

EU and China: mapping out a strategic interdependence

China's aspiration to become a global economic, military and geopolitical power has generated occasional tensions with Western countries since the early 2000s. These tensions culminated in a sharp escalation of trade restrictions with the US beginning in 2018 and a decoupling process between the two powers. The outbreak of the pandemic in 2020, and more recently the war in Ukraine, has accelerated this decoupling trend, and Europe also appears to have joined in, albeit somewhat timidly for now.

New terms are appearing in the political discourse, such as «strategic autonomy», «reshoring» and «nearshoring», in an attempt to increase supply chain resilience and guarantee security in the consumption of essential products in the face of supply shocks, whether triggered by tensions in the health, climate or geopolitical spheres.

But is this much-sought-after «strategic autonomy» possible, or even desirable? To answer this question, in this article we look at the EU's dependence on China.

The Chinese origin of European final demand: 2% made in China

Over time, China has become the main source of imports into the European bloc. In 2020, China accounted for 22% of the EU's total gross imports of goods, compared with 12% for the US and 9% in the case of the UK. This contrasts with the situation back in the year 2000, when only 6% of European imports of goods came from China, well behind the United Kingdom's 19%, the US' 16% or even 8% in the case of Japan.¹

The data on imports and exports in gross terms do not allow us to make an accurate assessment of the origin of

Value added originating in China in final demand (% of final demand)

	Germany			Spain			France			Italy			EU-27			US			Japan	Brazil	Russia	India
	2015-2018	1995-2000	2002-2007	2015-2018	1995-2000	2002-2007	2015-2018	1995-2000	2002-2007	2015-2018	1995-2000	2002-2007	2015-2018	1995-2000	2002-2007	2015-2018	1995-2000	2002-2007	2015-2018	2015-2018	2015-2018	2015-2018
TOTAL	2.1	0.3	0.8	1.9	0.3	0.9	1.8	0.3	0.7	1.6	0.3	0.7	1.9	0.3	0.8	2.2	0.5	1.2	3.1	1.5	3.2	3.2
Agriculture	1.6	0.3	0.6	1.1	0.2	0.4	1.0	0.2	0.4	1.1	0.3	0.5	1.2	0.2	0.5	1.4	0.4	0.7	2.9	1.2	1.9	0.4
Mining	1.0	0.3	0.3	0.9	1.9	0.5	7.8	0.3	0.7	0.8	0.1	0.4	1.7	0.4	0.4	1.0	0.2	0.5	1.3	1.5	1.3	1.1
Manufacturing	5.7	0.8	2.1	6.1	0.9	2.4	6.1	0.9	2.3	4.6	0.7	1.8	5.7	0.8	2.2	8.4	1.5	4.2	9.4	4.8	8.7	7.5
Food	1.8	0.4	0.8	1.9	0.3	0.8	1.6	0.3	0.5	1.3	0.3	0.5	1.7	0.3	0.7	1.9	0.4	0.9	3.8	1.3	2.6	1.1
Textile & clothing	23.2	3.6	8.9	21.8	2.2	7.5	25.0	2.9	9.4	11.0	1.8	4.8	19.1	2.6	7.4	37.1	6.8	18.9	42.2	9.0	31.6	7.0
Wood & paper	1.8	0.4	0.7	1.7	0.4	0.8	2.1	0.5	0.8	1.5	0.3	0.6	1.7	0.4	0.7	3.2	0.8	1.4	2.5	1.5	2.7	3.0
Coke & refined oil prod.	1.1	0.3	0.7	1.0	0.4	0.3	1.9	0.4	0.5	0.9	0.2	0.5	1.2	0.3	0.5	0.8	0.3	0.4	2.1	1.5	0.8	1.6
Chemicals & pharma.	3.1	0.5	0.9	3.8	0.7	1.3	3.1	0.6	1.1	2.8	0.6	1.1	2.9	0.5	1.0	2.7	0.6	1.1	3.6	4.0	4.4	6.7
Rubber & plastics	3.1	0.6	1.1	4.7	0.8	1.5	4.5	0.9	1.4	3.3	0.6	1.1	3.8	0.7	1.3	6.2	0.9	2.3	5.7	3.7	7.1	9.6
Other non-metal minerals	3.5	0.4	1.7	3.3	0.3	1.3	3.4	0.3	1.4	3.0	0.3	1.2	3.4	0.4	1.6	5.8	1.0	3.4	4.8	2.4	4.3	2.8
Metals	3.3	0.6	1.4	4.5	0.6	1.8	4.2	0.5	1.4	2.7	0.3	1.2	3.6	0.5	1.4	4.8	0.7	2.4	3.7	3.6	5.1	4.0
Computers & electronics	19.0	2.0	7.8	20.5	2.7	8.6	22.9	2.6	9.6	12.4	1.8	5.0	17.8	2.0	7.5	19.8	2.0	9.2	19.5	16.7	26.4	26.5
Electrical products	9.3	0.6	1.9	12.9	0.7	2.6	16.7	1.2	3.8	9.6	0.5	1.9	11.1	0.7	2.7	18.8	1.9	6.4	19.2	11.3	14.1	16.3
Machinery	4.3	0.5	1.5	7.7	0.8	2.5	6.9	0.7	2.4	4.9	0.5	1.9	5.5	0.6	2.0	8.1	1.0	3.5	7.7	7.4	13.8	13.4
Motor vehicles & trailers	2.4	0.3	0.9	3.3	0.4	1.1	3.3	0.3	1.0	3.1	0.3	1.1	2.9	0.3	1.0	5.5	0.6	2.0	4.6	3.0	6.2	4.6
Other transport equipment	5.8	0.7	2.6	4.8	0.5	2.1	4.4	0.6	1.8	4.5	0.4	1.8	5.7	0.7	2.6	3.6	0.6	1.7	5.3	16.4	6.2	10.8
Other manufacturing	7.7	0.8	1.8	9.5	1.1	2.3	8.4	0.8	1.8	5.9	0.7	1.4	7.8	0.9	1.9	16.0	3.5	7.8	9.7	5.6	12.6	11.0
Services	1.2	0.2	0.5	1.1	0.2	0.5	1.0	0.1	0.4	0.8	0.2	0.4	1.1	0.2	0.5	1.0	0.2	0.5	1.7	0.6	1.8	1.9
Commercial services	1.6	0.2	0.5	1.5	0.2	0.6	1.6	0.2	0.5	1.2	0.2	0.5	1.6	0.2	0.5	1.8	0.4	0.9	2.9	0.9	2.0	2.6
Logistics	3.2	0.5	1.5	2.1	0.4	1.3	2.6	0.4	1.1	1.9	0.6	1.0	2.5	0.5	1.2	2.7	0.6	1.5	2.6	1.4	3.6	3.4
Hospitality	1.0	0.3	0.7	0.8	0.1	0.4	0.8	0.2	0.5	0.6	0.2	0.4	0.8	0.2	0.5	0.8	0.3	0.5	1.7	0.7	2.1	1.0
Information & communication	1.6	0.4	0.6	2.6	0.4	0.9	1.7	0.2	0.5	1.2	0.2	0.5	1.8	0.3	0.6	1.1	0.2	0.5	2.8	0.8	2.6	3.0
Finance	0.6	0.1	0.2	0.5	0.1	0.2	0.6	0.1	0.2	0.4	0.1	0.2	0.6	0.1	0.2	0.4	0.1	0.1	1.0	0.2	0.6	0.7
Real estate	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.1	0.2	0.0	0.1	0.3	0.1	0.1	0.3	0.1	0.1	0.3	0.1	0.6	0.3
Other services	1.2	0.3	0.5	0.9	0.2	0.5	0.9	0.1	0.3	0.7	0.1	0.3	1.0	0.2	0.4	0.8	0.2	0.3	1.8	0.6	2.2	1.7

Notes: The data refer to the average for the years 1995-2000 (before China joined the WTO in 2001), 2002-2007 (after China joined the WTO, pre-financial crisis) and 2015-2018 (the latest period). We use data from the most recent update of the OECD TiVA tables, in November 2021.

The colouring in the table reflects the degree of integration between the two economies. Blue and green indicate a lower percentage of final demand for each indicated country or region originating in China, while orange and red indicate a higher percentage of final demand originating in China.

Source: CaixaBank Research, based on data from OECD TiVA (November 2021).

1. According to data from the Observatory of Economic Complexity (OEC). Unlike the TiVA database, which we use next, these data only include trade in goods (i.e. they exclude services).

Value added originating in China in exports (% of exports)

	Germany	Spain	France	Italy	EU-27			US			Japan	Brazil	Russia	India
	2015-2018	2015-2018	2015-2018	2015-2018	2015-2018	1995-2000	2002-2007	2015-2018	1995-2000	2002-2007	2015-2018	2015-2018	2015-2018	2015-2018
TOTAL	1.5	1.6	1.6	1.5	1.6	0.3	0.7	1.3	0.3	0.8	2.7	1.3	1.2	1.9
Agriculture	1.0	0.8	0.9	0.5	0.9	0.2	0.4	1.0	0.2	0.4	1.7	1.0	1.3	0.4
Mining	0.9	1.1	1.2	0.5	0.8	0.1	0.4	0.8	0.2	0.3	1.6	1.1	0.6	2.1
Manufacturing	1.9	2.4	2.4	2.0	2.1	0.3	0.9	2.3	0.5	1.4	3.4	1.9	1.7	2.9
Food	1.0	1.1	1.0	0.8	1.1	0.2	0.5	1.3	0.3	0.6	1.7	0.9	1.7	0.8
Textile & clothing	3.3	4.5	4.8	3.4	3.6	0.7	1.6	3.9	1.2	2.4	4.8	3.1	6.9	3.3
Wood & paper	1.1	1.4	1.5	1.1	1.1	0.2	0.4	2.0	0.4	0.9	1.7	1.2	1.7	2.3
Coke & refined oil prod.	0.9	0.9	2.3	0.7	1.1	0.3	0.3	0.7	0.2	0.2	1.9	1.5	0.6	0.9
Chemicals & pharma.	1.4	1.7	1.3	1.5	1.2	0.3	0.5	1.4	0.3	0.7	2.6	1.8	1.8	3.4
Rubber & plastics	1.7	2.4	1.6	1.7	1.8	0.3	0.7	2.3	0.4	1.0	2.8	2.0	3.5	3.8
Other non-metal minerals	1.2	1.7	1.4	1.3	1.4	0.2	0.6	1.7	0.4	0.9	1.9	1.1	2.1	1.9
Metals	1.6	2.0	1.8	1.8	1.7	0.3	0.8	2.1	0.4	1.1	1.8	1.5	1.7	2.6
Computers & electronics	3.9	4.5	3.4	2.8	4.6	0.6	2.3	2.1	0.7	2.4	4.4	6.3	7.5	5.0
Electrical products	3.0	3.6	3.9	3.2	3.4	0.4	1.2	3.3	0.6	1.6	4.9	2.9	4.6	3.7
Machinery	2.1	2.9	2.8	2.1	2.3	0.3	0.9	3.2	0.5	1.5	3.2	2.4	4.2	3.0
Motor vehicles & trailers	1.7	3.4	2.9	2.3	2.2	0.3	0.8	4.2	0.5	1.8	3.6	2.0	4.2	4.1
Other transport equipment	2.5	2.7	3.5	2.5	3.1	0.4	1.2	2.7	0.5	1.2	3.0	5.2	4.1	4.2
Other manufacturing	2.5	2.0	2.3	1.8	2.0	0.3	0.8	2.3	0.5	1.2	3.4	2.2	3.6	5.1
Services	0.7	0.8	0.8	0.5	0.8	0.1	0.4	0.5	0.1	0.2	1.3	0.4	1.1	0.7
Commercial services	0.5	0.6	0.8	0.5	0.7	0.1	0.3	0.6	0.1	0.2	1.5	0.3	0.8	0.4
Logistics	0.9	0.7	1.0	0.6	1.1	0.2	0.5	0.5	0.1	0.2	1.3	0.7	1.0	1.6
Hospitality	0.7	0.8	0.6	0.4	0.6	0.1	0.3	0.6	0.1	0.3	1.5	0.6	1.1	0.4
Information & communication	0.8	1.5	1.0	0.7	1.1	0.2	0.4	0.7	0.1	0.3	1.3	0.6	1.9	0.6
Finance	0.5	0.4	0.5	0.3	0.6	0.1	0.4	0.3	0.1	0.1	0.9	0.2	0.5	0.4
Real estate	0.2	0.1	0.2	0.1	0.2	0.0	0.1	0.3	0.0	0.1	0.3	0.1	0.5	0.3
Other services	0.5	0.8	0.6	0.6	0.6	0.1	0.3	0.5	0.1	0.2	0.9	0.4	1.9	0.8

Notes: The data refer to the average for the years 1995-2000 (before China joined the WTO), 2002-2007 (after China joined the WTO, pre-financial crisis) and 2015-2018 (the latest period). We use data from the most recent update of the OECD TiVA tables, in November 2021.

The colouring in the table reflects the degree of integration between the two economies. Blue and green indicate a lower percentage of final demand for each indicated country or region originating in China, while orange indicates a higher percentage of final demand originating in China.

Source: CaixaBank Research, based on data from OECD TiVA (November 2021).

the goods and services that are consumed. In this regard, the OECD's TiVA (Trade in Value Added) database, based on international input-output tables, offers us a more detailed view of the degree of economic integration between China and the EU, allowing us to measure the actual dependencies for each country and sector. By identifying the exact origin and destination of each good and service that is traded, we can investigate the composition and the actual origin of final demand and exports.²

In aggregate terms, Chinese goods and services have accounted for 2% of European final demand in recent years (see first table). This is a similar level to that in the US, but lower than in countries such as Japan or India, which have value chains that are more closely integrated with China.

Between the EU and other countries we find some common trends worth highlighting. Firstly, this dependence on China has increased significantly in the last two decades

and in all sectors analysed, including both manufacturing and services. Secondly, it is clear that the Asian giant has transformed itself into a global manufacturing power, accounting for 5%-10% of the manufacturing sector's final demand worldwide. In particular, the dominance of the Chinese value chain in the textile and electronics sectors is unquestionable, accounting for over 20% of the final demand of these sectors in the largest EU economies, 40% in the case of textiles in Japan and the US, and more than 25% in electronics in India and Russia.

Focusing on the EU in particular, the bloc's integration with China has increased in the last decade, particularly in more advanced sectors such as electronics and machinery, but also in commercial services and in information and communication services.

This strong integration of China into European value chains is evident when analysing the growing weight of Chinese goods and services in the European export sector (see second table), mainly in technologically advanced manufacturing sectors. This indicates the penetration capacity of intermediate products produced in China in highly integrated production chains, such as electronics,

2. For more details on the use of this database, also see the Focus «European dependence on Russia: a primary issue» in the MR04/2022.

machinery and transportation equipment. It is noteworthy that Spanish exports of electronics and French exports of transportation equipment incorporate a greater proportion of Chinese goods and services than the corresponding export sectors in Japan. Europe's textile industries are also among the most highly integrated with China in the world. Moreover, in the EU-27 this integration accelerated in the last decade, contrary to what has happened in the US, for instance, where exports of electronic products now contain a smaller proportion of Chinese goods than they did a few years ago.

At this point, it is also important to emphasise that at a more disaggregated level the interdependence between countries may be much greater in certain specific products. If, in addition to having a significant dependence on imports of a particular product, the exporting country also has market dominance, then the risk of disruptions in production chains is greater in the event of supply issues, whether due to logistical difficulties or diplomatic tensions.

In this regard, the EU's dependence on China is significant in the case of certain rare raw materials (crucial for the energy transition), such as manganese or scandium, as well as in various components that are essential to the production of pharmaceutical goods, such as active agents and vitamins, and in electronic components – both final and intermediate – such as LED lamps or permanent magnets. In all these products, China has a global market share of over 50%, representing as much as 90% of global production in some cases.³

A sustainable attachment?

In the last *Monthly Report*, we analysed the impact of the current tensions with Russia, concluding that the negative effects of the decoupling process will be particularly visible in the short term and in economies that are more dependent on fossil fuels for their energy needs. However, in the medium term, and as some countries have already demonstrated in recent years, reducing dependence on Russian commodities is not impossible, and moreover it is compatible with a quicker and more coordinated energy transition.

China, however, is much more densely interconnected with the EU, as well as with the rest of the world's major economies. In the EU in particular, this integration has accelerated in the last decade and the Chinese value chain is key to a large number of sectors, especially in manufacturing. Furthermore, in recent years the Chinese economy has come a long way in increasing its

3. See European Commission (2021). «Strategic dependencies and capacities», Commission Staff Working Document. See also L. Salinas Conte (2021). «The dependency on China of Spain's supply chains», Elcano Policy Paper, Elcano Royal Institute.

Economic Complexity Index (ECI)

Position in the ECI ranking

	2000	2010	2020
Japan	1	1	1
Switzerland	3	3	2
Taiwan	22	5	3
Germany	2	2	4
US	5	8	9
France	10	13	15
Italy	13	18	19
Hong Kong	48	34	23
China	54	31	28
Spain	19	28	34
India	50	50	40
Russia	25	30	43
Brazil	29	35	47

Note: The index can be interpreted as a measure of the relative intensity of knowledge in a particular economy and is calculated based on the profile of each country's exports.

Source: CaixaBank Research, based on data from the Observatory of Economic Complexity (OEC).

technological specialisation (see third table), thereby reaffirming a vital role in the global trading system. As the recurring supply problems experienced during the pandemic have shown, decoupling from China would have costs for the entire economy, being insurmountable in many cases. Unlike the European Green Deal, the feasibility of achieving «strategic autonomy» in many of these sectors, through reshoring part of the value chain, is not entirely clear. If the world enters a new geopolitical era that results in a process of de-globalisation is confirmed, then the inevitable tensions between the various blocs would most likely result in more losers than winners. Furthermore, a long-lasting commercial relationship between the EU and China will increasingly need to be underpinned by strong diplomacy. Not only will the European economy depend on such a diplomatic effort, but so will domestic politics, global geopolitical stability and – because there is never a bad time to recall it – the global fight against climate change.

Luís Pinheiro de Matos