conseil d'analyse économique

Focus

N° 086-2022
July 2022

Dissecting EU-China Economic Relations

Mikko Huotari, Sébastien Jean, Kevin Parra Ramirez and Madeleine Péron(*)

This Focus presents a detailed analysis of EU-China trade and investment relations, and of the associated dependencies and traditional trade policy concerns. At the macroeconomic level, the intensity of relations exhibits stark contrasts across EU's member states, for both trade and investment. Trade relations are also strongly imbalanced, and increasingly so. We then characterize exposure to the Chinese market, measured as its weights in producers' revenue. We show that it is significant for many large firms, and for several sectors, when activity of foreign affiliates in China is considered; in contrast, firm-level data for France shows that exposure to the Chinese market remains limited when focusing on exports. We finally discuss traditional trade policy issues, linked to market access, forced technology transfers and industrial subsidies, and emphasize that serious concerns remain in these areas.

China is among the most important economic partners for the European Union (EU), actually the single most important one on several respects. Yet bilateral economic relations are complex, multifaceted and they are evolving quickly. Recent years have for instance seen a spectacular surge in Chinese foreign direct investment (FDI) in the EU, followed by a no-less spectacular fall. Bilateral trade flows, trending upward on average, have also faced sudden shocks, in particular during and after the sanitary crisis, with a surging bilateral deficit over recent months. Meanwhile, China's positions are strengthening in several technology sectors, with visible changes observed on both trade and investment fronts.

Understanding what is at stake requires in-depth analysis, taking into account both trade and investment linkages, and acknowledging differences across EU's member states, based on up-to-date information. The question is to assess the intensity of economic links and the corresponding trends, but also to characterize in more detail, where possible, the nature of economic competition between EU and China, as well as the ensuing dependence links. Doing so is the objective of this focus, conceived as a companion paper to the policy analysis proposed in Huotari and Jean (2022). It first focuses on selected dimensions of these bilateral economic relations at the macroeconomic level. This allows emphasizing the contrasts across EU's member states in the intensity and nature of economic links with China, as well as the (increasingly) imbalanced nature of the relations. It then scrutinizes in more detail, at the sector and firm level, how much the Chinese market matters for EU producers. While dependencies have been studied in various recent works on the import side, gauging dependence on China as a provider of goods, no comparable analysis has been carried out so far

(*) Mercator Institute for China Studies (MERICS); Conservatoire National des Arts et Métiers (CNAM); Member of the French Council of Economic Analysis (CAE); Conseil d'analyse économique (CAE); Conseil d'analyse économique (CAE).

regarding dependence on China *as a market*, while we believe it useful to characterize correctly interdependencies. We finally turn to a summary analysis of policy concerns directly related to these bilateral economic relations. In so doing, we stick to traditional trade policy issues and their recent trends, even though many other issues are of interest for EU's China economic policy, as emphasized in Huotari and Jean (2022).

1. An overview of trade and investment linkages between the EU and China

1.1. An intense and increasingly imbalanced relationship

China was the EU's first partner for trade in goods in 2021, accounting for 10.2% of its (extra-EU) exports and 22.3% of imports. In proportion of GDP, this represented, respectively, 1.5% and 3.3% for the EU as a whole, but the intensity of this relationship varied widely across Member States (Figure 1, Panel A). Imports from China exceeded 4% of GDP in several Eastern and Northern European countries in 2019 (reaching 7.0% in Slovenia, 7.8% in Malta and 10.4% in the Czech Republic), while they were lower than 2% of GDP in several other Member States, in particular in the South of the EU. Meanwhile, exports to China represented 5% of GDP for Slovakia, approximately 3% for Germany and Malta and close to 2.5% for Ireland and Hungary, while it did not reach 1% of GDP in several Southern European countries.

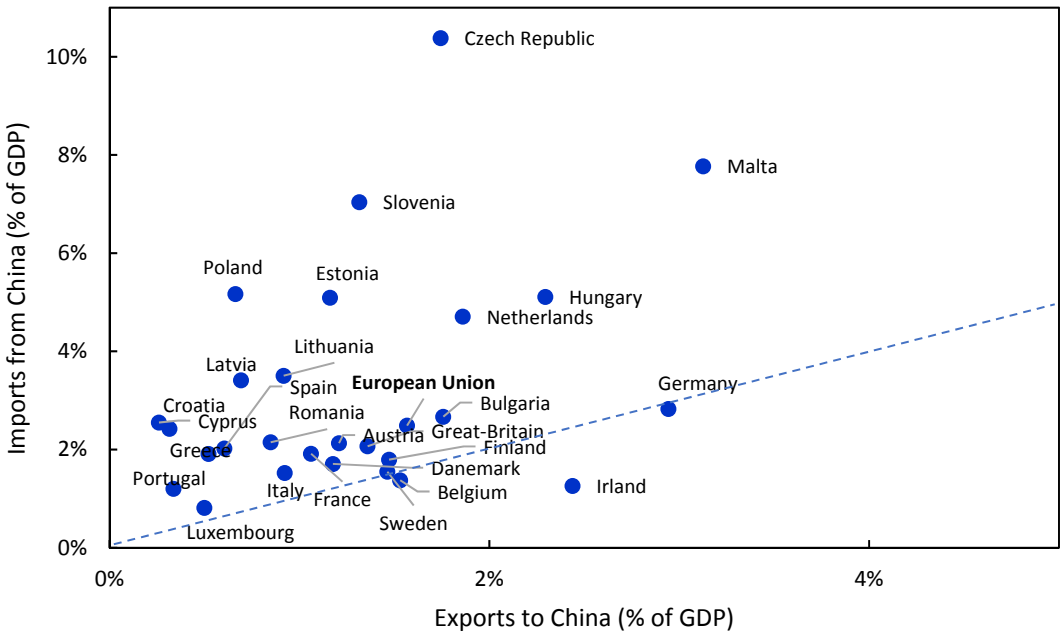
Given extensive globale value chain linkages, though, this output-based approach may incorrectly reflect the extent of cross-dependences between EU member states and China. OECD statistics about trade in value added allow this potential bias to be corrected (Figure 1, Panel B), by computing the share of domestic value added that is finally used in China, and the share of domestic final expenditure which corresponds to value added in China. In doing so, we also incorporate in the calculation import content of exports, *i.e.* the value added in the EU which is subsequently incorporated in Chinese exports, in order to reflect the full extent of cross-dependencies (reciprocally, Chinese value added incorporated in EU's exports in included in the calculation on the import side). These value-added-based calculations alter significantly the assessment of trade linkages with China. In particular, they show that, when indirect linkages are taken into account, there is no EU country for which trade with China is inconsequential: for none of them is value added imports from China significantly lower than 2% of GDP, or value-added exports to China worth less than 1.2% of GDP.

Differences across Member States are pronounced as well for FDIs (Figure 2). The intensity of outbound FDI in China is closely linked to income per capita, reaching 1.0% of GDP or more in most Member States with above average income level. Where income per capita is below average, in contrast, FDI in China remains below 0.4% of GDP, and it is negligible in many cases. Inbound investment from China is more evenly distributed across Member States, exceeding 0.4% of GDP for all but 6 Member States, while not following any systematic pattern.

These figures draw a contrasting picture across Member States. Relative to other EU partners, some are intensely exposed for imports, exports, inward FDI from and outward FDI to China (the Netherlands and Finland), others appear as underexposed across all dimensions (Spain, Romania, Croatia and Italy, for instance), and exposure is differentiated for many others (often large for imports in Central Europe countries and for inbound investment in Southern Europe, large for exports in Ireland, Sweden and the Slovak Republic). The intensity is below average for France for trade and investment, but about average for outward FDI. Germany, in contrast, exhibits comparatively strong links in trade and outward FDI, but relatively limited ones as regards inward FDI.

Figure 1. The intensity of trade relations with China varies starkly across Member States

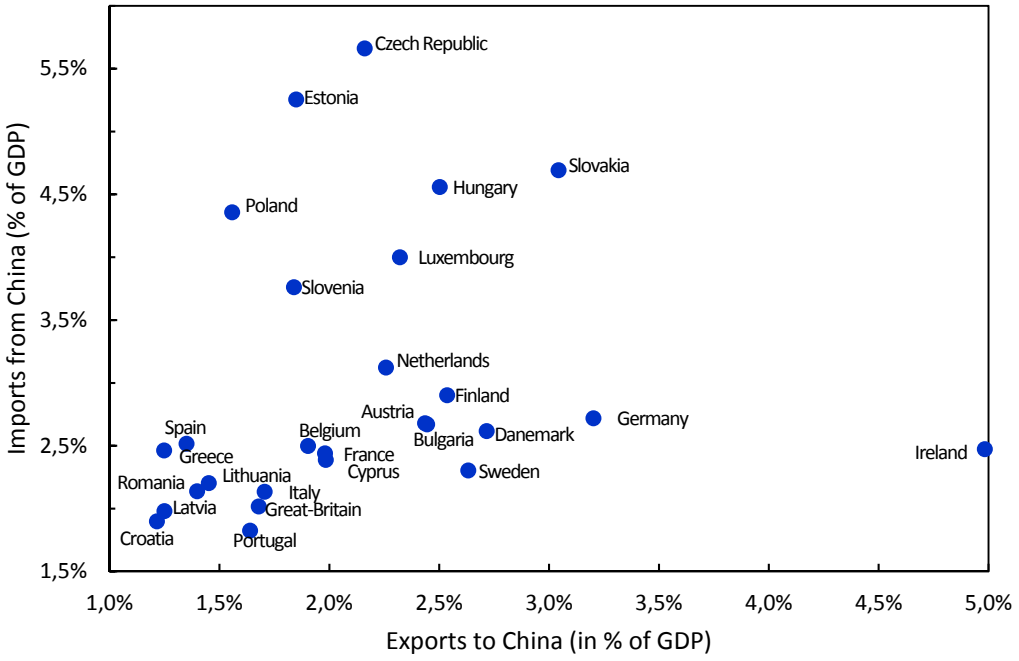
Panel A. Bilateral trade flows with China as a share of GDP in 2019, by EU Member State



Note: The dashed line represents the Y = X axis (*i.e.*, a situation where the imports from and exports to China are equivalent as a percentage of GDP). The data integrates a significant part of the imports from and exports to Hong-Kong considered as an important place for EU-China trade.

Source: CEPII – Chelem database, 2019.

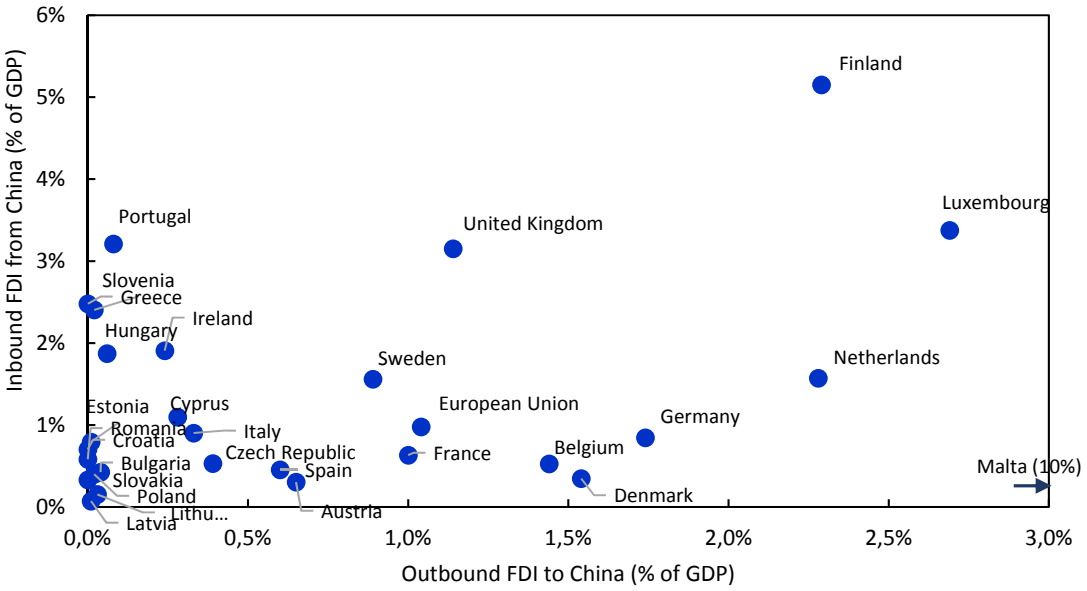
Panel B. The value-added content of bilateral trade flows with China as a share of GDP in 2019, by EU Member State



Note: Imports refer to the share of final expenditure in France, and or exports from France, whose value added was created in China; exports refer to value added in France, the final use of which is made in China, or which is incorporated in Chinese exports. As such, this indicator includes exports as well as domestic use, in order to reflect the full extent of bilateral cross-dependence.

Source: Calculations based on TiVA (OECD).

Figure 2. The intensity of investment relations with China varies starkly across Member States (FDI flows as a share of GDP, 2001-2021)



Note: Value of aggregate FDI transactions from and to China over the 2001-2021 period, as a percentage of GDP. Malta is not represented on the graph, with 0,3% of inbound FDI and 10% outbound FDI as shares of GDP

Source: Rhodium Group / MERICS.

A striking feature of these trade relations is that they are strongly imbalanced, and increasingly so. China is by far the first bilateral trade deficit of the EU, for a total of €165 bn in 2019, €182 bn in 2020 and €249 bn for 2021 according to Eurostat.[(1)] Even abstracting from the fact that China exports incorporate large amounts of value-added originating in other Asian countries, bilateral trade balances are not meaningful indicators for policy purposes. They should not be interpreted as such but, as a matter of fact, the general picture of the Chinese external economic relations is one of imbalance, with a current account surplus which, after remaining limited in proportion of GDP over most of the 2010s,[(2)] has been increasing again since the onset of the sanitary crisis, reaching $310 bn in 2021 (2.0% of GDP), and $676 bn for the trade surplus (4.3% of GDP).

These figures reflect the enduring difficulty for the Chinese government to put in practice its stated willingness to rebalance the economy. The distribution of GDP remains heavily skewed toward investment, at the expense of consumption, which reflects more fundamental imbalances in the distribution of income in the Chinese economy (on this issue, see *e.g.* Klein and Pettis, 2020, or IMF, 2022). They are also a direct consequence of the way the Chinese government has been navigating the sanitary crisis, prioritizing supply-side responses, as opposed to households' income. As a result, "[t]he investment-driven recovery has reversed earlier, hard-won progress in rebalancing, adding to the challenges of achieving sustainable high-quality growth over the medium term" (IMF, 2022, p. 8). This support was also successfully targeted, benefiting disproportionately priority sectors like machinery and electric equipment.

While the EU itself is not exempt of concerns in this respect, these imbalances are problematic at the worldwide level given the size of the Chinese economy. For the EU, they also fuel the feeling of an asymmetrical opening.

(1) See https://ec.europa.eu/eurostat/statistics-explained/index.php?title=China-EU_-_international_trade_in_goods_statistics. Recent trends are even more striking, with a spectacular increase in EU's imports from China during the second semester of 2021, bringing the monthly bilateral deficit in trade in goods to values around €50 bn in recent months, compared to approximately €35 bn one year before.

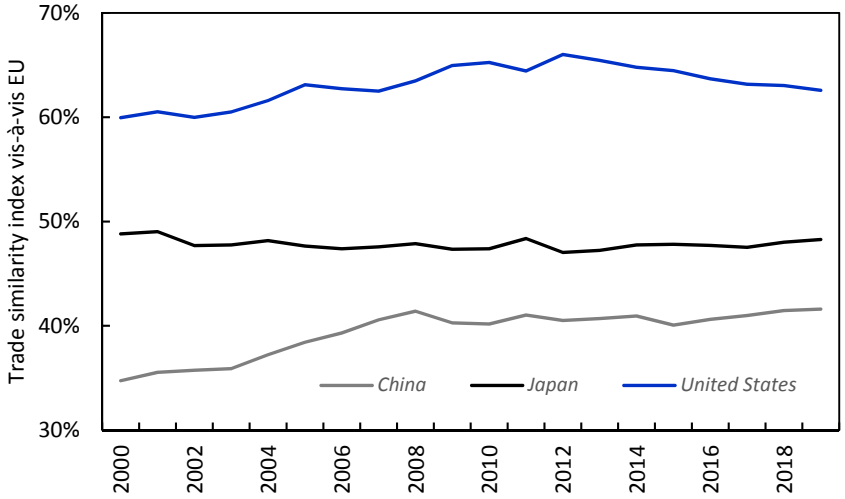
(2) The current account figures may themselves have been partially misleading as of 2014, since capital outflows have likely been registered as travel expenditures, potentially leading to an understatement by around 1 percent of GDP of the current account surplus (see Wong, 2017).

1.2. China specialization still differs significantly from EU's one

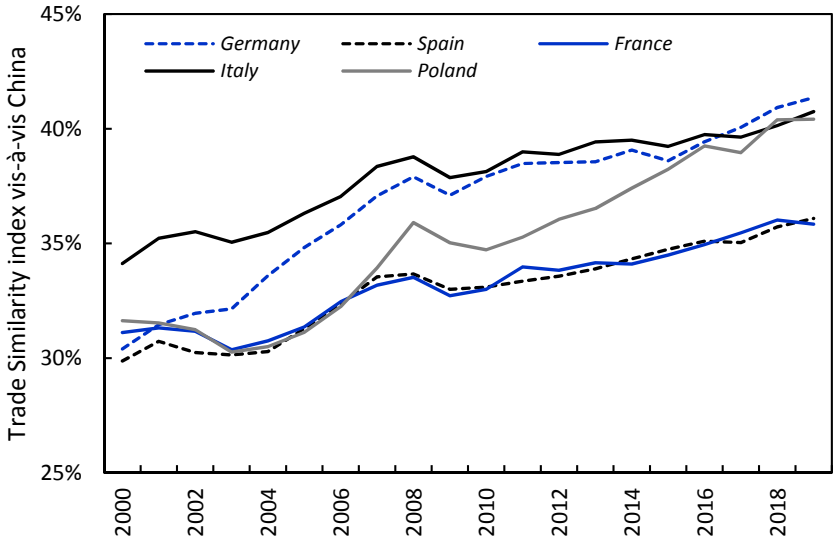
Understanding the nature of economic relations between EU and China also requires investigating product specializations. A first way to do this is to compute an index reflecting the similarity of product specialization across countries, based on their worldwide exports (Figure 3 This shows that, in comparison to the EU, China specialization still differs more than Japan or the US; however, it has been getting closer, especially before the financial crisis. For a subset of large EU countries, this index increases throughout the last two decades, reaching significantly higher levels for Germany, Italy and Poland than for France and Spain. On the whole, China thus appears distant from the EU in terms of specialization, but this is less and less true for the most industrialized Member States.

Figure 3. Chinese export specialization is getting closer to EU's one, with significant differences across Member States

Panel A. Similarity to EU's product specialization (similarity index, in %)



Panel B. Similarity to China's product specialization, by EU Member State (similarity index, in %)

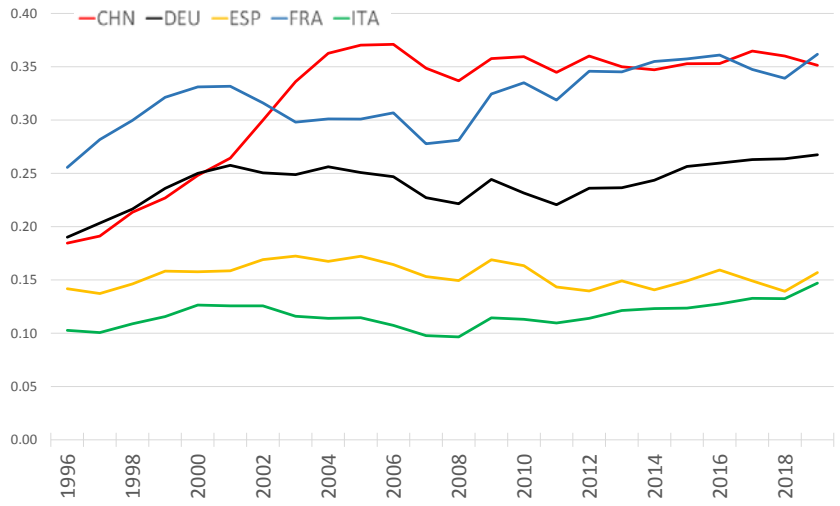


Note: The similarity index between countries *a* and *b* for year *t* is calculated as follows: $S(a,b)t = \sum k \ min(X_{akt}, X_{bkt})$, where X_{akt} is country *a* market share in world exports of product *k* (defined at the 6-digit level of the harmonized classification, *SH6*) during year *t*. Intra-EU trade is excluded as well as bilateral relations between the compared countries.

Source: Author's calculations from CEPII- WTFC database

Moreover, this persistent difference does not mean that China did not manage to do well in sectors of interests for advanced countries. On the contrary, classifying products by technology level, based on Research and Development (R&D) intensity, shows that products classified as high-tech accounted for 36% of Chinese exports in 2019, a share similar to the French one, and significantly exceeding the one calculated for Germany, Spain and Italy (Figure 4 This indicator, based on relatively large sectors, remains crude, and mainly illustrates the strength of China in R&D-intensive sectors like electronics and information technology.

Figure 4. High-tech products account for large share of Chinese exports

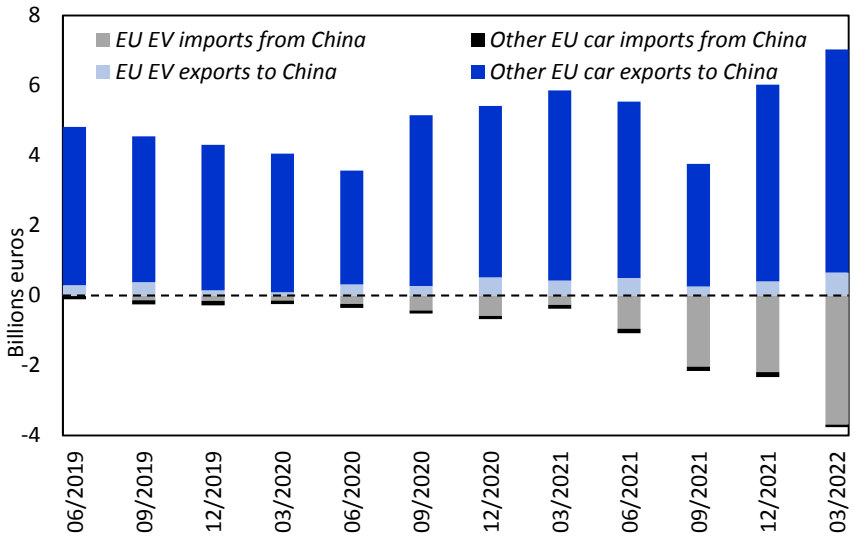


Note: Share of products classified as high-tech in the OECD taxonomy of economic activities based on R&D intensity (Galindo-Rueda and Verger, 2016).

Source: Calculations based on BACI (CEPII).

Practically, this means that China has become a powerful competitor in many innovative sectors. Bilateral trade in cars provides a spectacular illustration: almost negligible until the end of 2020, EU imports of electric vehicles (EVs) from China reached €3.7 bn in March 2022, an amount not far away from EU's car sales to China (Figure 5). While a significant proportion of these imports were made by Tesla, in a context where their factory in Germany is facing delays, it is a very clear signal about the China's competitive strength, in a manufacturing sector which will be of central importance in the years to come.

Figure 5. Chinese exports of EV are of a large-enough magnitude to rebalance trade in cars (quarterly exports of cars)



Note: For Q1 2022, numbers are derived from 12 months year-of-year trends over January and February.

Source: MERICS, based on Comext (Eurostat).

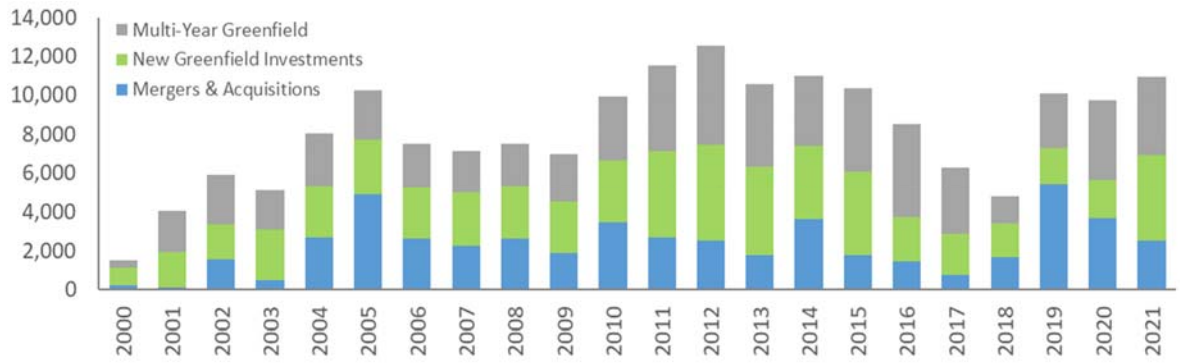
1.3. FDI reflects internal and external political developments in China and the EU

As regards bilateral investment, flows from the EU to China have long been the most important ones, by far. Since 2001, their yearly value always exceeded $4 bn, sometimes overreaching $10 bn, with Germany as the main country of origin, especially in recent years, and to a lesser extent France, the UK and the Netherlands (*cf*. MERICS and Rodhium Group Research). Yearly flows increased recently after showing a downward trend during most of the 2010s, but it is not clear whether these figures can be viewed as reflecting a new trend, given that surveys consistently suggest that the business environment is getting increasingly difficult, outside a few sectors benefiting from targeted openings (see EUCCC Business surveys).

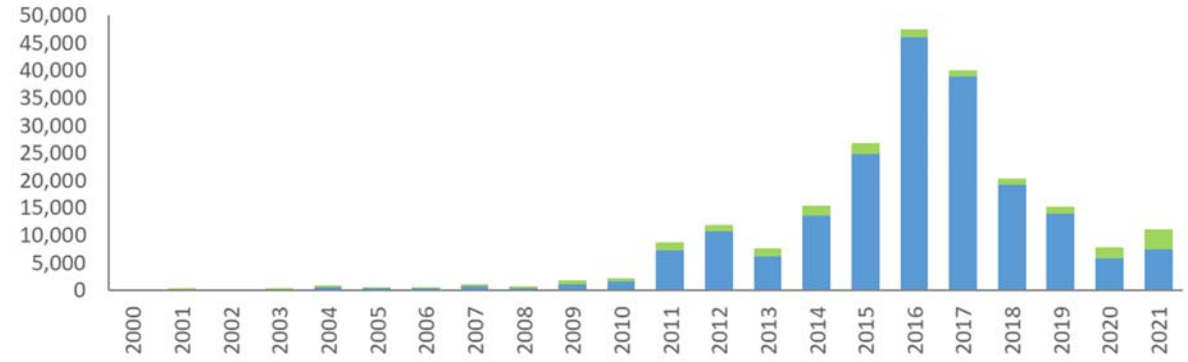
Investment flows from China to the EU, in contrast, only reached significance after the global financial crisis, and faced contrasting trends since then. Recent years have been marked by the spectacular decline of Chinese FDI in the EU (including the UK), from the $47 bn peak reached in 2016 (Figure 6). It is difficult to disentangle the roles of the two main underlying factors explaining this trend: the general decline in Chinese outward FDI, in a context of tightened grip over outward capital flows; and the enhanced vigilance of the EU with regards to inward FDI, which materialized institutionally with the adoption of the EU FDI screening regulation, in force since October 2020. In any case, the small increase witnessed in 2021 suggests that the consolidation phase may be over, with yearly inflows returning to above $10 bn. Beyond this aggregate figure, an important trend is the increasing share of greenfield investment, which exceeded $2.5 bn yearly in 2020-2021, its highest level ever, representing 30% of Chinese FDIs to the EU, up from 6.6% in 2018-2019 and 2.9% in 2016-2017. This surge in greenfield investment shows that the attraction of the EU for Chinese investment is not only linked to the possibility to acquire high-end technologies, but also increasingly, to the willingness to be present on this market: beyond the uncertainties surrounding investment trends, the EU will likely continue to be a prime target for Chinese capital exports.

Figure 6. FDI flows between the EU28 (EU27 plus UK) and China

Panel A. FDI flows from the EU28 to China (million USD)



Panel B. FDI flows from China to the EU28 (million USD)



Source: Rhodium Group and MERICS.

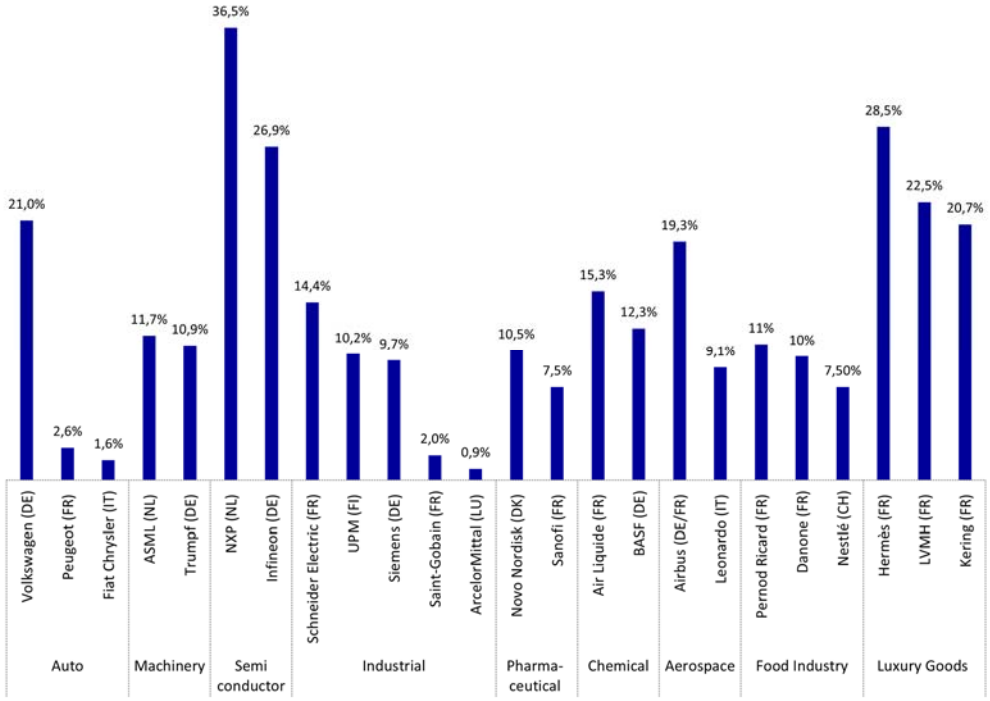
2. Assessing EU companies' dependence on the Chinese market

In a context of increasing tensions and of focus on strategic autonomy, these large, bilateral economic relations with China have raised concerns about possible ensuing vulnerabilities, to the extent that overreliance on China might create problematic dependence. Analyses for that matter have hitherto focused on imports –and, as a matter of fact, the pandemic has highlighted the extent to which the EU depended upon imports from China to procure products indispensable in fighting the pandemics. Yet, recent episodes such as Chinese sanctions against Australia and Lithuania, or against European firms taking action to prevent sourcing tainted with Uyghur's forced labor, show that dependence on the Chinese market must also be taken into account, because it may be used by China as a lever of pressure, if not coercion. This section aims at shedding light on this dependence, taking into account both activity in and exports to China, and relying to the extent possible on disaggregated information

2.1. Large revenue-based dependence on the Chinese market is common among European firms

The extent of European companies' dependence on the Chinese market is difficult to document precisely. The information is not public for small companies, and not systematically nor transparently provided by large companies. Still, case-by-case analysis based upon companies reporting makes it possible to assess the share of revenues they derive from China. Based on MERICS estimates for selected large European companies (Zenglein, 2020), and on additional work for selected luxury goods and food producers, Figure 7 shows that earning about 20% or more of total revenue from China is not uncommon among large European firms.(3) This is most of all the case in electronics, luxury goods and aerospace and, while the situation is highly different across companies in the automotive sector, it is also the case Volkswagen. A still significant dependence, around 10%, is even more common among the firms analyzed here, in machinery, chemicals, pharmaceuticals and food products.

Figure 7. Estimated China's market sales in the revenue of main EU companies in 2019



Note: For luxury goods, published data concern a region broader than China itself, generally Asia-Pacific. Estimates for China were computed multiplying this share by China's share in the region's total consumption of luxury goods.

Sources: Zenglein (2020), and CAE calculations for food industry and luxury goods.

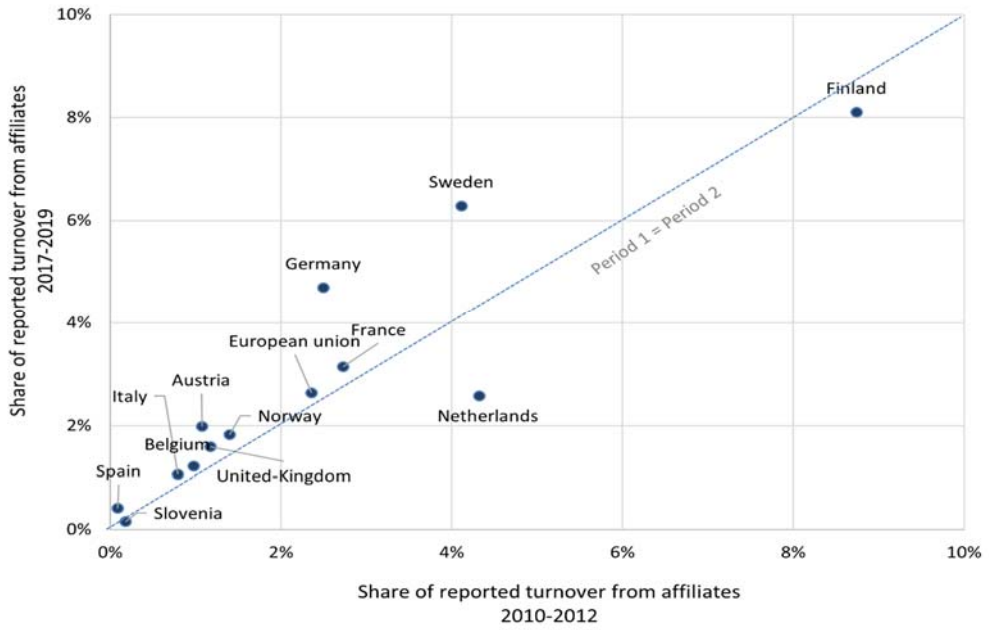
(3) Focusing on the 25 companies most exposed to China among the 50 largest companies by market capitalization of the MSCI Europe, Dams and Xiaxue (2022) find that China accounted for more than 10% of revenues for 17 of them.

These revenue-based estimates are insightful because they provide a wide-ranging view of potential dependence. Yet, they bundle activities that are very different in terms of their policy implications: exports, foreign affiliates' sales, and sales to Chinese residents outside China.

The latest channel is registered in balance of payment statistics as tourism receipts. It is difficult to evaluate accurately, but statistics and specific studies can be mobilized to give orders of magnitude. Thus, in 2016, Chinese tourists were estimated to represent 6% of the total night spent in Europe by "guests from outside the EU".[4] In France, in 2019, receipts linked to tourism from China represented around €3,5 billion, part of it corresponding to goods purchases, especially luxury goods, in an industry that represented around €170 billion. Obviously, the Covid-19 pandemics shut down tourism, especially so from China. The French Treasury estimates that the exports of luxury goods increased significantly as a result: France's exports of manufactured leather goods have been multiplied by five since 2019, reaching €2.5 billion in 2021.

The second channel, foreign affiliates' sales, is difficult to assess based on firms' report. However, aggregate statistics, based on balance of payments, are available about revenue earned by manufacturing companies from affiliates in China (Figure 8).[5] For the European Union, on average, revenues from affiliates in China represented between 2% and 3% of total turnover for manufacturing companies. While this share has been rather stable since 2014 (and even declining for the Netherlands), three countries exhibit a remarkably high and-of-period level, together with a significant upward trend across the period for the latter two: Finland, Sweden and Germany. France is in an intermediate position, with a slightly increasing trend and an amount of revenues from affiliates in China that is not above 4% over the period. For other sectors not shown here, revenues from affiliates in China remain quite negligible, except in wholesaling, where they account for between 1 and 2% of total revenue at the EU level (around 3% in France and in Germany).

Figure 8. Share of European Manufacturing companies' turnover coming from affiliates in China



Reading: Between 2017 and 2019, the flows coming from Chinese affiliates of French manufacturing companies represented 3% of the total turnover of the sector.

Note: Foreign affiliates are attributed based on the country of origin of the 'ultimate controlling institutional unit', in a harmonized way for all European members.

Source: Outwards FATS data for the manufacturing sector (Eurostat).

(4) This measure is one of the usual measure of tourism. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tourism_statistics_-_EU_and_China

(5) https://ec.europa.eu/eurostat/web/economic-globalisation/globalisation-in-business-statistics/foreign-affiliates. Due to the difficulties of harmonization across countries and statistic secret rules, this Focus proposes analyses at an aggregate level only.

2.2. In France, export-based dependence on the Chinese market remains limited

Export-based exposure is easier to monitor, as we did already with aggregate data. Still, a fine-grained analysis is required if vulnerabilities, or at least cases of heavy reliance, are to be properly identified. Doing so requires a firm-level assessment which, to the best of our knowledge, has not been carried out yet. This Section proposes such firm-level assessment for France in 2019, based on customs' statistics, merged with administrative data.[6] Statistics are consolidated at the group level,[7] and firms with zero or one employee, for which the quality of the administrative data is debated, are excluded. The analysis focuses on goods-producing companies, excluding agriculture and extractive industries. It covers 23,700 independent companies, making around €16 billion of exports to China (90% of total French exports to China in 2019),[8] with total sales worth €1 270 billion (i.e., very close to total revenue of industrial sectors in national accounts, estimated at €1250 billion by Insee).[9]

Expressed as a proportion of total revenue, exports to China weighs more on average for large firms (1.6%) than for medium (0.9%) and small ones (0.5%).[10] Out of the whole set, 85% of firms are not exporting at all to China, but most of them are small ones; only 22% of large firms were not exporting to China in 2019 (Table 1).

To assess dependence, we then focus on the proportion of firms exhibiting relatively large exports to China, which we arbitrarily define as exports to China accounting for more than 5% of revenue. We find that only a limited share of French firms overreaches this level of exports to China: 1.4% of small-medium firms, 5.4% of medium ones, 4.3% of large ones. Firms making more than 10% of their total sales turn out to be a really small fraction, around 1% of large and medium firms, a finding in stark contrast with the evidence presented above about revenue-based dependence.

Table 1. Degree of dependence of French firms on exports to China, depending on their size

		Small-Medium	Inter-mediate	Large	All
No export		88.7%	41.4%	22.6%	85.1%
Exports to China as a share of total sales reported in France	– Share < 5%	9.9%	53.7%	73.1%	13.2%
	– Share 5-20%	1.1%	4.5%	4.3%	1.4%
	– Share > 20%	0.3%	0.4%	0.0%	0.3%
Exports to China in the total sales of the category		0.5%	0.9%	1.6%	1.3%
Share of the category in total sales reported in France		11.9%	29.7%	58.3%	100.0%

Scope: Goods producing firms, except agriculture and extractive industries.

Source: Authors' calculations from French Customs data (Statistiques du Commerce Extérieur de la Direction Générale des Douanes et Droits Indirects) and Dispositif Esane (Insee)

(6) More precisely, we match product-firm data from Customs authorities (Direction Générale des Douanes et Droits Indirects) and data on firms (from the INSEE and Fichiers FARE 2019 – Dispositif Esane, containing statistical information on French firms and the LIFI file on financial relations between firms to re-construct groups, corporations and holdings). By construction, only the revenues declared to the French authorities is considered. *Access to some confidential data, on which is based this work, has been made possible within a secure environment offered by CASD – Centre d'accès sécurisé aux données (Ref. 10.34724/CASD)*

(7) Groups are assumed to include fully all majority-owned subsidiaries. Ownership links below 50% are not taken into account.

(8) https://www.tresor.economie.gouv.fr/Pays/CN/echanges-bilateraux-entre-la-france-et-la-chine

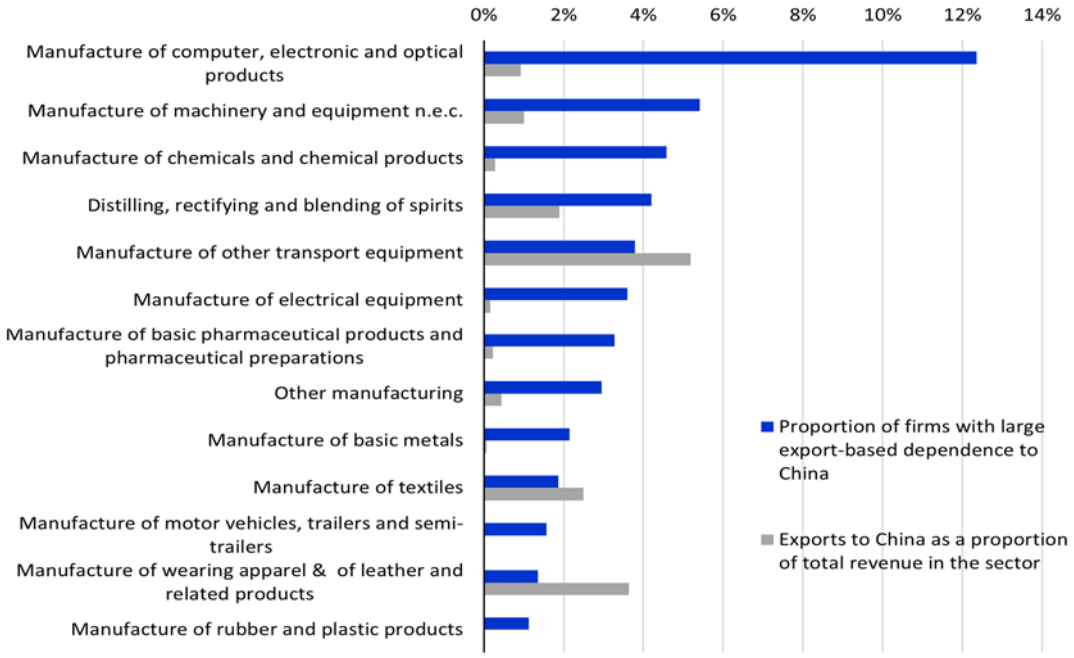
(9) https://www.insee.fr/en/outil-interactif/5543645/tableau/70_SAC/73_IND .

(10) The size of firms corresponds to French threshold. A firm is categorized as small when the number of works is less than 250 workers, medium if between 250 and 4,999 and less than €1.5 billion of total sales, and large if more than 5,000 workers.

This exposure differs widely across sectors. Considering all firms together, and still retaining the threshold of 5% of revenue to characterize "large" export-based exposure to the Chinese market, manufacture of computer, electronic and optical equipment stands out, with more than 12% of firms concerned (Figure 9). In a few other sectors, around 4% of firms exhibit large export-based exposure to China: machinery and equipment, chemicals, alcohols, other transport equipment, electrical equipment, pharmaceuticals. This is not negligible, but it remains a fairly low level, given the relatively low threshold used, and the importance of China as a trading partner. Furthermore, these calculations show that the proportion of firms is almost completely disconnected from the level sector-wide exports, as a share of revenues: this reflects the overwhelming importance of large firms for exports to China.

Summing up, analysis of firm-level for France shows that dependence on the Chinese market is far lower when assessed based on exports only, rather than based on revenues, included those from affiliates in China. In addition, even this export-based dependence is narrowly focused on a relatively small subset of firms. This does not mean that dependence on the Chinese market does not matter: rather, it means that it is concentrated on a small subset of firms, and that it largely stems from their investment in China, more than from their exports.

Figure 9. Export-based dependence to Chinese market, by manufacturing sector



Note: Large export-based dependence here refers to firms with exports to China in excess of 5% of total revenue.

Source: Authors' calculations from French Customs data (Statistiques du commerce extérieur de la Direction générale des Douanes et droits indirects) and Dispositif Esane (INSEE).

3. Traditional trade policy issues: level-playing field and reciprocity

For the EU, trade relations with China raise significant policy concerns. Without entering into questions not traditionally linked to trade policies, this section aims at describing the most salient features in this respect.

The traditional focus of trade policy lies in ensuring a level-playing field. To achieve it, the multilateral trading system relies upon principles of non-discrimination across partners, of reciprocity in market access commitments, of national treatment (so that imported products are treated as well as national ones once they enter a market) and on a set of disciplines.

Many issues stand out in this respect in the relation with China. In addition to the basic but still important question of market access, the two main concerns voiced by China's partners relate to forced technology transfers and industrial subsidies (and, more broadly, the consequences of its industrial policies).

3.1. Market access remains problematic in practice

As regards market access, China's situation might seem paradoxical. Indeed, having acceded lately to the WTO (in December 2001), China had to make extensive commitments during accession negotiations. They implied inter alia committing to bind tariff duties to an average of approximately 10% (15% for agricultural products, 8.9% for agricultural products), well below the level of other emerging economies –31% for Brazil, for example, or 48% for India.(11) In practice, the simple average of Chinese duties under the Most Favored Nation (MFN) status was 9.3% in 2017, and it was lowered to 7.1% by 2021 (WTO, 2021). Even though this is somewhat higher than the average in advanced economies (5.1% in the EU in 2019), this is a low protection level for an emerging country.

Still, serious concerns are regularly voiced regarding effective market access. Partly, this has to do with the opacity and often discretion in the application of rules, despite WTO commitments of transparency and non-discrimination. They are by definition difficult to observe and characterize objectively, but examples abound of cases where licenses, technical or sanitary regulations or administrative authorizations have been handled in a way that is problematic for foreign producers, and "ambiguous rules and regulations" is cited by 35% of respondents to the EUCCC 2021 survey as one of the three main challenges to do business in China (EUCCC, 2021, p. 3). Despite rhetorical commitments to the (OECD) concept, there has been very little practical movement towards "competitive neutrality", which raises the whole topic of SOE privileges.

The problem also concerns investment, for which the government used to specify sector-specific rules about the possibilities open to foreign firms in the country. In this area, the law on foreign investment, in force since the beginning of 2020, is a significant improvement, since it grants national treatment to foreign firms not concerned by explicit restrictions, as established in a national negative list. And the number of restrictions is trending downward, with 33 in the list published in June 2020, against 63 in 2017 (WTO, 2021).

Another source of significant asymmetry with regard to the EU is government procurement, in which China maintains buy-national policies, limiting strictly the conditions under which procuring entities can have recourse to foreign suppliers. Despite the prospect firmly established during accession of joining the Government Procurement Agreement, China never did, so far, meaning that it is still not bound by any commitment in this area.

3.2. Forced technology transfers are among the main complaints

While China, in the context of its accession protocol, explicitly committed that "permission or rights for importation and investment would not be conditional upon (…) the transfer of technology" (WTO, 2001, para. 203), the reality has been different, as reported by countless foreign enterprises. As a matter of fact, this has been among the main complaints expressed against China by both the US (in particular in the Section 301 investigation launched in in 2017 and resulting in additional tariffs imposed in four stages in 2018 and 2019) and the EU, which challenged Chinese practices in this domain at the WTO in June 2018 (DS549, still in consultation stage). As detailed in the EU's request for consultations at the WTO, some of these practices are explicitly enshrined in pieces of legislation, such as those governing joint ventures and new energy vehicle production, or the broader Regulations of the Import and Export of Technologies ("TIER"); most often, though, they do not result from any legal obligation, but rather from performance requirements expressed informally, which makes it challenging to ascertain the reality of practices.

(11) Source: WTO, average bound tariff for all products. India is only committed to a ceiling for 74% of its products, while China and Brazil have done so for all their products.

3.3. Multifaceted industrial subsidies generate massive market distorsions

Comprehensive data and proof of market distortions resulting from Chinese subsidies is hard to come by but there is growing public awareness and evidence of the problem –including via trade enforcement procedures, institutional and academic research as well as company surveys.

Subsidies can be defined in several ways, and their practice in one form or another is common in most countries. This is also true for the EU: as a matter of fact, the free allocation of emission quotas in the EU has been considered by the US Department of Commerce as a countervailable subsidy (Federal Registry, December 11, 2020) and it is counted as a subsidy in a recent large-scale inventory which, alongside export credit, results in a very wide product coverage of subsidies within the EU (Evenett and Fritz, 2021).

Chinese subsidies are different, though, because of the prominent role they are playing in allocating resources across firms and sectors. DiPippo *et al*. (2022) estimate that even using a conservative methodology, China's industrial policy spending is enormous, totaling at least 1.73% of GDP in 2019. Market distorting state support takes a variety of forms, including direct subsidies but also below-market prices of inputs and production factors (land, energy, water), export credits and concessional finance (see, *e.g.*, Chimits, 2021; Matthes, 2021; Gatley, 2021). EUCCC (2020) notes that "in China, the entire system is designed with this element [subsidization] embedded, not only individual tax rebates or preferential loans. Any kind of intangible benefit is a form of subsidy and should be considered (e.g. preferential regulatory treatment, market access, land rights, anything that results in a lack of reciprocity)."

While these multifaceted modalities make it impossible to provide an exhaustive assessment of subsidies in the Chinese economy, various sources inform about the potential magnitudes at stake. Financial statements of listed companies in China show that direct corporate subsidies are increasing but still relatively small, estimated recently to range from 0.2% to 0.4% or even 0,5% of GDP for SOEs (Gatley, 2021; DiPippo, 2022; IMF 2017). While the median listed company receives subsidies worth 0.8% of revenues, this percentage may double up for those belonging to Strategic Emerging Industries (SEIs), for instance 1.6% in 2020 for semiconductors (Gatley, 2021). In a comparable analysis, Cho (2021) compiled a record of $33 bn in documented industry subsidies of listed firms in 2020 (14% increase year-on-year); for example, payments to 113 semiconductor firms stood at 10.6 bn yuan (€1.5 bn), a twelvefold expansion compared to a decade ago. SMIC alone received just under 2.5 bn yuan (€350 M), on top of $2.25 bn financing from state-backed funds. Other examples of companies with rising profile include shipbuilder China CSSC Holdings, Avic Shenyang Aircraft, Beijing BDStar Navigation, CanSino Biologics and Shanghai Pharmaceuticals Holding.

Low tax rates and systematic tax refunds, specifically for strategic industries are common: for instance, semiconductors companies paid taxes worth only 1.2% of net operating cash inflows from sales in 2020 on average, compared to an average above 35% for the energy industry (OECD, 2019a).

Access to below-market-priced inputs, including energy, raw materials and semi-finished products is also important, especially in upstream industries and metals. For instance, a recent OECD study of the aluminum sector, focusing on 17 of the largest firms, found that total government support reached up to $70 bn over the 2013-17 period, of which $63 bn from the Chinese government alone. Total support was close to or larger than revenue for five Chinese firms, and between one third and one half of revenue for three others. Non-financial government support, mainly through subsidized energy and inputs, accounted for 10 to 40% of revenue of the largest Chinese firms over this period (OECD, 2019b). For non-ferrous metals, the top-10 recipients of subsidies are SOEs, which cumulated amount overreaching 50% of their after-tax earnings (Think!Desk, 2017). In the steel sector, the existence of massive overcapacities and lack of profitability, with large producers only maintained through subsidies, is widely documented and has been a subject of tensions, discussions and institutional initiatives for years (e.g., OECD, 2018).

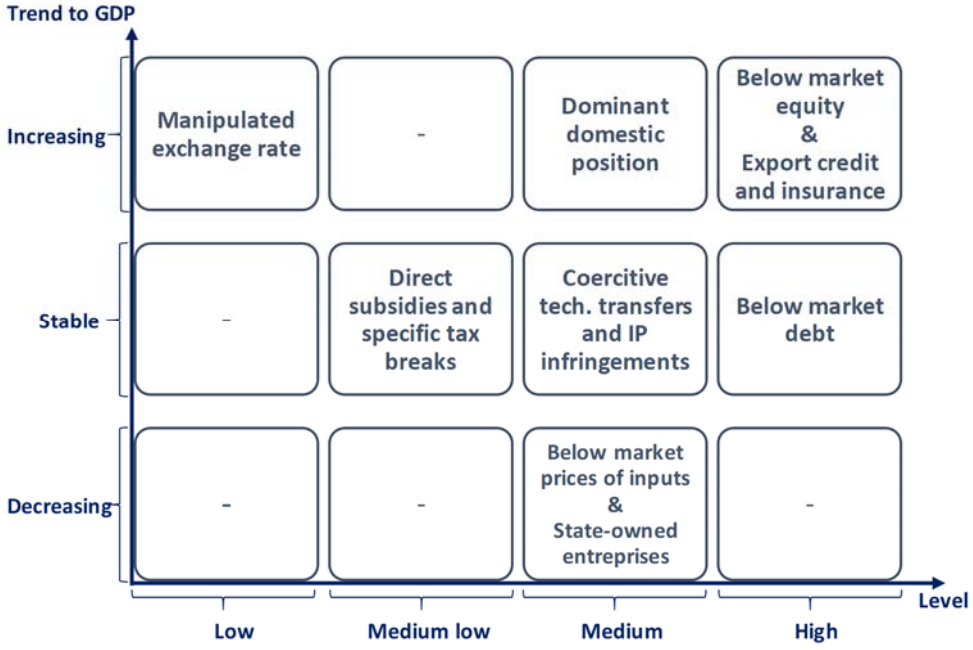
Access to below-market-priced production factors is common as well. Labor and land are frequently concerned but, increasingly, the most important component concerns capital, in different ways. One is below-market equity, through the prioritization of listings for technology intensive companies and the full state support enjoyed at issuance, paving the way to high valuations, themselves making it easier to raise

more debt subsequently. The numerous and large government guidance funds are instrumental in this respect. According to DiPippo (2022), these funds have raised more than $820 bn between 2015 and 2020. Below-market debt is another modality of this support; automotive, capital goods, hardware and semiconductor industries thus only pay around 3% on their interest-bearing liabilities, compared to 5.3% average lending rate for general loans (Gatley, 2021). Harrison *et al*. (2019) analysis of detailed data for the period between 1998 and 2013 also shows the existence of significant state support: on average, since 2010, SOEs were paying interest rates 3 p.p. lower than privately-owned enterprises, for total loans which were twice larger as a proportion of output; their probability to receive a subsidy was two to three time larger, and its size was on average at least five times larger. Their econometric analysis shows that these differences cannot be explained by the different characteristics of these firms, for example in terms of size. This support also extends, although with less intensity, to former SOEs after they were privatized.

Even in agriculture, where sizeable government support is more widespread worldwide, it reaches a very unusual magnitude in China. According to Hopewell (2021) China is responsible for more than three quarters of global cotton subsidies in the past decade. For agriculture as a whole, China's total support, at 2.4% of GDP, is now four times higher than the OECD average (OECD 2017).

Chinas market distorting subsidies also provide for a highly dynamic picture –in line with China's rapidly changing economic (policy) trajectory (see Table 2). Examples of relevant changes in the past twelve months include drastic price reforms in the energy sector, cuts for electric vehicles and renewables subsidies. More generally, specifically in high-tech industries, the modalities of distortive state support and guidance in China are shifting rapidly towards a "financialization of state capitalism" and the targeted use of markets as catalysts of state support, as exemplified by the increasing recourse to below-market equity finance in high-tech sectors. The resulting benefits, measured in terms of additional R&D and capital expenditure, are often multiples higher than initial direct subsidies and tax exemptions.

Table 2. Chinese subsidies are moving toward more innovative forms



Source: Chimits (2021).

4. Concluding remarks

In parallel to the policy assessment proposed in Huotari and Jean (2022), the detailed analysis of some specific aspects of EU-China economic relations presented in this Focus shows how intense and complex these relations are, and how fast they are evolving. On many accounts, China now ranks first among EU's economic partners, and the corresponding relations are of significance for each and every Member State. This is notably the case in R&D-intensive products, which for many of them will be key to the future of manufacturing, thus raising further underlying stakes.

We show that this situation originates a significant level of dependence on the Chinese market among European firms. However, this dependence is most of all linked to a limited number of large companies, and in many cases, it stems in large part from the activity of their affiliates in China. When considered through the lenses of exports, which are directly linked to activity on the European soil, contrary to foreign affiliates, calculations for French firms show that this dependence is far more limited.

This background, marked in addition by a profound and deepening asymmetry, raises a number of concerns. The summary description of issues at stake shows their diversity, and the difficulty to ensure a level-playing field, given the wide-ranging and multifaceted interventions of the Party and the State in China's economy. It also emphasizes that, in this area as well, that practices are evolving quickly.

References

Chimits F. (2021): "Chasing the Ghost of Transatlantic Cooperation to Level the Playing Field With China: Time for Action", *MERICS China Monitor*, October.

Cho Y. (2021): "Eyeing US, China Wields $33bn Subsidies to Bolster CHIPS, defense", *Nikkei Asia Online*, 17 May.

Dams T. and M. Xiaxue (2022): "Investors Beware: Europe's Top Firms are Highly Exposed to China", *Clingendael Report*, April.

Di Pippo G., I. Mazzocco and S. Kennedy (2022): "Red Ink. Estimating Chinese Industrial Policy Spending in Comparative Perspective", *CSIS*.

European Union Chamber of Commerce in China (2021): "European Business in China: Business Confidence Survey 2021", *EUCCC Report*, June.

Evenett S. and J. Fritz (2021): *Advancing Sustainable Development With FDI: Why Policy Must Be Reset*, 27th Global Trade Alert Report.

Galindo-Rueda F. and F. Verger (2016): *OECD Taxonomy of Economic Activities Based on R&D Intensity*, OECD Library, July.

Gatley T.O. (2021): "How Markets Multiply Subsidies", *Gavekal Dragonomics*, September.

Harrison A., M. Meyer, P. Wang, L. Zhao and M. Zhao (2019): "Can a Tiger Change its Stripes? Reform of Chinese State-Owned Enterprises in the PENUMBRA of the state*", National Bureau of Economic Research,* no w25475, January.

Hopewell K. (2021): "Heroes of the Developing World? Emerging Powers in WTO Agriculture Negotiations and Dispute Settlement", *The Journal of Peasant Studies*, vol. 49, no 3, pp. 561-584.

Huotari M. and S. Jean (2022): "Bolstering Europe's Strategy vis-à-vis China", *Note du CAE*, no 072-2022, July.

International Monetary Fund (IMF) (2022): "People's Republic of China: 2021 Article IV Consultation", *Country Report IMF*, no 2022/021, January.

Klein M.C. and M. Pettis (2020): "Trade Wars Are Class Wars" In *Trade Wars Are Class Wars*, Yale University Press.

Lam W.R. and A. Schipke (2017): "Chapter 11. State-Owned Enterprise Reform", In *Modernizing China, International Monetary Fund* (Figure 11.5).

Matthes J. (2021): „Wettbewerbsverzerrungen durch China*", Akademische Evidenz und Ergebnisse einer Befragung deutscher Unternehmen,* IW-Report, no 11, Köln.

OECD (2017): *Agricultural Policy Monitoring and Evaluation,* OECD Library, June.

OECD (2018): "State Entreprises in the Steel Sector", OECD DIRECTORATE for Science, Technology and Innovation, DSTI/SC(2017)10, December.

OECD (2019a): « Measuring Distortions in International Markets: The Semiconductor Value Chain », *OECD Trade Policy Papers*, no 234, OECD Publishing*,* Paris*.*

OECD (2019b): "Measuring Distortions in International Markets*:* The Aluminium Value Chain", *OECD Trade Policy Papers*, no 218, OECD Publishing, Paris.

Think!Desk (2017): *Analysis of Market-Distortions in the Chinese Non-Ferrous Metals Industry,* Report or Think!Desk China Research & Consulting, Berlin*,* September*.*

Zenglein M. (2020): "Mapping and Recalibrating Europe's Economic Interdependence with China", *MERICS*, November.