



EU trade flows and the pandemic: a problem of dependency rather than vulnerability

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Trade in sectors most dependent on global value chains has not shown any particular vulnerability during the pandemic. In fact, these sectors have been even more resilient, which is in contrast to what happened during the global financial crisis. More generally, the European Union's foreign trade as a whole has not been characterized by vulnerability. It fell twice as much as the rest of the economy in the second quarter of 2020, but four times as much during the financial crisis. The fact that services are the most affected this time explains why trade was more resilient. At the same time, exchanges of gloves, masks and other personal protective equipment highlighted the tensions arising from interdependence: export restrictions imposed by the European Union have successfully restored trade within the European single market, but only at the expense of third countries. Yet the European Union is highly dependent on imports of these goods.

The sudden and dramatic economic crisis caused by the policy measures to contain the pandemic has severely affected foreign trade. This is not surprising since these measures have significantly hindered the mobility of goods and people. However, it has given rise to lively debates. Does the fall in trade illustrate the vulnerability of global value chains, which, by breaking up production processes in a multitude of countries, could prove fragile in the event of a crisis? Have the trade measures to face shortages of gloves, masks and medication produced the desired effects? We use detailed, up-to-date European trade data to shed light on these questions.¹

■ Products most dependent on global value chains have fared better

The severe disruptions caused by the crisis, both on production and international transportation, raised concerns on the vulnerabilities of global value chains.² Until mid-February, as long as China has been virtually the only country affected by lockdowns, concerns focused on ensuing risks of disruption in the supply of intermediate inputs.

But as economic turbulence spread around the world, the capacity of the different productive organizations to adapt became the central question. When production is split between different countries, the production chain is only as robust as its weakest link—at least if there is no backup solution and if stocks are limited, as they generally are nowadays. Recovery may therefore depend on the least resilient link in production.

If dependence on global value chains were an important source of fragility, we would expect more dependent sectors to be more affected than others. To test whether this is the case, we first exclude from the scope of the study medical supplies, as well as food and energy products, as the integration of these sectors in global value chains is less relevant as a determinant of trade changes. We then group sectors according to their degree of integration in value chains: to analyse imports, we focus on the dependence on foreign supply, through the use of imported inputs (*backward participation*); for exports, we focus on the dependence on foreign demand, through foreign countries' use of inputs produced domestically (*forward participation*).³

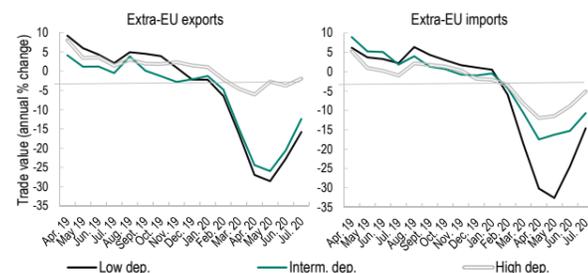
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1. All figures presented in this Newsletter concern the EU in its current configuration, with 27 members.

2. See for example Jean, S., Resheff, A. & Santoni, G. (2020). Les chaînes de valeur mondiales à l'épreuve de la crise sanitaire. In L'économie mondiale 2021, ed. La Découverte, 25-40.

3. OECD's TIVA database indicators. See also Resheff, A. & Santoni, G. (2020). Chaînes de valeur mondiales et dépendances de la production française. La Lettre du CEPII, 409.

Figure 1 – In 2020, trade flows in the sectors most dependent on global value chains have been more resilient



Reading the figure: In May 2020, exports of goods least dependent on global value chains were 29% lower than the previous year, while exports of goods with an average dependency on GVCs were 26% lower and those of most dependent goods were 3% lower. Notes: All products excluded energy, minerals, agricultural products and medical supplies. Sectors are grouped into three categories of equivalent size of their trade, according to the degree of dependence on global value chains. The variations, in percentage, are calculated with respect to the same month in the previous year, on the basis of a three-month moving average. Due to a lack of available data, Belgium is not included.

Source: Authors' calculations based on Eurostat, Comext database.

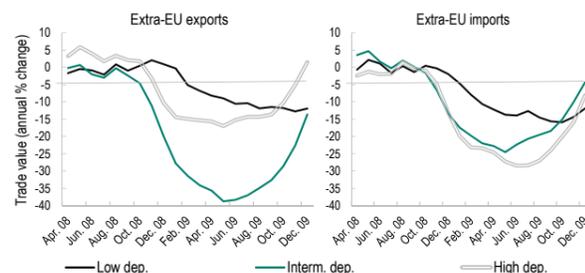
With this setup in place, trade patterns during the 2020 crisis give us a clear picture: whether importing or exporting, the sectors least dependent on global value chains have seen their trade flows plummet most sharply, while the most dependent sectors have been more resilient (Figure 1). Because of sector-specific characteristics, this relationship is, of course, not systematic. But the pattern displayed in Figure 1 does not support the hypothesis that the crisis revealed a fragility that is specific to global value chains.

The relative robustness of global value chains appears even more remarkable when the 2009 global financial crisis is used for comparison. Then, the most dependent sectors were the most strongly affected, even though they rapidly recovered (Figure 2). A more in-depth analysis would be necessary to understand the causes of this difference; but the severe financial turmoil in 2009, which played a role in the collapse of trade,⁴ is likely to have affected complex international value chains more than proportionally. Indeed, this type of production pattern generally requires significant trade finance between business partners. From this point of view, the current crisis has so far proven less destabilizing, thanks to the protective measures taken by central banks and governments, and to the ensuing, fairly rapid rebound in activity.

■ A small fall in trade in proportion to the shock

The COVID-19 crisis has led to a sharp contraction in the foreign trade of the EU27: April and May 2020, the value of trade between EU27 and the rest of the world was 27% lower than in April and May 2019. Similarly, intra-EU trade was 30% lower. The rebound that began in June reduced the decline to an average of 24% for

Figure 2 – In 2009, trade flows in the sectors least dependent on global value chains have been more resilient



Notes: see Figure 1.

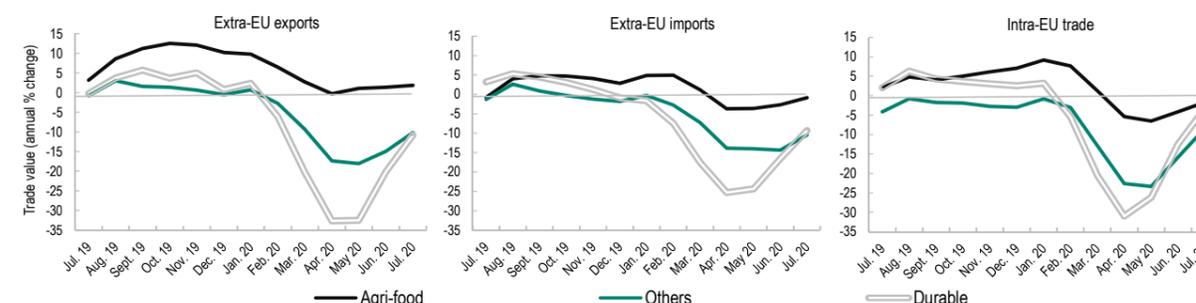
Source: Authors' calculations based on Eurostat, Comext database.

the second quarter. In comparison, the decline in activity for this quarter was 12.3% in value (13.9% in volume).⁵ External trade was therefore twice as affected as overall economic activity, on average. Should we be alarmed? In view of what has been happening since the 1970s, this is not atypical: foreign trade is on average three times more cyclical than the overall economic activity.⁶

As striking as it may be, the drop in trade relative to economic activity appears limited when compared to that of the global financial crisis. In 2009, European foreign trade showed a drop comparable to the one observed in 2020 (-25%), while the decrease in economic activity was about half as large at its nadir (-6.2%). The contraction in trade was thus four times larger than that in GDP, compared to "only" twice in the current crisis. Another notable difference is the speed of the rebound. In 2009, a quarter after the low point, trade in the EU was 20% below the level of the previous year, while it was only 7% lower in 2020. As for the trade balance, its value had increased substantially after the financial crisis; similarly, it recovered in 2020 following a brief drop in April and May.

To understand the nature of trade patterns during the ongoing crisis and how they differ from those during the financial crisis, it is necessary to return to the nature of the shock. In contrast to usual patterns, the current crisis is affecting services more than proportionately, hence its relatively limited effect on trade in goods. Generally, during cyclical or financial crises, manufacturing activity declines more than other activities because it is directly affected by the drop in inventories, the fall in investments and the wait-and-see attitude on the purchase of durable goods. But the COVID-19 crisis does not follow the same logic. The measures to stem the pandemic suddenly disrupted both supply and demand, the intensity of their impact varies across sectors, mainly according to whether sectors are of basic necessity and to their sensitivity to social distancing. As a result, service sectors have been the most affected, in particular tourism, catering, accommodation, events and culture-related activities. For instance, according to the French National Institute of Statistics and Economic Studies (INSEE), the decline in the

Figure 3 – The drop in the trade in durable goods is much larger



Notes: All products excluding energy, minerals and medical supplies. Percentage changes are calculated relative to the same month of the previous year, based on a moving average over three months.

Source: Authors' calculations based on Eurostat, Comext database.

consumption of French households in the second quarter of 2020, compared to the fourth quarter 2019, was 16% on average: 14% for industrial products, but 21% for market services and 24% for construction. According to the available data, this contrast seems to be representative of patterns in other European countries.⁷

■ Trade in durable goods plummeted

The high volatility of international trade is in particular due to the disproportionate importance of durable goods. Cyclical fluctuations are stronger for these goods because purchase decisions can be postponed.

In the present crisis, medical supplies have played a notable role: demand for the goods highly needed in the fight against the pandemic strongly increased – we come back to this below. When excluding medical supplies from the analysis, we observe the specificity of durable goods (whether they are intended for household consumption or firms' investment): their trade flows decreased by 30 to 45%, compared to approximately 20% for other assets. This finding is valid for both exports and imports outside the EU, as well as for trade within the EU (see Figure 3). The abruptness and limited duration of lockdowns may have encouraged to hold off on all the expenses that could be postponed, particularly for durable goods. Even in comparison with previous crises, this specificity is very pronounced.

■ Export restrictions have restored the Single Market, to the detriment of third countries

Another striking dimension of trade during the pandemic concerns personal protective equipment (PPE), of which masks and gloves are the most emblematic examples. Because they are essential in the fight against the pandemic, their demand has sky-rocketed.

Nowhere could pre-crisis supply or available stocks meet this demand, and efforts made to increase supply were not enough to avoid shortages. This type of situation is a source of great instability in trade relations, because regular mechanisms cannot easily re-establish the market equilibrium, which leads to both sharp price increases and supply disruptions. Supplying countries are tempted to restrict exports in order to favour their domestic market, even though major disruptions can follow on international markets when important suppliers are concerned. Food products offer the most compelling precedents: the global market of rice almost disappeared between April 1973 and January 1974 as a result of the decision by Thailand, the world's largest exporter, to ban exports, in order to prioritize its domestic market.⁸ Similarly, rice export restrictions applied from September 2007 onwards, notably by India and Vietnam, contributed significantly to soaring world prices in the nine months that followed.⁹

In early March 2020, several European countries implemented export restrictions on PPE, while Italy was in desperate need of their supply. Most notably, France requisitioned all face masks that were available on its territory and Germany banned their export. Such restrictions within the Single Market were signs of a serious failure in crisis management across Member States. They were only lifted when a European Commission implementing regulation (2020/402) entered into force on 15 March, which made extra-EU exports of some PPE products subject to an authorisation for a period of six weeks (This was later extended to 25 May for most of the concerned products).¹⁰ The stated objective of this regulation was to limit speculative purchases on international markets and to maintain trade within the EU in priority.

While the varied and differentiated nature of products that were subject to this regulation (masks and other face protection, protective clothing for medical teams, and gloves) does not allow to monitor international markets as easily as for a cereal, export flow patterns shed light on the impacts of these measures. It is noteworthy that

4. Ahn, J., Amii, M. & Weinstein, D. E. (2011). Trade Finance and the Great Trade Collapse. *American Economic Review*, 101(3), 298-302.

5. Unlike trade data, which are available on a monthly basis, national accounts data are only published quarterly. In all cases, the variations are calculated in relation to the same period in the previous year.

6. Engel, C. & Wang, J. (2011). International Trade in Durable Goods: Understanding Volatility, Cyclical, and Elasticities. *Journal of International Economics*, 83(1), 37-52.

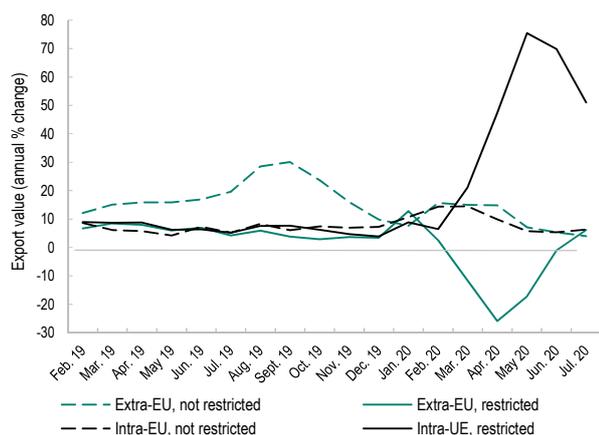
7. See, for instance, Eurostat (2020), Impact of COVID-19 crisis on short-term statistics.

8. See, among others, Timmer, C. P. (2010). Reflections on Food Crises Past. *Food Policy*, 35(1), 1-11.

9. See, for instance, Headley, D. (2011). Rethinking the Global Food Crisis: The Role of Trade Shocks. *Food Policy*, 36(2), 136-146.

10. Of the 34 CN8 lines concerned, six have been withdrawn from the list after six weeks.

Figure 4 – Export restrictions had a differentiated impact on exports of medical supplies



Notes: COVID-19 medical supplies, as identified by the World Customs Organisation and/or the European Commission (with the exception of tariff line 39269097, since the majority of products in this line are not medical supplies). Percentage changes are calculated with respect to the same month of the previous year, based on a three-month moving average. The figure distinguishes the products covered by export restrictions ("restricted") from the others ("unrestricted").

Source: Authors' calculations based on Eurostat, Comext database.

only a very small part of European foreign trade is concerned: in 2019, average monthly exports of products targeted by these export restrictions amounted to EUR 755 million within the EU and to EUR 493 million to the rest of the world, or about 0.3% of total exports. To evaluate their changes, we compare them to other medical supplies that are useful in the fight against the COVID-19 pandemic.

The first consequence of the COVID-19 crisis is the increase of exports in February 2020 by almost 16%, which reflects the strong growth in Chinese demand (Figure 4). This increase is even larger, reaching 25%, when we consider raw monthly data (instead of the three-month moving average considered in Figure 4). By March, when the pandemic reached Europe, extra-EU exports drop sharply

(-11.6 % in Figure 4, -20% in raw monthly data), but intra-EU exports decreased as well (-1% in raw monthly data), which shows that country-specific restrictive measures disrupted the Single Market's functioning during this first phase of the crisis. Conversely, in April a pronounced shift happened: when restrictions within the Single Market were lifted, its functioning was successfully restored. Trade flows rebounded strongly within the Union (+47%), but the restrictions imposed on exports to third countries aggravated their fall (-26% in Figure 4, -40 % in raw monthly data). As a matter of fact, the EU has not been a reliable supplier for its customers, even though its own imports (mainly from China) were multiplied by about 6.5 in May and 8.5 in June. This illustrates the extent of Europe's dependence.

In short, the EU has succeeded in restoring internal coordination, but only at the expense of coordination with third countries. The destabilising nature of export restrictions in such a context is well known. Even though the political pressures that favour such measures are difficult to avoid, export restrictions remain a non-cooperative response, which is highly problematic for trading partners. Indeed, no one should be surprised if they backfire. Coming back to the example of the 1973 rice crisis, major importers such as India and Indonesia have subsequently decided to significantly increase their degree of self-sufficiency. Similar reactions may well arise in response to the current crisis. This is not necessarily a problem, but it is urgent that the EU, as a major exporter of health products,¹¹ develops its capacity to manage such crises in order to assert its reliability in all circumstances.

The COVID-19 crisis highlights the importance of interdependence over vulnerability. This calls for efforts to anticipate, to prevent interdependencies from hindering States' autonomy in carrying out their missions, and efforts to coordinate, to prevent harmful international tensions.

11. See for example Cotterlaz, P., Gaulier, G., Sztulman, A. & Ünal, D. (2020). Les pénuries pharmaceutiques en Europe éclipsent un demi-siècle d'excédents commerciaux. Le blog du CEPPI, May 20. European exports in this area are mainly products other than PPE

