-Civil Fusion strategy and also seeks to hinder the development of increasingly higher-end technologies used to produce dual goods.

(5) Products and technologies initially intended for civilian use, but which could be appropriated by their user for military purposes, terrorism or human rights abuses.

Box 1: Tighter controls on US exports to China

In summer 2018, the Export Control Reform Act (ECRA), implemented through a series of Export Administration Regulations (EARs),[a] introduced changes to the US system of export controls to cover «emerging and foundational» technologies such as artificial intelligence, robotics, nanotechnology and semi-conductors. As a minimum requirement, the ECRA imposes a licence for the export, re-export or transfer of these technologies to countries subject to embargo, including arms embargoes, one of which is China. Where the technologies contain a minimum (or «*de minimis*») level of US inputs, a licence is required. The United States has yet to provide a consolidated list of these technologies, creating uncertainty as to which technologies will be covered by the new provisions.

Moreover, as the number of Chinese entries on the Entity List[b] (e.g. Huawei, Beijing University of Posts and Telecommunications) continues to increase, specific licences are becoming a requirement to export, re-export or transfer goods covered by EARs to these entities.

In spring 2020, the US administration introduced a number of regulatory measures such as the extension of the list of goods subject to authorisation to less sensitive goods that the US deems to have military applications or the broadening of the definition of military use and military users. These measures extended the United States' use of direct controls on re-exports of goods and technologies to China.

a. ECRA is implemented by EARs, which codify the use and types of export licences required for specific products, software programmes and technologies.
b. The Entity List includes entities whose operations pose a risk to US national security or foreign policy. A licence is required to export goods covered by EARs to these entities.

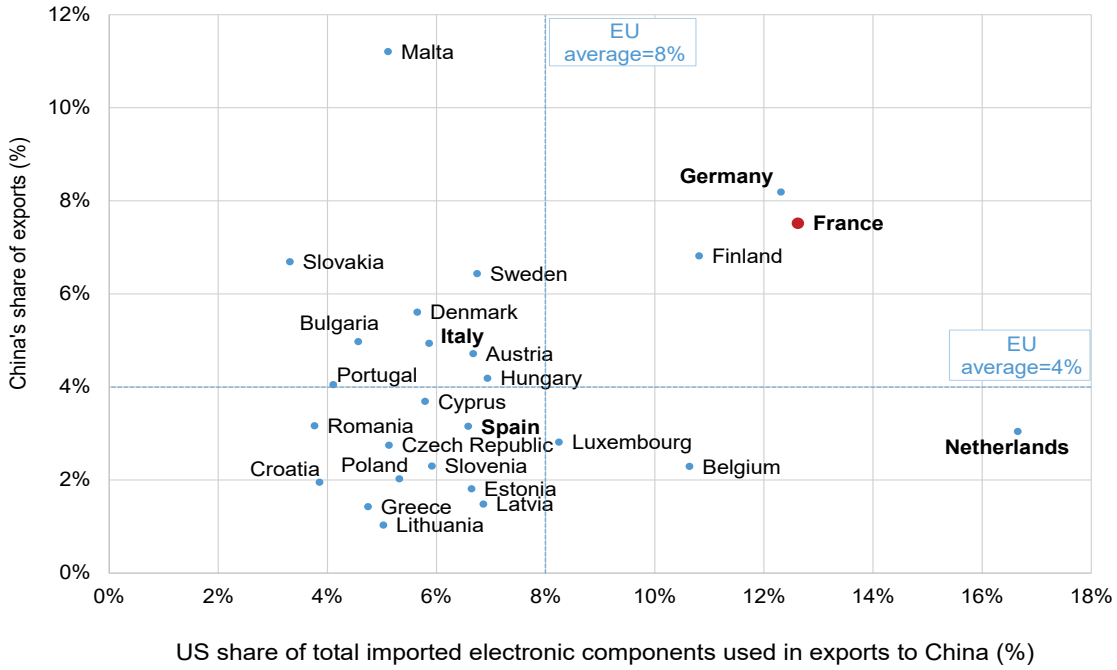
More stringent export controls apply to US but also to foreign companies that export goods containing a certain level of US-imported components. These measures could therefore significantly affect exports by EU companies, because the United States is the EU's second-largest foreign supplier of electronic components[6] used to produce goods for export to China (18% of its foreign-imported components), behind China[7] (30%) and ahead of South Korea (11%).

Although all EU countries will be exposed to tighter US export controls to varying degrees, the measures will stand to more significantly affect countries that export more to China and whose exports to China include a high proportion of US components. China is the destination for 7.7% of France's exports and 13% of foreign electronic components embodied in French exports to US come from China (above the EU average of 8%)[8], placing France among those EU countries with the highest exposure to the US measures, along with Germany and Finland (see chart 3).

For some EU Member States, the importance of the United States as a supplier of electronic components also reflects the high share of US- imported goods in their total imports, as well as the sectoral specialisation of their exports. The three countries with the highest share of US components in exports (France, Germany and the Netherlands) are also the EU's three main exporters of electronic and electrical goods, the sector with the highest concentration of electronic components. France's aviation industry, an important sector that is particularly intensive in electronic components, is another reason why the US is a major supplier of electronic components for use in French exports. Italy, the Czech Republic and Poland are also major exporters of electronic and electrical goods but import relatively fewer electronic components from the United States, and relatively more from other EU countries and China.

(6) No definitive list of technologies targeted by these measures has been determined, but the products targeted have for the most part been electronics. More detailed sub-sectoral analysis is still required in order to identify the specific sectors exposed.
(7) Products exported by China to the EU and re-exported to China after processing.
(8) The average share in EU country exports differs from the share in EU exports (13%), because total EU exports does not include trade flows between EU countries.

Chart 3: EU countries' exposure to US restrictions on exports to China in 2018



Source: OECD – TiVA database, DG Trésor figures.

How to read this chart: In 2018, 8% of French exports went to China and 13% of imported electronic components used in French exports to China came from the United States.

Note: Countries in bold are France's main trading partners within the EU. For layout reasons Ireland is not included in this chart, as China accounts for 6% of its exports, while US electronic components account for 30%.

Furthermore, EU exports to China are exposed to more protectionist measures introduced by the Chinese government. Against the backdrop of heightening tensions with the United States and the intention of many governments to reduce their dependence on trade with China, Beijing has adopted a strategy of «dual circulation», under which China aims to increase their strategic independence by achieving self-sufficiency (import substitution) and reducing the role of foreign companies (while increasing dependence on China in the rest of the world). In the public procurement market, there is an increasingly marked preference for domestic suppliers. China is not signatory to the WTO Agreement on Government Procurement and is increasingly using domestic legislation as an economic policy instrument to reduce external dependence.

2.2 Exposure of EU exports to the US to the Chinese decoupling policy

Although Beijing has ruled out any prospect of decoupling with the United States, it has adopted defensive policy measures (see box 2), some of which may have an impact on EU exports to the United States if implemented. These measures include a law on Chinese export controls, largely based on the US approach, which applies to Chinese companies and foreign companies that export goods containing a certain level of Chinese components to the United States.

Box 2: Chinese countermeasures in response to US measures

Since 2020, China has been building a legal arsenal in response to measures taken by the United States, consisting of[a]:

- The Export Control Act, which took effect in December 2020 and mirrors the US legislation to a large extent. The legislation establishes a list of goods subject to export controls and makes provision for temporary export bans for goods that compromise «national security» – a term with a broad definition in this context.
- An Unreliable Entity List (UEL), introduced in September 2020 and which closely resembles the list established by the US. The UEL may include entities that could compromise China's national sovereignty or economic development interests, or that have suspended trade with a Chinese entity. No companies have been placed on the list since it was announced.
- New measures to control national security-related foreign investment took effect in January 2021. These cover investments in the defence industry, investments enabling the acquisition of a majority interest in a Chinese company, and investments in «important» sectors for national security (e.g. energy, internet services, financial services and key technologies).
- A law «to counter the unjustified extraterritorial application of foreign laws and measures» was adopted in January 2021. The legislation aims to protect Chinese companies from discriminatory measures. Chinese entities penalised by foreign measures are able to report this treatment to the Chinese Ministry of Commerce (MofCom). Where the extraterritorial application is deemed to be unjustified, the government offers support to Chinese entities that have suffered harm or loss and measures may be taken in response.

a. However, Beijing, unlike Washington, has yet to use this means of recourse in practice, preferring instead to instruct State companies and institutions to enforce informal embargoes.

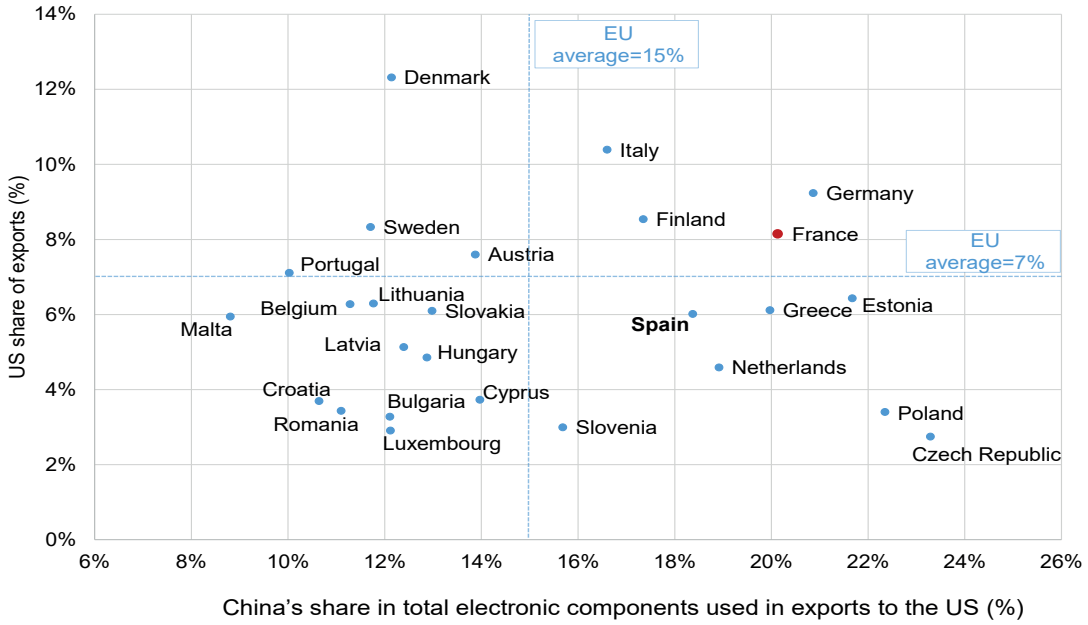
EU exports to the United States could also be affected by US measures against China, such as the Clean Network initiative launched in April 2020. The programme sought to develop digital standards through a group of partner countries for telecommunications known as «Clean Countries», with the aim of imposing a *de facto* import ban on Chinese equipment to the US. The initiative could ultimately affect industry in the EU, should the United States seek to fully «purge» their supply chains, as US market access would also be restricted for foreign companies that use Chinese technologies such as 5G, applications, cloud technology and undersea telecommunications cables.[9]

European production chains that serve the US market and for which a significant portion of inputs are imported from China could leave the EU heavily exposed, were the US Clean Network initiative to be extended to foreign companies that use Chinese technologies, on top of tighter Chinese export controls for foreign companies. China is the largest supplier of electronic components used to produce EU exports to the US (28% of its imported components), followed by the United States[10] (21%) and South Korea (10%).

The effect of the US and Chinese measures on EU exports to the US is expected to vary by Member State (see chart 4). In this regard, France is among those EU countries for which the United States accounts for a relatively high share of total exports (20%, compared with the EU average of 15%), as is Germany (21%) and Italy (17%).

(9) For discussion on the possibility of this scenario, see «Decoupling», (p.66), EU Chamber of Commerce in China and MERICS, 2020.
(10) Products exported by the United States to the EU and re-exported to the United States after processing.

Chart 4: EU countries' exposure to export restrictions on Chinese electronic components to the US in 2018



Source: OECD, TiVA database, DG Trésor figures.

How to read this chart: In 2018, 8% of French exports went to the US and 20% of imported electronic components used in French exports to the US came from China.

Note: Countries in bold are France's main trading partners within the EU. For layout reasons Ireland is not included in this chart, as the US accounts for 31% of its exports, while Chinese electronic components account for 13%.

The proportion of Chinese components in exports to the United States is generally higher for EU countries that export relatively more electronic and electrical goods, with the exception of Spain, where most Chinese-imported components are used for export by the country's automotive sector. Other countries that also use the highest amount of imported Chinese components in exports include Greece and Estonia, but this is not linked to specialist export sectors that rely heavily on electronic components.

3. EU policy in response to US/China decoupling

As trade tensions mount between the United States and China, and across the world more generally, the EU must take into account of three factors: (i) targeted decoupling risks in certain industries such as semi-conductors, potentially expanded with the US strategy of «friend-shoring»[11]; (ii) increasing and persistent use of distortive practices, by China in particular; and (iii) US concerns about its trading partners' relationship with China. The EU has set a policy goal of «strategic autonomy», while maintaining an open economy and complying with its international commitments.

The EU has strengthened its industrial policy focused on increasing competitiveness in order to become less dependent on third countries in strategically important sectors. New Important Projects of Common European Interest (IPCEIs) for cloud technologies, hydrogen, low-carbon industries and pharmaceuticals could therefore emerge alongside existing projects for batteries and microelectronics. These projects allow Member States to pool their public resources in order to achieve disruptive innovations in the relevant strategic sectors. Additionally, a bill on semi-conductors (the «European Chips Act») was submitted on 8 February 2022 and sets out arrangements for providing public support to «first-of-a-kind» production facilities and making EU exports less dependent on imported inputs.

(11) On 13 April 2022, US Treasury Secretary Janet Yellen raised the possibility of «friend-shoring», whereby the economies of, and trade relationships between, allied countries would become more closely integrated.

The EU is also developing policy tools to address the practices and risks associated with decoupling by third countries. In March 2022, the European Commission was provided with a new tool by co-legislators to restrict access to EU public procurement procedures for countries who had closed access to their own public procurement system. Likewise, remedies or financial penalties shall apply where access to public contracts or mergers on the internal markets are distorted by foreign subsidies. These measures will ensure that market openness is even more based on reciprocity and fair competition, while preventing the major economies from escalating the process of decoupling.

Alongside this, the European Union remains open to diplomatic solutions as a way to minimise the fallout from US and Chinese decoupling by holding regular summits with Beijing and Washington, while also leveraging its (closer) relationship with the US through the newly established Trade and Technology Council.

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