

UK Trade in the Time of COVID-19: A Review

Abstract

This paper offers a detailed review of the UK's trade performance during the COVID-19 crisis and reflects on how this may be revived. During 2020, UK goods exports contracted more sharply than those of its international peers. Statistics suggest that UK had a deeper decline and slower recovery than Germany, Italy, Spain, and the US. Further, the trends from 2017-2019 show a weakening in the UK's global competitiveness, suggesting a more persistent development against the backdrop of productivity slowdown and Brexit uncertainty. We analyse the confluence of internal and external factors that impact on UK trade and emphasise the importance of boosting productivity in the recovery from the COVID crisis and Brexit.

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1. Introduction

The COVID-19 pandemic has caused unprecedented disruption to the world economy. The challenges it presented and the changes it accelerated have upended the existing international economic order. While the public health crisis is far from being contained and the disruptions in global value chains still continue, it is important to document the dynamics experienced by global trade during this turbulent period to help understand the mechanisms of shock transmission and effective mitigation. The UK in particular seems to have lost more than its peers from COVID. As we show in this paper, UK trade not only suffered significant decline in 2020, but also recovered less swiftly compared to its main competitors. Our statistics show that UK's GDP declined by 9.9% in 2020, which is its worst reduction since 1955¹ and compares poorly with the other advanced OECD economies.² Afflicted by supply chain breakdowns and weakened demand, the UK's international trade has also suffered a steep decline. Overall goods exports contracted by 14.7% in 2020 (from 468.3 billion USD in 2019 to 399.6 billion USD in 2020), likely the worst result among the G7.³

The paper focuses on the UK for several reasons. First, the UK's exporting sectors are its core national asset (Allas et al., 2019) and this is not simply down to the value of the exports. The percentage of UK exports to GDP was over 31% in 2019 (DIT, 2020), ranking the UK as the 11th largest global exporter and 5th largest global importer of goods in 2019. The UK exports a broad range of goods and services, many of which contain intensive know-how.⁴ However, UK trade was experiencing considerable challenges even before the COVID crisis. Several years of Brexit uncertainty had already caused trade destruction and diversion (Crowley et al., 2019; Douch, Du & Vanino, 2019; Graziano, Handley & Limão, 2020). The post-Brexit obstacles of red tape and other non-tariff barriers have placed some businesses in an unfavourable position in a fast-changing, fiercely competitive marketplace. Thus, the UK's trade collapse in 2020 was not the result of one crisis, but two. Disentangling the effects of this double-act disturbance to UK trade is a challenging exercise.

¹ This is based on the earliest data provided by the ONS's GDP estimates, <https://www.ons.gov.uk/economy/grossdomesticproductgdp>.

² According to OECD projections, at https://www.oecd-ilibrary.org/economics/data/oecd-economic-outlook-statistics-and-projections_eo-data-en.

³ The UK trade contraction in the first three quarters of 2020 was the largest in G7. As of 1 March 2021, not all G7 countries have published their 2020 annual trade statistics, hence it is as yet unknown if the recovery seen in the last quarter of 2020 will affect this ranking.

⁴ The UK was ranked 11th in the world for high economic complexity (in 2018) by Harvard Growth Lab, based on the current state of a country's productive knowledge through the Economic Complexity Index (ECI). Countries improve their ECI by increasing the number and complexity of the products they successfully export, see more at <https://atlas.cid.harvard.edu/rankings>.

The aim of this paper is twofold. First, it provides a detailed review of UK trade during the crisis period in 2020. To do so, we first compare the trade collapse in 2020 with the last major downturn in 2009, which followed the Great Recession. The distinct causes, triggers, and sequences of shocks that occurred led to different levels of impact. Then, we document the performance of the UK's trade in goods in the first three quarters of 2020 using detailed statistics on trade flows available at the time of writing. We draw from statistics at UK aggregate level, regional level, and product level, as well as data on UK's key markets, to reveal the differential effects of COVID crisis on sectors, products, and markets. Further, to give context for the 2020 trade performance, we also incorporate analysis on the years preceding the crisis: 2017-2019. Documenting the patterns of UK trade during the pre-COVID period and its performance compared against its international peers in the key exporting markets can shed light on the signs of decline of UK trade in the post-Brexit referendum periods.

Second, we reflect on UK's export underperformance in the light of findings from the existing international economics literature, from which we draw lessons for the country's post-COVID recovery. Overall, the future for UK trade is uncertain. The comparatively rapid rollout of the UK's vaccination programme could help the economy to bounce back faster than others, while a thaw in demand-side consumer spending and revived business dynamism could shorten disruptions and reverse the downward growth trajectory. In such circumstances, COVID's negative impact on the UK's economy and trade could be transient. That being said, it is likely that the UK's decline in international trade has deeper causes. The long-term stagnation in productivity growth may be the key reason for the economy's reduced competitive advantages. After all, productivity underpins the competitiveness of UK businesses at home and elsewhere and, by extension, their ability to adapt to accelerated change and exploit the opportunities created by a crisis such as COVID.

For UK trade, some ground has been lost and the *status quo ante* has changed dramatically in a short space of time. The key question is, what changes are necessary if businesses and policymakers are to respond positively and effectively to the challenges ahead? To answer this question, we analyse the possible causes of the observed decline in light of recent globalisation trends. We argue that the slowdown and restructuring of global value chains (GVCs) did not occur simply because of the COVID pandemic. The virus was merely a catalyst for faster changes, in which weaknesses became more visible. What may be at the root of the UK decline in exporting may be its stagnated productivity growth and lack of innovation. We discuss in detail why it is essential for the UK to make boosting productivity its central goal. This will invigorate its recovery from the COVID crisis and help surmount the new trade

barriers resulting from Brexit. Further, we explain why COVID presents an opportunity for strengthening the virtuous circle between innovation, productivity, and exporting. Specific policy recommendations are provided.

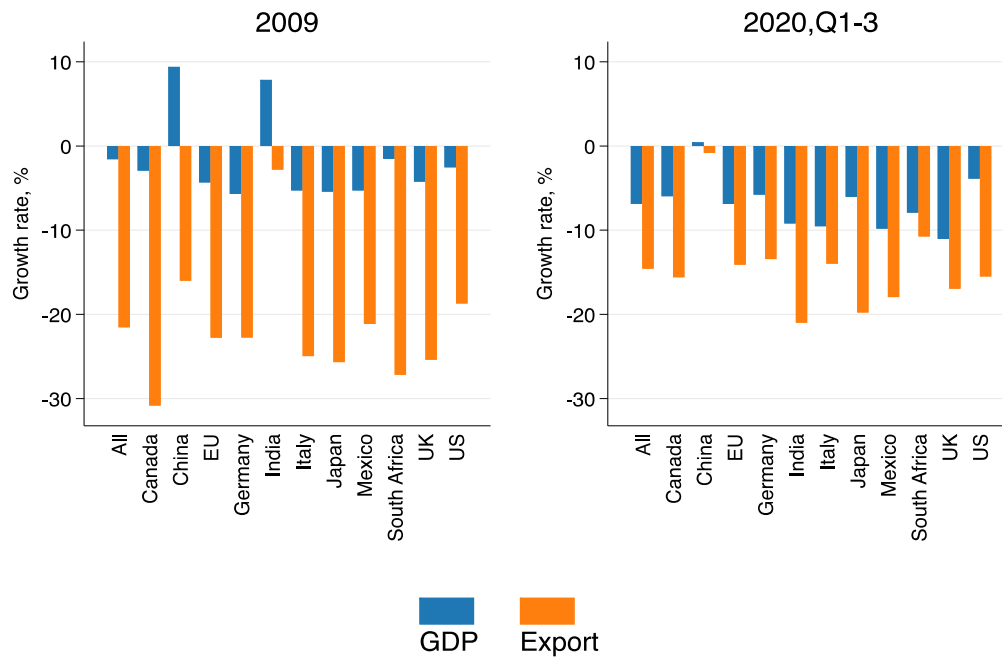
Our analysis draws on the United Nations International Trade Statistics Database (COMTRADE), which is the largest repository of international trade data. This is complemented by the Chinese Customs Trade Statistics Database, which covers consistently coded and quality-checked trade flows between 170 reporting countries on a monthly basis. Further, we reference the most recent available monthly trade transactions between the UK and its trading partners up to September/October 2020 to provide a comprehensive and in-depth analysis of the international trade dynamics of UK businesses.

The rest of the paper has the following structure. Section 2 makes a comparison of the 2020 trade collapse with that of 2009. Section 3 gives a detailed account of how the UK performed in relation to trade in goods in the first three quarters of 2020. Section 4 discusses these findings and identifies the priorities going forward. It also makes concluding remarks.

2. The great trade collapse in 2020

When the COVID-19 pandemic struck in 2020, the world economy was a deeply intertwined, complex network of production and trade. This complexity ensured that, from the outset, COVID-19 and globalisation were tightly linked. Goods, capital, and people crossing borders allowed the virus to travel far, wide, and at rapid speed. To understand the resulting impact on trade, we draw comparisons between this pandemic-triggered trade collapse, and the collapse triggered by 2008 Great Recession. Both crises precipitated sharp and severe falls in exports across the world, accompanied by even sharper declines in GDP, as illustrated in Figure 1. It is noteworthy that these two crises induced very different declines in trade relative to the declines in GDP. The 2009 trade collapse was much more severe relative to the contraction of the economy, while the 2020 crisis caused a significant contraction in the economy despite a somewhat less sharp trade collapse.

Figure 1: GDP and Export Contraction in crisis of 2009 and 2020



Source: WDI, OECD, COMTRADE.

Note: GDP growth for 2009 is from WDI; GDP growth for 2020 is based on OECD Q1- Q3 data, while Q4 data are not yet available. The 2009 export growth is computed based on COMTRADE data, except for OECD and EU export, which are computed based on WDI data on export of goods. All in current USD. The 2020 export growth is based on 9 months of export data from COMTRADE for Canada, UK, US, South Africa, 8 months of data for Germany, India, Italy, and EU, and 7 months of data for Japan and Mexico. Data for China is based on China Customs Data.

To elaborate on this using a metric to measure the scale of trade disruption, we compare the contraction of export growth in relation to that of GDP growth, i.e., the ‘shock factor’. As is evident in Table 1, the 2020 shock factor for all countries studied was only one-seventh that of 2009. Thus, the trade collapse in 2009 was much more catastrophic than that of 2020. Furthermore, the current set of trade shocks have been fairly evenly distributed across countries, whereas in 2009 some countries experienced much more severe shocks than others. In particular, the export contraction among EU countries was five times the GDP contraction in 2009, but only twice as large in 2020.

Table 1: GDP and Export Contraction in Crisis of 2009 and 2020

Country	2009 Trade collapse			2020 Trade collapse, Q1-3			2020 Trade collapse		
	GDP growth	Export growth	Shock factor (Export growth/ GDP growth)	GDP growth	Export growth	Shock factor (Export growth/ GDP growth)	GDP growth	Export growth	Shock factor (Export growth/ GDP growth)
All	-1.6	-21.5	13.8	-6.9	-14.6	2.1	-5.76	-9.64	1.67
Canada	-2.9	-30.8	10.5	-6.0	-15.6	2.6	-5.4	-12.7	2.35
China	9.4	-16.0	-1.7	0.4	-0.8	-1.9	2.3	3.68	1.60

EU	-4.3	-22.8	5.3	-6.9	-14.1	2.0	-6.13	-16.3	2.66
Germany	-5.7	-22.8	4.0	-5.8	-13.4	2.3	-4.9	-7.39	1.51
India	7.9	-2.8	-0.4	-9.2	-21.0	2.3	-6.95	-14.8	2.13
Italy	-5.3	-25.0	4.7	-9.5	-14.0	1.5	-8.87	-7.77	0.88
Japan	-5.4	-25.7	4.7	-6.0	-19.8	3.3	-4.79	-9.19	1.92
Mexico	-5.3	-21.1	4.0	-9.8	-18.0	1.8	-8.24	-9.24	1.12
South Africa	-1.5	-27.2	17.7	-7.9	-10.7	1.4	-6.96	-4.66	0.67
UK	-4.2	-25.4	6.0	-11.0	-17.0	1.5	-9.92	-14.67	1.48
US	-2.5	-18.7	7.4	-3.9	-15.5	4.0	-3.5	-13.02	3.72

Source: WDI, OECD, COMTRADE.

Note: GDP growth for 2009 is from WDI; GDP growth for 2020 is based on OECD Q1- Q3 data. The 2009 export growth is computed based on COMTRADE data, except for OECD and EU export, which are computed based on WDI data on export of goods. All in current USD. The 2020 export growth is based on 9 months of export data from COMTRADE for Canada, UK, US, South Africa, 8 months of data for Germany, India, Italy, and EU, and 7 months of data for Japan and Mexico. Data for China is based on China Customs Data. The last column statistics is based on the available annual data from COMTRADE and OECD as of 1 May 2021.

What factors have led to these differences between the COVID trade collapse crisis and the 2009 collapse? We can analyse this in terms of the causes, triggers, and sequences of the trade collapse. Firstly, according to accounts in the literature, international trade came to an abrupt halt during 2009, leading to a ‘great trade collapse’ (Baldwin, 2009). It was sudden, severe, and synchronized, triggered by the Great Recession in the economy and financial markets. For instance, UK GDP declined by 4.2%, while exports fell by 25%. The same pattern was observed for all countries, as shown in Table 1. China and India actually experienced economic growth of 9.4% and 7.9%, but exports from even these two countries declined by 16% and 2.8%. In contrast, in the 2020 trade collapse, GDP decline was stronger, with a 1.6% overall decline in 2009 versus 6.9% in 2020. However, trade was not impacted as strongly as in 2009. For all the countries presented, exports declined by 21.6% in 2009 and by 14.6% in 2020.

Secondly, the global trade collapse of 2009 was caused by a strong negative demand shock (Bricongne et al., 2012), which pushed commodity prices into freefall. Not surprisingly, countries that rely on exports of natural resources, such as Russia and Saudi Arabia, had the sharpest declines in exports in 2009 (35.5% and 38.7%, respectively). This explains why Canada and South Africa, which are also big exporters of natural resources, likewise saw very large declines in exports. In comparison, the 2020 trade collapse was relatively mild and its recovery started quickly. Unlike the 2009 collapse, which was mainly driven by the massive demand shocks generated by the global financial crisis, the COVID trade disruption was initially caused by supply shocks, primarily due to the virus containment and social distancing measures that were summarily put in place (Baldwin & Tomiura, 2020). The rapid shutdown of the economies then led to domestic demand shocks that generated startling disruptions,

exemplified by the temporary shortages of everyday commodities ranging from fresh vegetables, eggs, milk (Yaffe-Bellany & Corkery, 2020), and meat (McLean, 2020), to toilet paper (Oremus, 2020). These shortages were attributable to panic-buying coupled with an alleged lack of responsiveness from hyper-efficient but rigid modern supply chains (O’Leary, 2020; O’Neil, 2020; Shih, 2020).

Thirdly, the role of global value chains in the two trade collapses differed. Supply chain dynamics vary considerably, not just by industry but also by the characteristics of specific products, the responses and strategies of the producers (Gereffi, 2020), and the distribution channels involved (Cattaneo et al., 2010). Notably, in both crises, GVCs played a big but differing role. In 2008-2009, GVCs propagated the crisis from one country to another, and because all countries were experiencing the financial crisis at the same time, the shocks were synchronous across the globe. In 2020, the situation was different, as countries went in and out of lockdowns for different periods, using international trade to cushion domestic shocks. Therefore, GVCs played a moderating role as the tool to smooth and diversify risks. One area that featured prominently as a moderator is the production and trade of COVID vaccines, which are crucial to fighting the virus. The availability of many types of vaccines produced in different countries is actually a boon since it reduces the risk of further economic problems.

In addition, in 2020 commodities prices and their export values remained relatively stable or even, as in the case of metals, experienced an increase. The only exception to this rule was oil and gas where prices fell, albeit to a significantly less degree in 2020 (21% fall) than in 2008 (54% fall).⁵ As a result, the 2020 crisis did not hit commodity exporters as hard, instead having a larger impact on exporters of cars, aircrafts, and their components.

Finally, trade relies on the provision of trade credit, as there is a long-time lag between shipping goods and their delivery. In 2009, the credit markets were frozen, and this shock spilled over into letters of credit and similar financial instruments that are essential for the wheels of global trade to turn smoothly (Ahn, Amiti & Weinstein, 2011). In 2020, however, the credit markets continued to function.

In conclusion, in 2009 when GVCs amplified the crisis, the shocks were synchronous across the globe, as all countries experienced the financial crisis at the same time with (almost) everyone losing out. In 2020, local supply-side conditions played a major role in driving trade shocks, and these relied on policy responses both in economic and social terms. This time, while countries experienced catastrophic declines in their production capabilities, they were

⁵ <https://www.macrotrends.net/1369/crude-oil-price-history-chart>.

nevertheless able to stay afloat due to asynchronous pandemic shocks. By leveraging diversified sources of goods and services, countries managed to smooth their consumption and saw much lower losses in welfare. Hence, the trade effects across the world were asynchronous and the speed of recovery from trade collapse varied. This means that, in 2020, the degree of trade disruption in a country depended on the nature of its products serving the GVCs, its successful control of the pandemic, its policy responses to support businesses, as well as its ability to seize new exporting opportunities to fill gaps in global markets. Inevitably, there have been winners and losers from the COVID shock. The uneven distribution of the trade disruption is likely to exacerbate the unevenness of the economic geography between and within countries, warranting careful study by researchers within the field of world economics.

3. How did UK trade perform through the COVID-19 crisis?

To understand the UK's trade performance during the COVID-19 crisis, we consider the aggregate level trade flows during 2020 and between 2017-2019. We follow this with the aggregate product level trade flows to identify specific trends in different types of goods. This is followed by regional aggregate trade flows, to identify overall trends in global markets. Finally, we turn to certain of the UK's important market destinations (US, Germany, and China) to investigate its performance in relevant products versus competitor countries.

3.1 Aggregate trends

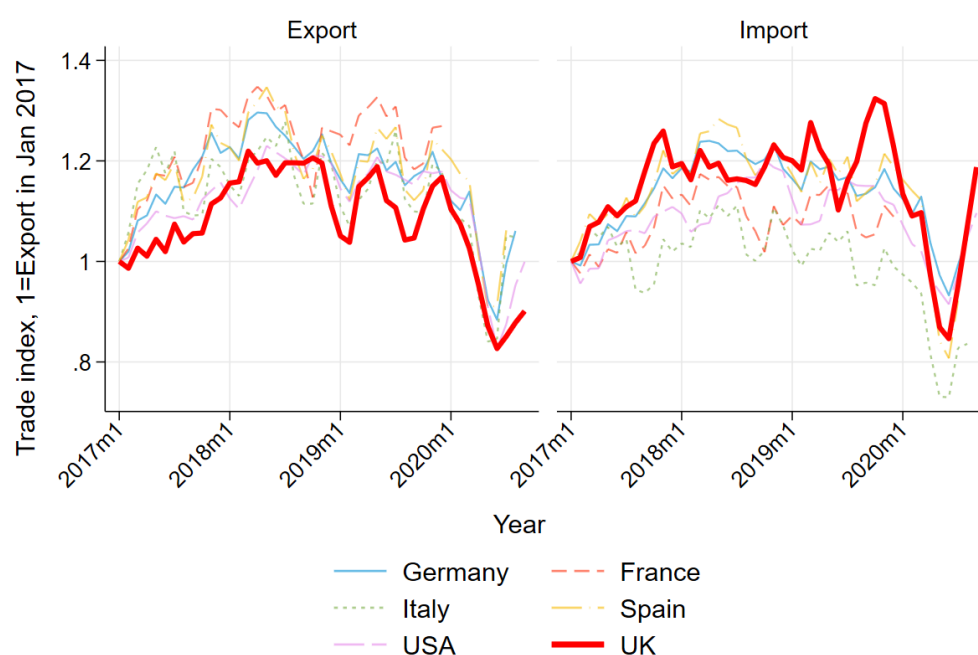
Using monthly aggregate trade flow data between January 2017 and September 2020, we provide an overview of the trends in the UK's exports and imports, which we compare to those of its peers. As shown in Figure 2, the level of UK exports between January-September 2020 was 17.0% lower than those of the same period in 2019, and UK imports were 14.3% lower. In fact, UK exports after January 2020 were consistently below the trend, reaching their sharpest decline in May 2020 year-on-year (33.5%, YOY) and slowly recovering over the following months. By September, exports were 14.4% lower than those of the same period in 2019, and this was even below the level in 2017. An international comparison reveals that the UK's peers experienced similarly sharp declines after COVID hit China in January. However, the statistics suggest that the UK had a deeper decline and slower recovery compared with Germany, Italy, Spain, and the US. It is noteworthy that the slowdown in growth did not start

in 2020. In fact, UK exports have been growing more slowly than those of most other countries since 2017.

Turning to UK imports. These also experienced a severe decline, dropping to their lowest point in April (30.3% decline, YOY) and May (32.1% decline, YOY). However, a dramatic increase in the following months saw total imports considerably exceed the trend line in September (3.8% higher YOY). *Prima facie*, this suggests some hold-up problems in the earlier months. However, as further analysis shows, the import recovery is in fact driven by volatility in the trade of gold, with other imports remaining below the trend line.

Overall trade statistics can only offer limited information about trends and even less about the specific underlying dynamics. Understanding what causes the divergence in the behaviours of exports and imports at the aggregate level and which sectors drive these results requires more detailed analysis at product level, which we turn to next.

Figure 2: UK Export and Import (2017-2020)



Source: COMTRADE, Authors' calculation. The 2020 figures are based on Q1-Q3.

3.2 Product trends

We first consider the top six products of UK exports and imports in terms of their economic significance, measured at Harmonized System (HS) 2-digit level. Together, these account for

57% of all UK exports in 2018.⁶ We also pinpoint emerging trends by identifying the fastest growing and declining products exported and imported over the same period.

Table 2 shows the UK's top exports and imports in 2020 and there are some striking features. Of the top six most-exported products, all but gold experienced sizeable declines in monthly terms between January and September 2020. Mineral fuels, as an intermediate input to gas and petroleum, had the sharpest decline during the first three quarters in 2020, seeing a YOY monthly reduction in exports of 36.7%. This is largely due to demand shocks caused by travel restrictions and it is therefore a global trend.

Car exports declined almost as much as mineral fuels. On average, there was a 36.5% YOY monthly reduction in the exporting of cars in 2020. The COVID pandemic presented the global car industry with an unprecedented challenge. Following the complete lockdown in the first quarter in China, which is the world's largest car market, the pandemic arrived in Europe and then elsewhere, causing production to cease and supply-chains to collapse. These supply shocks were followed by demand shocks for the carmakers in the form of massive levels of job loss and income uncertainty for consumers. UK car exports did, however, recover quickly to the trend level by September 2020, the disruption, overall, was similar to that of the German carmakers. However, some industry experts argue that the pandemic merely accelerated the transformation of the car industry towards electric and digital technologies, which means that the decline of the traditional cars markets is likely to continue.⁷

Machinery and mechanical appliances experienced a YOY monthly fall of 18.7%, followed by a slightly smaller decline in electronic machinery products of 15.3%; both of these were exported considerably below the trend. Also, the export of pharmaceutical products did not experience the boost that might have been expected. This is likely due to the strict export restrictions imposed in 2020. Gold was the only main product that has consistently been traded above typical levels throughout the period, especially in the most severe upsurges of the pandemic in April and September 2020.

⁶ The products we investigated include HS27: Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes – “Oil and Gas” for short; HS30: Pharmaceutical products, HS71: Natural, cultured pearls, precious, semi-precious stones, precious metals, metals clad with precious metal and articles thereof; imitation jewellery coin – “Gold” for short, it being the main component; HS84: Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof – “Mechanical equipment” for short; HS85: Electrical machinery, HS87: Vehicles; Other than railway or tramway rolling stock, and parts and accessories thereof – “Cars” for short.

⁷ See report “Reimagining the auto industry's future: It's now or never” by McKinsey (2020) available at <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/reimagining-the-auto-industrys-future-its-now-or-never>.

Turning to the main items imported by the UK, Table 2 delineates a clear picture of import reduction. The symmetric decline of imports in machinery and mechanical appliances may suggest the decline has been caused by global production network disruptions. The decline in electronic machinery products recovered to pre-pandemic levels by September 2020. This can be explained by strong consumer demand for semi-durable goods, electrical appliances, and electronic devices after the UK economy emerged from the first lockdown and consumer confidence began to grow. As a result, consumers who had delayed purchases of large consumer items in the first half of the year were much more active in the 3rd quarter of 2020.⁸ Evidently, there was a symmetric decline of mineral fuels imports that mirrored the decline in exports; this looks to be somewhat enduring in that these products have been traded considerably below trend levels due to weak demand caused by travel restrictions.

Table 2: UK Trade by Products (Q1-Q3, 2020)

Products	Monthly exports, billion USD	Export growth, % YOY	Products	Monthly imports, billion USD	Import growth, % YOY
Top 6 exports of UK			Top 6 imports of UK		
Mineral fuels (HS27)	2.176	-36.7	Mineral fuels (HS27)	2.745	-41.9
Cars (HS87)	2.659	-36.5	Cars (HS87)	4.302	-33.5
Machinery and mechanical appliances (HS84)	4.918	-18.7	Machinery and mechanical appliances (HS84)	5.595	-20.4
Electrical machinery (HS85)	1.978	-15.3	Electrical machinery (HS85)	4.189	-15.0
Pharmaceutical products (HS30)	2.002	-9.6	Pharmaceutical products (HS30)	2.007	-10.9
Gold (HS71)	3.806	15.9	Gold (HS71)	8.823	32.7
Top 6 fastest growing exports			Top 6 fastest growing imports		
Ores, slag and ash (HS26)	0.017	19.7	Arms and ammunition (HS93)	0.066	18.9
Other plants (HS12)	0.023	26.3	Gold (HS71)	8.823	32.7
Explosives; pyrotechnic products; matches; (HS36)	0.007	28.2	Other plants (HS12)	0.102	37.0
Manufactures of straw (HS46)	0.001	95.4	Tobacco (HS24)	0.063	66.2
Vegetable products, other nes (HS14)	0.000	102.0	Ships and boats (HS89)	0.090	85.7
Ships and boats (HS89)	0.219	126.4	Textile articles nes (HS63)	0.538	145.0
Top 6 most declining exports			Top 6 most declining imports		
Tobacco (HS24)	0.001	-80.6	Furskins and artificial fur (HS43)	0.003	-49.8

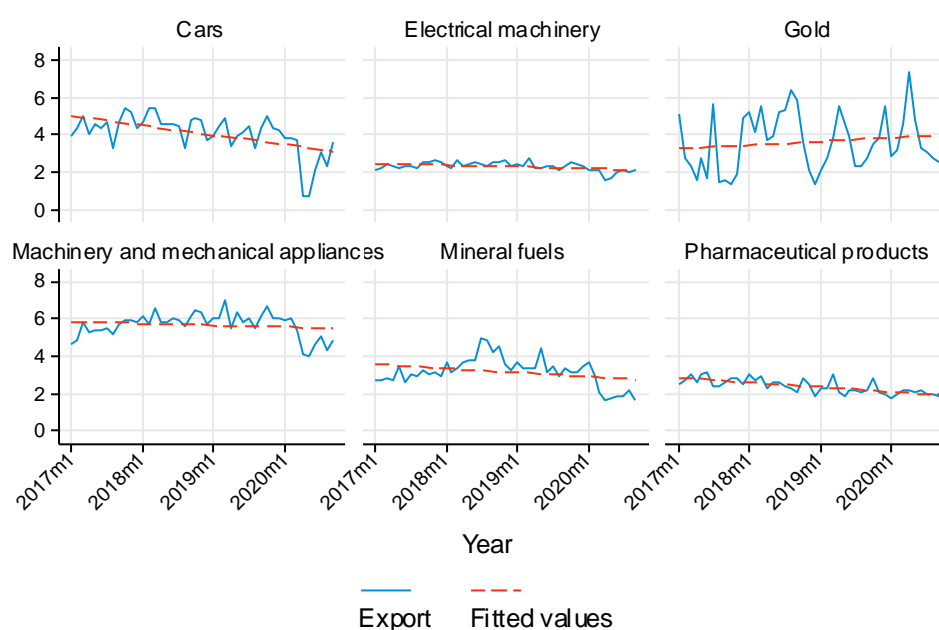
⁸ In Q3 2020, household spending growth (adjusted for inflation) was positive 19.5% compared with Q2 2020; Even though the YOY growth in consumption was -10%, households spent more on audio and visual equipment, information processing equipment, recording media, and personal electric appliances (ONS 2020, Consumer trends, UK: July to September 2020).

Furskins and artificial fur (HS43)	0.002	-46.8	Wool (HS51)	0.020	-49.1
Raw hides and leather (HS41)	0.018	-39.3	Works of art (HS97)	0.137	-46.3
Mineral fuels (HS27)	2.176	-36.7	Silk (HS50)	0.002	-44.4
Cars (HS87)	2.659	-36.5	Cork and articles of cork (HS45)	0.002	-42.8
Silk (HS50)	0.002	-36.1	Mineral fuels (HS27)	2.745	-41.9

Source: COMTRADE, Author's calculation. The 2020 figures are based on Q1-Q3.

When we extend the horizon to observe trends in trade in goods over a longer period (i.e., since 2017) as shown in Figure 3, we notice a striking flatness in the overall trends of the top products prior to 2020. This suggests a lack of growth in exports of these products over the past few years. As we will further explore in relation to specific export destinations in Section 4.4 below, it appears that the lack of export growth in these products is rather UK-specific.

Figure 3 Top 6 UK Exports by Value in 2017-2020



Source: COMTRADE, Authors' calculation. The series are up until 2020 Q3.

We go beyond the top six products exported and imported to investigate the products that experienced the strongest growth and steepest declines in the international markets in 2020. As seen in Table 2, more observations can be drawn from the aggregate statistics on UK exports. Clearly, not all types of products suffered the same level of disruption, with some markets even growing rapidly. It is arguable that the COVID pandemic has generated winners and losers in terms of overseas trade.

In particular, a few products stand out as having boomed in export markets. Ships and boats (HS 89) expanded their export values by 126% per month on average in 2020. The sector

appears to be the biggest winner in the goods export market during the COVID pandemic, reporting, on average, \$219 million in monthly exports. This, however, should not be seen as an opportunistic blip. Britain's shipbuilding and boatbuilding revenue has been increasing in recent years – in 2018 it grew by 11.4% to turn over £4.76 billion, and saw a further 2.9% growth in 2019.⁹ A closer examination of the divisions in the sector suggests that British boating companies have been growing their overseas markets over the past few years, with rising global sales of boats for leisure and sports. This year's fast growth in exports is clearly a sign of the sector's continued strong performance, possibly driven by demand from socially-distancing consumers for alternative leisure choices, such as sailing and water sports. Other goods that performed well during this period include vegetable materials for plaiting (HS 1401) and other vegetable products (HS 1404); these sectors doubled their exports, albeit from a very low base. Exports of other plants (HS 12), including seeds, fruit, and spores used for sowing (HS 1204-1209), plants and parts of plants (HS 1211) have also been steadily growing.

On the losing side, we observe that tobacco exports shrank by 80% monthly this year, which puts this sector in the unenviable position of being the most-declined product group. This could be the result of three factors. During the COVID pandemic, researchers highlighted an association between tobacco smoking and adverse COVID disease outcomes, which reinforced more general 'quit smoking' messaging in societies worldwide.¹⁰ Secondly, lockdown has forced people to work at home where they must share space with others, while limiting their access to tobacco supply. Thirdly, weakened demand due to reduced income may have impacted on tobacco consumption. It is impossible to predict if this trend will continue, although there is clear evidence that COVID offers an incentive for tobacco cessation.¹¹ Moreover, certain luxury goods experienced a serious decline in export markets, ranging from 30-40% monthly YOY compared to the same period in 2019. Specific examples include fur skins and artificial fur, raw hides and leather, and silk, reflecting weakened global demand.

⁹ Based on ONS estimates, based on 'UK Manufacturers' sales by product survey (Prodcom)', available at <https://www.ons.gov.uk/businessindustryandtrade/manufacturingandproductionindustry/datasets/ukmanufacturerssalesbyproductprodcom>.

¹⁰ Patanavanich, R. and Glantz, S. (2020) Smoking is associated with COVID-19 progression: a meta-analysis. *Nicotine and Tobacco Research*, 22(9), 1653-1656.

¹¹ Ahluwalia, I., Myers, M. and Cohen, J. (2020). COVID-19 pandemic: an opportunity for tobacco use cessation. *Lancet Public Health*, 5(11), e577.

3.3 Regional trends

Next, we take a closer look at the regional dimension of UK trade to understand the specific trends in different markets.¹² Table A1 in the Appendix summarizes UK monthly performance in exports and imports, aggregated by global regions and years. UK exports fell short of the previous years' levels in most regions, including in the EU and North America which saw declines in exports by 18.8% and 16% respectively. UK imports from these regions also dropped by 22.5% and 13.5%. The only exception to the falling exports is Europe and Central Asia (i.e., non-EU European regions), where the UK exported 14.75% more in 2020 than in 2019. Further, a different dynamic is seen in the East Asia and Pacific market where the UK exported 20% less by value but increased imports by 4.6% on a YOY monthly basis.

To understand the regional differences in the types of products the UK is trading, it is informative to calculate whether the UK is trading commodities or differentiated/intermediate goods. The former trade is driven by comparative advantage, while the latter is determined by increasing returns to scale, specialization, and love of variety. A widely used measure of the importance of intra-industry trade (IIT) is the Grubel-Lloyd (GL) index:

$$GL_k^{ij} = 1 - \frac{|X_k^{ij} - M_k^{ij}|}{X_k^{ij} + M_k^{ij}} \quad (1)$$

where k is HS2 code, i is reporter and j is partner, X is value of export, and M is value of import in US dollars. We report the UK IITs aggregated by regions calculated for each year in 2017-2020:

$$GL^{UK,r} = \sum_k \sum_{j \in r} \frac{GL_k^{UK,j}}{N_{rk}} \quad (2)$$

We also compute export weighted IITs.

$$GL_W^{UK,r} = \sum_k \sum_{j \in r} X_k^{ij} \frac{GL_k^{UK,j}}{X^{UK,r}} \quad (3)$$

where $X^{UK,r}$ is total export of the UK to region r .

Table 3 shows that according to the export-weighted IIT index, most of the UK intra-industry trade is with EU and North America. The East Asia and Pacific and South Asia regions are on a declining trajectory. Simple average IITs have much lower values, which indicates that the UK exports more products that have a high value of intra-industry trade. While the ordering of regions by importance of IIT remains roughly the same, the trends are not consistent. For instance, there is no declining IITs with East Asia and Pacific and South Asia in terms of

¹² We follow the World Bank definition of the regions, except that we break Europe and Central Asia into two regions: European Union, and the remaining countries of Europe and Central Asia.

simple average IITs. This indicates that in 2020 the UK experienced relatively higher decline in the export of products with higher intra-industry trade in those regions. In particular, export of vehicles (HS87) has been one of the hardest hit sectors.

Table 3: UK intra-industry trade in 2017-2020

Region	Trade weighted				Simple average			
	2017	2018	2019	2020	2017	2018	2019	2020
East Asia and Pacific	0.338	0.316	0.31	0.309	0.223	0.228	0.224	0.221
Europe and Central Asia (non-EU)	0.291	0.207	0.314	0.315	0.155	0.159	0.156	0.163
EU	0.591	0.586	0.579	0.58	0.376	0.385	0.382	0.39
Latin America and Caribbean	0.228	0.264	0.228	0.2	0.114	0.111	0.113	0.111
Middle East and North Africa	0.151	0.138	0.138	0.191	0.125	0.13	0.131	0.136
North America	0.563	0.589	0.579	0.602	0.398	0.373	0.397	0.411
South Asia	0.346	0.354	0.329	0.307	0.168	0.17	0.164	0.179
Sub-Saharan Africa	0.166	0.194	0.174	0.15	0.076	0.081	0.078	0.081
All	0.482	0.473	0.473	0.471	0.186	0.19	0.188	0.191

Source: COMTRADE, Authors' calculations

3.4 Market level analysis of UK performance

Was UK trade hit by the crisis to the same degree as everyone else? We analyse this comparatively against some of the UK's key export markets: the US as the UK's largest single-country trade partner, Germany as the second largest single-country trade partner and the largest EU partner, and China. We include China not because of its current trade volume with the UK, which still accounts for less than 5% of the UK's total exports, but as a key emerging market with fast-growing domestic consumption driven by a booming middle class. For comparison purposes, we consider the UK alongside its European exporting peers: Germany, France, Italy, Spain, and the Netherlands.

3.4.1 United States

The US-UK trade in goods is worth about \$130 billion annually (2018), comprised of half exports and half imports. This makes the UK the 7th largest trade partner of the US and the country's second-largest European trade partner after Germany in terms of trade volume.¹³ The UK accounts for around 3% of total US trade. Table 4 lists the most exported products to the US market.

Table 4: US imports from the UK: Top 10 products

HS code	Product names	Imports 2017	Imports 2018	Imports 2019	Percentage change in imports between 2019 and 2017 (%)
87	Vehicles	9.77	11.02	11.22	14.85

¹³ <https://www.census.gov/foreign-trade/index.html>.

84	Nuclear reactors, boilers, machinery & mechanical appliances, computers	7.69	9.48	10.52	36.79
30	Pharmaceutical products	4.59	4.99	5.11	11.38
90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments & accessories	3.35	3.47	3.39	1.33
27	Mineral fuels, oils, waxes & bituminous sub	3.08	4.39	4.07	31.96
85	Electrical machinery & equip. & parts, telecommunications equip., sound recorders, Television recorders	2.59	2.95	3.20	23.85
22	Beverages, spirits, and vinegar	2.08	2.15	2.23	7.44
97	Works of art, collectors' pieces and antiques	1.86	2.52	1.96	5.08
29	Organic chemicals	1.85	2.43	2.23	20.84
88	Aircraft, spacecraft, & parts thereof	1.49	1.86	2.45	64.98

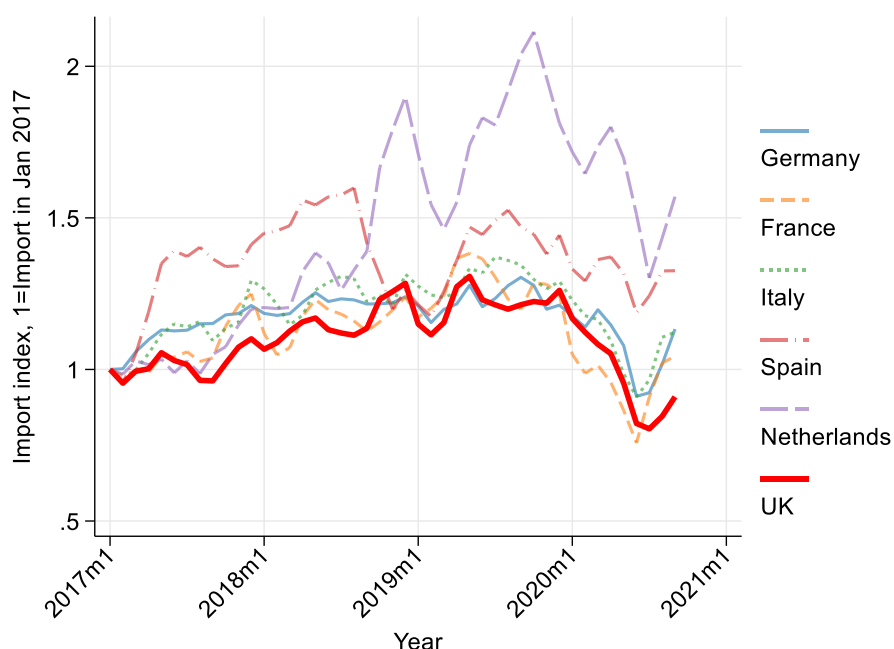
Source: COMTRADE, Authors' calculation based on the reported imports of US, not exports of the UK. The two statistics have noticeable discrepancies. The top 10 products are ranked according to 2017 imports volume. The imports values are in USD billion.

The COVID crisis saw a decline in UK exports to the US, as illustrated in Figure 4. In January 2020, UK exports to the US were up by 5% relative to January 2019 – ostensibly the start of a good year. But they dropped by 40% in May (relative to May 2019), and in June-August UK exports were around 30% lower than in the corresponding months of the previous year. In September 2020, total UK exports to the US were still 9% lower than they had been in January and 17% lower than in September 2019. In contrast, many other countries had already recovered their lost ground over the same timeframe. The only country that saw a worse decline than the UK was France, with a 50% drop in exports in May 2020 relative to May 2019, remaining 24% below its previous year's level in September.

However, we argue that this decline should be seen in the context of the preceding slowdown in UK export growth to the US compared to other EU exporters. During 2017-2019, UK exports grew more slowly than those of the five European comparators examined here. Indeed, the Netherlands increased exports to the US by 85% between 2017-2019 while Spain

and Italy increased exports to the US by 25% and 26% respectively during the same period. The UK increased its exports by just 16%.

Figure 4: US imports from selected EU countries, 2017-2020



Note: 3-month moving average. Source: COMTRADE. Each country is presented by import index, with January 2017 is taken as 1. 3 month moving average is used to smooth monthly trade data (simple average of current month imports and 2 previous months).

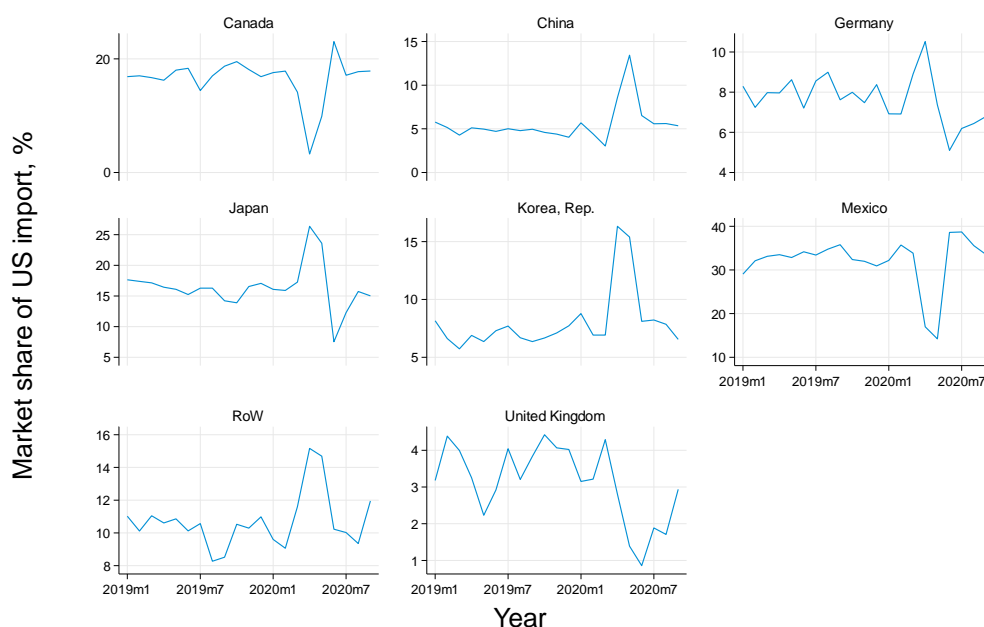
Looking at product level details, we find that over 2017-2019 the UK increased its exports of cars (HS 87) to the US market by 14%, machinery and mechanical appliances (HS 84) by 45%, and oil and gas by 33%. These growth figures are dwarfed by the Netherlands' growth of exports of cars (HS87) by 2.3 times, machinery and mechanical appliances (HS 84) by 1.85 times, and oil and gas (HS 27) by 2.4 times. While the UK saw its export of pharmaceutical products (HS 30) reduce by 5.5%, the Netherlands has grown pharmaceutical products (HS 30) exports to the US by 3.3 times. Both Italy and Spain have increased their exports of pharmaceutical products to the US by 91% and 27% respectively.

Since January 2020, the UK's decline in exports to the US appeared to be the sharpest in both absolute and relative terms and the most prolonged among the major European countries (except for France). This could be partially due to the structure of UK exports to the US. Specifically, as shown in Figure 5, UK exports of cars declined by 70% in July 2020 relative to January 2020.¹⁴ Over the same timeframe, some EU countries managed to keep exports to the US stable or even to grow them.

¹⁴ There was also a large decline in trade of other goods (HS99) by 68%. This category accumulates all goods that were not included in the standard classification.

Analysis of market shares at product level reveals that in 2020 the UK lost ground in its top exported goods to the US market. The top US import from the UK in 2019 was cars, worth \$11 billion and more than one-fifth of total exports to the US.¹⁵ The share of UK cars fell to its lowest point in summer 2020 but sales have gradually climbed since then. It is worth noting that China, Germany, and Korea temporarily gained substantial market share in April and May when the other major exporters (Japan, Mexico, and Canada) were in more severe pandemic restrictions. However, by September the market shares of the major car exporters to the US returned to their pre-pandemic levels for almost all countries, the UK being the notable exception.

Figure 5: US imports of cars from selected countries

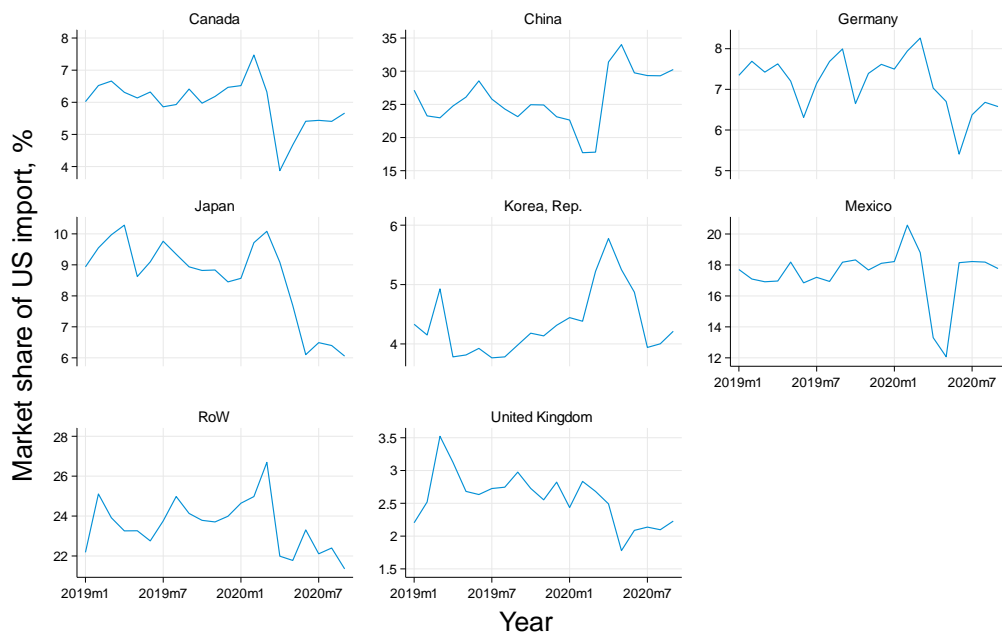


Source: COMTRADE, Authors' calculation. The series are up until 2020 Q3.

China increased its market share in US imports of machinery and mechanical appliances (HS 84), capturing nearly 35% of the market in summer 2020 when its main competitors – Mexico, Japan, and Germany – lost their market shares. As Figure 6 shows, the UK has been on a downward trend since spring 2019, having around 2% of the market in September 2020.

Figure 6: US imports of machinery and mechanical appliances from selected countries

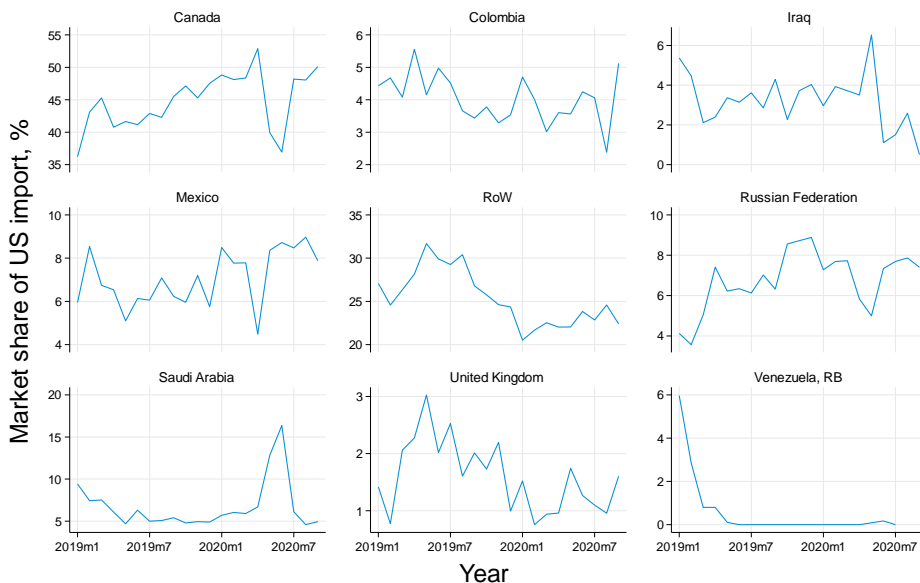
¹⁵ <https://ustr.gov/countries-regions/europe-middle-east/europe/united-kingdom>.



Source: COMTRADE, Authors' calculation. The series are up until 2020 Q3.

The UK's oil and gas (HS 27) market share in US imports has steadily declined, starting from 3% in May 2019 and dropping to less than 1% during February-April 2020, while Canada captured more than 50% of all US imports before collapsing to under 40% in June 2020, a gap that Saudi Arabia filled (Figure 7).

Figure 7: Import of Oil and Gas from selected countries to US

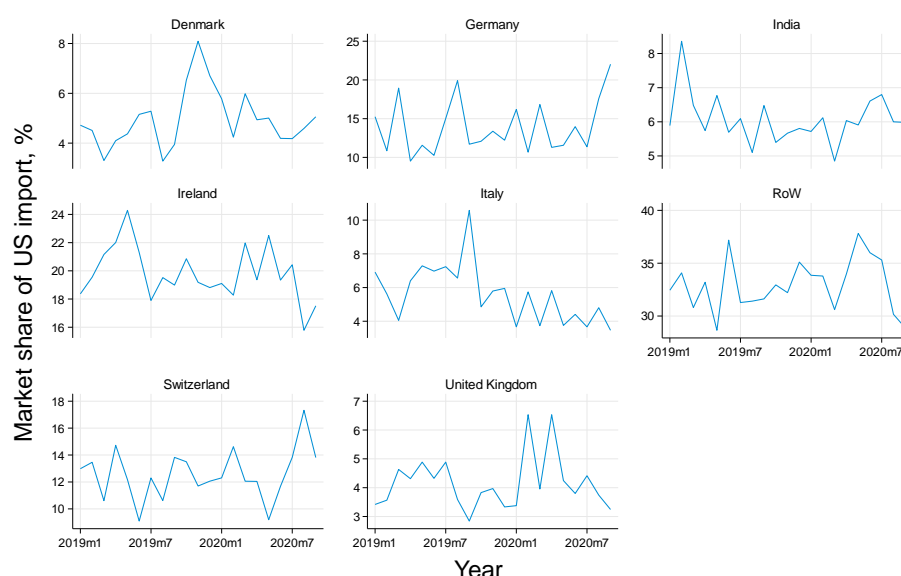


Source: COMTRADE, Authors' calculation. The series are up until 2020 Q3.

US pharmaceutical products imports amounted to \$115 billion in 2018. In 2020, Germany and Switzerland increased their market shares, reaching 22% and 14% respectively

in September 2020, while Ireland has been losing market share since summer 2020. The UK's share has hovered at around 3-4%, going downwards in September 2020 (Figure 8).

Figure 8: US imports of pharmaceutical products from selected countries



Source: COMTRADE, Authors' calculation. The series are up until 2020 Q3.

3.4.2 Germany

Next, we turn to the UK's second largest trade partner in the world and the largest in the EU: Germany. The trade turnover between Germany and UK was worth \$140 billion in 2018, with a considerable trade imbalance between the two economies. For Germany in 2018, the UK is the 5th most important export market (\$97 billion, 6.2% of total exports), but only the 11th largest source of imports (\$43 billion, 3.4% of total imports). Between 2017 and 2019, the UK increased total exports to Germany by 8.5%, which was less than the export growth achieved by Italy (12%), the Netherlands (14%), Spain (20%), and the US (24%). Only France saw lower export growth than the UK, growing its exports to Germany by 1.5%, which was largely due to the 58% decline in imports of aircraft and parts (HS 88).

Looking at specific products, we find that the main underperforming sector in terms of exporting to Germany has been automobiles, with UK exports of cars (HS87) to Germany declining by 18% over the three-year period. Other sectors, however, have seen reasonable growth (Table 5). Over 2017-2019, UK exports of machinery and mechanical appliances (HS84) grew 15%, exports of electrical machinery (HS 85) grew 13%, oil and gas (HS 27) grew 25%, and exports of pharmaceutical products (HS 30) grew 18%. The Netherlands increased exports of oil and gas to Germany by 48%. Spain was staggeringly successful at exporting aircraft and parts (HS88), increasing these sales by 201% and outstripping its respectable 24% growth in cars exports (HS 87) France increased its exports of cars by 26%

and also boosted exports of pharmaceutical products by an even greater 43%. The US had fast growth in exporting oil and gas to the German market (164% increase). This to some extent paints a picture of slowing UK exports to Germany following the 2016 Brexit referendum, which may indicate some decoupling between the two economies.

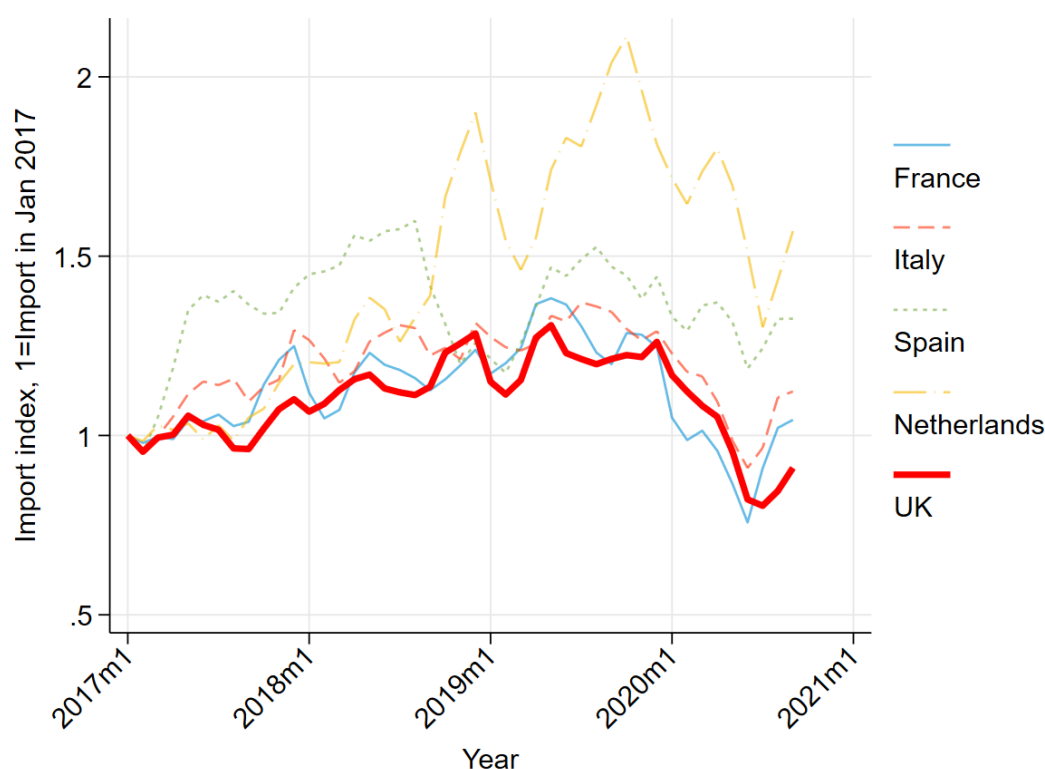
Table 5: Germany's imports from the UK: Top 10 products

HS code	Product names	Imports 2017	Imports 2018	Imports 2019	Percentage change in imports between 2019 and 2017 (%)
87	Vehicles	6.09	5.95	5.03	-17.51
84	Nuclear reactors, boilers, machinery & mechanical appliances, computers	5.26	5.66	5.61	6.74
85	Electrical machinery & equip. & parts, telecommunications equip., sound recorders, Television recorders	3.60	4.07	3.88	7.64
30	Pharmaceutical products	2.54	2.27	2.85	12.31
27	Mineral fuels, oils, waxes & bituminous sub	2.30	2.56	3.49	52.11
88	Aircraft, spacecraft, & parts thereof	1.91	3.19	2.10	9.88
39	Plastics & articles thereof	1.83	1.90	1.71	-6.57
90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments & accessories	1.71	1.80	1.87	9.64
99	Undefined	1.70	1.91	1.99	16.72
29	Organic chemicals	1.47	1.49	1.83	24.62

Source: COMTRADE, Authors' calculation based on the reported imports of Germany, not exports of the UK. The two statistics have noticeable discrepancies. The top 10 products are ranked according to 2017 imports volume. The imports values are in USD billion.

During the 2020 pandemic, the UK experienced the sharpest decline in exporting to Germany, with only France seeing a greater fall. Other countries experienced less deep and less prolonged declines in the first half of the year, such that by September 2020 they had recovered above the levels of January 2017, as Figure 9 shows. Relative to January 2020, the UK's overall exports to Germany fell by 21% up to July 2020.

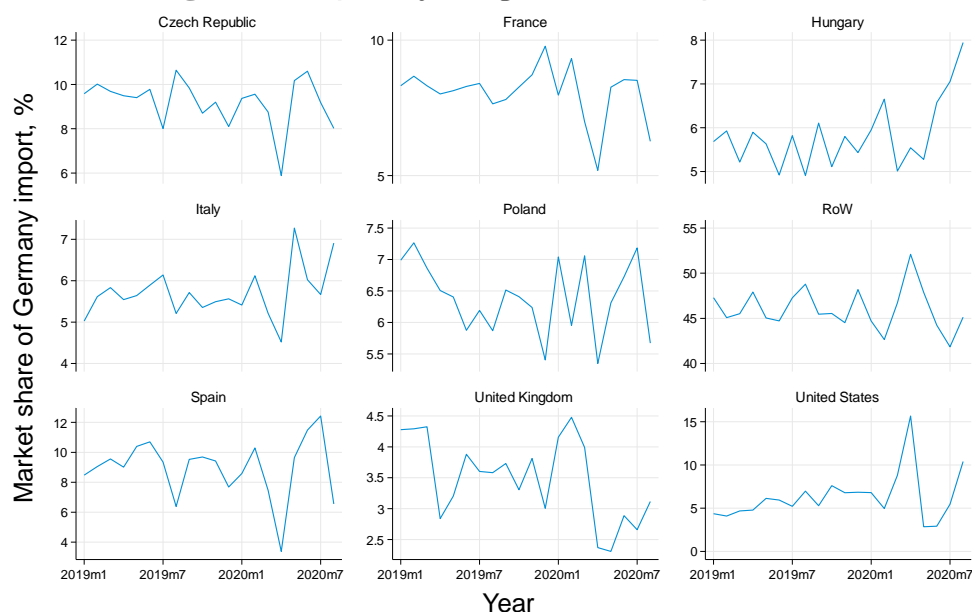
Figure 9: Germany's imports from selected countries



Note: 3-month moving average. Source: COMTRADE. Each country is presented by import index, with January 2017 is taken as 1. 3 month moving average is used to smooth monthly trade data (simple average of current month imports and 2 previous months).

Analysis of the market shares of Germany's top imported products reveals that the UK has lost ground in its top export goods in 2020. Firstly, as a proportion of Germany's total car imports (HS 87) – worth around \$130 billion (in 2018) – the share of UK exports declined from an average of 3.5% in 2019 to less than 2.5% in April and May 2020 (Figure 10). The US gained substantially in April 2020 when European countries imposed strict lockdown measures that depressed the market shares of imports from the Czech Republic, France, and Spain. Hungary impressively increased its market share in July and August 2020 to almost 8% of total monthly car imports to Germany. Italy also performed strongly after an initial decline in the first quarter of 2020, increasing its share of Germany's car imports by 29% in August 2020.

Figure 10: Germany's imports of cars from selected countries

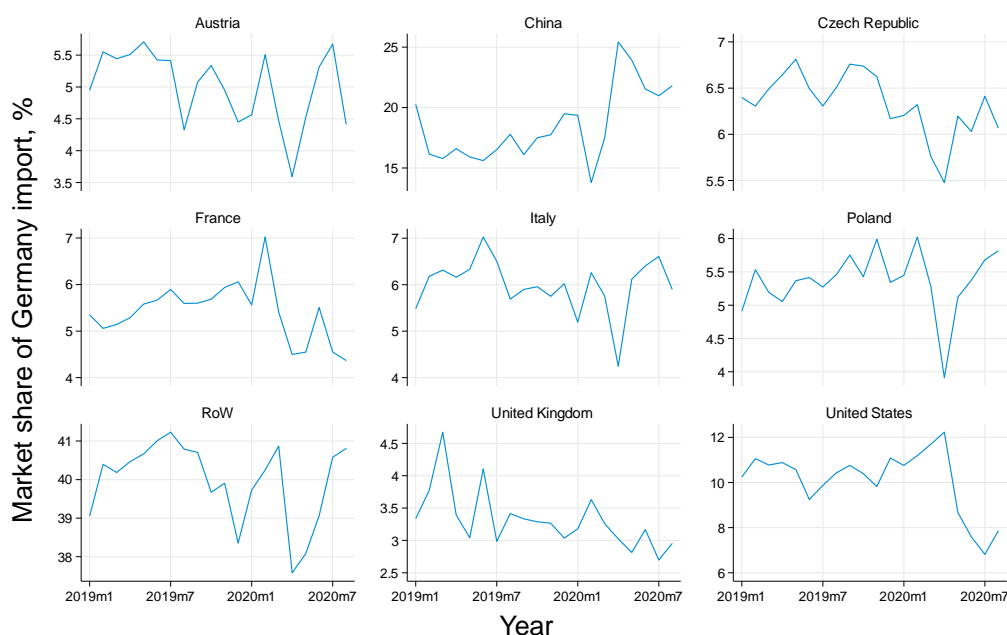


Source: COMTRADE, Authors' calculation. The series are up until 2020 Q3.

In the machinery and mechanical appliances market, worth around \$167 billion (in 2018), UK market share had a downward trend (Figure 11). While most EU countries and the US also experienced declines, China emerged the big winner, increasing its market share to more than 25% in April 2020, and keeping it above the 2019 average for the remaining months.

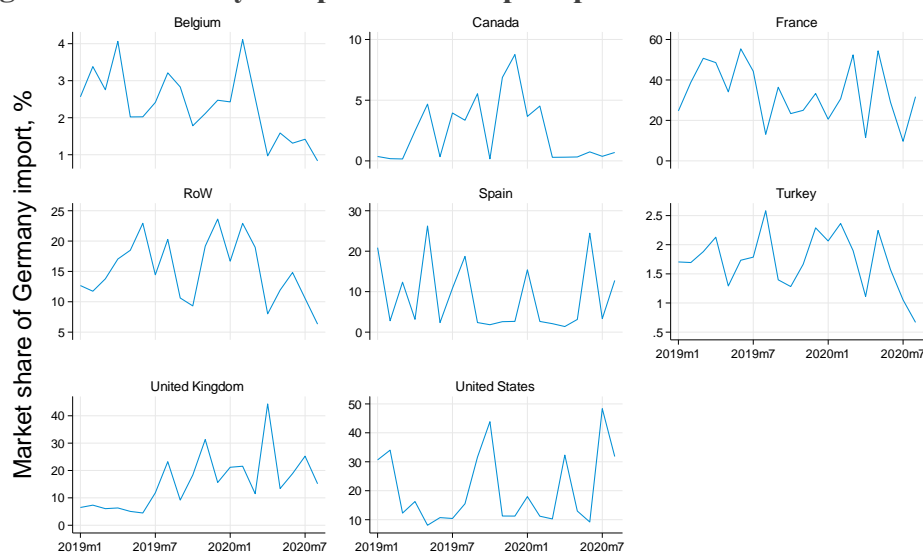
In Germany's aerospace import market (HS 88), which was around \$17 billion in 2018, the UK managed to keep market share at around 20%, spiking up to 40% in April 2020 (Figure 12). Of the other countries, Spain performed strongly in aircraft and components, increasing its exports to Germany by 5.6 times in August relative to January 2020. This market, however, is characterized by long-term contracts and large fixed costs, which explains not only the high volatility of monthly exports within bilateral pairs and but also what is highly likely to be a delayed decline in levels due to pandemic-induced travel restrictions.

Figure 11: Germany's imports of machinery and mechanical appliances from selected countries



Source: COMTRADE, Authors' calculation. The series are up until 2020 Q3.

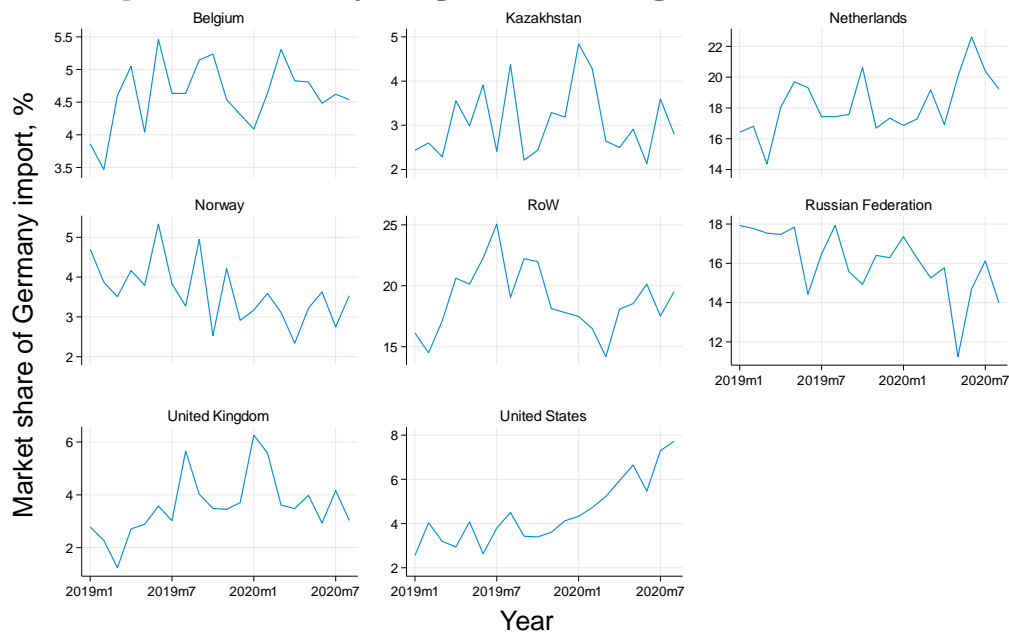
Figure 12: Germany's imports of aerospace products from selected countries



Source: COMTRADE, Authors' calculation. The series are up until 2020 Q3.

Turning to Germany's oil and gas imports. Figure 13 shows that the US and Netherlands, again, gained considerable market share since the beginning of the pandemic. The UK's share increased in January and February 2020, but then declined to 4% of the market.

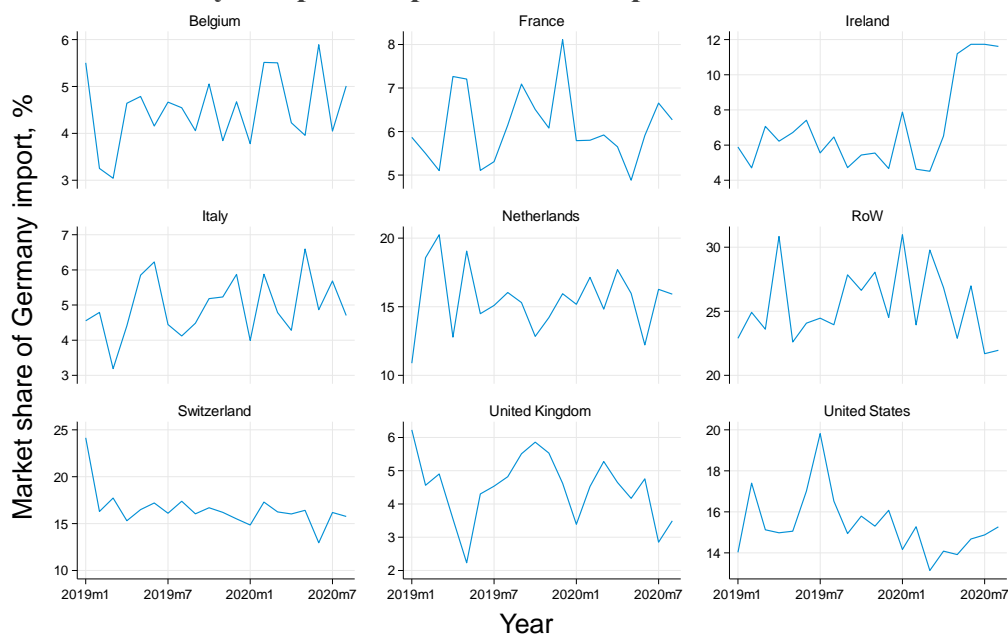
Figure 13: Germany's imports of oil and gas from selected countries



Source: COMTRADE, Authors' calculation. The series are up until 2020 Q3.

Finally, pharmaceutical products are another important product category exported by the UK to Germany. In 2018 Germany's imported pharmaceutical products were worth around \$58 billion. The UK share in Germany's imports declined between March and August 2020 to slightly more than 3% (Figure 14). During the same period, Ireland almost doubled its share of Germany's pharmaceuticals imports, while the US increased its market share to 15% in August 2020.

Figure 14: Germany's imports of pharmaceutical products from selected countries



Source: COMTRADE, Authors' calculation. The series are up until 2020 Q3.

3.4.3 China

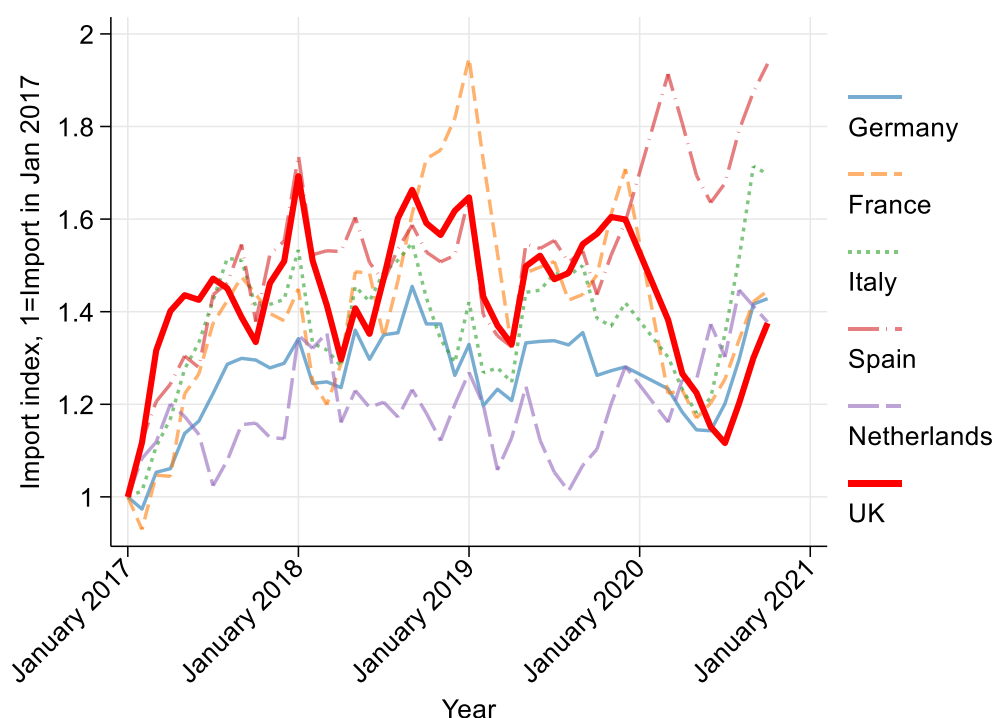
China is not yet a major export market for the UK. But it is an important emerging market with a fast-growing middle class of consumers with increasing purchasing power. In 2018, the UK exported \$27.7 billion worth of goods to China (6th place among the UK's export destinations) and imported \$63 billion from China (2nd place among the UK's sources of imports). Table 6 presents China's top imports from the UK. As shown in Figure 15, all the countries studied experienced a big drop in exports to China in early 2020, save for Spain. This collapse continued for several months but all countries have seen rapid recovery, the UK's being somewhat delayed compared to others. By October, the level of UK exports to China had recovered to the lower bound of previous years (which usually takes place in January and February).

Table 6: China's imports from the UK: Top 10 products

HS code	Product names	Imports 2017	Imports 2018	Imports 2019	Percentage change in imports between 2019 and 2017 (%)
87	Vehicles	7.40	6.56	4.06	-45.11
27	Mineral fuels, oils, waxes & bituminous sub	3.85	4.73	6.83	77.65
84	Nuclear reactors, boilers, machinery & mechanical appliances, computers	1.96	2.51	2.67	36.27
90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments & accessories	1.45	1.64	1.68	16.29
30	Pharmaceutical products	1.19	1.12	1.15	-3.42
85	Electrical machinery & equip. & parts, telecommunications equip., sound recorders, Television recorders	0.87	0.95	0.98	11.99
47	Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard	0.65	0.49	0.25	-61.12
74	Copper and articles thereof	0.51	0.62	0.60	18.02
39	Plastics & articles thereof	0.47	0.44	0.43	-8.91
33	Essential oils and resinoids; perfumery, cosmetic or toilet preparations	0.33	0.51	0.85	157.39

Source: Chinese Customs data, Authors' calculation based on the reported imports of China, not exports of the UK. The two statistics have noticeable discrepancies. The top 10 products are ranked according to 2017 imports volume. The imports values are in USD billion.

Figure 15: China's imports from selected countries



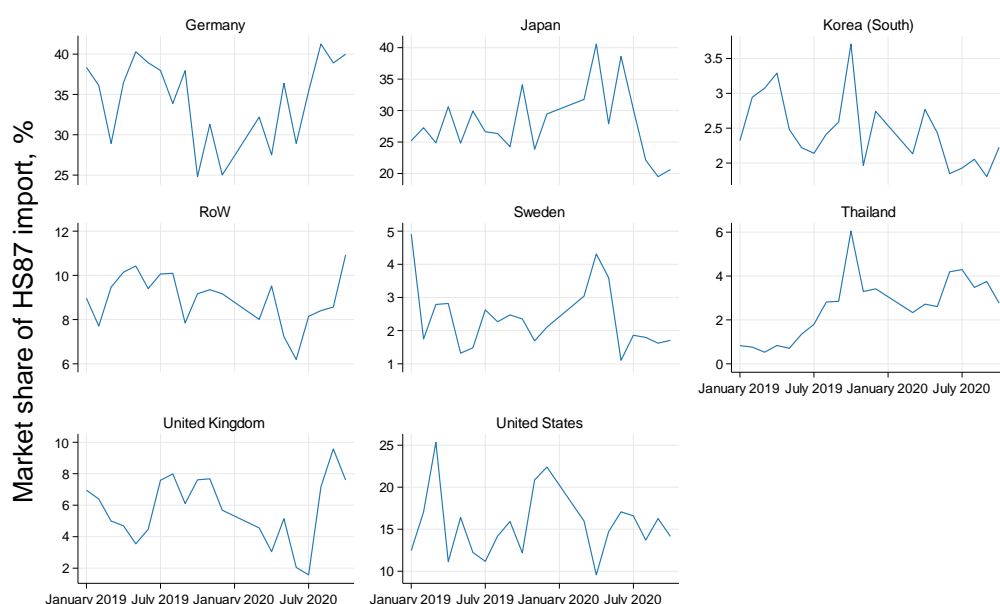
Note: 3-month moving average. Source: Chinese Customs data. Each country is presented by import index, with January 2017 is taken as 1. 3 month moving average is used to smooth monthly trade data (simple average of current month imports and 2 previous months).

Overall, it appears that in 2020 the UK lost market share in China. Before the year's start, UK exports to China had been stable, maintaining a level of 24~27 billion USD per year in 2018 and 2019. However, the start of 2020 saw UK exports to China experience a longer and deeper decline relative to most of its competitors, especially Spain and Italy. By comparison, Spain's exports of goods declined noticeably less than those of any other country in the euro area and the European Union, as well as those of the UK.¹⁶ The success of Spain's exports is explained by its strong performance in the export of meat (HS02), essential oils and resinoids; perfumery, cosmetic or toilet preparations (HS33), electronic and electric equipment (HS85), and base metals and articles of base metals (HS74). It also expanded into new areas, including high-tech electronic products (HS85) where it showed strong growth in September and October 2020, almost doubling its exports relative to April 2020.

¹⁶ According to Spain's Ministry of Industry, Trade and Tourism, Spain's exports of goods between January and October 2020 declined by 5.9% year-on-year in October, a lower decrease than those of the euro area (-8.0%) and the European Union (-6.9%). Within the European Union, exports also diminished in Germany (-6.5%), France (-13.3%) and Italy (-8.4%). The decline is significantly less than the UK's, whose exports fell by 16.9% year-on-year. The report is available at https://comercio.gob.es/ImportacionExportacion/Informes_Estadisticas/Documents/informe-mensual/International-Trade-Report-Executive-summary-ultimo-periodo.pdf.

Looking at specific products, we first turn to the export of cars (HS 87) to China. The Chinese market size for imports was around \$81 billion (2018). During 2017-2019, UK exports of cars to China declined by 45% and its market share declined from 9.3 % in 2017 to 5.4% in 2019. Nevertheless, the UK remained one of the leading European countries exporting cars to China, exporting 669 million USD in September and 484 million USD in October 2020, trailing only Germany, Japan, and US (Figure 16). Interestingly, Germany exported 1.7 and 1.6 billion USD of cars in September and October, managing to register growth relative to the previous year.

Figure 16: China import of cars from selected countries



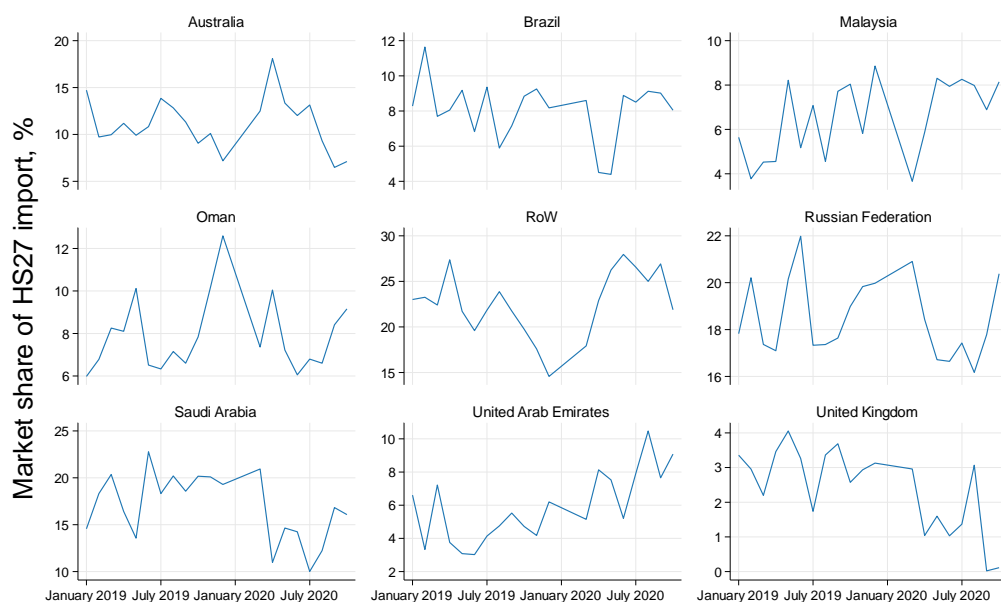
Source: COMTRADE, Authors' calculation. The series are up until 2020 Q3.

In the oil and gas sector, the second largest product type of UK exports to China, the overall market size is around \$350 billion (2018). UK exports came to a complete stop in September 2020 (Figure 17). The market share of UK exports was also unusually low in March-June 2020, supplying only around 1% of the Chinese market. The monthly import of oil and gas to China declined from \$19.5 billion in October 2019 to \$12 billion in October 2020. However, the Gulf countries and Russia were able to stabilize their export of oil and gas to China by increasing their market share in the 3rd quarter of 2020.

In machinery and mechanical appliances (HS 84), which is the third largest item among UK exports to China, the total market size for imports is around \$200 billion (2018). UK exports were stable for most of 2020, until August and September, and then suddenly declined to just above 1%, as shown in Figure 18. However, exports then displayed fast recovery to 1.75% in October 2020. Interestingly, this market has remained fairly stable. China imported

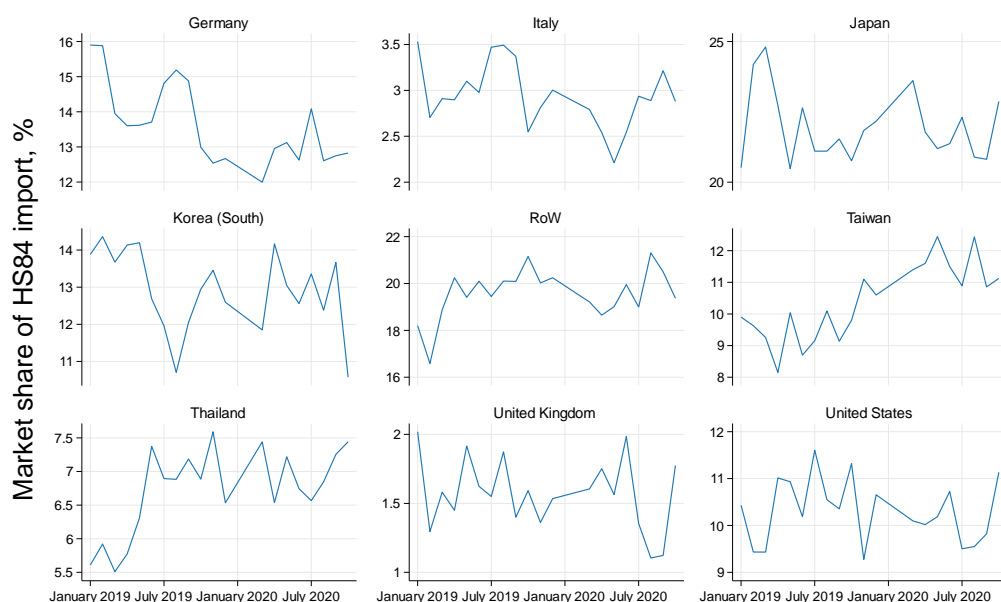
around \$14-15 billion goods per month in this category and that value did not decline during the pandemic.

Figure 17: China import of oil and gas from selected countries



Source: COMTRADE, Authors' calculation. The series are up until 2020 Q3.

Figure 18: China import of machinery and mechanical appliances from selected countries

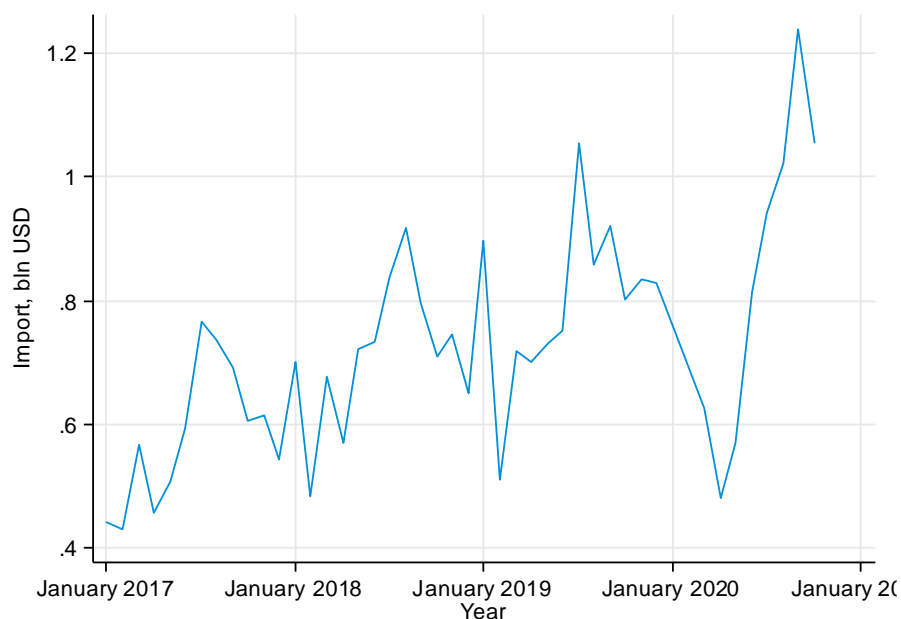


Source: COMTRADE, Authors' calculation. The series are up until 2020 Q3.

The coronavirus crisis took a toll on the luxury goods market in 2020, with Bain & Company, a major consultancy, estimating that the market declined by more than a quarter worldwide. However, Mainland China was seen to 'lead the way towards a recovery', growing by 45% to reach EUR44 billion, as local consumption roared ahead across all channels (in-

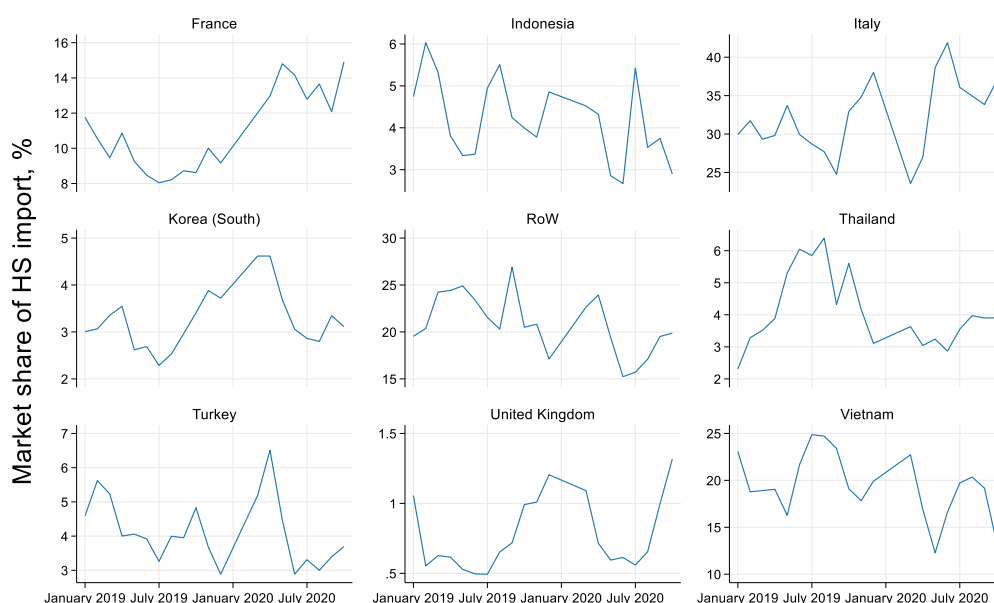
store and online), product categories, generations of consumers, and price points (Bain & Company, 2020). This trend is expected to continue as the industry predicts that ‘Chinese consumers are set to cement their status as crucial drivers of the industry, accounting for nearly 50 percent of the market by 2025’. China’s market for luxury goods and apparel (HS 42, HS 43, HS 61, HS62) is one of the fastest growing. Italy has been the market leader in luxury goods and apparel, exporting more than \$2.5 billion annually to China, while the UK’s total has been around \$66 million (2018). During the early stages of the pandemic, there was an initial sharp decline in imports of these goods. But there was a strong comeback in the 2nd and 3rd quarters of 2020, with China’s monthly imports increasing threefold between March and September 2020 (Figure 19). Italy has held onto its leading position with more than 35% of the market, while France gained substantially, increasing its share to 15% (Figure 20). The UK initially lost ground, but recovered in the second half of 2020. Nevertheless, its market share is still less than 1.5% of the Chinese import market. At the same time, Vietnam – the second largest player in this market – has lost substantial share. Turkey and Thailand also lost some of their market shares. It can be concluded from these trends that the more expensive segment of this market received a boost when confidence returned to the Chinese economy in the 2nd and 3rd quarters of 2020, while the less-expensive segment was not affected. This implies that high-end products hold considerable potential in this burgeoning market.

Figure 19: China’s imports of luxury goods



Source: Source: Chinese Customs data, Authors’ calculation. The series are up until October 2020.

Figure 20: China's imports of luxury goods from selected countries



Source: Chinese Customs data, Authors' calculation. The series are up until 2020 Q3.

4.A path to productive recovery

So far, we have presented a detailed picture of the UK's trade performance during the COVID-19 pandemic crisis in 2020. Economy-wide, the pandemic has caused significant disruptions to UK trade. Overall exports have contracted by nearly 15%, while the country's annual GDP contracted by 10%. All the top exported products (except gold) have suffered a significant decline. All the UK's major markets have also contracted. In some key export destinations – Germany, the US, and China – the UK seems to have suffered a sharper decline, has experienced a slower recovery than its peers, and has seen its global competitiveness dwindle.

Will this decline soon reverse and all return to normal? According to our analysis on the trends in 2020 and the preceding patterns during 2017-2019, it might be an overly optimistic assumption, at least in the short run. The combination of COVID, Brexit, and the UK's long-term productivity weakness will put UK businesses in a particularly precarious position for some time. It does not help that the UK had, in productivity terms, already fallen behind its peers prior to the pandemic. We discuss this further below and explore how UK trade may recover strength in the future, and what role policy has to play in this recovery.

4.1 State of the UK trade

The UK exporting sector is undoubtedly a core national asset (Allas et al., 2019) and this is not simply down to the value of its exports. The UK's exports were 31% of its GDP in 2019 (DIT, 2020), when it was ranked as the 11th largest global exporter and 5th largest global importer of

goods (declining since 2017). It was also the second largest services market globally after the US. More importantly, the UK exports a broad range of goods and services, many of which contain intensive know-how. It is ranked reasonably high in the world for the economic complexity of goods exported (11th in 2018), thanks to the accumulation of productive knowledge and its use in both *more* and *more complex* industries.¹⁷ Over the recent decade (2005-2016), the UK has integrated more deeply within GVCs (Delis et al., 2018). Most UK industries have increased their export orientations, with higher shares of domestic value-added content driven by foreign final demand, while the share of imported intermediate inputs subsequently embodied in exports has increased for almost all industries across the UK (OECD, 2018). This means that the UK's exports create value not only for its own economy but also add value to the 225 countries and territories it directly exports to, as well as to the other countries that indirectly benefit from global value chains.

However, UK trade faces real challenges. At home, the UK has a productivity conundrum that is chipping away at the foundation of its main driving force for competitiveness. The UK's perennial skills problems, complicated by evolving technology, form barriers to productivity enhancement. Innovation and exporting are closely linked but the UK's current R&D investment level remains lower than that of many other major world economies,¹⁸ and is symptomatic of weak R&D spending by both government and the UK's business sectors (OECD, 2017).

The broader context of the UK's trade is a slow-down in globalisation after two decades of rapid hyper-globalisation (Zhan et al., 2021). UK's exit from the EU marked the end of over forty years of the close economic integration across borders that nourishes trade and investment (Rodrik, 2017). The EU is the UK's key trading (block) partner for exports, imports, and foreign direct investment (FDI). In 2018, the EU purchased 45% of UK's total exports and accounted for 53% of UK's total imports (DIT, 2020). Although the partnership is mutual, recent research suggests that regions in the UK are more exposed to trade-related risks than most other regions in the EU (Ireland and Southern Germany being exceptions) (Chen et al., 2018). Inevitably, the UK's exit from the EU adds high costs to firms' production and exports, further hurting productivity.

¹⁷ See <https://atlas.cid.harvard.edu/rankings>. Harvard Growth Lab's Country Rankings assess the current state of a country's productive knowledge through the Economic Complexity Index (ECI). Countries improve their ECI by increasing the number and complexity of the products they successfully export.

¹⁸ The UK spent 1.67 per cent of GDP on R&D in 2016, ranking 11th in the EU (ONS 2016, Gross domestic expenditure on research and development, UK).

Outside the EU, the USA is the UK's largest single country trading partner, while China is the biggest trading partner in the emerging world. In theory, opportunities will arise when the UK has more freedom to seek out its own trading partners with whom to make free trade agreements after leaving the EU, and indeed, there is evidence that UK firms have already started to divert trade from the EU to elsewhere (Douch et al., 2019). However, the main concern is that any trade agreements the UK might secure with extra-EU countries will be unlikely to compensate for the losses incurred by leaving the EU single market.¹⁹

4.2 Double-act disruptions

Without a doubt, the trade decline the UK has experienced and will continue to experience is not just attributable to the pandemic. Policy uncertainty around international trade since the 2016 Brexit referendum has reduced firms' export participation (Crowley et al., 2018) and aggregate trade flow (Douch et al., 2018; Graziano et al., 2018). UK firms, especially the smaller ones, have already responded to the Brexit uncertainty by redirecting their trade away from the close, rich, and previously frictionless EU neighbouring markets to places further afield (Douch et al., 2019). Reversing the usual patterns of the gravity model, these trends are likely to weaken exporters' productivity, especially for small traders who are more vulnerable to increased trade costs and risks. Some manufacturing sectors, such as the automotive sector, are likely to be influenced significantly (see Bailey and De Propriis, 2017), given their dependence on the European supply chains.

The EU-UK Trade and Cooperation Agreement (TCA), agreed on December 24, 2020, resolves much of the uncertainty and allows tariff-free and quota-free trade between the EU and the UK to continue. EU-UK trade, however, is no longer frictionless because rules of origin, technical standards, sanitary and phytosanitary measures, and other non-tariff barriers (e.g., certification and licensing) must be applied when goods cross the borders in either direction. These frictions are likely to grow over time as the EU and the UK regulations diverge, and they will reduce trade with the EU at extensive and intensive margins, leading to lower variety and quantity of intermediate and consumer goods, resulting in significant welfare loss. For example, Jackson and Shepotylo (2018) estimate that FTA reduces GDP per capita by 2.6%, which,

¹⁹ The gains from a deal with the US are estimated to be very small, and China also accounts for only a small share of UK trade. For example, the Department for International Trade (DIT) estimates the gains from UK-US FTA to be 0.07-0.16% (DIT, 2020), which is consistent with other estimates in the academic literature (such as Jackson and Shepotylo, 2018, who use a structural gravity approach to estimate that a UK-US deal would benefit the UK in real long-term income per capita gains by 0.5-0.8%). There is very limited scope and scale for further tariff reduction between the UK and US. Large gains might be possible by moving towards more liberalisation on service trade, but the negotiation would be very challenging and requires some framework changes and long-term efforts in harmonisation.

although dispiriting, is a considerable improvement on the 4-5% long-run loss in GDP per capita predicted under a ‘hard’ Brexit. Other studies have similar predictions of the expected losses: Dhingra et al. (2017) estimate welfare losses of 1.3% in a static model with ‘soft’ Brexit compared to 9.4% in a dynamic model with ‘hard’ Brexit. Ebell et al. (2016) estimate that real income will fall by 2.7% in the long run. Sampson (2017) gives a broad and comprehensive summary of the Brexit literature, including future UK trade policy options and Brexit consequences for the UK and EU.

The current agreement does little to facilitate trade in services, and what has been achieved in the TCA as regards services is less than expected by experts.²⁰ The evidence shows that more difficulties for trade are expected and a long string of negotiations are yet to begin. Restrictions in business travel, business provisions, and the absence of mutual recognition of professional qualifications will generate additional costs and more paperwork, which will put the UK’s professional and business services sectors in a hugely vulnerable position and may even scuttle their ability to do business with the EU.

Non-tariff measures will lower the productivity of firms in the UK. Productivity can decline via backward or forward linkages. A break in backward linkages causes a reduction in input variety or the appropriate services, reducing the feasibility of certain ingredients or technologies and leading to a less efficient mix of intermediate inputs and services. The productivity decline may also arise from a break in forward linkages in the form of a lack of competition in the good’s or service’s final markets, resulting in X-inefficiency and scale effects. The positive effects of trade liberalisation on productivity and the negative effects of imposing trade barriers have been established in many studies, both in goods (Amiti & Konings, 2007; Topalova & Khandelwal, 2011; Halpern et al., 2015) and in services (Hoekman & Shepherd, 2017; Ariu et al., 2019). Therefore, we can expect that the restrictions placed on services will have a detrimental effect on the productivity of goods producers, and this effect will be in addition to the non-tariff barriers on trade in goods.

Moreover, recent evidence suggests that the negative impacts from Brexit are likely to be spatially uneven due to the varying productive structures of the UK’s regions. This is likely to further weaken the economic foundation of these regions and to intensify the regional divide in economic prosperity (Thissen et al., 2020), counteracting the government’s ‘levelling up’ agenda (Zymek & Jones, 2020).

²⁰ See Professor Sarah Hall’s commentary following the TCA, available at <https://ukandeu.ac.uk/the-brexit-deal-and-services/>.

4.3 COVID won't kill globalisation

In a global context, the future of the world economy will continue to be shaped by a confluence of long-term and short-term factors. International production experienced two decades of rapid growth up until the 2008 financial crisis, which was followed by a decade of stagnation (Zhan et al., 2021). This long-term trend reflected two dynamic changes in the global economy. The first is the changing motivations for cross-border investment. While the search for low-cost production was the principal driver at the very beginning of globalisation, multinationals now choose locations that combine advantages. In all except the most labour-intensive industries, companies have started to consider other factors when choosing places to invest, including access to skills and talents, supply chain ecosystems, intellectual property protections, infrastructure, and intangible assets building (Allas et al., 2019). Also, for manufacturing producers, providing bolt-on services, known as servitization, has become increasingly important to secure competitive edge. Therefore, proximity to customers may, in some circumstances, once again become an important factor influencing the location of production. Efficiency is no longer the sole consideration of global strategy, and this gives rise to dynamic changes in trade and investments in the future.

Secondly, developing countries have moved up the global value chains to a considerable degree.²¹ As they adopted either import-substitution strategies or export-orientated strategies, the demand for intermediate inputs was reduced and replaced with either more advanced production or a more localised supply chain ecosystem (or both). Today's 'world-system' of production arrangements is in fact a regionalised, concentrated supply chain network. This resulted in a noticeable boom in long-haul trade between regions in the early 2000s as global supply chains lengthened, particularly between Europe and Asia-Pacific. In short, distance matters more, not less, in today's global trade; trading 'against gravity', i.e., outside one's regionalised supply chains, would almost certainly present disadvantages and require an additional productivity premium to compensate. Unfortunately, this is the situation many UK exporters now find themselves in (Douch, Du & Vanino, 2019).

Thirdly, and related to the rise of emerging economies in global value chains, there is a movement in the developed world to re-think industrial strategy.²² The de-industrialisation

²¹ Examples are Japan, Taiwan, Singapore, and South Korea from the 60s, Mexico since the 70s, and China's rise since the 90s together with a longer list of emerging economies from around that time, not least the BRICS countries (Brazil, Russia Federation, India, China and South Africa).

²² This debate started in the US, see for example 'Why Does Manufacturing Matter? Which Manufacturing Matters? A Policy Framework' at https://www.brookings.edu/wp-content/uploads/2016/06/0222_manufacturing_helper_krueger_wial.pdf.

witnessed in many industrialised economies has seen production move offshore. Removing the proximity between production, innovation, and the local industrial ecosystem has sparked deep concerns about the competitiveness of manufacturing sectors, their capability to adapt to a servitization model, the capability to innovate at production sites, and the sustainability of service sectors that operate within larger value chains. The UK is a service-centric economy, its manufacturing sector now accounting for less than a quarter of GDP. The manufacturing that remains in the UK is mostly high-value and highly productive, offering well-paid jobs and an environment for innovation. If the UK were to lose more of its manufacturing capacity through lost export opportunities, the impact could be disproportionately large. Worryingly, our analysis in this paper suggests that the UK has experienced a sharper decline and slower recovery from the COVID crisis compared to other countries. This poses serious concerns about the future growth of UK manufacturing.

Taken together, the slowdown and restructuring of globalisation did not occur solely because of the COVID-19 pandemic. Despite some predictions to the contrary, COVID will not kill globalisation,²³ it was merely a catalyst for faster change. The trend of slow international trade and cross-border investment growth is set to continue. But as long as productive efficiency remains a key principle for businesses, global value chains will, in the long-term, strengthen rather than fade away.

4.4 A triangular relationship

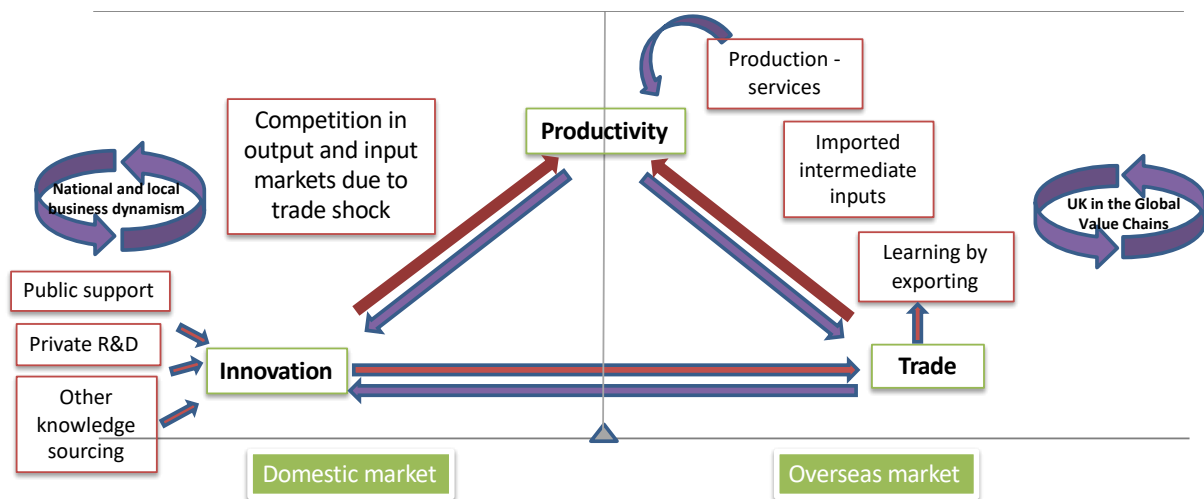
We argue that to recover from COVID and tackle Brexit's new trade barriers, the UK needs to make boosting productivity its central goal. Productivity is the key to trade participation and performance. It is what underpins the competitive advantage of producing goods and services in this country and elsewhere (see a comprehensive review in Du et al., 2021). In essence, the theory (Melitz, 2003) and the evidence (Wagner, 2007) are in accord as to who exports (the most productive firms) and how they do so (by self-selecting into export markets). This is because not all firms are able to either overcome the necessary sunk costs associated with trade activities or to bear the risks associated with entering into foreign markets. Building on this, the 'exporter premia' literature suggests that exporters tend to be larger in size, more capital intensive and skill intensive, and they pay higher wages (Frias, Kaplan & Verhoogen, 2009). They also import higher quality material inputs (Kugler & Verhoogen, 2008), spend more on R&D (Aw, Roberts & Xu, 2008; Harris & Li, 2009), produce more products (Bernard et al.,

²³ See 'Coronavirus won't kill globalisation – but a shakeup is inevitable', at <https://theconversation.com/coronavirus-wont-kill-globalisation-but-a-shakeup-is-inevitable-137847>.

2009) and better-quality goods (Amiti & Khandelwal, 2009), and they even pollute less (Halladay, 2008). High productivity also helps firms to be resilient to change (van Bergeijk et al., 2017), given that productive businesses are in a better position in terms of operation optimisation, work distribution, technology adoption (Andrews et al., 2015), and automation (Koch et al., 2019).

Which leaves the question of how might UK productivity be increased? In more than a decade of searching for the answer, many lessons have been drawn (Haldane 2014; Du and Bonner, 2016; Douch et al. 2020). In particular, given the UK economy's relative advantages of knowledge-intensive products and services and the high skills of certain sectors, innovation is key. Raising innovation and increasing exporting are not separate goals. They are tightly linked and mutually enhancing. At the centre of the innovation-export link lies productivity, forming a three-way relationship, as illustrated conceptually in Figure 21.

Figure 21: A three-way relationship: Productivity-innovation-trade



Source: Authors developed.

There has been significant research attention given to the causal mechanisms linking productivity, innovation, and exporting, although not all relationships are clear (Love & Roper, 2015). Productive firms export, and productive economies show strong export performance. The voluminous literature on how trade helps productivity identifies various channels through which exporting can help firms to learn, improve product quality and expand the scale and scope of production and services (De Loecker 2007; Love & Roper, 2015). Access to global markets also helps to improve productivity by allowing firms to regularly seek out cheaper and better intermediate inputs. In addition to the direct benefits, there are well-documented external effects from linkages with foreign markets through indirect channels, which can help to improve the performance of other firms along the supply chains. Moreover, there is even

evidence for cross-sector benefits, in which manufacturing firms benefit from services trade liberalisation, and vice versa (Francois & Hoekman, 2010; Hoekman & Shepherd, 2017). These benefits are reflected in improved productivity and profitability, which then leads to investment in R&D and more innovation. This virtuous circle continues, with innovation further improving productivity through the creation of new products and the capacity to produce existing products more efficiently and cheaply, enhancing competitiveness both at home and abroad.

The question faced by many policymakers is what to do when this virtuous circle is lacking? There is genuine concern that the UK economy is trapped in a low productivity-growth trajectory characterised by stagnating wage growth and exacerbated by long-term low R&D investment. In this sense, it should not be surprising that low growth in exports is the next step in the sequence. We argue that policy intervention is the only way to change course. Different areas of policymaking – industrial policy, innovation policy, skills policy, and trade and investment policy – should place productivity front and centre. Furthermore, policy must be coherent if it is to facilitate this ambitious goal. Currently, policy-making is a piecemeal exercise, and the resulting policies are neither well-connected nor well-understood. For example, measures to encourage exporting should be designed to incorporate the goal of enhancing innovation and productivity rather than to simply increase exports.

International trade and investment can be viewed as an *anemometer* for detecting global technological, socioeconomical, and geopolitical changes. These signals could be very useful when updating industrial and innovation policies. Having consistent and timely access to intelligence around new trends would be of help to both policymakers and industrial leaders tasked with decision making. Research should be encouraged to detect, understand, and communicate such intelligence. For example, there is a clear and urgent need to re-assess UK firms' internationalisation options and strategies, and to re-evaluate the value propositions of UK industries. Where has the UK seen irreversible declines in its competitiveness, and why? Where has competitiveness been gained and how can it be sustained? The answers will help to turn passive responses into active and proactive adaptations, and the resources required for obtaining the answers are likely to be negligible compared to the investments allocated to the development of technologies that can be quickly superseded, or the opportunity cost of failing to grasp emerging market opportunities.

Furthermore, the UK needs to make continuous and targeted efforts to revive business dynamism through innovation, entrepreneurship, and innovation ecosystems. It is necessary to support the smallest and earliest entrepreneurial efforts (entrants) as well as post-entry entrepreneurs and young incumbents, to nurture a pipeline of future business leaders. It is self-

evident that big companies are often innovation superpowers and that their products and services can increase consumer welfare at scale, but it is crucial to prevent the stifling of competition by concentrating market power within a few ‘superstar firms’ who monopolise the benefits of the network effects of technological prowess.

Finally, furthering the trade agenda requires spreading the benefits from trade and investment. Arguably, the only way to sustain globalisation in the future is to allow the benefits of international trade and foreign investment to spill over to sectors, places, and people who are not directly involved in the transactions. This requires serious redistributive efforts for the benefits to be felt and understood, and research is urgently needed to guide the way.

5. Concluding remarks

Our paper has presented a comprehensive review of UK trade in 2020, reflecting the extreme pressure placed upon it by the COVID-19 crisis. Like many other countries, the UK has experienced catastrophic disruptions, initially from supply shocks and then from demand shocks, which together presented profound challenges to exporters around the world. Yet, unlike some of its peers, UK trade has experienced a deeper decline and apparently slower recovery. Combining this information with the statistical trends seen in UK trade in the three years following the Brexit Referendum, we present a picture that suggests the UK’s global competitiveness is weakening.

The UK’s thus far successful vaccination programme may help the economy to bounce back faster than others. Nevertheless, considerable challenges remain for UK businesses. Post-Brexit obstacles of red tape and other non-tariff barriers are already colliding with a fast-changing marketplace that clamours with competition, threatening to further erode UK firms’ global competitiveness. Undoubtedly, this will put even more pressure on the UK’s straggling position in productivity terms.

To recover from the COVID crisis (and Brexit), the UK needs to make boosting productivity its central goal. To improve and sustain its global competitiveness, the UK must restructure and reinvent its economy to consolidate its undoubted strengths in the knowledge-intensive and high-skill products and services in which it has competitive advantage. To gain new ground in the uncertain post-COVID world economy, it needs to punch above its weight in new industrial and technological fields, as well as in new markets. Some of these may become more apparent because of paradigm shifts precipitated by COVID, or they may have emerged in the void caused by departing from the EU’s structures and regulatory framework.

International trade is an anemometer for detecting the underlying dynamics of global economic structures, technological changes, and geopolitics. The way forward should start from trade.

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Appendix:

Table A1: UK trade by world regions

Row Labels	Import, USD billion per month	Average of Import change, %	Export, USD billion per month	Average of Export change, %	
2018	East Asia & Pacific	8.92	-0.57	6.23	15.85
	EU	30.12	6.68	18.97	9.28
	Europe & Central Asia	4.80	8.95	4.38	42.67
	Latin America & Caribbean	0.88	5.01	0.69	5.41
	Middle East & North Africa	1.21	16.67	2.26	-4.75
	North America	6.41	5.67	6.11	12.44
	South Asia	1.33	5.40	0.71	29.42
	Sub-Saharan Africa	1.14	16.69	0.66	5.66
	East Asia & Pacific	9.88	10.76	6.19	0.33
2019	EU	29.00	-3.88	17.96	-5.40
	Europe & Central Asia	6.28	32.39	3.08	-18.72
	Latin America & Caribbean	0.90	2.63	0.67	-1.30
	Middle East & North Africa	1.15	-3.41	2.18	-2.23
	North America	6.91	8.29	6.69	10.33
	South Asia	1.37	2.39	0.65	-4.21
	Sub-Saharan Africa	1.01	-10.69	0.63	-3.05
	East Asia & Pacific	10.33	4.59	4.76	-20.34
	EU	22.58	-22.53	14.59	-18.80
2020	Europe & Central Asia	5.76	-4.71	3.34	14.75
	Latin America & Caribbean	0.84	-6.75	0.52	-23.88
	Middle East & North Africa	0.71	-37.89	1.60	-24.81
	North America	5.89	-13.46	5.31	-16.26
	South Asia	1.03	-24.58	0.40	-35.40
	Sub-Saharan Africa	0.86	-10.28	0.48	-24.07

Source: COMTRADE, Authors' calculation. The 2020 figures are based on Q1-Q3, while the 2018 and 2019 are annual. Note: Annual numbers are simple averages across regions, not totals.