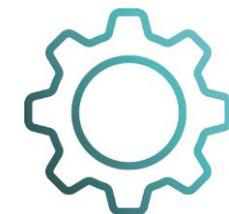




Supporting a Global Britain – The Economic impact of Heathrow Airport

A report for Heathrow Airport

July 2021



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Executive Summary



- In 2019, the value of trade going through Heathrow Airport stood at approximately **£188bn**, of which 56% came from imports.
- This was equivalent to **20.6%** of UK trade of goods by value that year (and approximately **34.7%** for non-EU trade).
- We forecast that by 2025 this will grow to over **£204bn**, representing **21.2%** and **32.0%** of UK trade of goods and non-EU trade of goods by value, respectively.
- Forecasts were carried out using Cebr's in house macro model, which is updated monthly.
- Passengers who entered the UK through Heathrow spent an estimated **£16.6bn** in the UK in 2019.
- Cebr estimates that, when international travel resumes, Heathrow passenger expenditure in the UK could rise by as much as **10%** by 2025.
- From microchips to medical research, the data shows the high value industries that will be unlocked through this Heathrow trade route, with cargo worth more than **£100,000 per tonne** compared to £1,330 per tonne for shipping.
- Based on the composition of cargo passing through Heathrow in 2025, together with the geographic composition of the UK in 2021, it is estimated that regions including the **Midlands**, **Wales** and the **North East** could benefit most, since they are the most manufacturing intensive.
- Cebr's input-output modelling shows that Heathrow Airport is expected to contribute approximately **£4.7bn** to the UK economy and is set to support more than **140,000 jobs** across its broad supply chain by 2025.
- Heathrow facilitates almost half of trade in value with current members of the **Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)**, that the government is considering to join.



Overview of the study

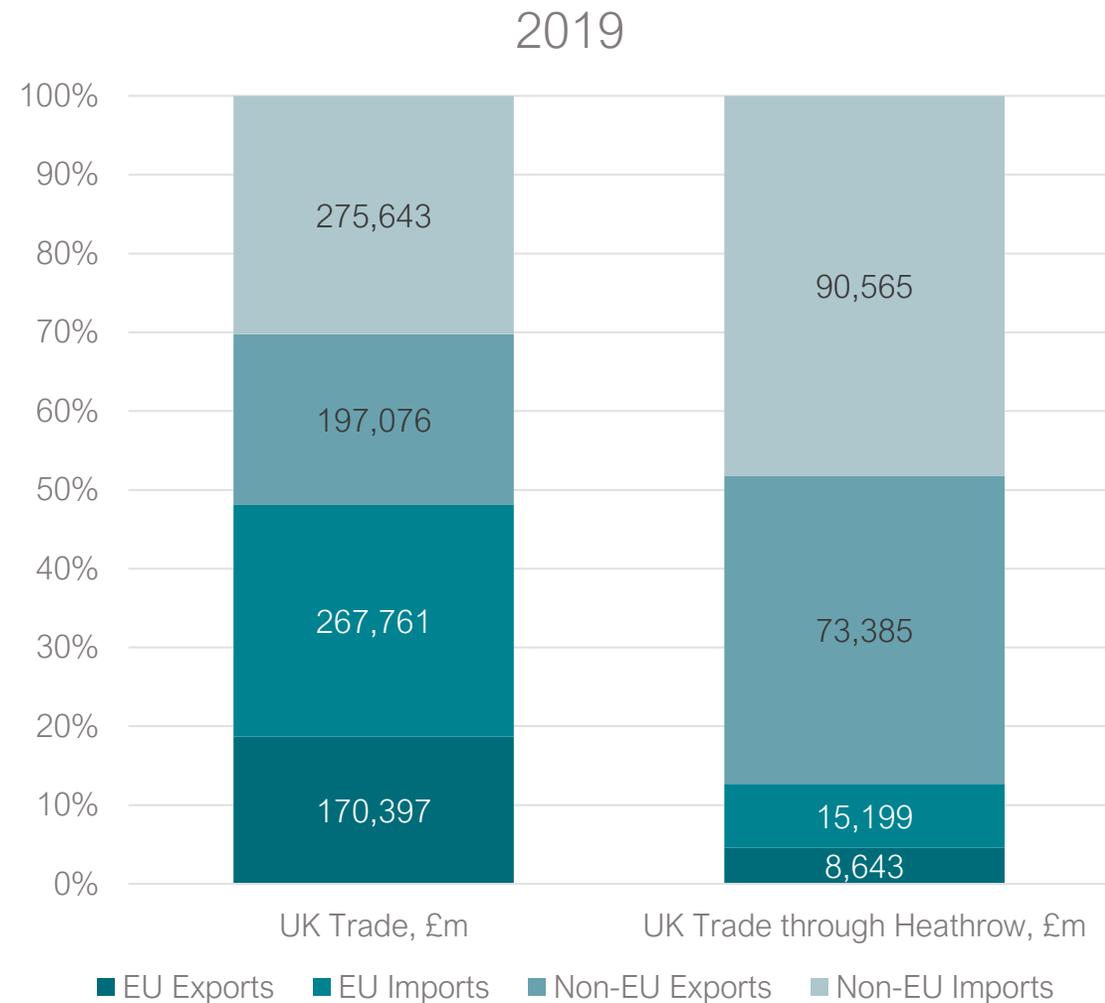
- Cebr has undertaken research to quantify the economic impact associated with Heathrow Airport.
- This includes a forecast analysis for a post-Covid, post-Brexit 2025, with 2019 as the baseline year. Forecasts were carried out using Cebr's in house macro model (March 2021).
- The report is broken down into three different modules:
 - ✓ **Module 1 – Sectors and people:** this looks at the sectors that rely on aviation trade routes to enable high value trade and business as well as the associated passenger expenditure in the UK that is directly supported by the airport. It also contains an analysis of the economic multiplier impacts of Heathrow Airport.
 - ✓ **Module 2 – Value of Heathrow:** this assesses the value of aviation trade routes through Heathrow, as well as how this compares to other trade routes into and out of the UK (namely, shipping).
 - ✓ **Module 3 – Regional impact of Heathrow:** this evaluates the impact of trade through Heathrow on the UK economy and which of the regions might be most impacted owing to the composition of trade facilitated by Heathrow.
 - ✓ **Module 4 – Countries:** this looks at the countries which will potentially provide the greatest opportunity for the UK economy through free trade agreements that rely on these trade routes through Heathrow.



Module 1: Sectors and people

In 2019, 35% of non-EU trade of goods passed through Heathrow

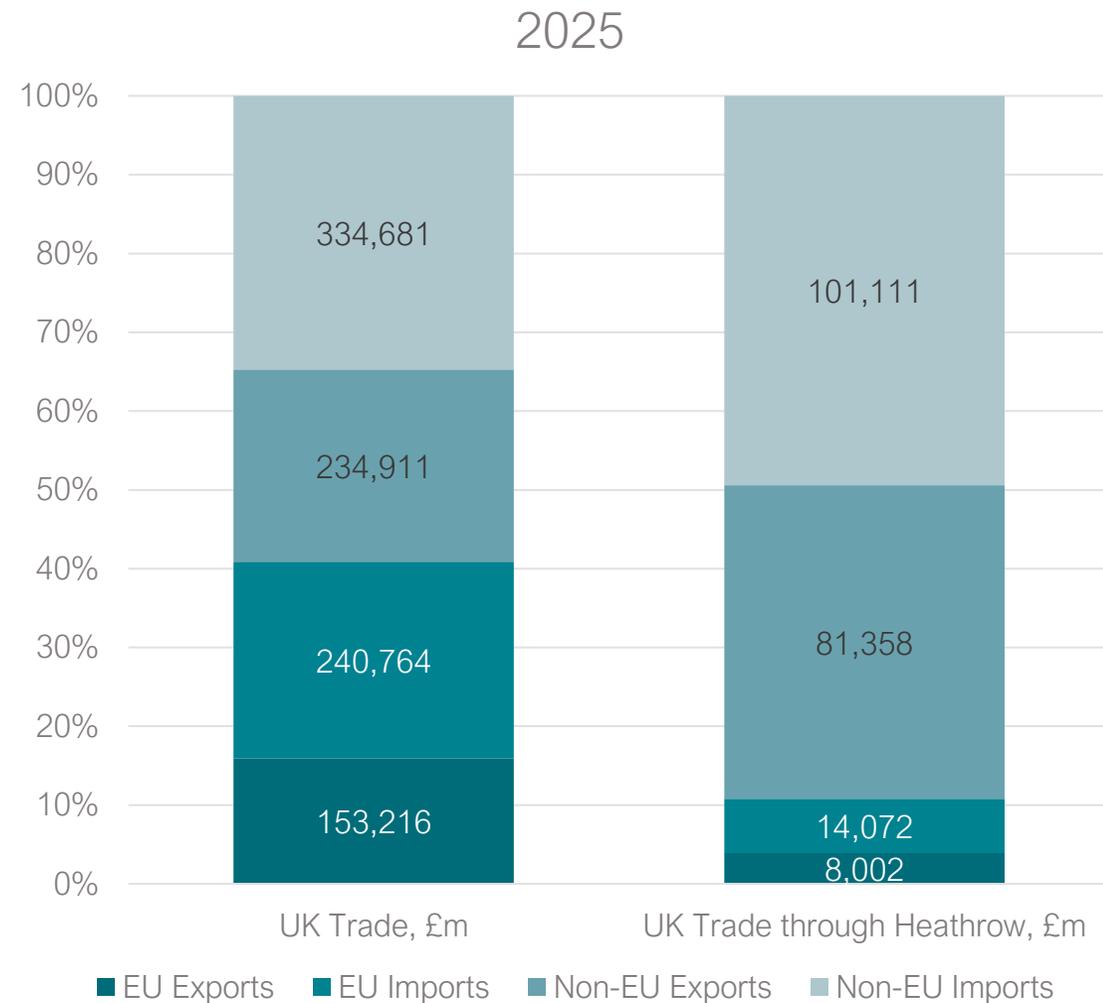
- Approximately **£188bn** worth of goods were transported into and out of the UK through Heathrow Airport in 2019.
- This represented **20.6%** of all UK trade of goods, and just over **13.5%** of all UK trade of goods and services in 2019. **34.7%** of non-EU trade of goods passed through Heathrow, while we estimate that only **5.4%** of EU trade was handled at Heathrow.
- The value of total trade through Heathrow figure is a Cebr estimate.
- While the figures for non-EU trade through Heathrow come directly from UK Trade Info data provided by HMRC, no such data exists for goods traded with the EU through Heathrow in 2019 - however, as a result of Brexit this data does exist for the first months of 2021.
- Using the EU trade figures from 2021, we calculated EU trade-specific Heathrow to UK ratios and we subsequently scaled these up for 2019.



Source: UK Trade Info (HMRC), Cebr analysis

Value of trade routes through Heathrow to non-EU countries is set to increase by approximately 11% by 2025

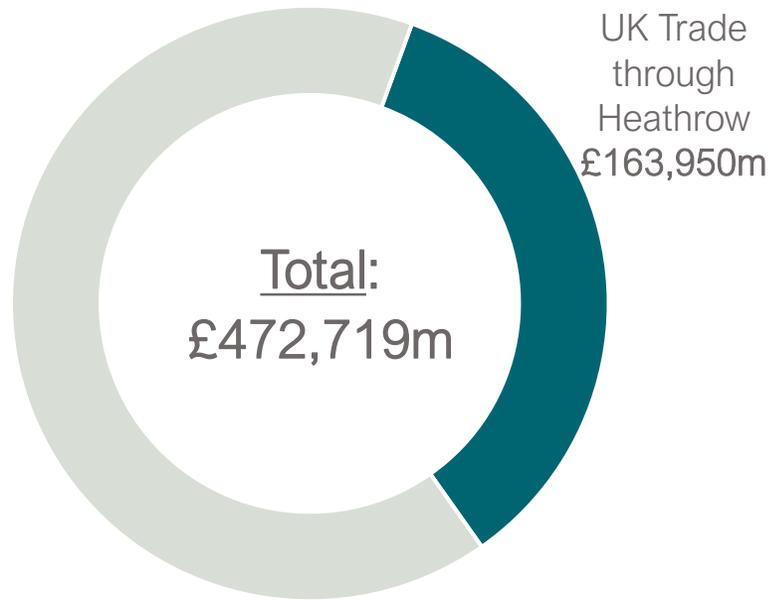
- The total trade through Heathrow is forecasted to increase to over **£204bn** by 2025, equivalent to a growth rate of **8.9%** during this period. For trade with non-EU countries, the growth rate is forecasted to be approximately **11%**, while trade with EU countries is expected to decrease by more than **7%**.
- By 2025, the value of trade through Heathrow as a share of all UK trade of goods and goods and services is expected to grow to **21.2%** and **14.6%**, respectively.
- Cebr estimates that **32.0%** of non-EU trade of goods and **5.6%** of EU trade will be handled at Heathrow in 2025.
- Our forecast model is based on the assumption that Brexit and a 'Global Britain' policy will result in trade with the EU decreasing in favour of establishing stronger trade relationships with non-EU countries. Details of the methodology are presented in the Appendix.
- The projected trend is driven in large part by goods from the manufacturing sector, particularly those that can be considered "high value" manufacturing, such as microchips, medical equipment, industrial machinery equipment or man-made fibres.



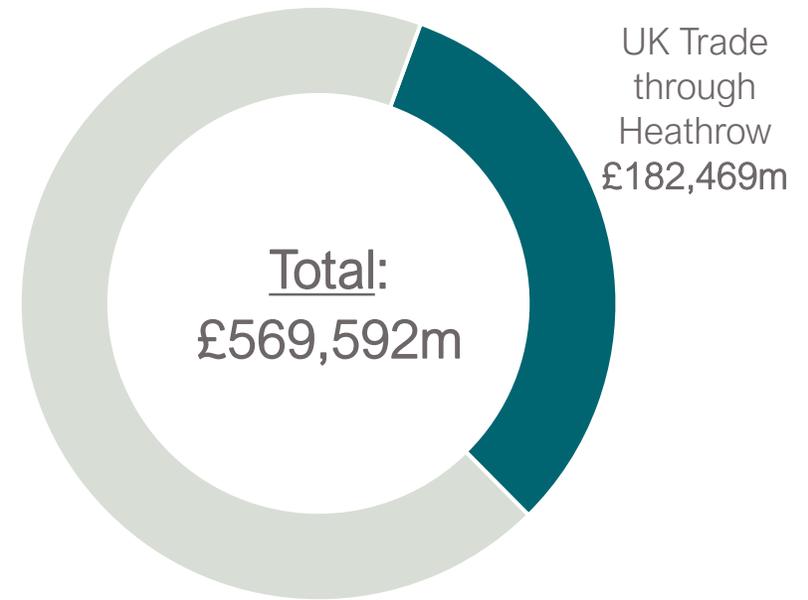
Source: UK Trade Info (HMRC), Cebr analysis

UK Trade with non-EU countries is set to rise by 20% over the next 5 years

2019
UK Trade with non-EU countries



2025
UK Trade with non-EU countries



Heathrow is a major facilitator of UK trade of high value manufacturing goods

- Despite Heathrow’s relatively low share of UK trade by cargo *volume*, it is a major transportation hub in the UK by *value*, owing to the type of goods that it facilitates the trade of, notably high value manufacturing goods.
- Over 90% of the UK’s trade by *volume* is transported by sea¹ but due to the higher value cargo that is transported by air, Heathrow is responsible for over a fifth of the UK’s trade of goods by *value*.
- Evidence from the Civil Aviation Authority reveals that almost two thirds of all trade transported by air in the UK was moved through Heathrow in 2019 with this figure rising to over 75% for non-EU trade.
- According to UK Trade Info (HMRC) data, Heathrow was the final destination for many of the non-EU trade routes into the UK.
- Amongst them, not only products belonging to the category of manufacturing, but also goods from the agriculture, forestry and fishing category, were identified.

Products passing through Heathrow, 2019	% of UK Exports	% of UK Imports	% of UK Trade
Live animals	57%	25%	51%
Medicinal and pharmaceutical products	52%	40%	49%
Professional, scientific, controlling instruments, apparatus	48%	35%	42%
Power generating machinery & equipment	38%	39%	39%
Rail, aircraft and ship transport equipment	33%	24%	29%
Crude animals & vegetable materials	24%	25%	25%
Dairy products & birds’ eggs	16%	28%	17%

[1] Parliament. (2019). ‘Chapter 7: Maritime transport’.

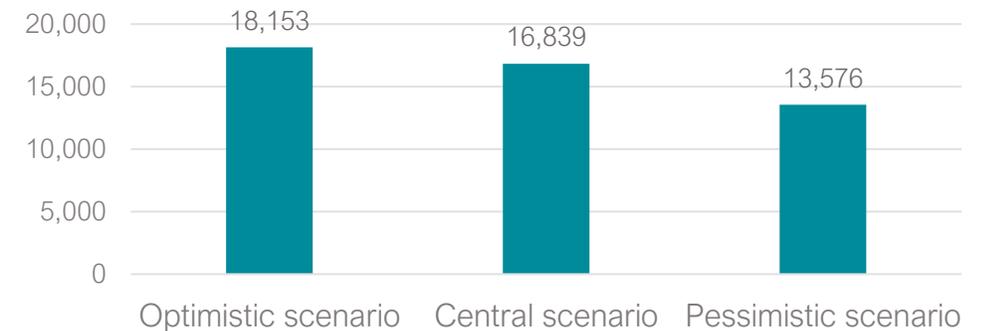


Heathrow passenger expenditure in the UK could rise by as much as 10% by 2025

- Passenger expenditure refers to the general spending done by passengers travelling through Heathrow into the UK. This may be in the form of accommodation, restaurants or other business and tourism activities.
- We estimate that, in 2019, passengers travelling into Heathrow spent a total of **£16.56bn** across the UK. Almost 50% of total spending is represented by passengers travelling from North America or Middle East. In particular, the biggest contribution from a single country comes from travellers from the US, who spent **£3.74bn** (23% of total spending) across the UK in 2019.
- We have projected passenger expenditure up to 2025, under three different “Covid-19 scenarios”. Details of the methodology are presented in the Appendix.
- Under the most **optimistic scenario**, which forecasts the end of the pandemic’s impact on aviation by Summer 2021, the total passenger expenditure is expected to rise by 10% over the next 5 years to **£18.15bn**.
- Under the most **pessimistic scenario**, which assumes a protracted health crisis and subsequent low passenger confidence, we expect a reduction in passenger expenditure of 18% to **£13.58bn** by 2025. This partly reflects the trend observed over the last twelve months, when passenger traffic numbers at Heathrow decreased by **72.7%**.

Estimated passenger expenditure, 2019	£m
EU	2,856
Non-EU Europe	943
USA	3,743
North America (excluding USA)	474
Asia Pacific	3,517
Middle East	3,796
Africa	975
Latin America	254
Total	16,558

Source: IPS (VisitBritain), DfT, CAA, Cebr analysis



■ Estimated passenger expenditure (2025), £m

Source: IPS (VisitBritain), DfT, CAA, Eurocontrol, IMF, Cebr analysis



Heathrow could contribute around £4.65bn to the UK economy by 2025

- This section of the analysis is based on pre-pandemic figures and assumes that international travel will fully resume by 2025.
- Heathrow could contribute around **£4.65bn** to the UK economy by 2025. This figure does not include passenger spend and value of trade facilitated by the airport, which can be considered as additional “downstream impacts”.
- Over **140,000 jobs** are set to be supported by Heathrow and its broad supply chain by 2025. This figure is based on the more than 76,000 people working at Heathrow in 2019 for one of the 400 businesses that operate across the airport – ‘Team Heathrow’.
- This analysis was carried out using an input-output model, which generates economic multipliers that quantify the total economic footprint of Heathrow Airport into three separate but interlinked impact layers.

(For a more detailed methodology note on how this is calculated, see the Appendix.)

Heathrow Airport, 2025	Direct	Indirect	Induced	Aggregate
Turnover (£m)	3,127	1,463	1,364	5,953
GVA (£m)	2,351	1,173	1,125	4,650
‘Team Heathrow’ employees ²	78,140	38,085	27,208	143,433
Heathrow employees	7,856	3,829	2,735	14,421
Compensation of Heathrow employees (£m)	386	196	136	717

Source: Companies House, Heathrow Airport, Cebr analysis

Gross Value Added (GVA) multipliers, 2025



Total Impact = 1 + 2 + 3 = 1.98

Aggregate Gross Value Added (GVA), 2025



Total Impact = 1 + 2 + 3 = £4.65bn

Source: Cebr analysis

[2] The same jobs multipliers were applied to the two employment figures. Cebr recognises the limitation of the analysis in that it does not offer an accurate picture of “Team Heathrow” employment’s composition, which includes a broader range of jobs. This can result in an underestimation of the aggregate jobs impact as this does not account for a number of economic sectors that present more complex supply chains than airport services and operations.



Module 2: Value of Heathrow

2021

The value of trade going through Heathrow is significantly higher than that of shipping and other modes of transport

- Our estimates show that the value per tonne of cargo going through Heathrow Airport is almost **80 times** greater than the value of UK shipping trade routes, and about **10%** higher than the value of UK aviation trade routes (excluding Heathrow).
- This was estimated by dividing the value of cargo per mode of transport by the respective cargo volume measured in tonnes.
- The data for cargo value is sourced from UK Trade Info data (HMRC), and the cargo volume data comes from Department for Transport (DfT) data releases and from the Civil Aviation Authority (CAA) for shipping and aviation, respectively. All data is from 2019.
- Because the UK was still part of the EU in 2019, the data for cargo value presented is only for non-EU trade; this meant having to estimate the overall trade volume figure wherever appropriate.

Mode of transport, 2019	£ per tonne
Heathrow	103,076
Aviation (excl. Heathrow)	93,812
Shipping	1,334

Source: UK Trade Info (HMRC), DfT, CAA, Cebr analysis
 1 tonne = 1,000 kilograms



Module 3: Regional impact of Heathrow

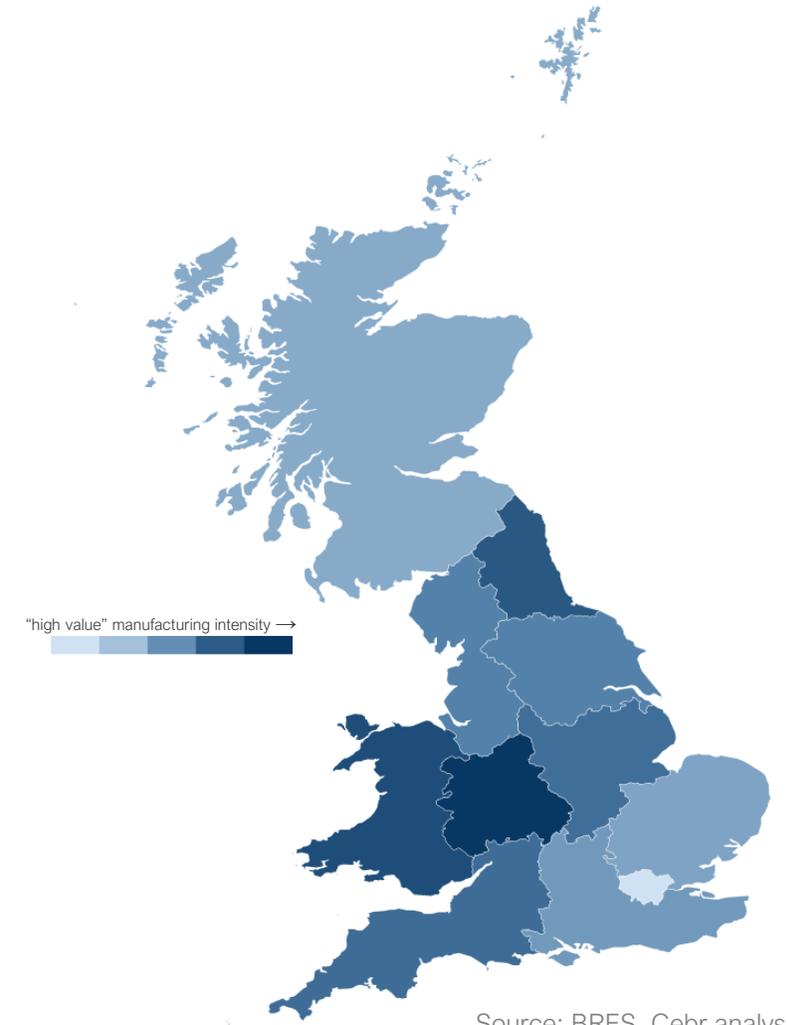


As a major hub, Heathrow offers significant benefits to regional economies

- Heathrow Airport is the only hub in the UK and a major hub in Europe. Hub airports like Heathrow are different in nature to regional airports serving point to point flights and are able to generate greater economic benefits.
- Due to its hub status Heathrow can serve a broad range of destinations, in particular making long haul destinations viable and profitable routes to airlines.
- Heathrow connects all UK's regions to worldwide destinations and markets, this connectivity supports not only London's economic activity but also regional economies by stimulating:
 - ✓ Trade;
 - ✓ Foreign direct investment; and
 - ✓ Tourism.
- As well as enabling more business travel and supporting UK tourism, flights operating at Heathrow also carry up to 20 tonnes of freight in the belly hold, opening up new opportunities for UK manufacturers to export their goods and services around the world, as well as enabling imports.

The Midlands, Wales and the North East could stand to benefit the most from future FTAs and trade policies

- Given the significant role Heathrow plays in the trade of “high value” manufacturing products, evaluating the “high value” manufacturing propensities for each of the regions is a good way to gauge which regions might be most affected by future FTAs which would change the trading landscape of the UK. In 2019, more than 80% of UK trade to non-EU countries concerned manufactured goods.
- By “high value” manufacturing propensity we mean how much more (or less) “high value” manufacturing intensive that particular sector is within each region compared to the UK average (which would be equal to 1).
- The Midlands, Wales and the North East depend more on “high value” manufacturing than Scotland and the South East, and therefore we would expect them to be amongst the regions most heavily impacted by future FTAs and trade policy.
- Other regions, such as London, are more likely to be unaffected by the gains associated with any potential growth in “high value” manufacturing due to future FTAs.

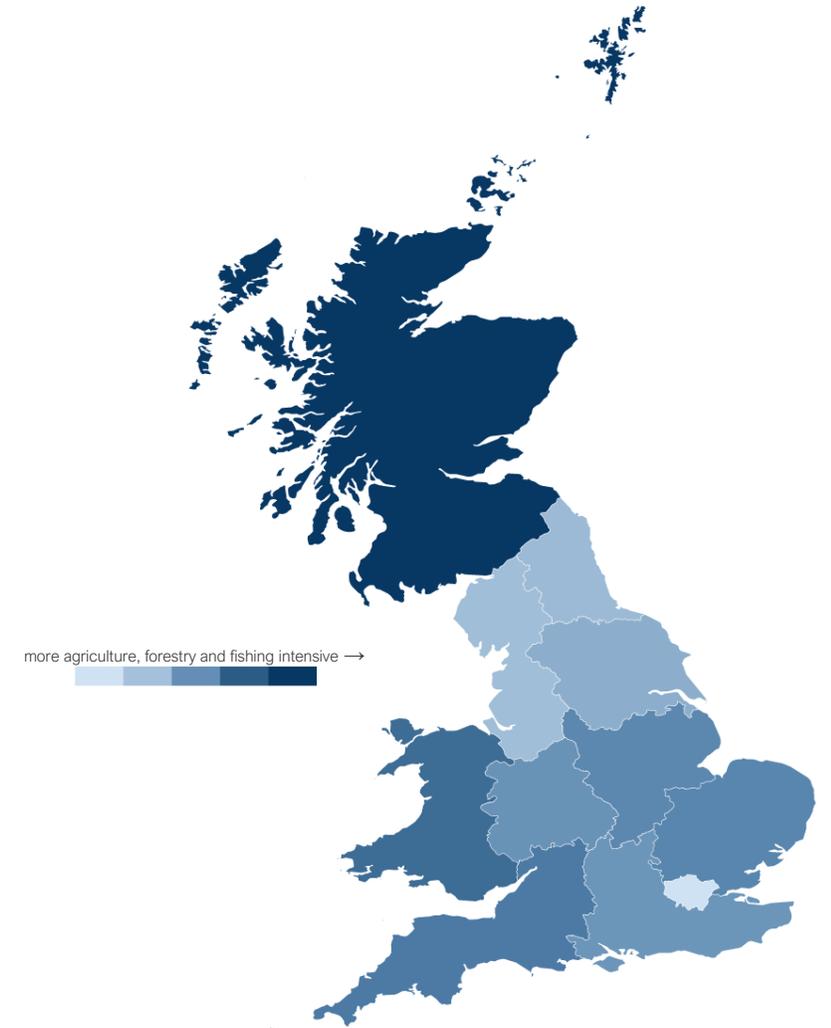


Source: BRES, Cebr analysis

(For the full list of regional propensities and a more detailed explanation of methodology, see the Appendix.)

Scotland and Wales could benefit from increased trade in agriculture, forestry and fishing

- Although agriculture, forestry and fishing only account for a marginal part of UK total trade (in 2019, they represented less than 5% of UK trade to non-EU countries), some specific products heavily rely on Heathrow routes.
- In 2019, 63.5% of fish, crustaceans and molluscs exported from the UK to non-EU countries and 27.5% of dairy products & birds' eggs imported to the UK from non-EU countries were handled at Heathrow.
- Regional propensities for this sector are very heterogenous throughout the country, suggesting that some regions could obtain bigger benefits from increased trade in agriculture, forestry and fishing.
- More specifically, Scotland and Wales depend more on the above sectors than the other regions, with regional propensities of 2.36 and 1.66 respectively.





Module 4: Countries



Heathrow facilitates almost half of trade in value with current CPTPP members

- The government's aim is to secure secure FTAs covering 80% of UK trade within the next three years, to become a truly Global Britain. Establishing Free Trade Agreements (FTAs) could further increase the value of trade between the UK and its respective partners by reducing tariffs and restrictions currently in place on UK exports.
- As a key part of its trade negotiations programme, the government has now formally launched negotiations to pursue accession to the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).
- As of 2019, Heathrow facilitates 46.2% of trade in value with current CPTPP members. 30.9% of exports and 55.0% of imports from the UK to these countries pass through Heathrow.

Heathrow trade, 2019	Total, £m	% of UK Trade
Australia	8,429	64.9%
Brunei	28	43.4%
Canada	10,592	58.5%
Chile	36	23.4%
Japan	6,278	37.2%
Malaysia	658	19.6%
Mexico	1,598	44.2%
New Zealand	288	16.9%
Peru	82	13.0%
Singapore	3,282	37.6%
Vietnam	2,057	39.6%
Total CPTPP members	33,653	46.2%

Source: UK Trade Info (HMRC), Cebr analysis



“The UK will be a champion of free trade and will seek FTAs with like-minded democracies” – DIT (2020)

US

- [The Government's analysis](#) shows a UK-US FTA could increase trade between both countries by £15.3bn in the long run and increase UK workers' wages by £1.8bn. UK-US trade was valued at £220.0bn in 2019, of which almost 40% passed through Heathrow.
- [Evidence from the literature](#) reveals that the Midlands could benefit significantly from a UK-US FTA, with one in five of all exports from the region already going to the US. The North of England could also benefit by increasing exports of machinery, road vehicles and manufactured products to the US market.

Australia

- The FTA recently signed with Australia could increase UK exports to Australia by up to £900 million, [according to recent government analysis](#). UK businesses traded £18.1 billion worth of goods and services with Australia in 2019.
- Furthermore, the UK was the second largest direct investor in Australia and the second largest recipient of Australian foreign direct investment (FDI) in 2019. The stock of UK FDI in Australia was £35.6 billion in 2018, while Australia invested £15.9 billion in the UK.
- Heathrow, as major hub for connectivity, plays a central role in boosting foreign investment.

Japan

- The government signed an FTA with Japan in October 2020, which [could boost trade between the UK and Japan by over £15 billion](#) and drive economic growth in the long run. Currently 37% of trade with Japan is handled by Heathrow, suggesting that over £5bn worth of additional trade with Japan could be facilitated by the airport.



Appendix



In house Cebbr macro model assumptions

- The Cebbr macro model forecast takes into account expectations about a number of economic indicators, including:
 - ✓ Economic growth;
 - ✓ Inflation;
 - ✓ Labour market conditions;
 - ✓ Consumer market conditions;
 - ✓ Trade policies;
 - ✓ Brexit;
 - ✓ Covid; and
 - ✓ Technological advancements and innovation.
- With specific regard to trade, the model considers that Brexit will be 'harder' than was originally assumed after the EU-UK Trade and Cooperation Deal was signed. Both exports to and imports from the EU will settle at a level that might be as much as 15% lower than would have been the case had Brexit not occurred. Furthermore, benefits from non-EU trade will only start to accrue slowly.
- This report used the March 2021 update.

Regional breakdown of inbound and outbound Heathrow passengers

- This is the total number of passengers that travelled through Heathrow Airport in 2019, as per Civil Aviation Authority (CAA) data.
- It includes UK residents travelling abroad via Heathrow, foreign travellers visiting the UK through Heathrow, and “transit” passengers – that is, passengers who are only passing through Heathrow as a layover stop to their final destination.
- By 2025 we expect the total number of passengers to exceed 83 million under the optimistic scenario, with some variations in the regional breakdown.
- The passenger numbers forecast for the other two scenarios is as follows: in the central scenario we expect this number to almost reach 78 million, and in the pessimistic scenario we expect this figure to exceed 63 million.

Inbound and outbound passengers through Heathrow by region, 2019	Total	Share
UK	4,840,337	6%
EU	27,462,189	34%
Non-EU Europe	5,648,380	7%
North America	19,031,973	26%
Asia Pacific	11,285,545	14%
Middle East	8,119,136	10%
Africa	3,091,504	4%
Latin America	1,382,506	2%
Total	80,861,570	100%

Source: CAA, Cebr analysis



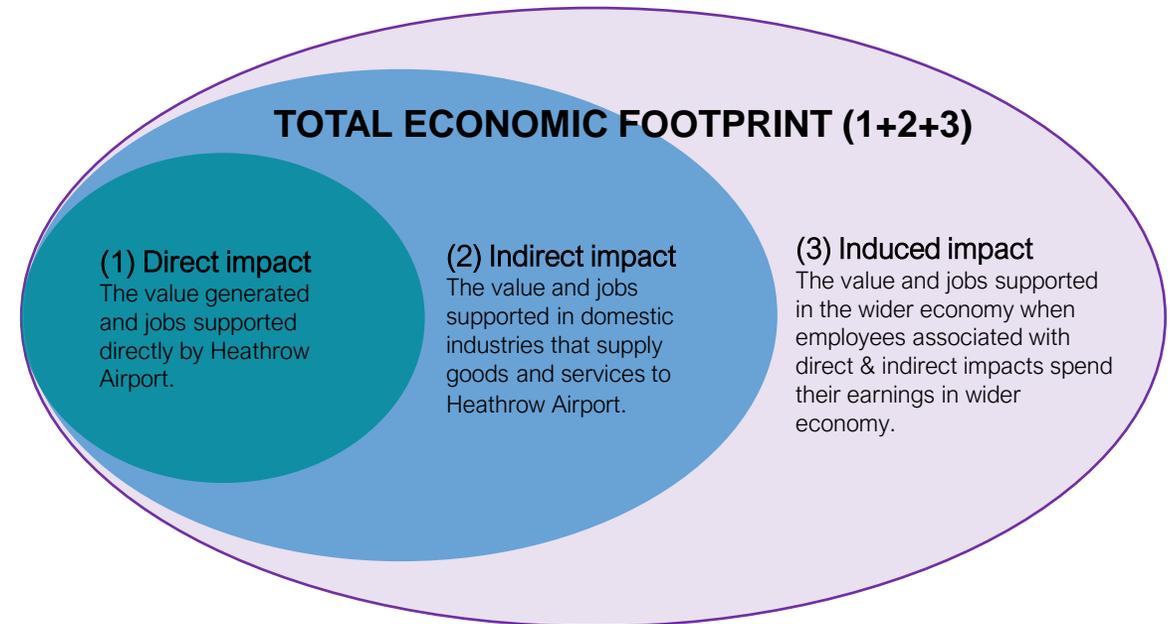
Heathrow passenger expenditure forecast: methodology and assumptions

- Passenger expenditure figures were estimated by calculating the proportion of inbound terminal passengers into Heathrow and, using average expenditure data from the International Passenger Survey carried out by VisitBritain, calculating the total spending by these passengers in the UK.
- The expenditure forecast analysis makes use of passenger forecast scenarios from Eurocontrol and world GDP forecast from the International Monetary Fund (IMF) Economic Outlook.
- In November 2020, Eurocontrol published forecasts of air traffic for 2019-2024 looking at three potential scenarios:
 - *Scenario 1. Vaccine Summer 2021: Vaccine widely made available for travellers (or end of pandemic) by Summer 2021.*
 - *Scenario 2. Vaccine Summer 2022: Vaccine widely made available for travellers (or end of pandemic) by Summer 2022.*
 - *Scenario 3. Vaccine not effective: Lingering infection and low passenger confidence.*¹
- We have used Eurocontrol forecasts to extrapolate Heathrow passengers potential growth for 2019-2025 and world GDP as main driver of expenditure.
- The passenger forecast, together with the expenditure forecast, yields an estimate for the total spending by travellers coming into the UK through Heathrow in 2025.

[1] <https://www.eurocontrol.int/publication/eurocontrol-five-year-forecast-2020-2024>

Input-output model methodology note

- Our input-output models² establish the relationships between industries through supply chain linkages, as well as industries' linkages with government, capital investors and the rest of the world (through trade).
- The models produce three types of impacts (as seen in the figure on the right).
- They are consistent with the national accounting framework, and are based on the ONS supply-use tables.
- The supply-use tables provide the most detailed official record of how the industries of the economy interact with other industries, with consumers and with international markets in producing the nation's GDP and national income.
- Using the supply-use tables, we establish an explicit role for Heathrow Airport within our input-output models, which facilitate the estimation of indirect and induced multiplier impacts.
- These three impacts are then combined to convey the aggregate impact associated with Heathrow Airport in terms of turnover, GVA, employment, and the compensation of employees.



[2] The Leontief matrix multiplier approach is the standard method for mapping the wider footprint of a particular company or sector. It is based on the Nobel Prize-winning work of Wassily Leontief.

Regional propensities in the UK – full table & more detailed methodology

- Valuating the regional propensities for trade-intensive sectors is a good way of assessing which regions have the most to gain (or lose) from any future trade agreements where Heathrow might play a leading role.
- In essence, a regional propensity captures the relative intensity of a particular sector in a given region. For instance, the manufacturing propensity measures how much more (or less) manufacturing intensive a region is compared to the average (i.e. compared to the rest of the UK). A manufacturing propensity greater (smaller) than 1 means that particular region is more (less) manufacturing intensive compared to the rest of the UK.
- The table shows the relative intensity of manufacturing, high value manufacturing and agriculture for the UK regions and, therefore, which regions might have the most (and least) to gain from an FTA where Heathrow would play the role of major facilitator.

Regional propensity, 2019	Manufacturing	"High value" manufacturing	Agriculture
East	0.95	0.80	1.31
East Midlands	1.61	1.32	1.28
London	0.29	0.16	0.04
North East	1.27	1.53	0.59
North West	1.16	1.14	0.54
Scotland	0.84	0.73	2.36
South East	0.82	0.90	1.10
South West	1.09	1.34	1.46
Wales	1.40	1.63	1.66
West Midlands	1.46	1.85	1.14
Yorkshire and The Humber	1.42	1.14	0.76

Source: BRES, Cebr analysis



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