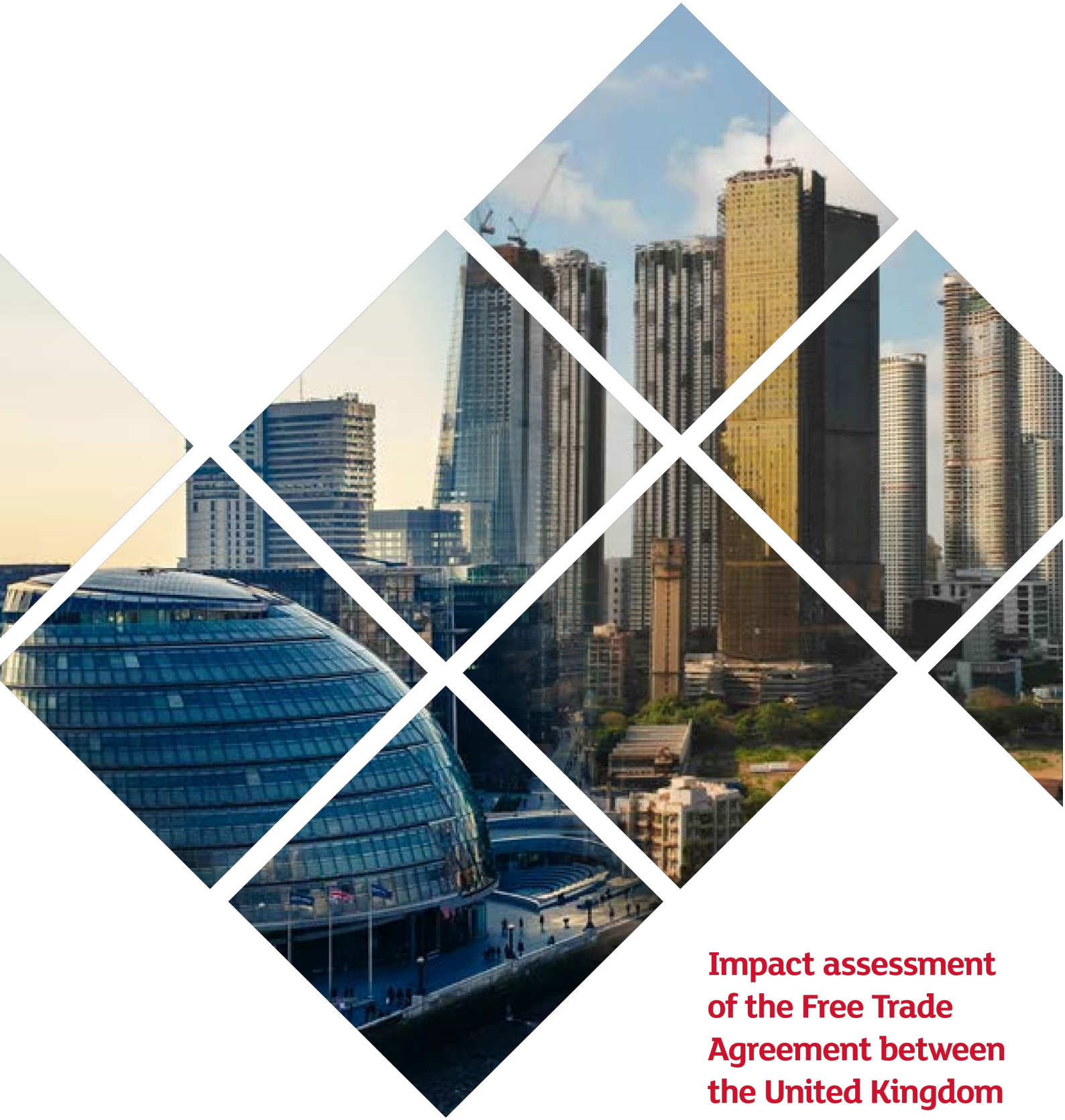
Department for Business & Trade



# Impact assessment of the Free Trade Agreement between the United Kingdom of Great Britain and Northern Ireland and India

# Contents

# Executive summary

**His Majesty's Government has negotiated a Free Trade Agreement (FTA) between the United Kingdom (UK) and the Republic of India. It is a modern and comprehensive agreement which reduces the tariffs and non-tariff measures imposed on businesses, making it easier to trade. The FTA aims to create greater certainty and transparency for businesses involved in bilateral trade. This FTA will stimulate economic growth across the UK and support jobs. The UK's Gross Domestic Product (GDP) is estimated to increase by 0.13%, equivalent to £4.8 billion, and India's GDP by 0.06%, equivalent to £5.1 billion per year in the long run.**

This is an FTA between the world's fifth and sixth largest economies, who are expected to maintain strong economic prominence in decades to come.[1] By 2035, the UK is projected to remain the world's sixth largest economy and India is projected to be the third.[2] India had a nominal GDP of over £3 trillion in 2024 and is projected to grow rapidly with an estimated average growth rate of 5% per annum (in real terms) between 2021 and 2050.[3] Furthermore, by 2050, India is projected to have over a quarter of a billion high income consumers.[4]

Total trade in goods and services between the UK and India was over £40 billion in 2024.[5] India's demand for global imports is estimated to increase to £2.8 trillion by 2050, making it the third largest importer in the world.[6] The FTA's improved market access and reduced regulation are expected to create major opportunities for UK businesses and consumers.

## The agreement

The agreement with India is the UK's biggest and most economically significant new bilateral FTA since leaving the EU. It represents the latest step by the UK and India to strengthen their relationship, building on the Technology Security Initiative, and the UK-India Comprehensive Strategic Partnership, which centres the relationship on mutual economic growth, technological innovation, and collaboration on global challenges including climate change.[7]

The agreement supports the government's Plan for Change, which aims to bring more opportunity to UK businesses within its core mission to grow the economy.[8] It also builds on the Department for Business and Trade's (DBT) UK Trade Strategy, which aims at achieving long-term sustainable, inclusive, and resilient growth through trade.[9]

The FTA with India:

- removes or reduces tariffs on 90% of tariff lines, covering 92% of India's goods imports from the UK in 2022 after staging (up to 10 years). This includes key UK exports such as whiskies and gin from 150% to 75% at entry into force and 40% after staging. Similarly, UK car manufacturers can benefit from a quota reducing the tariff from up to 110% to 10%
- minimises customs-related administrative burdens for traders and commits UK and India's customs authorities to endeavour to release goods from customs control within 48 hours, if all requirements have been met

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[1] World Economic Outlook Database, April 2025
[2] DBT, Global Trade Outlook, February 2023
[3] DBT, Global Trade Outlook, February 2023
[4] DBT, Global Trade Outlook, February 2023
[5] ONS UK total trade: all countries, seasonally adjusted, April 2025
[6] DBT, Global Trade Outlook, February 2023. Projections are based on 2023 edition of the Global Trade Outlook, which used 2021 as its base year. The outputs have been converted from a 2021 price base to a 2024 price base using growth in the UK's GDP deflator for 2024, without any further adjustments for actual outcomes since then.
[7] UK-India Technology Security Initiative: factsheet, July 2024 and 2030 Roadmap for India-UK future relations, May 2021
[8] Plan for Change
[9] UK Trade Strategy, June 2025

- reduces technical barriers to trade by making it simpler for UK manufacturers to test their products against Indian rules
- guarantees access for the UK's world-class services industry. The FTA ensures a range of sectors such as financial services, environmental services and construction services are treated fairly when providing services in India
- secures commitments on digital trade to promote digital system compatibility and paperless trade. This will help UK businesses of all sizes by making trade cheaper, faster, easier and more accessible
- will set up bespoke support for SMEs, such as dedicated contact points, helping them as they enter the market and trade with India
- maintains the UK's high standards on important consumer issues such as food standards and animal welfare. On food standards, all food and drink products imported into the UK will continue to have to comply with UK import requirements
- will support the UK's climate and environment goals and support cooperation and trade in key UK growth sectors such as clean energy, transport, recycling, as well as the circular economy
- contains commitments on areas India has never previously included in FTAs such as gender equality, development and State-Owned Enterprises (SOEs)

Alongside the FTA, the UK and India also pursued agreement of a new Double Contributions Convention (DCC), which will be a standalone treaty. The UK and India have committed to negotiate a DCC, and further information on the DCC can be found on GOV.UK.[10]

## The impact of the agreement

This impact assessment (IA) sets out the government's analysis of the economic, social, and environmental impacts of the FTA. It seeks only to assess the marginal impacts of the FTA itself and is not a full forecast of all the ways in which the UK and Indian trading relationship may change in the coming years.

### Macroeconomic impacts

This trade agreement will lower India's high tariffs, enhance market access, and provide greater certainty, thereby supporting bilateral trade in goods and services. Import duties on UK exports are estimated to reduce by around £400 million as soon as the FTA comes into force.[11] These import duty reductions are expected to double to approximately £900 million after 10 years, when full staging is complete. In addition, duties on UK imports from India will be reduced by £220 million.[12]

Tariff reductions, combined with a reduction in regulatory barriers to trade between the UK and India are estimated to:

- increase UK exports to India by nearly 60% in the long run – this is equivalent to an additional £15.7 billion of UK exports to India when applied to projections of future trade in 2040[13]
- increase UK imports from India by 25% in the long run – this is equivalent to £9.8 billion in additional UK imports from India when applied to projections of future trade in 2040. UK consumers can benefit from cheaper and more varied access to goods and services from India

[10] UK-India trade deal: conclusion summary - GOV.UK, para 5.
[11] Figures based on 2022 UK exports to India, assuming all available preferences are used.
[12] Figures based on 2022 UK imports from India, assuming all available preferences are used.
[13] The estimated changes outlined above are in addition to any long-term underlying growth. In this context, the long run is typically assumed to be a period of around 10-15 years after implementation.

- increase bilateral trade by nearly 39% in the long run, equivalent to £25.5 billion a year

The increase in trade is estimated to contribute to a permanent increase in the level of UK GDP of 0.13%, worth £4.8 billion a year when compared to projected levels of GDP by 2040, relative to a baseline of no agreement. Real wages for UK workers is estimated to increase by 0.19%, the equivalent of £2.2 billion a year for the whole country, compared to wages in 2024 without the agreement.

Modelling the long run benefits of any FTA is always open to significant uncertainty. That uncertainty increases for an FTA involving an economy as dynamic as India's. If India grows significantly faster or slower than projected during this period, or develops different sectoral strengths, this could influence the estimated impacts of the agreement. Such changes may have a knock-on effect on the scale and distribution of the benefits Indeed, since just 2019 (when the GTAP model dataset is set), bilateral trade between the UK and India has nearly doubled.[14] As such these estimates could underestimate the ultimate impact of the FTA. It is not feasible to credibly model the many ways in which that forward trajectory could change over such a long period. However, the sensitivity analysis shows that in 90% of modelling simulations, the increase in UK GDP ranged between 0.11% and 0.14%.[15]

## Sector impacts

UK exports to India are expected to increase across all UK sectors. Sectors that experience the largest estimated increases in exports (in absolute terms) because of the agreement are the manufacture of machinery and equipment not elsewhere classified (n.e.c) - which includes pumps and engines - and chemical, rubber and plastic products - which includes products such as cosmetics and pharmaceuticals.

UK exports of beverages and motor vehicles are also likely to see large increases – driven by significant tariff reductions. Indian tariffs on whiskies will fall from 150% to 40% over ten years. Correspondingly UK beverage and tobacco exports could increase by around £700 million – equivalent to around 180% growth relative to a baseline of no FTA.[16] Similarly, Indian tariffs on UK completed motor vehicle exports, currently as high as 110%, fall to 10%, within a quota, under the agreement. This contributes to an estimated increase in UK motor vehicle exports, which contains completed motor vehicles and parts, of £890 million – equivalent to a 310% growth in the long run.

UK imports from India in the textiles, apparel and leather sector, are expected to rise by approximately £2.9 billion, equivalent to an 85% relative to a baseline of no FTA. This growth in imports is driven by clothing, textiles and footwear, whose imports are estimated to increase by £475 million (45%), £175 million (40%) and £55 million (30%) respectively.[17] This increase in imports is driven by the large reductions in UK tariffs and non-tariff measures (NTM) - exposing consumers to India's comparative advantage in this industry. Though a significant share of this increase reflects trade displacement from other countries, it also reflects an increase in competition from India.

The modelling indicates that the majority (16 out of 23) of UK sectors analysed may experience higher Gross Value Added (GVA), a measure of national economic output, in the long-run, due to the FTA.[18] The strongest gains are concentrated in the 'other services' sector, which includes transport, water and housing services, where GVA could grow by £551 million (0.2%) relative to a baseline of no FTA. This is followed by the manufacturing of machinery and

[14] ONS, UK total trade: all countries seasonally adjusted data, April 2025
[15] Sensitivity analysis is further detailed in Section 9
[16] DBT CGE modelling, in 2024 prices. Unless specified, the estimates provided in the executive summary are CGE modelling results.
[17] DBT partial equilibrium modelling
[18] For brevity and presentational purposes, sectoral results are aggregated from the Global Trade Analysis Project (GTAP), which is designed to reflect the whole economy. Table 1, in Chapter 2, details the 23 UK sectors, and the methodology behind the aggregation from the GTAP 65 sectors is explained further in Annex 1.

equipment, and the wholesale and retail trade sectors, where GVA is estimated to grow by £527 million (1.65%) and £405 million (0.12%) respectively, relative to a baseline of no FTA.

A minority of UK sectors are expected to generate less output than they would in the absence of a trade agreement. Reflecting the rise in imports, the textiles, apparel, and leather sector is projected to see the largest decline, with GVA estimated to be £114 million (0.7%) lower than in a scenario without the FTA. This in turn is projected to lead to resources shifting away from adversely affected sectors to other sectors that exhibit a larger increase in exports. Other sectors that are expected to see lower output in the long run relative to a scenario of no FTA include the manufacture of other transport equipment and manufacturing not elsewhere classified (n.e.c), which includes pumps and turbines. These sectors could see output fall by around £85 million (0.4%) and £33 million (0.1%) respectively relative to without an FTA.[19] However, all these sectors would still be expected to grow over this period, and the FTA is not estimated to result in a significant change in the sectoral mix of the UK.

### Impacts on UK nations and English regions

The distribution of sectors across the UK indicates that all UK nations and English regions could see an increase in real GVA resulting from the UK-India trade agreement.

The West Midlands and North East could experience the largest relative increases in output, due to the high concentration of the manufacture of motor vehicles and machinery and equipment sectors (which includes pumps and engines) in these regions. The West Midlands is estimated to expand by 0.13% relative to a baseline of no FTA (equivalent to £190 million), while the North East could expand by 0.12% (equivalent to £70 million).

GVA in Scotland, Wales and Northern Ireland is also estimated to increase because of the agreement. Scotland and Wales, and Northern Ireland are estimated to see an increase in GVA of around £190 million, £80 million and £50 million respectively, relative to a baseline with no FTA. These increases are equivalent to 0.12% growth in GVA in Scotland and 0.11% for both Wales and Northern Ireland.

### Third country impacts

The UK-India FTA could have wider effects on the economic and social development of third countries as well as environmental impacts. The GDP of most developing countries is estimated to be largely unaffected because of the FTA, except for Nepal and Sri Lanka. There is expected to be a small negative impact on their economies of less than -£0.1 billion (relative to the baseline of no FTA in 2040) because of higher import prices from India, as highlighted in Section 6. However, this reduction in GDP does not imply that their economies will not grow over the long-term. Similarly, mechanisms such as the Developing Countries Trading Scheme (DCTS) can ensure goods from countries such as Nepal remain competitive in the market by ensuring they are subject to lower tariffs.

### Environmental impacts

The expansion in the wider economy, and specifically its industrial sector, may lead to an increase in UK greenhouse gas (GHG) emissions relative to a baseline of no agreement. The agreement is expected to lead to UK GHG emissions increasing by around 0.8 $MtCO_2e$ against 2019 emissions of 393.5 $MtCO_2e$ (0.21%). GHG emissions in India are expected to increase by 1.4 $MtCO_2e$ because of the FTA. The analysis does not account for existing reductions in emissions from the baseline year or any projected reductions in emissions in the future, for instance due to climate policy. This 0.21% increase in UK emissions resulting from the FTA compares to a 4% decrease in GHG emissions between 2023 and 2024.[20]

[19] Manufacturing not elsewhere classified (n.e.c)
[20] Provisional Greenhouse Gas Emissions Statistics, ONS, 2024

Transport emissions (aviation and maritime) resulting from bilaterial trade between the UK and India, which are modelled separately to GHG emissions, are estimated to increase by around 43% to 49% - or 1.3 $MtCO_2e$ to 2.5 $MtCO_2e$ respectively, annually in the long run.[21] However, the estimated impacts on transport emissions do not take into account decarbonisation policies, changes in business practices to reduce emissions, and the impact of a reduction in trade with third countries as a result of the agreement. These could offset some of the estimated impacts.

### Modelling approach

This IA draws on multiple forms of quantitative and qualitative analysis to assess the impacts of the FTA, including data analysis and economic modelling. Within this IA, the computable general equilibrium (CGE) model used to assess the overall macroeconomic impact of the agreement, captures both the potential direct and indirect impacts.[22] It is commonly used globally to estimate the macroeconomic impacts of FTAs, and recommended by the Department's Trade Modelling Review.[23] This IA also uses goods partial equilibrium (PE) modelling to make an assessment of the direct impact of the agreement on specific sectors and to examine the impact on more disaggregated sectors. CGE and PE models are both subject to uncertainty, which is discussed in more detail in Section 3 and Annex 5.

The results presented in this IA are expressed in pound sterling (£) values, to contextualise the results in terms relatable to today's economy. Details of the conversion of modelling results can be found in Annex 2. The assessment also presents results from a series of off-modelling processes, including combining CGE results with official published datasets, such as ONS GVA data. More detailed explanations of the off modelling involved in this IA is provided in the Annexes.[24]

The models used in the analysis are based on theoretical frameworks which present a stylised set of economic relationships, and historical data relating to past trading and production patterns. The modelled impacts of the agreement are driven by tariff reductions, reductions in regulatory restrictions to trade, and income and supply chain effects as the UK economy grows following the agreement. The modelling results do not represent a forecast for UK growth or trade, nor are they able to consider other external factors that may shape the UK and global economies over the time period that is being modelled, including the subsequent (and shifting) trade deals with the United States and European Union. Instead, the modelling approach indicates the potential scale of the impacts of the agreement.

## Next steps

Ongoing monitoring and evaluation (M&E) of the implementation and impacts of the agreement is an important part of ensuring that the predicted impacts materialise. They are an important part of ensuring that the benefits are maximised for businesses, workers, and consumers. M&E activities help to ensure that new trade opportunities are fully realised. They also help to ensure the full range of impacts, intended and unintended, are understood and inform future policy development. DBT will monitor the implementation and conduct an ex-post evaluation for the agreement. This includes a new follow-up evaluation where appropriate

[21] Million tonnes of $CO_2$ emissions on average each year. Excluding non-CO2 aviation emissions such as water vapour, contrails and nitrogen oxides.
[22] Direct impacts capture the direct effects felt by businesses from the FTA as, for example, lower tariffs from the FTA make it easier for businesses to export which can change trade flows and increase output. Indirect impacts capture additional factors that affect businesses from the FTA, such as those caused by sector interlinkages. For example, increased exports for a sector can lead to increased activity in other domestic industries that are part of the same supply chain.
[23] Trade modelling review expert panel: report (January 2022)
[24] Details on the off modelling involved in examining impacts on small-medium enterprises (SMEs), the labour market and UK regions, can be found in Annexes 6, 7 and 8 respectively.

(for example, around 10 years after entry into force) to build understanding of the long-term impacts of the agreement. This is outlined in more detail in Section 10.

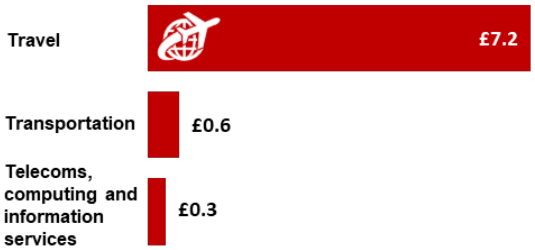
## Figure 1: Overview of existing UK-India trade


Source: ONS UK total trade, April 2025; IMF WEO database, April 2025

### Key UK exports to India in 2024 (£bn)

**Goods**


**Services**




### Key UK imports from India in 2024 (£bn)

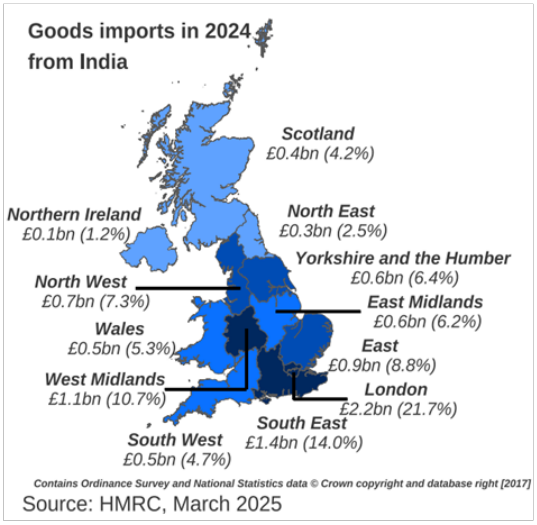
**Goods**


**Services**


Source: ONS UK total trade, April 2025; IMF WEO database, April 2025

### Regional trade with India


Source: HMRC, March 2025




Source: HMRC, March 2025

**Businesses**

**9,000** UK businesses exported goods to India in 2024

**16,300** UK businesses imported goods from India in 2024

Source: HMRC UK regional trade in goods: business counts, March 2025

# Section 1: Introduction

The UK and India have negotiated a Free Trade Agreement (FTA) which aims to enhance the trade relationship of the nations.

The agreement supports the government's Plan for Change, which aims to bring more opportunity to UK businesses within its core mission to grow the economy.[25] It also builds on the Department for Business and Trade's UK Trade Strategy, which aims to achieve long-term sustainable, inclusive, and resilient growth through trade.[26] The agreement seeks to bring more opportunity to UK businesses, particularly for the high growth sectors, such as advanced manufacturing, identified in the Industrial Strategy.[27]

This agreement marks another critical step in realising the ambitions of a stronger and mutually beneficial relationship between the UK and India. The recommendations from businesses, civil society groups, trade unions, public bodies, and individuals informed the UK's objectives for the FTA. These were published when negotiations launched in January 2022 alongside a scoping assessment (SA).[28]

The aim of this IA is to provide Parliament, industry and the public with a comprehensive assessment of the potential long run impacts of the FTA that has been negotiated.

This final IA updates the analysis undertaken in the SA, applying an updated modelling approach and adjusting the inputs to better approximate the negotiated outcome. Details of these changes are set out in Annexes 1 and 2.

[25] Plan for Change
[26] UK Trade Strategy, June 2025
[27] Invest 2035, October 2024
[28] UK-India Free Trade Agreement – The UK's Strategic Approach, January 2022

# Section 2: Background

India is already one of the UK's most economically and strategically important trade and investment partners. However, a UK-India FTA creates new opportunities for the UK because:

- the negotiation outcome will reduce India's relatively high existing tariffs and regulatory measures, providing opportunities for UK companies. The agreement will reduce India's applied trade-weighted average tariff on goods imports from the UK from 15% to 3%[29]
- the UK and India trade a broad range of goods in which both countries have comparative advantages in complementary sectors. An FTA will build upon this and further enhance specialisation
- India's global import demand is projected to quadruple in real terms between 2021 and 2050, reaching around £2.8 trillion. As a result, India is projected to be the world's third largest import market by 2050[30]
- an FTA with India could support jobs across the UK. The Organisation for Economic Co-operation and Development (OECD) estimates that UK exports to India supported around 142,000 jobs in the UK in 2020[31]
- India is forecasting strong long term economic growth and is projected to become the world's third largest economy by 2028[32]

## 2.1 Rationale and opportunities

### Strengthening the UK's relationship with one of the world's largest economies

With a population of over 1.4 billion, India had a nominal Gross Domestic Product (GDP) of almost £3.1 trillion in 2024 and is the world's fifth largest economy.[33] India is projected to overtake Germany and Japan to become the world's third largest economy by 2028.[34] India lies in the wider Indo-Pacific region, which is projected to account for around half of global real GDP growth between 2021 and 2050.[35]

In the 10 years up to 2024, India's economy grew by 6% a year on average (in real terms).[36] India's economy is expected to continue to grow rapidly, with an estimated compound average growth rate of 5% per annum (in real terms) between 2021 and 2050.[37] This is more than double the rate of growth expected for the world economy over this timeframe (2% per annum).[38] Growth in India's economy provides greater opportunities for UK businesses to benefit through trade.

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[29] DBT analysis based on 2022 trade
[30] DBT, Global Trade Outlook, February 2023
[31] The Organisation for Economic Co-operation and Development (OECD), Trade in Employment (TiM) database: Principal indicators, 2023.
[32] IMF, World Economic Outlook, April 2025.
[33] IMF, World Economic Outlook, April 2025, converted using Bank of England exchange rates XUAAUSS Database
[34] IMF, World Economic Outlook, April 2025.
[35] DBT, Global Trade Outlook, February 2023
[36] GDP in constant prices, compound average growth rate between 2014 and 2024. Data from IMF World Economic Outlook, April 2025.
[37] DBT, Global Trade Outlook, February 2023
[38] DBT, Global Trade Outlook - February 2023.

## India's global demand for imports is forecast to quadruple from 2021 to 2050[39]

In 2021, India was the world's eighth largest import market, accounting for 3% of world imports. The Indian import market could grow by around £2.2 trillion in real terms between 2021 and 2050, equivalent to growth of around 330%. As a result, India is expected to account for 6% of global imports and be the world's third largest import market by 2050. By 2050, India is projected to have over a quarter of a billion high income consumers. Rising prosperity in India could create an additional centre of demand for high-value consumer goods and services that the UK can supply.

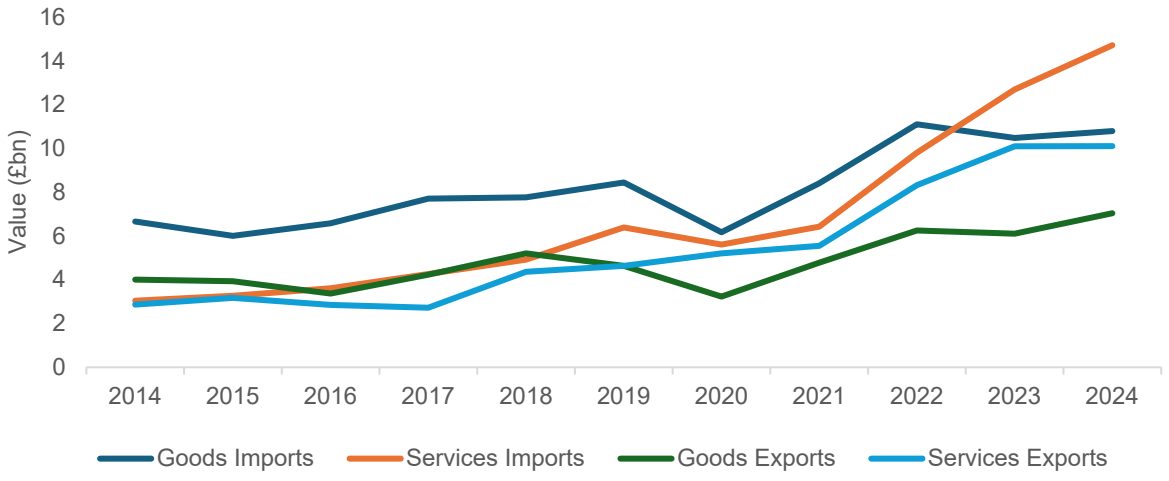
## UK-India bilateral trade has experienced an upward trend in the last decade[40]

India is one of the UK's most significant trading partners. In 2024, India was the UK's 11th largest trading partner and has become increasingly important for UK trade. India's share of UK trade increased from 1.7% to 2.4% between 2019-24. Total trade in goods and services between the UK and India was £42.6 billion in 2024.

Between 2014-24 total UK exports to India, in value terms, have more than doubled from £6.9 billion to £17.1 billion (in current prices). Over this period, UK goods exports to India increased from £4.0 billion to £7.0 billion, and UK services exports to India increased from £2.9 billion to £10.1 billion. In particular, between 2019-24 there was greater growth in India's share of total UK exports – increasing from around 1.3% to 2%. In 2024, goods exports made up 41% of total UK exports to India with services exports making up 59%. This has changed notably over the last decade, with service exports contributing only 42% of all UK exports to India in 2014.

UK imports from India have increased from £9.7 billion in 2014 to £25.5 billion in 2024, with services now making up a higher proportion of UK imports than they did in 2014. Similar to exports, there was particularly high growth between 2019-24, with the share of total UK imports from India increasing from around 2% to 2.8%.

Figure 2: Value of UK-India trade, 2014-2024




Source: ONS, UK Total Trade: all countries, seasonally adjusted, April 2025

[39] DBT, Global Trade Outlook, February 2023. Projections are based on the 2023 edition of the Global Trade Outlook, which uses 2021 as its base year. The outputs have been converted from a 2021 price base to a 2024 price base using growth in the UK's GDP deflator for 2024, without any further adjustments for actual outcomes since then. High income consumers are defined as having an annual income of at least $13,205 and are calculated by applying current income distributions to extrapolations of nominal GDP per capita, prices, and population.
[40] ONS, UK Total Trade: all countries, seasonally adjusted, April 2025. These values are in current prices.

## A free trade agreement will reduce barriers to trade

An FTA will lower barriers to trade in goods with India by reducing tariffs and non-tariff measures (NTMs). India's applied Most Favoured Nation (MFN) tariffs on imports of UK goods were relatively high with a trade-weighted average of around 15% over all tariff lines. This includes significant tariff peaks such as those applied on whiskies (150%) and autos (up to 110%).[41] The agreement will reduce India's applied trade-weighted average tariff on goods imports from the UK from 15% to 3%. The UK's MFN applied tariffs on imports from India will fall from a much lower trade-weighted average of 2% to almost 0% under the FTA.[42]

India also has relatively high levels of regulatory restrictions affecting trade in services according to the OECD's Services Trade Restrictiveness Index (STRI). This shows that India is more restrictive than the UK in all 22 sectors covered.[43] India has comparatively limited services-specific commitments under their existing General Agreement on Trade in Services (GATS) schedule. Consequently, there has been limited certainty over future terms of trade for UK service exporters to India.[44] An FTA will provide increased certainty over the terms of trade for UK service suppliers to India and boost trade through this channel.

In addition to lowering existing barriers, an FTA with India can help secure the UK's trading relationship by reducing the risk of future trade barriers, thereby providing greater certainty for UK businesses.

## UK-wide benefits in jobs and market access

An FTA with India is expected to support jobs across the UK. The OECD estimates that exports to India supported around 142,000 jobs in the UK in 2020.[45] There are firms trading with India in all regions of the UK. In 2024, London, the South East and Scotland had the greatest share of total goods exports to India. [46] In the same period, London, the South East and the West Midlands had the greatest share of total goods imports from India. An FTA could promote growth across all regions of the UK by strengthening access to the Indian market for UK businesses.

By reducing barriers to trade and enhancing UK competitiveness, the agreement could support increased investment in the UK from India. Inward foreign direct investment (FDI) in the UK from India was £13.1 billion in 2023, accounting for 0.6% of total UK inward FDI stock.[47] In 2023 to 2024, India provided the second largest number of FDI projects in the UK, creating over 7,500 jobs.[48] The OECD's Foreign Direct Investment Regulatory Restrictiveness Index shows that in 2023, India was relatively more restrictive to FDI than the UK and the average for the OECD.[49]

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[41] Tariff estimates based on tariff rates from GOI data in June 2022. Tariff peak within HS8703: Motor cars and other motor vehicles principally designed for the transport of less than 10 persons; World Tariff Profiles – World Trade Organization (WTO), 2023

[42] DBT analysis based on 2022 trade

[43] OECD STRI 2024, the OECD's Services Trade Restrictiveness Index (STRI) provides a measure of regulatory restrictions to trade in services, with 0 representing a sector which is completely open to foreign service suppliers and 1 representing a sector which is completely closed

[44] The General Agreement on Trade in Services (GATS) is a treaty of the WTO. The treaty aims to create a reliable and predictable system of international rules for trade in services and to facilitate the progressive liberalisation of services markets

[45] OECD, Trade in Employment (TiM) database: Principal indicators, 2023.

[46] HMRC Regional Trade Statistics, April 2025.

[47] ONS data source for FDI statistics: Foreign Direct Investment involving UK companies, January 2025

[48] DBT inward investment results 2023 to 2024, released July 2024

[49] The index assesses restrictiveness across four main types of restrictions 1) Foreign equity limitations, 2) Discriminatory screening or approval mechanisms, 3) Restrictions on the employment of foreigners as key personnel and 4) Other operational restrictions, for example, restrictions on branching and on capital repatriation or on land ownership by foreign-owned enterprises. The FDI Index is not a full measure of a country's investment climate. A range of other factors come into play, including how FDI rules are implemented. OECD, FDI Regulatory Restrictiveness Index, 2023 scores.

## A free trade agreement could help the UK to become more specialised in sectors of comparative advantage

The UK trades across a broad range of sectors with India and has a Normalised Revealed Comparative Advantage (NRCA) in complementary sectors. These include financial services and the manufacture of other transport equipment (including ships, air and spacecraft and related machinery), as shown in Table 1 below.[50] The UK trades along the lines of its comparative advantages, for example, in 2024 the UK exported £230 million of financial services to India.[51] India also has a comparative advantage in the textiles, apparel and leather sector. The agreement offers the opportunity for continued trade along the lines of each country's comparative advantage and therefore to gain from continued and increased specialisation. As the areas of relative comparative advantage complement each other, increased specialisation in both economies, resulting from the agreement, could lead to bigger for both economies benefits over time.

Table 1: Relative export specialisation (as measured by NRCA) by sector type

| Broad Sector Category | GTAP 23 Sector | UK | India |
|---|---|---|---|
| Agri-foods | Agriculture, forestry and fishing | -0.67 | -0.03 |
| | Beverages and tobacco products | 0.23 | -0.09 |
| | Semi-processed foods | -0.37 | 0.26 |
| | Other processed foods | -0.30 | 0.07 |
| Industry | Chemical, rubber, part plastic products | -0.58 | 0.48 |
| | Energy | -2.87 | -0.27 |
| | Manufacture of electronic equipment | -2.24 | -1.80 |
| | Manufacture of machinery and equipment n.e.c | -1.16 | -0.72 |
| | Manufacture of motor vehicles | -0.12 | -0.64 |
| | Manufacture of other transport equipment | 1.26 | -0.12 |
| | Manufacturing n.e.c | 0.11 | 1.03 |
| | Minerals, ferrous metals and wood products | -0.47 | -0.25 |
| | Paper and printing products | -0.10 | -0.14 |
| | Textiles, apparel and leather | -1.00 | 1.05 |
| Services | Business services | 3.41 | 0.91 |
| | Communications | 0.85 | 1.29 |
| | Construction | 0.00 | 0.01 |
| | Financial services | 2.37 | -0.20 |
| | Insurance | 0.73 | -0.09 |
| | Other services (transport, water, dwellings) | 0.45 | -0.30 |
| | Personal services | 0.06 | -0.02 |
| | Public services | 0.47 | -0.13 |
| | Wholesale and retail trade | -0.07 | -0.30 |

Source: DBT calculations using GTAP 12p1 data, 2019. n.e.c means not elsewhere classified. It is used to denote entities that do not fit into existing classification categories. For presentational reasons, all figures have been multiplied by 1,000. This does not affect the interpretation of the results.

[50] Normalised Revealed Comparative Advantage formula retrieved from: Yu R., Cai J., and Leung P. 2009. The Normalised Revealed Comparative Advantage Index, The Annals of Regional Science, 43(1): 267-282. The NRCA is a measure used to assess a country's specialisation and export potential. A result above 0 for a commodity shows that a country's share of the world exports for that commodity is higher than their share of total world exports, indicating they have a comparative advantage in the export of that commodity. This measure allows for comparison of the relative strength of comparative advantage across commodities and countries.

[51] Trade in services by service type is sourced from data by the ONS: UK trade in services by partner country (non-seasonally adjusted) April 2025.

Section 9.3 provides some further background and context on historic trends in bilateral trade flows of these sectors.

## 2.2 The UK-India agreement

This section sets out some of the key provisions included in the chapters in the FTA and summarises the rationale for these provisions. The full text of the agreement is available online. This section also summarises negotiations for the DCC, which is a separate treaty to the FTA but formed part of the wider negotiation on the FTA.

### Trade in goods

This FTA ensures:

- India will remove or reduce tariffs, or retain pre-existing zero tariffs, on 90% of tariff lines, which will cover 92% of existing goods imports from the UK.[52] Based on this trade alone, this amounts to India cutting tariffs worth around £400 million, which will more than double to around £900 million after 10 years.
- as soon as the FTA comes into force, 64% of tariff lines will be eligible for tariff-free imports into India, covering £1.9 billion of current UK exports to India. After staging over 10 years, the agreement will mean 85% tariff lines and 66% of existing Indian imports from the UK will be eligible for tariff-free entry into India.
- UK businesses and consumers will also have increased access to tariff-free imports from India, with tariffs being eliminated on nearly 99% of tariff lines which could provide better choice, quality and affordability on a wide range of Indian products such as apparel and textiles.
- tariffs on Indian imports of gin and whiskies from the UK will be reduced from 150% to 75% on day one and staged to 40% from year 10 onwards.
- UK car manufacturers will benefit from a quota that reduces tariffs from up to 110% to 10%. This starts with internal combustion engine (ICE) cars but transitions to electric vehicles (EVs) and hybrids to reflect how manufacturing in the UK is evolving. Similarly, Indian access to the UK market for EVs and hybrids is also staged and under a quota to support the UK auto industry's transition to EVs, while increasing consumer choice.
- UK high growth sectors identified in the Industrial Strategy will have greater opportunities in the Indian market. There will be improved market access for advanced manufacturing, medical technology companies within the wider life sciences sector, and for clean energy.
- tariff reductions will benefit UK advanced manufacturing exports such as aircraft parts and scientific and technical measuring instruments, auto parts, machinery and tools, and medical technology devices, including surgical, dental and veterinary instruments. This is alongside opening new opportunities through tariff-free access for UK agrifood, such as fresh and frozen salmon and cod, and lamb.
- tariffs will be cut for UK cosmetics and toiletries exporters, who have seen rapid recent rises in Indian sales, despite current tariffs between 10% to 22%. Through this FTA, tariffs on soaps, shaving cream, face cream and nail polish will either be removed on day one or removed after staging over 10 years. In addition, perfumes and eau de cologne will see tariffs of 22% halved after staging, increasing the opportunity for exporters and reducing costs.
- sensitive domestic sectors such as sugar, milled rice, pork, chicken, and eggs, are excluded from liberalisation.

[52] Subject to full utilisation of reduced tariffs and once staging is complete. Figures in this chapter relate to existing Indian goods imports from the UK in 2022. These figures do not relate to potential future trade.

## Rules of origin (RoOs)

The FTA will:

- secure RoOs which facilitate improved access to the Indian market for swathes of UK products. This means that UK producers and manufacturers will be able to continue to source some of their ingredients and materials from third countries. They will then be able to export the finished product to India – taking advantage of the reduced tariffs the FTA has agreed
- ensure the RoOs work for key exports from across the whole of the UK. For example, whiskey distilled in Northern Ireland can use barley or neutral grain spirit from the Republic of Ireland and can be bottled in transit, on the way to India
- fraudulent activities such as circumvention are prevented, ensuring that only genuinely UK or Indian goods can access preferential tariffs. To qualify for reduced tariffs, the RoOs specify that a product must either be wholly obtained or significantly transformed through processing in either the UK or India. This chapter will also provide robust mechanisms for compliance to be checked

## Remedies

The FTA will:

- include a Trade Remedies chapter which provides a safety net for domestic industry against unfair trading practices such as the dumping of low-priced goods into the domestic market, imports of subsidised goods, or unforeseen surges in imports
- affirm both countries' rights and obligations under the WTO, allowing Members to apply trade remedies proportionately and transparently. In addition, the agreement includes provisions on the proportionate and transparent application of trade remedy measures
- include a 'bilateral safeguard' mechanism. This will allow the UK or India to temporarily increase tariffs or suspend tariff concessions if the tariff liberalisation agreed in the FTA leads to a surge of imports that causes or threatens to cause serious injury to domestic industry. This will provide reassurance to businesses but ultimately supports tariff liberalisation. This mechanism will provide the opportunity for trade to be rebalanced should the UK or India apply a bilateral safeguard. This temporary measure will allow the industry to adjust to the new market conditions of the FTA

## Customs and trade facilitation

The FTA will:

- include a customs and trade facilitation chapter, which ensures that customs procedures in both countries are non-discriminatory, transparent, and consistent. It will reinforce the UK and India's cooperation to promote trade facilitation while maintaining effective customs control
- mean that the UK and India have agreed to release goods as rapidly as possible after arrival at customs, endeavouring to do so within 48 hours if all requirements have been met and where no physical examination is necessary
- reduce the administrative burden for traders through the UK and India further simplifying certain customs procedures for eligible traders. This includes allowing the payment of customs duties to be deferred until after the release of imported goods and offering traders the ability to pay customs
- give traders clarity about customs processes through the UK and India agreeing that customs-related laws, regulations and procedures should be available online in English, to the extent possible and practicable. This includes details of enquiry points, operating hours for customs offices, provisions to disclose or correct an error in a customs transaction and any requirements for customs brokers

## Sanitary and phytosanitary (SPS)

The FTA will:

- ensure both the UK and India can protect their biosecurity, while putting in place enhanced commitments, structures and processes that will allow us to avoid unnecessary trade barriers
- include provisions on the processes that the UK and India may undertake in determining the equivalence of each other's SPS measures and the recognition of regional conditions. Future recognition of equivalence could help facilitate access for goods into each country's market and make it easier for producers to export
- include provisions on regionalisation which provide greater transparency, clarity, and timeliness when the UK and India put in place measures to control disease and pest outbreaks. This will help avoid unnecessary trade restrictions and facilitate the safe movement of goods between the UK and India where disease is present but safely managed
- mean the UK and India recognise the connection between the improved health and the welfare of farmed animals and will cooperate on animal welfare, including on international animal welfare standards, and exchange information and expertise in the field of animal welfare. The chapter will also recognise the importance of tackling antimicrobial resistance (AMR) and the global threat it poses, and both countries have made commitments to cooperate through exchanging information, experiences, expertise and data on AMR

## Technical barriers to trade

The FTA will:

- contain a technical barriers to trade chapter, which contains commitments between the UK and Indian governments on how technical regulations setting out product characteristics should be developed. These commitments will help us make trade easier, fairer and more transparent
- help us remove or reduce technical barriers to trade for goods, while upholding the safety and quality of products on the UK market. It will also help us identify and address further barriers in the future

## Trade in services

The FTA trade in services chapter will:

- secure market access for many services sectors. Where India has made market access commitments, UK businesses will not face restrictions such as limits on the number of businesses able to supply a service. UK businesses will not need to set up a company in India, n be a resident in India to supply their services in covered sectors
- will ensure that UK businesses will benefit from the same treatment granted to Indian businesses by the Indian government, where India has made national treatment commitments
- support an open trading environment for the covered sectors by addressing procedures for authorisation to do business such as licence applications. For example, the chapter ensures that the information necessary to get a licence is published, that any associated fees are reasonable, and that applicants can be updated on their applications
- not compromise the UK's ability to regulate key public services, and the UK does not negotiate over its right to regulate public services

### Professional business services

The professional businesses services annex will:

- mean the UK and India will identify and encourage mutually interested UK and Indian relevant bodies to enter into negotiations on mutual agreements or arrangements for recognition of professional qualifications. These agreements or arrangements can streamline processes for UK professionals seeking to have their professional qualifications recognised in India and vice versa. It can reduce administration, time, costs, and provide certainty to businesses seeking to operate in India
- establish a Professional Services Working Group which will create a dedicated forum for UK and Indian government officials to review and monitor the annex's implementation, appropriately liaise to support relevant bodies in pursuing the annex's objectives and exchange information on issues relating to professional services

### Financial services

The financial services chapter will:

- secure the ability for UK companies to deliver financial services to clients in India, supporting the long-term competitiveness and stability of the UK's financial services sector. On foreign direct investment, UK ownership or investment into Indian insurance or banking firms will be locked in at up to 74% UK owned or invested. This can support UK financial service exports, which were worth £230 million in 2024[53]
- recognise the importance of developing an efficient, safe and secure environment for cross-border electronic payments. The FTA will commit the UK and India to cooperate on issues such as FinTech and diversity in finance, alongside promoting financial stability, and improving market integration
- include non-discrimination rules that will ensure that UK firms are treated fairly when providing services in India's market. It will include comprehensive transparency commitments which will ensure that India's rules and practices for the authorisation of UK financial services firms are fair and transparent. It will also ensure that regulatory measures are administered in a reasonable, objective and impartial manner

### Temporary movement of natural persons

The FTA will:

- give UK businesses certainty that existing access to the Indian market will continue indefinitely. This will ensure UK professionals can travel to India (and, conversely, Indian professionals can travel to the UK) to attend conferences, transfer to an Indian branch of their organisation, and supply a service as part of a contract. This will benefit professionals and businesses across a wide range of sectors including engineering and architectural services, accountancy services, and management consultancy
- mean the UK and India ensure that visa application processes remain transparent, and that governments do not create unnecessary obstacles for professionals to travel between the UK and India

This chapter is in line with the government's broader immigration policy, and the provisions in this agreement are not expected to have a long-term impact on net migration. These routes are specific and temporary, and these individuals are required to leave the country after their temporary work is concluded. No commitments in the UK-India FTA affect or undermine the reforms set out in the Immigration White Paper.

[53] ONS, UK trade in services: service type by partner country, non-seasonally adjusted, April 2025

## Telecommunications

The FTA telecommunications chapter will:

- contain a strong set of obligations which are based on pro-competitive principles including transparency and non-discrimination
- give UK telecoms suppliers guaranteed access to the facilities and services in India on a transparent and non-discriminatory basis. The chapter will also ensure access to telecommunications networks and services for UK suppliers in India and guarantees that critical scarce resources are administered in an open and objective manner. These critical resources include spectrum and radio frequencies that are essential for wireless communication, such as allowing a phone to make calls or connect to the internet
- foster cooperation on the opportunities and challenges in the telecommunications sector, reflecting on the strength and importance of UK-India telecommunications trade. It will also support working together in international fora to promote international standards

## Digital trade

The digital trade chapter will:

- reduce unjustifiable barriers to digital trade and promote compatibility of digital trading systems, including through supporting the legal recognition of electronic contracts and electronic authentication
- ensure businesses are protected from forced transfer of their source code, allowing UK businesses to expand to India with greater confidence
- Help to promote consumer's online safety. Unsolicited commercial messages will be minimised, for example by requiring consent or working towards making spam clearly identifiable, such as by including who they are sent on behalf of. The chapter will also include ambitious cutting-edge commitments to protect online consumers
- include provisions on cross border data flows and data localisation, which will allow the UK the opportunity to negotiate these rules with India when they agree similar commitments with other FTA partners. This commitment does not affect the UK's high standards of data protection, and any transfer of personal data will still be protected under the UK's data protection law

## Intellectual property (IP)

The IP chapter will:

- support the UK and Indian economies through the effective and balanced protection and enforcement of IP rights. This chapter will cover copyright and related rights, designs, trademarks, geographical indications (GIs), patents, and trade secrets, as well as the enforcement of IP rights, and ongoing cooperation in relation to IP matters
- go far beyond India's precedent in FTAs, building on shared commitments in numerous international IP treaties and the WTO Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement, which is the international baseline of IP protection
- protect and provide certainty to UK exporters by locking in commitments that match or go beyond TRIPS. The chapter will not commit either nation to substantive domestic legislative change and no measure in the IP chapter will impact on the cost of medicines for the NHS. The chapter will create benefits through providing certainty to businesses that their current IP protection in India will be maintained. The continued protection of IP rights is important for fostering innovation and creativity and ensures that people and businesses are rewarded for the efforts and investment that generate valuable IP
- make improvements to patent procedures in India to reduce the administrative burden, speed up processes, and lock in commitments that provide for transparency and legal certainty in the patent system. These changes may lead to earlier grant dates for UK patent applicants in India, allowing UK rights holders to access the protection to which they are

entitled more quickly. They will not impact India's ability to produce and distribute generic medicines

- commit India to engaging on aspects of copyright and related rights, addressing the interests of UK creators, rights holders, and consumers. This includes around public performance rights with a commitment to cooperate and discuss measures with a view to facilitating equitable remuneration for performers and producers of sound recordings for fixed performances published for commercial use that are broadcast or played to the public. Additionally, the UK and India have agreed text which requires ongoing discussions on establishing a functioning and effective Artist's Resale Right (ARR) system. UK art exports to India were worth £14m in 2023 and if an effective ARR system in India is established this will ensure that UK artists continue to benefit when their work is resold within India as well as promoting a level playing field between auction houses in the UK and India
- give the UK the ability to apply for India's highest standard of protection for all UK GIs listed for protection in the FTA, extending this beyond wines and spirits, which are the only products that currently benefit from the higher standard
- include India's first commitments on the enforcement of IP rights in the digital environment in a trade agreement and a commitment to allow for the continued electronic application and renewal of trademarks and designs

## Government procurement

The government procurement chapter will:

- guarantee access to the Indian government's procurement market for UK businesses and ensure that government procurement processes in both countries are fair, open, and transparent
- mean that for the first time, UK businesses can compete for a broad variety of goods, services, and construction procurements, for the majority of central government entities in India, as well as for several of India's federal state-owned enterprises at thresholds lower than ever before. India spends an estimated 20% of its GDP on public procurement.[54] UK suppliers will have greater opportunities to bid for many of these contracts, on better terms and with greater access to the relevant information to support their bids
- ensure UK businesses have legally guaranteed access to compete for a proportion of these contracts that meet the criteria specified within India's schedule. India's federal government entities covered by the agreement, publish, on average, approximately 40,000 tenders per year with a value of at least £38 billion[55]
- get UK companies exclusive treatment under the 'Make in India' policy, which currently provides preferential treatment for federal government procurement to businesses who manufacture or produce in India. UK companies will be treated as a class 2 supplier if at least 20% of their product or service is from the UK. This will grant them the same status that only Indian firms currently enjoy (the Make in India preference will still apply for approved 'class 1' suppliers offering 50% or more of their goods or services from India)
- enable UK businesses to access information on published tender notices for procurements covered by the agreement, free of charge, through India's single website portal

[54] World Bank, Global Public Procurement Database (GPPD), 2021

[55] This analysis utilises 3 full financial years of data from India's e-procurement dashboard which is not exhaustively used by all federal government agencies for all procurements. Therefore, several entities included within India's market access schedule cannot be included within the analysis. This analysis does not consider restrictions on access because of Make in India, the chapter thresholds and tenders for goods or services not covered by the government procurement chapter

## Competition and consumer protection

This chapter will:

- include commitments to ensure that competition laws are applied and enforced in a non-discriminatory manner by independent authorities
- ensure that both the UK and India maintain procedural rights for people and businesses under investigation by competition authorities, including the right to be treated fairly and to defend themselves

The UK and India will also agree to promote cooperation on the application and enforcement of competition and consumer protection policies and law.

## State-owned enterprises (SOEs)

The SOE chapter will:

- demonstrate the UK's commitment to working with trading partners to promote free and fair trade and tackle unfair practices
- include commitments that SOEs should operate in accordance with commercial practices and possess appropriate means to raise concerns. The FTA will also promote cooperation between UK and Indian authorities on the corporate governance of SOEs and provide for appropriate means to raise concerns where they arise
- ensure that UK SOEs, particularly those providing public services, can continue to operate as they do now

## Subsidies

The subsidies chapter will:

- reaffirm and build upon existing WTO subsidy rules. Unfair practices in providing subsidies undermine trust in the rules-based trading system and prevent UK businesses from competing fairly with foreign businesses

Tackling these practices promotes UK competitiveness and can contribute to economic security and growth. The FTA will provide for transparency in subsidies granted, and for appropriate means to raise concerns where they arise, complementing the tools available through the WTO.

## Small and medium-sized enterprises (SMEs)

The FTA will:

- promote SME participation in trade with India through commitments from the UK and India on cooperation and information-sharing. It will commit both countries to working together to reduce the trade barriers that SMEs may otherwise face, by increasing transparency and access to information
- support cooperation including through setting up contact points and facilitating the exchange of best practices that make it easier for SMEs to enter the market. The UK and India will also make trade information accessible online and easier to understand, so that SMEs can clearly understand and navigate the other country's systems and processes

By removing these barriers, the FTA will enable UK SMEs to trade more easily with India, unlocking growth opportunities for the UK economy.

## Innovation

The FTA innovation chapter will:

- bolster support for innovation in the UK and India, including by fostering opportunities for innovation-intensive industries and encouraging trade in innovative products and services
- establish an Innovation Working Group, which will allow the UK and India to enhance existing collaboration, research, and development. Discussions under this cooperative framework may cover a range of areas, including future regulatory approaches and supply chain resilience

The working group will provide an opportunity for industry, academia and civil society to advise government on key challenges surrounding innovation and trade. The UK will work with India to achieve the early identification and mutually beneficial resolution of unintended barriers to trade. This includes by monitoring regulatory frameworks for new technologies and supporting businesses to maximise their global trading ambitions.

## Labour

The FTA will:

- demonstrate a shared commitment to upholding international labour standards. Both the UK and India will commit to upholding international labour protections for workers. This includes protections on freedom of association and protection from forced labour in line with the obligations of both parties to uphold these protections in their domestic legislation. This is by virtue of their membership of the International Labour Organization (ILO), the United Nations (UN) agency that sets international labour standards
- encourage good business practice and corporate responsibility, advance the UK's and India's mutual ambition to tackle forced labour and gender discrimination in the workplace, and promote decent working conditions. The FTA also contains commitments for the effective enforcement of labour laws
- ensure fair competition for UK and Indian businesses through a commitment that neither country will selectively disapply their labour protections. The UK and India will continue to retain flexibility to regulate for domestic interests

## Environment

The environmental chapter will:

- support the UK's climate and environment goals – including delivery of the Clean Energy Superpower Mission and the transition to Net Zero. The FTA will also establish a subcommittee on sustainability
- commit the UK and India to strive to ensure their respective environmental laws encourage high levels of environmental protection, and not to waive their environmental laws to encourage bilateral trade or investment
- reaffirm mutual commitments to global environmental agreements including the Paris Agreement and 1.5°C temperature goal, commit the UK and India to endeavour to facilitate and promote trade in environmental goods and services and encourage the transition to clean energy
- commit the UK and India to endeavour to promote trade in environmental goods and services, which could help the UK boost exports in key green sectors, such as clean energy industries, and drive economic growth at home
- contain provisions that will support cooperation and trade in key UK growth sectors such as clean energy, transport, recycling, and that promote a circular economy

## Trade and development cooperation

The FTA trade and development cooperation chapter will:

- include provisions on exchanging information and sharing best practices on trade and development policies and programmes, as well as a commitment for cooperation and joint advocacy in international fora related to trade and development
- include a commitment on monitoring the effects of the agreement on developing countries, allowing risks to be identified and opportunities for development to be supported

## Trade and gender equality

The trade and gender equality chapter will:

- enhance the opportunities for women to access the full benefits of the UK-India FTA. It will also advance women's economic empowerment and promote gender equality through trade
- create the space for the UK and India to work together to support women business owners, entrepreneurs, and workers to fully access and benefit from the opportunities created by this agreement. Women's economic empowerment is a growth enabler, which is at the heart of the UK government's agenda
- support work enabling women to fully engage in trade and the economy, enabling countries to realise their potential and boost economic growth. If gender parity in the global economy is achieved, it could add trillions of dollars to global GDP

As trade plays a pivotal role in driving growth and prosperity, increasing the participation of women in the labour market would increase a country's productivity and GDP, create jobs and lead to greater economic diversification, innovation and poverty reduction[56]

## Good regulatory practice (GRP)

The FTA GRP chapter will:

- promote economic growth for the UK by encouraging good governance and accountability within regulatory processes which will provide a stable and predictable regulatory regime for UK businesses
- ensure that their regulations are made accessible. Both countries will also make commitments to provide a reasonable opportunity for interested persons to comment on proposed major regulatory measures, and to encourage regulatory authorities to cooperate on current and future regulation

## Anti-corruption

The FTA will:

- reinforce the UK's and India's international obligations on bribery and corruption at the United Nations and support their work together to tackle these global issues within the trade and investment context
- include obligations to maintain a range of measures to prevent and combat bribery and corruption, including the criminalisation of bribery and prohibiting fraudulent book-keeping practices. It will also include provisions covering the prohibition of facilitation payments and measures to combat embezzlement and money-laundering

[56] World Bank (2022), A Gender Employment Gap Index (GEGI)

## Separate to the FTA

### Double Contributions Convention (DCC)

In addition to the FTA, the UK and India have agreed to negotiate a reciprocal DCC. A summary of the DCC can be found on GOV.UK.[57] A further fact sheet on the DCC will be published alongside this IA

The agreement to negotiate a DCC was made in the context of the benefits of the wider FTA. A technical note on the potential additional fiscal revenue arising from the FTA can be found on GOV.UK.[58] The OBR will certify the impact of the FTA including the DCC in the usual way at a fiscal event, once the FTA is finalised and ratified

[57] UK-India trade deal: conclusion summary, para 5
[58] UK-India Free Trade Agreement: technical notes

# Section 3: Headline macroeconomic impacts of UK-India FTA

The main expected macroeconomic impacts of the agreement are:

- a long run increase of UK GDP. The modelling estimates that the FTA will increase UK GDP by 0.13% in the long run compared with no agreement. This is equivalent to an estimated increase in GDP worth £4.8 billion in the long run, when compared to projected 2040 levels with no FTA. These should be interpreted as indicative of the scale and direction of impact rather than precise point estimates[59]

- higher UK exports because the agreement reduces India's tariffs and non-tariff measures, creating more export opportunities for UK businesses. These reductions in trade barriers are expected to reduce the cost of importing UK goods and services for Indian businesses and consumers. UK exports to India are estimated to increase by 59% in the long run. This is equivalent to an estimated £15.7 billion increase in UK exports to India in goods and services when compared to projected levels in 2040

- better access to Indian products for UK businesses and consumers. UK imports of Indian goods and services are estimated to increase by 25% in the long run because of the FTA. This is equivalent to £9.8 billion when compared to projected 2040 levels of UK imports from India. While increased imports can enhance competition, more than a third of the estimated increase in imports from India are expected to substitute imports from other countries as businesses switch to better value and easier to source inputs from India

- better paid jobs. The modelling estimates an increase in wages for UK households by 0.19% in the long run which is equivalent to around £2.2 billion annually when compared to 2024 levels of wages. This reflects workers benefiting from higher productivity in the economy

- a long run increase in India's GDP. The FTA is estimated to increase Indian GDP by 0.06% in the long run compared to no agreement. This is equivalent to an estimated increase in GDP worth approximately £5.1 billion in the long run, when compared to projected 2040 levels with no FTA

## 3.1 Economic impacts of an FTA

This section presents estimates of the long run impacts of the agreement on GDP, trade and wages. These are estimated using DBT's computable general equilibrium (CGE) model, which provides a comparative static analysis of the impacts of the agreement when the economy returns to equilibrium, taken to be in the long run. To generate representative pound values for the long run impact of the agreement (expressed in 2024 prices), the estimates from the modelling are applied to economic projections of the global economy. It is important to note that the modelling is based on stylised assumptions and cannot capture all the benefits that would be expected to be secured through the agreement.

International evidence suggests free trade agreements, by reducing the costs of trade, have a range of macroeconomic and social impacts. They also have important distributional consequences across economic sectors, groups, and individuals.

[59] GDP is measured as the sum of consumption, investment, government spending and net exports

Free trade agreements generate economic benefits through a variety of channels.[60] These include:

- gains through increased specialisation across sectors. Countries have limited resources available to produce goods and services, and some countries may be relatively more effective at producing certain types of products. Specialisation means that countries focus on producing goods which they face lower opportunity costs for producing relative to other countries. This means that by specialising in certain types of production, they forego less of other types of goods. Trade makes it feasible for countries to specialise in producing goods where they are more efficient, driving higher employment and lower import prices across countries
- gains through driving a more efficient allocation of resources within sectors. Enhanced openness to trade can spur innovation and the expansion of the most efficient firms within sectors. This could drive up the average productivity, which could benefit workers through higher wages if businesses become more profitable. At the same time, consumers could benefit from increased product variety and lower import prices, as they have access to more competitive goods sourced from abroad
- dynamic gains through trade-induced increases in productivity. FTAs benefit businesses who can produce more efficiently when they produce higher quantities of goods (known as economies of scale). There are also benefits from higher investment and research and development stimulated by access to larger markets. This is coupled with reductions in inefficiencies due to increased competition, or from positive spillovers between firms

There may also be distributional impacts, in which different groups of businesses and people are affected in different ways by the FTA. These impacts depend on factors such as the structure of each of the economies involved and what each country is relatively specialised in producing. They also depend on sectoral patterns of trade in each country as well as the physical and institutional infrastructures in each country. In addition, the distributional impacts are affected by the ability of individuals and firms to adjust to increased trade and short- and long-term domestic policies.

Economic modelling is a widely used tool for providing quantitative assessments of trade agreements. However, such models rely on simplifying assumptions about how economies function and therefore offer only broad estimates of potential impacts. They are not designed to capture the full complexity of modern economies or the complete range of possible effects. For instance, they typically exclude potential productivity gains arising from the agreement. As such, the modelled results should be interpreted alongside qualitative and non-quantified benefits to form a comprehensive view of the agreement's overall value.

## 3.2 Quantifying economic impacts

### Modelling approach

To estimate the macroeconomic impacts of the agreement, a CGE model is used, alongside goods PE modelling. The details of the models used are set out in the Technical Annex accompanying the IA. Different modelling approaches capture different levels of detail and types of impacts of an FTA. The results from these approaches support each other to tell a more nuanced, detailed story of the impacts of trade liberalisation across sectors. This use of different approaches in this IA reflects the development of DBT's modelling toolkit in line with the recommendations from DBT's Independent Modelling Review panel, published in 2022.[61]

CGE modelling simulates the potential long-run economic impacts of an FTA across the whole economy and attempts to capture a full set of interlinkages between sectors and countries. It

[60] These channels, in the context of trade liberalisation more generally, are outlined in greater detail in the UKTPO Briefing Paper (July 2019): 'Winners and Losers from International Trade: What do we know and what are the implications for policy'

[61] Trade modelling review expert panel: report (January 2022)

accounts for third party impacts and is driven by changes in allocations of productive resources (labour and capital) in the long term in response to reductions in barriers from the FTA. Economy-wide CGE modelling is the best tool available to quantitatively estimate the overall long run impacts of trade policy given it captures both direct impacts of the agreement and impacts due to interlinkages between sectors. The estimated changes within the model should be interpreted as the additional impact of the agreement on top of any long-term underlying growth for the economy. In this context, the long run impacts are typically assumed to take around 10-15 years after implementation to be fully realised.

The version of the CGE model used for this analysis is based on GTAP 12p1, which includes 2019 data for goods trade and 2017 data for services trade. Given that trading relationships have evolved since 2019, the database has been updated to include:

- the UK's FTAs with the EU, Australia, New Zealand, Japan and CPTPP
- India's FTAs with UAE and Australia

The CGE modelling is not a forecast but a simulation of the agreement. As such, its results should be interpreted with several caveats in mind, discussed in more detail in Section 9.

PE modelling is used to complement the CGE results for goods, by providing more disaggregated modelling analysis than CGE modelling. PE modelling models the direct impacts of liberalisation on individual sectors. The nature of these models mean that it is possible to obtain sector level results at a much more granular level and within a shorter timeframe compared with CGE models, but they do not take account of the interaction between sectors.

All models used are comparative static models and compare the level of economic variables after an FTA is signed with a counterfactual scenario of no FTA.

For all models used, the results should not be interpreted as precise estimates of the impacts. For example, UK GDP pound sterling (£) impacts from CGE modelling presented in this IA are derived using projections of UK GDP in 2040, and act as a numerical value to aid understanding of the order and scale of the impacts relative to no agreement. There is also considerable uncertainty due to India's projected future economic growth and potential future changes in the composition of the UK's trade with India. The caveats associated with all the modelling approaches are covered in detail in Section 9.

There are also additional benefits from an FTA which are not captured in the modelling. These include providing greater variety of products to consumers, boosting innovation (because of greater competition in markets spurring innovation from UK and Indian firms), and supporting the rules based international trading system.

### Modelling developments since the 2022 scoping assessment (SA)

DBT's modelling are subject to ongoing development, informed by the report of the Modelling Review Expert Panel.[62] For any assessment DBT uses the latest data, techniques and assumptions available at the time where possible. Since the UK-India FTA SA was published, several updates have been made to the methodology used for CGE modelling. These updates mean that the modelling results in the IA are not directly comparable to the UK-India FTA SA. Further detail of these changes is included in Annexes 1 and 2.

### Modelling inputs

To estimate the impacts of the agreement using the various models, it is necessary to define the reductions in tariffs and other trade barriers secured in the agreement. These then serve as key inputs for the modelling process. The estimates of these reductions in tariffs and NTMs are based on negotiation outcomes, econometric analysis and insights from industry experts. The approach for generating inputs is set out in Annex 3.

[62] Trade modelling review expert panel: report (January 2022)

The magnitude of tariff and NTM reductions resulting from the agreement, are an important determinant of the estimated scale of economic impacts. The inputs are described in greater detail in Table 2 below.

To provide an estimate of the value of the agreement at the time the agreement is signed, the modelling presented in this IA was undertaken just before the negotiation was concluded. Overall, minor deviations that may have occurred at the very final stages of the negotiation are not expected to have an impact on the overall estimated value of the FTA beyond the range of uncertainty presented in Section 9.2.

Table 2: Summary of inputs for CGE modelling

| | |
|---|---|
| **Tariffs** | This analysis uses tariff inputs which broadly reflect the tariff schedules negotiated. The modelling does not account for staging of tariff reductions in the agreement. On an average basis, Indian tariffs on UK goods are reduced by 7.4pp, whilst those for the agri-food sector are reduced by 8.4pp. In specific cases, modelling inputs are refined to ensure they best reflect qualitative and quantitative evidence. Industry intelligence indicates gold and aerospace trade is unlikely to be affected by changes in tariffs, therefore the modelling assumes no liberalisation in these sectors. |
| **Non-tariff measures affecting goods trade** | A medium level of liberalisation is modelled across industrial goods sectors. On average, NTMs are modelled to have reduced by 2.6pp, whilst NTMs for agri-food products are reduced by 2.2pp. This reflects provisions agreed in the Technical Barriers to Trade (TBT) and trade facilitation chapters which determine the bulk of the NTMs affecting trade in industrial goods.<br><br>A low level of liberalisation is modelled in agriculture and non-ferrous metals, owing to the limited scope for provisions in the agreement to directly liberalise trade in these sectors.<br><br>The estimated reductions in non-tariff trade costs that reflect the level of liberalisation for each sector are derived from econometric modelling. This approach estimates the increases in trade resulting from non-tariff cost reductions from historic agreements. It reflects starting levels of barriers and intangibles such as increased certainty and business confidence.<br><br>The estimates therefore account for the impact that RoOs and other NTMs can typically have on trade, on average. However, these estimates are based on past agreements and are not specific to those in the UK-India FTA. |
| **Rules of origin (RoOs)** | For some sectors, the RoOs in the agreement are stricter than in historical agreements. To account for this, the level of tariff liberalisation in India's schedule has been adjusted downwards where relevant.<br><br>For key UK interests, where RoOs are broadly in line with the historical agreements no adjustment is made. For example, this is the case for primary agricultural products, whiskies, chemicals, plastics, footwear, key machinery and electronic equipment and cars.<br><br>No adjustment is made on UK imports from India. It is assumed UK imports from India can meet rules that are stricter than those in historical agreements, a result of Indian firms being more likely to use local inputs to produce goods. |
| **Regulatory restrictions affecting services trade** | The modelling inputs reflect a commitment by both countries to limit the level of trade restrictiveness they can apply across services sectors. This goes beyond India's existing commitments under the General Agreement on Trade in Services, meaning the maximum level of restrictiveness India can apply on UK services exports will be lower than it would be without an agreement. On average, Indian NTMs are assumed to fall by 5.4pp for UK companies. This reduces policy uncertainty for UK businesses trading with India. |

## 3.3 Macroeconomic impacts

Results from the modelling of the agreement point to long run increases in UK trade, GDP and wages, as shown below. The results do not represent precise estimated impacts. Instead, they represent an indication of the direction and scale of impacts in around 10-15 years from the implementation of the agreement.

Table 3: UK macroeconomic impacts of a UK-India FTA in the long run compared against a baseline where there is no FTA

| Impact | £bn estimate, applied to 2040 projections | % change from the baseline |
|---|---|---|
| Change in UK GDP | 4.8 | 0.13% |
| Change in UK exports to India | 15.7 | 59.4% |
| Change in UK imports from India | 9.8 | 25.0% |
| Change in total trade between the UK and India | 25.5 | 38.8% |
| Change in UK exports to the world | 6.5 | 0.67% |
| Change in UK imports from the world | 6.4 | 0.64% |

Source: DBT CGE Modelling.

Note: Throughout this section, equivalent pound values are provided in 2024 prices. These are calculated by multiplying the estimated modelled impacts of the agreement in percentage terms with the projections in 2040 where available. All percentage changes, except those in UK trade with the World, are from CGE modelling; see the methodology in Annex 2 for the derivation of percentage change in UK trade with the World.

**Increases in UK GDP** - The UK-India agreement could increase UK GDP by around 0.13%, equivalent to £4.8 billion in every year in the long run. This value is derived from the long run increase in GDP from the CGE modelling applied to the latest available OBR GDP projections in 2040.[63] Sensitivity analysis shows that in 90% of simulations, the increase in UK GDP is between £4.2 billion (0.11%) and £5.4 billion (0.14%) a year. Further information on the sensitivity analysis can be found in Section 9 and Annex 5.

**Increases in UK-India trade** - DBT's projections suggest that, in the absence of the agreement, UK trade (exports and imports) with India could reach £65.8 billion in 2040.[64] This represents an increase of 126% in real terms compared to 2021.[65] It is estimated that UK total trade with India could increase by a further 39% in the long run as a result of the agreement. This is equivalent to an additional £25.5 billion of trade per year in the long term in real terms when applied to projected levels of trade in 2040.

Most of this increase in trade, because of the agreement, is driven by higher UK exports to India. In the absence of the agreement, UK exports to India are estimated to reach £26.4 billion in real terms in 2040.[66] The modelling estimates the UK-India agreement could increase UK exports to India in every year in the long term by a further 59% (£15.7 billion) when applied

[63] OBR, Economic and fiscal outlook (March 2025), Short-term determinants – OBR, Economic and fiscal outlook (March 2025) and Long-term determinants – OBR, Economic and fiscal outlook (May 2024).
[64] DBT, Global Trade Outlook, February 2023. Projections are based on the 2023 edition of the Global Trade Outlook, which used 2021 as its base year. The outputs have been converted from a 2021 price base to a 2024 price base using growth in the UK's GDP deflator for 2024, without any further adjustments for actual outcomes since then.
[65] DBT, Global Trade Outlook,, February 2023.
[66] DBT, Global Trade Outlook, February 2023. Projections are based on the 2023 edition of the Global Trade Outlook, which used 2021 as its base year. The outputs have been converted from a 2021 price base to a 2024 price base using growth in the UK's GDP deflator for 2024, without any further adjustments for actual outcomes since then.

to projected levels of trade in 2040. Sensitivity analysis suggests that in 90% of simulations, the increase in UK exports to India is between £12.4 billion (47%) and £19.4 billion (73.5%).

The increase in trade between the UK and India reflects improved access to more competitive goods and services for businesses and consumers in both countries. As trade barriers are reduced, some trade may be diverted away from the UK's and India's other major trading partners. This shift is driven by the enhanced relative competitiveness of bilateral exports and imports.

Overall, the increase in UK exports to India is greater than the increase in UK total exports to the world (including India), which are estimated to increase by 0.7% because of the agreement (equivalent to £6.5 billion when compared to modelling baseline levels in 2040). This suggests that a large share of the estimated increase in UK exports to India, because of the agreement, is due to the reallocation of trade away from the UK's existing partner countries. The macroeconomic impacts on other countries are explored further in Section 6.

UK imports from India are also estimated to grow in the absence of the agreement.[67] A UK-India FTA is estimated to increase imports by a further 25% in the long run. This is equivalent to £9.8 billion when applied to projected levels of trade in 2040. Sensitivity analysis suggests that in 90% of simulations, the increase in UK imports from India is between £7.7 billion (19.6%) and £12.2 billion (31%).

Overall, UK imports from the world (including India) are estimated to increase by £6.4 billion (or 0.6%) when compared to 2040 levels because of the agreement. This shows that a significant share of the estimated increase in imports from India represent trade reallocation because of lower barriers to bilateral trade and the relative competitiveness of exports and imports.

Real wages (wages in 2024 prices) are estimated to rise by around 0.19%, equivalent to £2.2 billion annually when compared to 2024 levels of wages. Sensitivity analysis suggests that in 90% of simulations, the increase in UK wages is between £2 billion (0.17%) and £2.5 billion (0.22%). This reflects workers benefiting from higher productivity in the economy.[68]

[67] DBT, Global Trade Outlook, February 2023.
[68] ONS, UK sector (S.1): Wages and salaries (D.11): Resources: Current price: £million: Seasonally adjusted (March 2025).

# Section 4: Sectoral impacts of the UK-India FTA

This section examines the impact of the agreement on different sectors of the UK economy. The quantified analysis uses the results from CGE modelling, alongside goods PE modelling. The analysis suggests that:

- bilateral exports are expected to increase across all UK sectors. Sectors that experience the largest estimated increases in exports (in absolute terms) because of the agreement are the manufacture of machinery and equipment (which includes pumps and engines) and chemical, rubber and plastic products (which include products such as cosmetics and pharmaceuticals)

- significant reductions in tariffs on whiskies and UK motor vehicles are expected to lead to large percentage increases in exports in these sectors. The beverage and tobacco sector (which includes whiskies) is estimated to increase exports to India by around £700 million, equivalent to a 180% increase. UK motor vehicle exports are estimated to increase by £890 million – equivalent to a 310% growth

- bilateral imports are estimated to increase in nearly all sectors, except for a few service sectors. UK imports of textiles, apparels and leather are estimated to see the largest increase due to India's comparative advantage in this sector. Trade increases because of lower barriers to trade, meaning UK consumers could see cheaper and more varied access to goods and services from India

- most sectors (16 of the 23 sectors examined) are estimated to see an increase in their gross value added (GVA) in the long run. The strongest estimated gains in GVA are concentrated within services. This reflects an increase in UK household demand for service provisions, as well as demands from industry to support their export growth to India

- the agreement provides increased certainty for UK services exporters with regards to market access. All service sectors are expected to experience an increase in exports with business services and public services' exports estimated to rise the most in absolute terms

- whilst some UK sectors are expected to grow in the future, some may grow marginally less than they otherwise would have done in the absence of an FTA. Sectors that could have a negative GVA impact, relative to the absence of an FTA, include manufacturing of other transport equipment and textiles, apparel and leather. Within the model, resources (capital and labour) shift towards sectors which experience greater liberalisation and away from adversely affected sectors, due to growing sectors demanding more resources. In practice, these effects are likely to be dwarfed by wider forces shaping employment and investment decisions in those sectors over the long run

## 4.1 Estimated impacts by sectors

Sectoral impacts from this FTA are contingent on many factors.[69] The main impacts are expected to be driven by large tariff and NTM liberalisation in sectors with large existing bilateral trade flows with India. The direct effects of the agreement, as explained in Section 3, depend on existing sectoral size and liberalisation. However, when economy-wide impacts are accounted for, relative differences in the liberalisation in the agreement between sectors, and the interdependency of sectors due to supply chains, all play a part to affect growth in output in the sector. Additionally, the magnitude of the increase in exports and imports, given changes to tariffs and NTMs, depends upon the responsiveness of supply and demand of goods in the affected sectors.

Increases in trade flows leads to changes in output in affected sectors. There are also second-order impacts for sectors which experience changes in demand because of trade liberalisation affecting other sectors. Overall, this is estimated to lead to higher production in the UK. Tariff and NTM liberalisation, in sectors with high trade flows in the baseline leads to significant growth in domestic production in non-traded sectors.

The CGE modelling suggests that all sectors could see a growth in exports. Sectors that experience the largest estimated increases in exports (in absolute terms) because of the agreement are the manufacture of machinery and equipment (which includes products such as pumps and engines) and chemical, rubber and plastic products (which includes products such as cosmetics and pharmaceuticals). Most sectors could also see a rise in imports, with the largest increases (in absolute terms), due to the agreement, in textiles, apparel and leather, and the manufacture of machinery and equipment. Two service sectors, construction and wholesale and retail trade, see marginal declines in imports, because of the agreement.

To assess changes in output because of the FTA, the IA looks at sectoral changes in GVA across GTAP sectors. GVA represents the value of goods and services produced minus the cost of intermediate inputs (in contrast to the GDP estimates above, which reflect the total value of all final goods and services produced within a country's borders). This suggests 16 of the 23 sectors examined see an expansion in GVA because of the FTA. The remaining seven see a modelled lower growth in output compared with a baseline scenario of no FTA, due to the reallocation of resources towards the expanding sectors. Other services (including transport, water and dwellings) are expected to see the largest expansion followed by manufacture of machinery and equipment sector. Conversely, textiles, apparel and leather and manufacture of other transport equipment see the largest contractions, relative to baseline, which means the sector could grow marginally less than it otherwise would have done in the absence of an FTA.

Despite changes in GVA across different sectors, the FTA is not expected to lead to a significant change in the overall sectoral mix of the UK economy. No sectors exhibit a change in their share of GVA exceeding 0.01 percentage points.

Tables 4 and 5 summarise the estimated change in UK-India trade and UK GVA (respectively), by sector, relative to the baseline, because of the agreement. The results do not represent precise impacts. Instead, they should be read as an indication of the direction and broad orders of magnitude of impacts relative to a baseline of no agreement.

The rest of this section explores the impact on each of these sectors in more detail.

[69] The overall change in output of a sector is influenced by many factors. Whilst bilateral exports changing relative to bilateral imports influences the change in output, there are other impacts such as the changes in domestic demand particularly in sectors that are linked to global supply chains. Though initial impacts remain a consequence of exports and imports between the UK and India, CGE models take additional impacts into consideration and anticipates the most likely overall impact on sectors within the economy.

Table 4: Estimated sectoral change in UK-India trade in percentage and £ equivalents according to CGE modelling

| Broad sector category | GTAP 23 sector | Change in UK exports to India, % | Change in UK exports to India, £m 2024 | Change in UK imports from India, % | Change in UK imports from India, £m 2024 |
|---|---|---|---|---|---|
| Agri-food | Agriculture, forestry, and fishing | 16.0% | 1 | 18.0% | 84 |
| | Beverages and tobacco products | 180.8% | 696 | 10.0% | 1 |
| | Semi-processed foods | 11.8% | 1 | 10.1% | 30 |
| | Other processed foods | 100.5% | 42 | 30.8% | 166 |
| Industry | Chemical, rubber, plastic products | 104.5% | 1263 | 24.4% | 541 |
| | Energy | 0.2% | 0 | 0.0% | 0 |
| | Manufacture of electronic equipment | 68.4% | 738 | 18.1% | 51 |
| | Manufacture of machinery and equipment n.e.c | 163.1% | 3124 | 45.0% | 560 |
| | Manufacture of motor vehicles | 311.4% | 894 | 65.1% | 302 |
| | Manufacture of other transport equipment | 18.8% | 200 | 15.5% | 115 |
| | Manufacturing n.e.c | 89.6% | 251 | 40.7% | 418 |
| | Minerals, ferrous metals and wood products | 25.5% | 865 | 30.2% | 427 |
| | Paper and printing products | 84.1% | 302 | 33.8% | 84 |
| | Textiles, apparel and leather | 143.8% | 162 | 85.9% | 2854 |
| Services | Business services | 26.9% | 474 | 4.2% | 229 |
| | Communications | 22.8% | 140 | 18.4% | 443 |
| | Construction | 28.4% | 26 | -0.3% | 0 |
| | Financial services | 22.9% | 233 | 0.1% | 0 |
| | Insurance | 34.6% | 149 | 0.1% | 0 |
| | Other services (transport, water, dwellings) | 12.1% | 65 | 16.8% | 41 |
| | Personal services | 29.0% | 70 | 12.5% | 5 |
| | Public services | 8.2% | 94 | 7.9% | 22 |
| | Wholesale and retail trade | 38.4% | 395 | -0.4% | -9 |

Source: DBT CGE Modelling. n.e.c means not elsewhere classified. It is used to denote entities that do not fit into existing classification categories. Note: For sectoral impacts, equivalent pound values are based on year 2024.

Table 5: Estimated sectoral change in UK GVA in percentage and £ equivalents according to CGE modelling

| Broad sector category | GTAP 23 sector | Change in UK sector's share of GVA, percentage points | Change in UK GVA, % | Change in UK GVA, £m 2024 |
|---|---|---|---|---|
| Agri-food | Agriculture, forestry, and fishing | 0.0000 | -0.02% | -5 |
| | Beverages and tobacco products | 0.0001 | 1.48% | 165 |
| | Semi-processed foods | 0.0000 | -0.07% | -9 |
| | Other processed foods | 0.0000 | 0.02% | 4 |
| Industry | Chemical, rubber, plastic products | 0.0000 | 0.29% | 146 |
| | Energy | 0.0000 | 0.11% | 57 |
| | Manufacture of electronic equipment | 0.0000 | -0.07% | -24 |
| | Manufacture of machinery and equipment n.e.c | 0.0002 | 1.65% | 527 |
| | Manufacture of motor vehicles | 0.0000 | 0.47% | 80 |
| | Manufacture of other transport equipment | 0.0000 | -0.40% | -85 |
| | Manufacturing n.e.c | 0.0000 | -0.10% | -33 |
| | Minerals, ferrous metals and wood products | 0.0000 | 0.24% | 93 |
| | Paper and printing products | 0.0000 | 0.46% | 56 |
| | Textiles, apparel and leather | -0.0001 | -0.68% | -114 |
| Services | Business services | -0.0001 | 0.02% | 108 |
| | Communications | -0.0001 | -0.01% | -17 |
| | Construction | 0.0000 | 0.15% | 255 |
| | Financial services | 0.0000 | 0.02% | 26 |
| | Insurance | 0.0000 | 0.12% | 57 |
| | Other services (transport, water, dwellings) | 0.0001 | 0.16% | 551 |
| | Personal services | 0.0000 | 0.13% | 105 |
| | Public services | -0.0001 | 0.06% | 285 |
| | Wholesale and retail trade | 0.0000 | 0.12% | 405 |

Source: DBT CGE Modelling. n.e.c means not elsewhere classified. It is used to denote entities that do not fit into existing classification categories. Note: For sectoral impacts, equivalent pound values are based on year 2024.

## 4.2 Impacts on industry sectors

The agreement's reduction in trade barriers for industrial goods could reduce uncertainty for UK businesses exporting industrial goods to India by locking in existing UK access to the Indian market. The FTA, which reduces tariffs, also includes provisions which should alleviate

the costs of technical barriers to trade on UK industrial products being exported to India. This could help reduce the administrative burden on UK firms exporting industrial goods to India.[70]

CGE modelling suggests bilateral exports in all industrial sectors are estimated to grow by an additional £7.8 billion (80%), in the long run, compared to the modelling baseline of no FTA, due to tariff and NTM liberalisation in all sectors. The modelling results suggest that the sector driving the largest increase in UK exports to India (in absolute terms) is the manufacture of machinery and equipment sector (bilateral exports increase of £3.1 billion or 160%), which includes the production of pumps and turbines. This is followed by the chemical, rubber, plastic product sector (bilateral exports increase by £1.3 billion or 105%). Sectors such as chemicals are also expected to be growing sectors of demand in future – particularly as demand grows in industries such as EV manufacturing, construction and healthcare. Box 1 details supporting PE modelling results, which, provide greater sectoral disaggregation, as well as estimates of shorter-term impacts of the FTA.

Exports of the manufacture of motor vehicles sector are also expected to see a substantial increase of £890 million, equivalent to 310%. However, it should be noted that there is some uncertainty around how the motor vehicles sector will develop. This reflects uncertainty over the pace and degree of transition to electric vehicles (EVs) in both countries and in other car exporting markets. This analysis also does not account for specific Tariff Rate Quotas (TRQs). The analysis estimates that, if final TRQ volumes are filled, the annual quota for Indian EV car imports from the UK will be worth at least £1.7 billion in reduced duties. Likewise, the annual quota on UK EV car imports from India will be worth up to £360 million in reduced duties.

The largest estimated increases in imports from India (in absolute terms) are in the textiles, apparel and leather sector (bilateral imports increase by £2.9 billion or 85%) and the manufacture of machinery and equipment sector (bilateral imports increase by £560 million or 45%). Box 1 also contains PE modelling results which provide insight into the product groups which drive these increases – including, clothing and textiles.

Overall, the industrial sector is estimated to see an increase in real GVA of approximately £700 million (0.2%), in the long run, relative to no FTA. This is driven by additional increases in the estimated output of the motor vehicles sector by £80 million (0.5%) and the manufacture of machinery and equipment sector by around £530 million (1.7%). As a result of a large, estimated increase in imports from India, UK output in textiles, apparel and leather is estimated to have lower future output compared to a scenario with no agreement. The CGE modelling indicates the textiles, apparel and leather sector could see output decrease by around £110 million (-0.7%) relative to no agreement. Due to higher prices weakening UK exports to India, the manufacture of other transport equipment sector is also expected to see lower output, relative to no FTA, with a decrease of around £85 million (-0.4%). Reallocation of resources (capital and labour) over the long run, towards sectors with comparatively larger liberalisation, helps explain why these sectors may experience contractions in GVA, relative to no FTA. In practice, these effects are likely to be dwarfed by wider forces shaping employment and investment decisions in these sectors over the long run.

## 4.3 Impacts on agri-food sectors

The agreement will reduce or remove the majority of tariffs in agri-food sectors. However, it does not liberalise key sensitive products such as UK tariffs on milled rice, sugar, pork, chicken and eggs, and India's tariffs on dairy, tobacco and edibles. Many UK goods that currently face high tariffs will see these reduced. For instance, whiskies currently fact tariffs of 150%. Under the FTA this will be reduced to 40% after 10 years. [71]

[70] The modelled NTM reduction is assumed to be equivalent to a medium depth agreement. More detail can be found in the Annex 3.
[71] Within the GTAP model, whiskies fall into the 'beverages and tobacco' sector.

NTMs in the agri-food sector may also become easier to navigate because of the agreement. Specifically, the Technical Barriers to Trade (TBT) chapter sets out commitments on how product regulations should be developed. For instance, basing the development of technical regulations on international standards helps reduce the variation in UK and Indian product rules, making it cheaper and easier for businesses to export to India. The chapter also includes provisions on labelling, with requirements that underpin a more flexible approach to labelling regulations, such as allowing adhesive labels and labelling in multiple languages, where possible. These commitments will help make trade easier, less costly and more transparent. UK exports to India in the beverages and tobacco sector could grow in the long run, by almost £700 million (180%) compared to a baseline scenario without an FTA, whilst imports could grow by £1 million (10%). PE modelling, in Box 1, explores the main drivers in the beverages and tobacco sector.[72]

GVA in the UK's agri-food sector as a whole could grow by an approximate additional £160 million (0.20%), in the long run, relative to the modelling baseline of no FTA. This result is mainly driven by the beverages and tobacco sector, which is expected to see an increase in GVA of around £170 million (1.5%) relative to the modelling baseline of no FTA. Other agri-food sectors, namely agriculture, forestry and fishing and semi-processed foods, see marginal contractions in output, which means they would grow slightly less compared to a scenario without the FTA. This change in the overall composition of the sector includes where tariff liberalisation will support UK exports, as well as increased imports from India.

### Box 1: Sectoral impact on goods based on PE modelling results[73]

The deeper disaggregation facilitated by PE modelling reveals the largest increases in UK exports of goods to India, in absolute terms, are estimated to be in the following products:

- Whiskies: UK exports to India are estimated to increase by around £240 million, equivalent to an 88% increase, relative to the baseline of no FTA, based on 2022 trade. Whiskies, because of the FTA's tariff reductions from 150% to 75% on day one and 40% from year 10 onwards, is the main driver of changes in the beverages and tobacco sector examined in the CGE modelling.
- Cosmetics and pharmaceutical products: UK exports to India are estimated to increase by around £400 million (360%) and £100 million (120%) respectively. Indian imports of cosmetic products from the UK have grown significantly in recent years, from £23 million in 2021 to £359 million in 2023.[74] Both of these product groups are largely contained in the chemical sector examined by CGE modelling.
- Autos parts and engines: Indian imports from the UK are estimated to increase by around £190 million, equivalent to a 150% increase.

Conversely, some of the larger gains in UK imports from India because of the FTA's tariff reductions can be expected in the following products:

- Clothing: UK imports of clothing from India are estimated to increase by £475 million, equivalent to a 45% increase.[75]
- Textiles: UK imports from India are estimated to increase by around £175 million, equivalent to a 40% increase.

[72] PE modelling only models the impact of the tariff change and makes no adjustment for NTM changes. All results are long term impacts, based on 2022 trade as the baseline.
[73] PE modelling only models the impact of the tariff change and makes no adjustment for NTM changes. All results are long term impacts, based on 2022 trade as the baseline.

[74] GoI, Department of Commerce and Industry trade statistics
[75] All three, clothing, textiles and footwear, contribute towards the textile, apparel, and leather sector examined by the CGE modelling

- Footwear: UK imports from India are estimated to increase by around £55 million, equivalent to a 30% increase.
- Chemicals: UK imports from India are estimated to increase by around £50 million, equivalent to an 18% increase.

## 4.4 Impacts on services sectors

Services exports accounted for 59% (£10.1 billion) of total UK exports to India in 2024.[76] This is despite UK businesses currently facing high barriers to exporting services to India, which is one of the most restrictive countries in the OECD's STRI.[77] India has comparatively limited services-specific commitments under the WTO's GATS schedule, meaning there is limited certainty for UK service exporters to India over their future terms of trade. This uncertainty acts as a barrier to services trade. Firms incur up-front fixed costs when exporting to a given market, and uncertainty over future access to that market puts these up-front investments at risk. Such uncertainty can therefore reduce the likelihood that firms begin exporting into the market.

Services provisions in the agreement reduce uncertainty for UK businesses exporting services to India by locking in existing UK access to the Indian market. This greater certainty acts like a reduction in costs (or NTMs) faced by UK services exporters.[78] Similarly, the agreement reduces NTMs faced by Indian exporters. However, given that the UK is already locked into relatively higher market access for Indian service exporters through the GATS, guaranteeing current UK market access for Indian exporters leads to a relatively smaller reduction in NTMs.

Bilateral exports of all service sectors are estimated to increase according to CGE modelling. According to CGE modelling results, UK services exports to India could rise by an additional £1.6 billion (24.0%) relative to the modelling baseline of no FTA when indirect impacts are reflected. CGE modelling suggests business services could see the greatest change in the value of exports, with exports to India estimated to increase by an approximate additional £474 million (26.9%) relative to the modelling baseline of no FTA. Wholesale and retail trade is also estimated to see a large change in the value of exports to India, in the long run, relative to the baseline, worth almost £400 million (38.4%).

Several service sectors in India are expected to benefit because of liberalisation too, which leads to increases of approximately £730 million (6.7%) in UK imports from India in those sectors. Communications and 'other services' (which includes transportation, water services and dwellings) are expected to have the highest relative increases in imports from India according to CGE modelling. The former of these is estimated to lead to a slight fall in UK GVA for communications. However, UK exports to India of these sectors are also expected to rise.

Accounting for indirect impacts and resource reallocation, the economy-wide results in the CGE modelling suggest that GVA in the services sector overall is estimated to grow by an additional £1.7 billion (0.08%) relative to the sector's modelling baseline of no FTA. The largest estimated contributions in absolute terms come from other services (£550 million, 0.2%) and wholesale and retail trade (£400 million, 0.1%), in the long run.

In the modelled results, the main driver of the estimated growth in the service sectors comes from higher household consumption – higher real wages in the UK raise demand for services, and UK industrial demand for services as intermediate goods. Both avenues represent important indirect impacts to the UK's services sector that can be captured within the modelling framework. Direct services provisions of the agreement also play a role to promote growth in the services sector. However, this is likely secondary in scale.

[76] ONS UK total trade: all countries, seasonally adjusted, April 2025
[77] Services trade restrictiveness index | OECD
[78] The trade barrier reductions in this analysis reflect the value of locking in UK services exporters' existing access to the Indian market.

# Section 5: Impacts on UK nations and English regions

This section examines the impacts of the FTA on UK nations and English regions. The quantified analysis uses results from the CGE modelling as well as evidence of regional GVA and employment.

The estimated impacts of the UK-India FTA on different regions and nations are:

- an increase in GVA across all nations and regions of the UK
- the largest relative increases in output in the West Midlands and the North East. This is driven by the high concentration of the manufacture of motor vehicles and machinery and equipment sectors in these regions – which are expected to see relatively high gains following the FTA
- an increase in GVA in Northern Ireland, Scotland and Wales in the long-run relative to the absence of an FTA. In the case of Scotland, higher whisky production could be contributing to this increase

## 5.1 Estimates of impacts by nation and English region of the UK

Trade and investment are linked to increased growth and prosperity, although gains are not always evenly distributed within an economy.[79] Unequal impacts across regions reflect how trade agreements affect sectors differently, and how the sectoral composition of output, employment and productivity varies across regions.

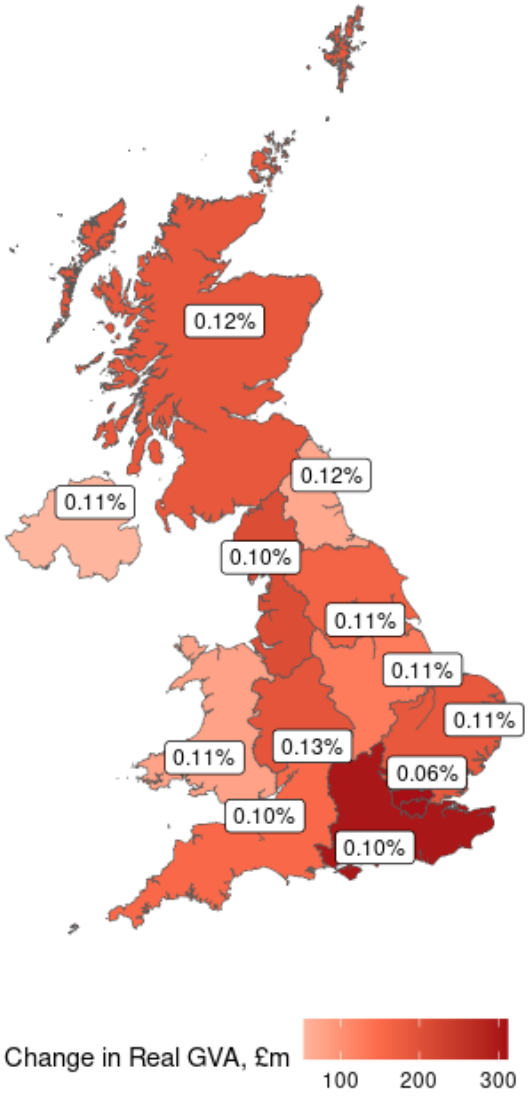
The CGE results indicate that certain manufacturing sectors are likely to experience amongst the highest growth rates due to the FTA. Therefore, UK nations and regions where expanding manufacturing sectors make up a larger share of the local economy, such as the West Midlands and the North East, could benefit more from the FTA. This is primarily due to the geographic concentration of the manufacture of motor vehicles sector. Modest contractions in textiles, apparel, and leather output offset manufacturing and services growth in UK regions like the East Midlands, where these sectors are concentrated. The GVA of Scotland could also increase, with the high concentration of whisky production within the nation contributing to this boost. Reductions in tariffs on whiskies are estimated to lead to large increases in exports within the sector.

Domestic expansion of manufacturing industries creates additional demand for services and this in turn translates into an estimated expansion of services sectors at the national level. In practice, regions with a strong concentration of industries that benefit from the agreement are likely to experience greater gains in income. For example, service sectors in regions with a high concentration of manufacturing activity could also expand as companies and employees spend more in that area. As the current method is unable to isolate the regions where this income effect takes place, it might underestimate gains for regions with more manufacturing industries, while potentially overestimating gains for regions with more services industries.

Moreover, the method used to estimate regional impacts does not account for intra-UK supply linkages, which means that trade between and within regions is not captured. Further information on the limitations and assumptions behind this analysis are outlined in Annex 8.

[79] UKTPO Briefing Paper (July 2019): 'Winners and Losers from International Trade', details the impact of trade and investment on productivity and growth.

Figure 3: Changes in UK nations and regions real GVA, long run % change




Source: DBT calculations using ONS and NISRA Business Register Employment Surveys 2022, ONS regional GVA estimates 2022.

The methodology weights the UK-wide sectoral GVA changes by the proportion of a given region's GVA that is attributed to that sector (based on GVA in 2022). Given the simple methodology, Table 6's values are indicative orders of scale, not precise forecasts. The analysis also assumes that the GVA change in a sector is the same across all regions and nations, irrespective of the size of the sector in each region. There are several simplifying assumptions and limitations of this approach which are outlined further in Annex 8. UK real GVA is estimated to increase by 0.10% in the long run, relative to a baseline of no FTA.[80]

[80] GVA equals GDP minus indirect taxes. However, in the GTAP model, the difference between GDP and GVA also includes a "technical change" - efficiency gains from reduced non-tariff measures under the FTA. These gains boost firm output and household income, raising expenditure. While this technical change is reflected in aggregate GDP, it's not captured at the sectoral GVA level resulting in marginally lower percentage growth of real GVA, versus real GDP.

Table 6: Changes in real GVA for UK nations and regions of England from a UK-India FTA

| UK nations and regions of England | % Change in real GVA | £m change |
|---|---|---|
| East of England | 0.11% | 190 |
| East Midlands | 0.11% | 130 |
| London | 0.06% | 310 |
| North East | 0.12% | 70 |
| North West | 0.10% | 210 |
| South East | 0.10% | 300 |
| South West | 0.10% | 150 |
| West Midlands | 0.13% | 190 |
| Yorkshire and The Humber | 0.11% | 170 |
| Northern Ireland | 0.11% | 50 |
| Scotland | 0.12% | 190 |
| Wales | 0.11% | 80 |

Note: Pound values have been rounded to the nearest £10 million. The point estimates are not precise estimates and should be interpreted as indicative of the direction and broad scale of impacts.

Source: DBT calculations using ONS and NISRA Business Register Employment Surveys 2022, ONS regional GVA estimates 2022. Not comparable to previous IAs – further detail on the methodology change can be found in Annex 8.

# Section 6: Impacts on other countries

This section examines the quantifiable impact of the agreement on other countries. The analysis is based on CGE modelling and preference erosion. The analysis suggests that:

- the agreement is estimated to increase India's annual GDP, in the long run, by around 0.06%, equivalent to £5.1 billion compared to 2040 projections of India's GDP
- the GDP of most developing countries is estimated to be largely unaffected because of the FTA, except for Sri Lanka and Nepal. There is a limited negative impact on these countries, but these results do not imply these economies will not grow in the long run
- there are risks of trade diversion in the apparel and textile sectors for some of India's neighbouring countries given their level of export reliance to the UK

## 6.1 India

The agreement is estimated to increase India's annual GDP, in the long run, by around 0.06%, equivalent to £5.1 billion compared to 2040 projections of India's GDP.[81] Furthermore, wages in India are estimated to increase by around 0.13% in the long run.[82] A summary of the impact on India's economy is set out in the table below.

Table 7: Estimated long run FTA impacts on India

| Macroeconomic impacts | £bn estimate, applied to 2040 projections | % change |
|---|---|---|
| Change in India's GDP | £5.1 | 0.06% |
| Change in India's exports to the UK | £9.8 | 25.0% |
| Change in India's imports from the UK | £15.7 | 59.4% |
| Change in India's exports to the world | £4.8 | 0.31% |
| Change in India's imports from the world | £8.9 | 0.44% |

Source: DBT CGE modelling. Projections of Indian GDP and trade in 2040 using the methodology as described in the Global Trade Outlook.

The structure of the Indian economy may evolve over time in ways that cannot be predicted. Therefore, the analysis presented above is subject to uncertainty.

The agreement has the potential to generate positive economic impacts within the Indian economy. Access to cheaper inputs and higher quality products and services, alongside greater UK demand for Indian exports, could stimulate economic growth for India.

The modelled estimates point to an increase in India's exports to the UK by £9.8 billion, or a further 25.0%, when compared to the modelling baseline of no agreement. This is driven by reductions in UK tariffs and regulatory barriers to trade with India, which are estimated to support India's manufacturing sectors considerably.

Modelling results indicate that Indian sectors such as textiles and apparel and the communications sector are set to benefit from the agreement largely due to an increase in exports to the UK. Non-tradeable sectors such as construction and other services (transport,

[81] 2040 projections for the Indian GDP are calculated using the methodology described in the Global Trade Outlook, (2023). These are calculated using annual average spot exchange rates from the International Monetary Fund, World Economic Outlook Database, April 2025

[82] DBT internal modelling, the CGE approach is the same for UK wage estimations as detailed in Chapter 3.

water and dwellings) are also expected benefit because of the modelled economic growth caused by the agreement.

## 6.2 Impact on trade with the rest of the world

In addition to increasing new trade with India, the agreement could lead to a diversion of trade currently flowing between the UK and its other trading partners as it becomes cheaper to trade with India. This process is known as trade reallocation. This logic could also hold for India, who may displace imports from other trading partners by importing more from the UK. The analysis below only looks at the impacts of UK exports and imports.

Trade reallocation is greatest in business services, computer, electronic & optic export sectors and manufacture of other transport equipment in the UK. Overall, while the modelling estimates UK exports to India grow by £15.7 billion because of the FTA by 2040, total UK exports to the world are expected to increase by £6.5 billion in the same period. Thus, around 58.6% of increased exports to India reflects reallocation away from existing partner countries (£9.2 billion).

Reflecting their overall size as trading nations, UK imports from the European Union (EU), China and Vietnam are likely to see the largest trade reallocation, in absolute terms, because of the UK importing more from India. Overall, while UK imports from India are estimated to increase by £9.8 billion by 2040, UK imports from the world are also expected to rise by £6.4 billion. This, therefore, suggests that around 34.4% of the increased imports from India represent trade reallocation of £3.4 billion. Reallocation is greatest in wearing apparel, textiles and communication import sectors.

## 6.3 Impact on neighbouring and developing countries

The UK-India FTA has the potential to affect economies not party to the agreement, including developing countries, as well as those countries with close geographical proximity to both India and the UK. This is a result of the lowering of trade costs between the UK and India – which can impact the type and size of trade with countries outside the agreement.

The overall long term GDP impact of the UK-India FTA on countries in Asia is estimated to be minimal in most cases, as seen in Table 8 below. However, there may be an impact on certain sectors to varying degrees. The larger estimated percentage changes for Nepal and Sri Lanka reflect an estimated fall in real household income as the FTA increases import prices from India. Thus, while both see a small improvement in net exports as imports from India decline. That does not offset the fall in real household income as potential Indian imports are reallocated away from those markets. The negative household income effect feeds through into weaker investment in both economies, reducing GDP growth compared to the baseline. This does not suggest that these economies will not see growth once the agreement is in place.

Table 8: CGE results on regional countries and LDCs

| GDP impacts | Bangladesh | Nepal | Pakistan | Sri Lanka | Indonesia | Vietnam | Other LDCs |
|---|---|---|---|---|---|---|---|
| % change | -0.01% | -0.21% | -0.01% | -0.09% | 0.00% | -0.01% | 0.00% |
| £ million change | -£45 | -£70 | -£23 | -£71 | -£52 | -£26 | -£40 |

Source: DBT CGE modelling

Whilst the table above shows a generally limited impact of the UK-India FTA on the GDP of neighbouring countries in the long-term as economies adjust, there could be detrimental short- to medium-term effects on some developing countries' exports to the UK. This is because an FTA raises the potential risk of preference erosion for these developing country partners.[83] Analysis in Table 25 of Annex 12 identifies products at risk of preference erosion because of the UK providing lower tariffs with India under this FTA. This highlights that preference erosion risks exist across a number of goods sectors, including both industrial and agri-food sectors. Across the products identified as at risk of preference erosion, it is not solely developing countries near India for which the UK is a notable export market.

The apparel and textiles sectors have been identified as important sectors with risks of preference erosion because of the UK-India FTA. For Bangladesh, Sri Lanka and Pakistan, the UK is an important market for this sector, both in terms of share and value. Under the FTA, the UK is expected to see significant growth in textiles and wearing apparel imports from India. This reflects the UK's large existing share of these imports from India and tariff reductions under the FTA. This is illustrated in the PE modelling (Box 1). This large growth in textile and apparel imports from India is expected to be met with falling import volumes from other exporting partners, including the above regions. This is supported by the results from the CGE analysis, although this analysis doesn't fully reflect a detailed assessment of the substitutability between the textiles production of different countries. The same preference erosion risks are expected to be true for other sectors to a lesser extent, including in the agri-food sector. Analysis found in Annex 12 has identified fruit, nuts and fish as agri-food products where the value of exports from developing countries to the UK is relatively high.

Neighbouring and regional Least Developed Countries (LDCs) and Low and Lower-Middle Income Countries (LICs and LMICs) are eligible for the Developing Countries Trading Scheme (DCTS). [84]This provides market access to 65 developing countries in total, with extensive tariff reductions, flexible rules of origin, and simplified eligibility criteria. Forthcoming changes to the rules of the scheme were announced as part of the HMG Trade Strategy and will make it easier for LICs and LMICs (with the exception of India and Indonesia) to source inputs from neighbouring Asian countries while continuing to benefit from tariff reductions.[85] In addition, for garments specifically, improvements to the Scheme will ensure that countries soon to graduate from LDC status, such as Bangladesh and Nepal, will continue to benefit from existing rules of origin, retaining access to existing tariff reductions. At the same time, countries such as Pakistan and Sri Lanka will benefit from an improved offer on garments.

[83] Preference erosion occurs when preferential tariff rates to the UK market are extended to other countries, reducing the competitive advantage of exporting countries which already benefit from these preferential rates. This can lead to trade diversion - for example where developing countries could see a reduction of their exports to the UK because of India facing lower tariffs in the UK market compared to without the FTA.
[84] Where there is no FTA in place
[85] UK Trade Strategy, June 2025

# Section 7: Impacts on UK businesses, consumers and the labour market

This section examines the impact of the agreement on the 'main' UK groups, including businesses, consumers and workers. Much of the analysis builds on the CGE modelling results presented in the previous section.

The analysis suggests that:

- the agreement is expected to benefit UK businesses, consumers and workers. These groups may be able to benefit from the reduction of tariff and NTMs, both on final products and intermediate components which support wider supply chains

- UK businesses of all sizes, including small and medium sized enterprises (SMEs), will see increased opportunities to expand in the Indian market. SMEs are predominantly located in services sectors, most of which see relative gains from the FTA. Both construction and wholesale and retail trade, are expected to see significant increases in GVA. Reallocation effects may mean businesses in some sectors are adversely affected. For example, communications services may see a marginal decrease in GVA

- UK consumers can benefit from greater choice and availability of goods and services from India such as textiles and clothing. These benefits may not fall proportionately on all groups in society. For instance, evidence shows that lower income households spend a greater proportion of their income on imported products, so may gain disproportionately. Similarly, as consumer expenditure patterns vary by region, some may experience greater benefits. For instance, textiles make up approximately 14% of UK goods imports, but represent 26% and 28% of goods imports into Northern Ireland and the North West respectively, potentially leading to greater benefits in these regions from tariff reductions on these products

- there could be some small reallocation of jobs across sectors in the long run. However, these are generally small in comparison to business-as-usual labour market changes. The representation of protected groups in sectors where employment is estimated to fall relative to the baseline is broadly in-line with the general population of the workforce for younger, older and disabled workers, as well as those from ethnic minority backgrounds. In contrast, female workers are less concentrated in those sectors of estimated reduced employment relative to the baseline

- UK workers of all skill types are expected to benefit from higher wages. Overall, UK real wages are estimated to increase by £2.2 billion

## 7.1 Impacts on UK businesses

### Business growth and exports

The agreement offers UK and Indian businesses opportunities to grow, boost exports, and reduce import costs.

Lower trade barriers could boost price competitiveness for UK and Indian exporters compared to other partners. Reduced barriers may also mean that businesses not already trading may be able to enter the market. Whilst tariffs are typically paid on imports, the incidence of the tariff (who it is borne by) depends on several factors and is uncertain.

Provisions enhancing transparency and providing better information for SMEs could induce new businesses to enter Indian markets. Businesses importing goods from India will directly benefit from lower tariffs. They could also benefit from a greater variety of imported inputs to production and final goods from India. Greater access to global supply chains are an important source and driver of competitive advantage for businesses.

India is an important trading partner for UK businesses. Around 9,200 UK businesses exported goods to India in 2023, of which approximately 7,800 were SMEs.[86] These existing exporters are expected to benefit from the new trade opportunities offered by tariff liberalisation, as well as the reductions in NTMs set out in Section 2. As a result of the agreement, the modelling estimates a £15.7 billion increase (59%) in UK exports to India, when compared to 2040 projections. The expansion of exports may allow businesses to benefit from economies of scale, potentially lowering their operating costs and raising profitability. This in turn can attract investment and support further expansion. The modelling estimates a 0.17% long-run increase in business investment in the UK by the estimated increase in return to capital because of the agreement. This is equivalent to £870 million annually when applied to 2024 levels.[87]

Some UK businesses may experience greater competition from Indian exporters. Evidence shows that competition from trade promotes business innovation and growth.[88] Some businesses may expand, creating more jobs, but some businesses may be adversely affected by the increased competition.

### The scale and distribution of estimated tariff reductions on India's goods imports from the UK

The trade-weighted average tariff on UK exports to India prior to the FTA was 15%, based on 2022 data and India's Most-Favoured Nation applied tariff scheme. This trade-weighted average tariff is estimated to reduce to 3% after the tariff reductions negotiated as part of the trade agreement have entered into the force (accounting for full staging).

Most tariff lines will be liberalised at entry into force of the agreement with these lines accounting for around one third of current tariff duties. The reduction in tariff duties on India's goods imports from the UK will increase over time as several products have staged tariff reductions over the course of the ten-year staging period.[89] DBT's analysis estimates that tariffs levied on India's goods imports from the UK totalled £1.1 billion in 2022. 35% (£410 million) of these estimated duties could be reduced at entry into force assuming full utilisation

[86] HMRC, UK trade in goods by business characteristics 2023. Figures show all businesses which traded in goods, including firms that are predominantly producers of services. Figures are not available for the number of businesses exporting services to India

[87] This figure is subject to uncertainty due to differences in the definitions and classification of GDP components between the OBR and the GTAP database. The GTAP database uses 2017/2019 data and relative GDP components may have changed between those years and 2024. Hence, this figure is used to provide context only

[88] Competition and Markets Authority, Productivity and competition: A summary of the evidence (July 2015)

[89] Where tariff duties are gradually reduced during the implementation period, that is set out under the agreement

of preferences, rising to 77% (£890 million) after staging.[90] UK businesses could benefit from maintaining or increasing competitiveness, particularly when compared to businesses exporting to India from countries without an FTA with India.

The analysis on the scale of tariff reductions is subject to the limitations set out in Annex 9.

**By sector**

In the long term (after staging), the largest potential reductions in duties on India's goods imports from the UK (or UK goods exports to India), are in beverages and tobacco, chemical products and manufacture of motor vehicles.[91]

Table 9: Estimated duties reductions on Indian imports from the UK after staging and assuming full utilisation of preferences, by selected sector

| Sector | Trade-weighted average tariff pre-FTA (%) | Trade-weighted average tariff post-FTA (%) | Duties reductions (£ millions) | Duties reduction as a share of total duty reductions (%) |
|---|---|---|---|---|
| Beverages and tobacco products | 150% | 41% | 311 | 35% |
| Manufacture of chemicals and chemical products | 14% | 2% | 64 | 7% |
| Manufacture of motor vehicles, trailers and semi-trailers | 49% | 4% | 58 | 7% |
| Manufacture of machinery and equipment n.e.c | 9% | 0% | 57 | 6% |
| Manufacture of electrical equipment | 11% | 1% | 23 | 3% |

Source: DBT analysis of Government of India 2022 trade values, figures have been rounded.

**By nation and region**

Reducing tariffs on Indian goods imports from the UK could make UK exports more competitive in the Indian market, which could benefit exporters in each nation and region.

Different sectoral intensities across regions are likely to mean that regional benefits from the FTA vary. For example, India currently levies a tariff of 150% on imported whiskies which will reduce to 75% at entry into force, and to 40% after 10 years of staging. UK exporters could benefit from the increased competitiveness this creates. 74% of UK beverage exports are from Scotland.[92]

Similarly, the current tariff on Indian imports of cars from the UK will fall from up to 110% to 10% inside a preferential quota (called a tariff rate quota). Securing improved market access would likely make the UK more competitive, and could benefit areas such as the West Midlands, which accounted for just over half of UK car exports (51%) to India in 2024 (worth £75 million).[93]

[90] This is based on static 2022 trade values and so the proportions may change as trade patterns adjust. The figures are rounded so proportions may not add up exactly. The remaining 23% of duty receipts are estimated to remain after the full staging of the FTA has been completed.
[91] While India's goods imports from the UK should equal UK goods exports to India, discrepancies between data sources often mean there is a difference between the two in the data. The analysis here is carried out based on Indian import data. DBT analysis, using GTAP sectors. Non-ferrous metals have been excluded.
[92] HMRC Regional Trade Statistics 2024, SITC2 11 - beverages
[93] HMRC Regional Trade Statistics 2024, SITC2 78 – road vehicles.

### The scale and distribution of tariff reductions on UK goods imports from India

The trade-weighted average tariff reduces from 2% to almost 0% after reductions negotiated as part of the trade agreement have entered into the force.

The largest potential reductions in duties on the UK's goods imports from India are wearing apparel, textiles and other food products, as shown in Table 10.[94]

Table 10: Estimated duties reductions on UK imports from India assuming full utilisation of preferences by selected sector

| Sector | Trade-weighted average tariff pre-FTA (%) | Trade-weighted average tariff post-FTA (%) | Duties reductions (£m) | Duties reduction as a share of total duty reductions (%) |
|---|---|---|---|---|
| Manufacture of wearing apparel | 9% | 0% | 112 | 51% |
| Manufacture of textiles | 6% | 0% | 33 | 15% |
| Other food | 5% | 0% | 19 | 8% |
| Manufacture of leather and related products | 3% | 0% | 14 | 6% |
| Manufacture of chemicals and chemical products | 2% | 0% | 10 | 5% |

Source: DBT calculations (2025), based on 2022 trade data

If traders fully utilise all available preferences, the estimated annual reduction in tariff duties available to businesses under the agreement is £220 million, based on 2022 imports. Most of the available duty reductions are for businesses importing final goods, as shown in Table 11. All tariff reductions on UK goods imports from India happen at the entry into force of the agreement.

Table 11: Estimated tariff reductions on UK imports from India, by end use

| Type of good[95] | Estimated duty reductions, £m |
|---|---|
| Intermediate goods | 40 |
| Final goods | 180 |
| Total reduction | 220 |

Source: DBT calculations (2025), based on 2022 trade data

Most of the available import duty reductions on intermediate goods occur in the textiles, chemical products, and plastic & rubber sectors, as shown in Table 10.[96] These tariff reductions could provide benefits for businesses that make use of Indian imports in their production processes.[97]

[94] DBT analysis, using GTAP sectors. Non-ferrous metals have been excluded.
[95] Final and intermediate goods are defined using BEC codes where the intermediate and capital classification has been combined to form intermediate goods. Note there are limitations in identifying goods for intermediate use. BEC codes: http://unstats.un.org/unsd/trade/classifications/bec.asp.
[96] DBT analysis, using GTAP sectors.
[97] In some instances, the exporting business may absorb the cost of the tariff, for example when there is a considerable domestic supply of a product, foreign firms may be forced to absorb tariff costs to remain competitive in the market or may not trade at all.

## Increased imports and competition

Around 16,200 UK businesses imported goods from India in 2023.[98] The modelling results estimate a £9.8 billion increase (25%) in UK imports from India, when compared to 2040 projections. Higher imports from India may mean there is increased import competition because of the FTA.[99] Channels through which these could materialise include:

- **increased market access** – businesses may benefit from an increased number of suppliers of goods and services, with easier access to cheaper and a wider variety of products. This could provide them with cheaper access to intermediate goods imports from India – which were worth £40 million in 2022
- **increased efficiency and innovation** – greater competition from businesses in India may encourage some UK firms to become more efficient or adopt new innovations to lower costs

However, an FTA could also have a negative impact on competition in some sectors. For example, if foreign firms are more efficient at producing goods and services, they may outcompete local firms, causing them to exit the market. This could be particularly evident in sectors which contract because of the FTA. In practice, this effect will ultimately depend on the extent to which Indian goods and services are substitutes for UK goods and services.

## Small and medium-sized enterprises (SMEs)

Accounting for over 99% of UK businesses, and more than 50% of all private sector employment and turnover, SMEs are a vital component of the UK economy.[100] SMEs also play an integral role in engaging with the international economy. In 2023, around 7,800 SMEs exported goods to India. In value terms, they account for 18% of UK bilateral goods exports to India.[101] Around 11% of SMEs made sales outside of the UK in 2024, with SMEs in the manufacturing sector the most likely to be exporting (with around 19% doing so). By contrast, only around 3% of SMEs in agricultural sectors do so.[102]

SMEs may have more limited financial and human resource capacities than larger businesses. As such, they may be less equipped to overcome the challenges posed by different regulatory frameworks, they may have less access to information to help them navigate trade regulations, and less resources to absorb the financial risks associated with international trade. Furthermore, as some regulatory barriers may be a fixed cost regardless of business size (for example, set-up or registration requirements), they are likely to make up a higher proportion of the costs faced by SMEs. As such, simplifying trade processes and reducing non-tariff measures (NTMs) in the FTA could particularly benefit SMEs, enhancing their ability to export more than larger firms.

The ability of SMEs in different sectors to export and utilise the FTA may vary, given the associated compliance and administrative costs they face and their financial capacity. For example, in 2024, 23% of SMEs made a loss – with 20% doing so in property/business services and up to 29% in wholesale/retail sectors. These are sectors where SMEs are more likely to export than average. Similarly, in some sectors SMEs reported difficulties accessing finance – with 29% of property and business services SMEs reporting issues – rising to 37% and 38% for manufacturing and wholesale/retail SMEs[103].

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[98] HMRC, UK trade in goods by business characteristics 2023. Figures show all businesses which traded in goods, including firms that are predominantly producers of services. Figures are not available for the number of businesses importing services from India.
[99] CMA (2015) Productivity and competition: A summary of the evidence.
[100] DBT, Business Population Estimates 2024.
[101] HMRC 'Trade in Goods by Business Characteristics, country tables' 2023, published November 2024. Businesses listed as Unknown have not been counted as SMEs when considering the proportion of UK bilateral goods exports as their average trade values suggest they are unlikely to be SMEs.
[102] BVA BDRC, SME Finance Monitor – Q4 2024
[103] BVA BDRC, SME Finance Monitor – Q4 2024

This agreement includes an SME chapter, which includes commitments on information sharing and co-operation that will help SMEs take advantage of the agreement.

The modelling exercise shows that imports are expected to increase in a number of sectors of the economy as trade liberalisation, via the agreement, raises competition from India. The competitive pressures resulting from increased imports drive innovation and productivity growth within sectors.

Higher sector or product specific imports resulting from liberalisation have the potential, in some cases, to adversely affect domestic businesses and generate adjustment costs in the short run. This may be particularly true for SMEs, as they may be less able than larger businesses to adapt and innovate in the face of increased competition. This could reflect factors such as human resource or capital constraints.

SMEs are spread across sectors which will experience different impacts from the FTA. Data on sectors where SMEs are located can be paired with the sectors where output is expected to increase or decrease because of the agreement, to provide an indication of the impact on SMEs. The estimated changes in these sectors comprise both the direct impacts of the agreement and the wider changes resulting from interlinkages between sectors. The estimates of changes in output cover all businesses (meaning they are not specific to SMEs). Despite the potential rationale above, the analysis does not consider the relative impacts on SMEs from changes to trade barriers.

Much like the broader business population, SMEs are largely concentrated in service sectors, most of which see relative gains from the agreement. For example, when considering the overall expected benefits of modelled economic growth following the agreement, non-tradeable sectors such as construction, public services and wholesale and retail trade sectors are expected to see amongst the highest rates of additional growth. These sectors combined contain around 50% of the UK's total SME population.[104]

The communications service sector, which accounts for 1.0% of UK SMEs, is estimated to experience a marginal decrease in GVA due to the agreement in the long run, despite an increase in both bilateral exports (£140 million) and imports (£443 million). As outlined in Section 4, these economy wide impacts are largely driven by reallocation effects, rather than as a direct impact of the provisions in the agreement.

SMEs are less concentrated in industry and agri-food sectors. Industry sectors, which in aggregate see large gains from the agreement, only include around 4.6% of UK SMEs. The agriculture, forestry and fishing sector, which accounts for 2.7% of UK SMEs, is expected to see a marginal decrease in GVA because of the agreement.[105] A full breakdown of the sectoral distribution of SMEs, turnover and long-run GVA by sector is provided in Annex 6.

### Wider costs for businesses in utilising the agreement

FTAs provide an incentive for businesses to utilise preferential tariffs to reduce costs. However, businesses may incur one-off familiarisation and on-going administrative costs in doing so. These are voluntary and based on the decision to take up preferential tariffs.

Data uncertainties mean it is not possible to monetise the precise impact of these one-off costs, however an illustration of the potential impacts on UK businesses who trade with India has been provided below. Due to the uncertainty, ranges are presented as well as a qualitative description of the costs and activities involved, to demonstrate the impact on businesses.

These voluntary one-off costs include the time taken to read and understand the text of the agreement, which will be experienced by businesses, enforcers, and customs and government

[104] Employment data in this chapter is taken from ONS Business Population Estimates
[105] The percentage of SMEs in each sector is taken from DBT Internal Analysis of DBT Business Population Estimates, 2024

officials.[106] The central estimate of these costs on businesses is £19.0 million, with a range between £18.3 million and £20.0 million (2024 prices).[107] The familiarisation costs for customs and government officials are likely to be absorbed by existing resources and therefore haven't been quantified. Annex 10 sets out information on the methodology.

In addition, to trade under preferential tariffs, businesses must also follow certain administrative procedures. These include customs declarations forms, which will be an additional cost borne by businesses that start or increase trading with India because of the agreement. This may also generate on-going administrative costs due to, for instance, proving compliance with RoOs.

Academic studies have estimated the average tariff equivalent trade costs associated with RoO administration, with estimates ranging from 2% to 6% relative to the value of the good exported.[108] This represents an estimate of average costs across all goods, meaning true costs may fall outside this range. They could vary by the type of good, the experience of the exporting business, the specific provisions in the FTA and the overall value of the consignment. For instance, for higher value consignments, fixed costs which do not vary by consignment value could be spread evenly across the exporter's activity under the FTA as well as other agreements. The literature notes this could be one reason why high preference utilisation on goods trade is observed even when tariffs are lower than 2%. This is the lower end of the administrative costs estimated by academic studies.[109]

## 7.2 Impacts on UK consumers

The liberalisation of trade with India can positively impact UK consumers, for instance by providing easier access to imported Indian products. This could lead to greater availability and choice for UK consumers. The provisions set out in this agreement aim to benefit UK consumers through increased consumer choice, better product quality and lower prices for imported products. As a result of higher real wages for workers, the modelling estimates show that annual real consumer expenditure in the UK (a component of GDP) increases by £3.0 billion in the long run when applied to 2024 levels.[110]

In general, trade liberalisation can result in lower import prices and lower final consumption prices for households. Lowering trade barriers (such as tariffs), can put downward pressure on the price of imported goods and services, be that for inputs prices paid by firms or final goods. The scale of these impacts depends on the pass-through of tariff and non-tariff barriers reductions through to consumer prices.

Over time, resources reallocate to more productive sectors and the economy grows because of the FTA. Workers move to more productive, higher wage sectors which grow in response to additional demand. While this increases the wages paid to households, higher wages can result in higher prices in some sectors.

Overall, this FTA could increase real wages by around 0.19% in the long run. These real increases may not be evenly spread across different income groups. Differences in the composition of household expenditure by income groups means that some groups may experience more of a real wage increase than others.

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[106] While FTAs are primarily used by businesses, voluntary and other civil society organisations may also benefit. In the UK, organisations can already claim relief on customs duty on foreign goods if they are imported for charitable use, but they may benefit in other ways such as through easier movement of professionals between countries. Non-business organisations that are registered for PAYE or VAT and which import or export goods to India will be picked up by this analysis through the HMRC dataset, but they are not expected to be significant in number

[107] DBT calculations. These differences reflect differences in estimated reading time.

[108] Ciuriak and Xiao (2014), Should Canada unilaterally adopt global free trade?

[109] World Bank (2014) & Bureau et al. (2007).

[110] This figure is subject to uncertainty due to differences in the definitions and classification of GDP components between the OBR and the GTAP database. The GTAP database uses 2017/2019 data and relative GDP components may have changed between those years and 2024. Hence, this figure is used to provide context only

Lowering trade barriers (such as tariffs), can put downward pressure on the price of imported goods, be that for intermediates used by firms in their own production processes or for final goods. Whether the reduction in tariffs and NTMs will directly lead to lower prices for consumers depends on the level of tariff pass-through. These benefits are discussed in more detail below. Prior to the FTA, around 30% of final consumption goods tariff lines were tariff free for India.[111] Under this agreement, this increases to 97% of final consumption tariff lines, once staging is completed and if preferences are fully utilised.

### Tariff pass-through

The benefit consumers receive from lower tariffs depends on tariff pass-through - the extent to which tariff reductions lead to lower prices for final goods. The degree of pass-through varies based on several factors, including:

- market competitiveness – factors such as market structure and intermediary power (such as wholesalers) affect the extent to which tariff reductions reach consumers[112]
- supply and demand dynamics – for example, in recent trade disputes, tariffs on inelastic goods with more stable demand were more likely to be passed onto consumers[113]
- the broader macroeconomic environment – for example in a recession firms may be more likely to retain tariff savings to rebuild margins or offset other cost pressures. Whereas in an expansion firms are more confident about demand and so more likely to adjust prices downwards[114]

The rate of pass-through is further found to be sensitive to the direction of the tariff (in other words whether the tariff is increased or decreased) and the magnitude of the change.

### Indirect impact on wages and consumption

Over time, the agreement results in economic growth and resources being reallocated to more productive sectors. This can lead to higher wages but can also result in higher prices. Overall, the UK-India agreement could increase UK real wages by around £2.2 billion (0.19%) in the long run as nominal wage growth outweighs the impact of price increases. These real increases may not be evenly spread across different income groups. For instance, differences in the composition of household expenditure means that some groups may experience more of a real wage increase than others.

Consumption is a key component of GDP and is positively impacted by the UK-India FTA. As real wages are expected to increase, UK consumers would increase their consumption and widen their choice of goods and services purchased. The model estimates that annual real consumer expenditure in the UK could increase by £3.0 billion (0.2%) over the long run compared to if no FTA was agreed. 39% of this increased consumer expenditure goes on purchases of goods and services produced in the UK, with the remaining 61% being spent on imports. Overall, the textiles, apparel and leather sector sees the largest percentage increase in expenditure (0.7%). However, this masks significant heterogeneity with spending on domestic textiles, apparel and leather products decreasing by 2.0% compared to a 1.1% increase on imported products. The largest increase in domestic expenditure occurs for the

[111] Through the UKGT and preferential treatments through the generalised system of preferences (GSP) and developing countries trading scheme (DCTS)

[112] Cavallo, Alberto, Gita Gopinath, Brent Neiman, and Jenny Tang. 2021. "Tariff Pass-Through at the Border and at the Store: Evidence from US Trade Policy." American Economic Review: Insights 3 (1): 19–34.

[113] Jaison R. Abel, Richard Deitz, Sebastian Heise, Ben Hyman, and Nick Montalbano, “Are Businesses Absorbing the Tariffs or Passing Them On to Their Customers?,” Federal Reserve Bank of New York Liberty Street Economics, June 4, 2025, https://libertystreeteconomics.newyorkfed.org/2025/06/are-businesses-absorbing-the-tariffs-or-passing-them-on-to-their-customers/.

[114] see Davide Furceri, Swarnali A Hannan, Jonathan D Ostry, Andrew K Rose, The Macroeconomy After Tariffs, The World Bank Economic Review, Volume 36, Issue 2, May 2022, Pages 361–381, https://doi.org/10.1093/wber/lhab016 for more explanation of these impacts

'other services' sector (0.2%), primarily driven by an increase in housing expenditure, which the model assumes increases broadly in line with incomes.[115]

### Competition impacts on consumers

Consumers may benefit from increased competition among firms. This can reflect both:

- Greater availability of a wider variety of goods and services – this includes goods and services from India which may not have been available to them previously
- Lower prices – consumers may benefit from tariff reductions enjoyed by firms, as firms reduce prices to maintain their market share.[116] Similarly, greater competition from India may encourage firms to reduce prices more broadly
- Higher quality – firms may improve the quality of goods and services they produce to ensure they continue to attract consumers[117]

However, there could also be some negative impacts for consumers. These could materialise if domestic firms are unable to compete with firms from India, it could reduce the availability of local products. Similarly, if local industries do shrink, then job losses could reduce consumer income. The modelling indicates that seven out of 23 GTAP sectors could lower GVA because of the FTA. These impacts will depend on the extent to which goods and services from India are substitutes for goods produced in the UK.

### Estimated reductions in tariffs: by nations, region and income

As outlined in Section 5, there are expected benefits to all nations and regions due to reductions in tariffs. However, the benefits to a given region may not be proportionate and ultimately depend on their propensity to import newly liberalised products from India.

For example, the UK imported around £1.4 billion of textiles, clothing & footwear from India in 2024. These imports account for 14.1% of the UK's imports of goods from India. However, they make up a higher proportion of goods imported from India into Northern Ireland and the North West, at 26.4% and 28.4% respectively.[118] Therefore, these regions could stand to benefit more from these tariff reductions than other parts of the UK. If tariff reductions are passed through by businesses, this could benefit consumers.

Tariff reductions will also have different impacts on households. In general, lower income households spend a higher proportion of their income on imported goods,[119] and food and non-alcoholic beverages.[120] Lower income households could gain as the UK is liberalising most tariffs on food and drink products of which the UK imported £761.8 million from India in 2024.[121]

## 7.3 Impacts on the labour market and UK workers

Workers can benefit from the agreement in several different ways. Where FTAs boost productivity, this is likely to increase employment opportunities and incomes. Where FTAs lower import prices, workers benefit in the form of higher real wages as they can purchase more even if nominal wages were to remain constant.

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[115] Housing expenditure categorised in the model as part of the 'dwellings' GTAP-65 sector.
[116] Auer, Raphael & Fischer, Andreas M., 2010. "The effect of low-wage import competition on U.S. inflationary pressure," Journal of Monetary Economics, Elsevier, vol. 57(4), pages 491-503, May.
[117] Haichao Fan & Yao Amber Li & Stephen R. Yeaple, 2015. "Trade Liberalization, Quality, and Export Prices," The Review of Economics and Statistics, MIT Press, vol. 97(5), pages 1033-1051, December.
[118] HMRC Regional Trade Statistics 2024, SITC2 26, 65, 84 and 85.
[119] ONS, 2018, Economic Review: Import intensity. (accessed May 2025).
[120] ONS, 2024, Family spending in the UK: April 2022 to March 2023. (accessed May 2025).
[121] HMRC Overseas Trade Statistics 2024.

Trade liberalisation can also affect the structure of the economy over time. This can generate transitional costs for workers who may move between jobs and sectors, as changes in the pattern of trade cause some industries to expand and others to contract. The transition of employment across sectors also has the potential to generate long run gains for workers, for example, through higher wages. The UK has one of the most dynamic and flexible labour markets in the world, which helps to facilitate adjustment and reduce transitional costs for workers.[122]

The model estimates long run impacts, which is the time taken for the economy to fully adjust to the agreement. The model does not estimate the magnitude of any potential short run impacts and adjustments. Short run adjustment costs are the loss of production and income after a change in trade policy like an FTA, which are caused as resources are reallocated towards expanding sectors of the economy. Adjustment costs to workers can include short term unemployment, lower wage during the transition, obsolescence of skills and training costs.[123] Irrespective of the approach and the broadness of the definition of adjustment costs, most academic studies on international trade conclude that trade-induced adjustment costs are relatively small compared to the long-run gains to workers from trade liberalisation.[124] Studies find that most workers are not adversely affected by trade liberalisation, however it is very difficult to identify those workers who are adversely affected. [125] [126]

While the shifts created in the FTA could support jobs in different sectors, the model only captures long run impacts. By this time the economy is assumed to have fully adjusted to the FTA. As such, the modelling does not estimate the magnitude of any potential short run impacts.

For the labour market, this means the modelling assumes that both the supply of labour and overall rates of employment and unemployment in the economy are fixed. This is appropriate as over the long term the labour market would be expected to adjust, and FTAs do not influence the underlying drivers of the long run employment rate. The modelling also doesn't consider migration or long-term changes to the population distribution. The modelling estimates that real wages in the UK (nominal wages adjusted for impact of inflation) increase by around £2.2 billion in the long run, when compared to 2024 levels.

### Impact on sectoral employment

The modelling shows a marginal shift in the distribution of employment across sectors in the long run.[127] When considering the combined direct and indirect impacts to the economy, any reallocation of employment across sectors is small, with all employment shares increasing or decreasing by less than 0.03%. The modelling suggests a marginal rebalancing away from business services (and to a lesser extent, the information and communication sector), as light manufacturing sectors expand (primarily the manufacture of machinery and equipment and motor vehicles sectors). These modest shifts reflect a slight change to existing growth paths, rather than an expansion or contraction to today's employment levels.

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[122] World Economic Forum. 2019. Global Competitiveness Report Pg596.
[123] Jansen, M., Peters, R., & Salazar-Xirinachs, J. M. (2011). Trade and Employment: From Myths to Facts. International Labour Office.
[124] Trade Adjustment Costs and Assistance: The labour market dynamics, Joseph Francois, Marion Jansen, and Ralf Peters 2011
[125] Traiberman, S. (2019). Occupations and import competition: Evidence from Denmark. American Economic Review, 109(12), 4260-4301.
[126] Trade Adjustment Costs and Assistance: The labour market dynamics Joseph Francois, Marion Jansen, and Ralf Peters 2011
[127] Employment is according to the ILO definition as specified by the relevant LFS indicator (ILODEFR). That is, a person is considered employed if they are 16 or over and have been engaged for at least one hour within a 7-day reference period in any activity to produce goods or services. This also includes employed persons "not at work" that is, those who did not work in the reference period due to temporary absence or working patterns.

Modern, dynamic economies change continuously in response to global developments. This causes an ongoing process of worker and job transition in the labour market. Lower trade barriers and greater import competition could accelerate this ongoing process.

Modelled changes in employment composition do not necessarily represent the movement of individuals across sectors. Some of the employment changes are likely to occur through the process of natural 'churn'. For example, as retired workers and new entrants leave and enter the labour market.

### Assessing the implications of adjustment costs for labour

Industrial turbulence indices can be used to quantify the proportion of all jobs in the economy which change sector over a given period.[128] Analysis suggests that the magnitudes of the changes to the composition of employment across sectors resulting from the agreement are small in comparison with regular changes in the labour market.

The modelling shows that on average, sectoral employment market shares change by less than 0.01% as a result of the UK-India FTA.[129] This is very low compared to an average sectoral employment market share change of 14.5% in the 15 years from 2009 to 2024.[130] This gives some indication that any adjustments due to the agreement could be absorbed into labour market churn.

The long run movement of labour across sectors and regions within the UK contributes to the estimated output and wage gains from increased specialisation resulting from the UK-India FTA. Over time, regional comparative advantage may change in response to global trends, and the location of production and employment may evolve over the horizon of the economic modelling.

### Employment impacts for protected groups

The representation of protected groups (in relation to age, sex, ethnicity, disability, sexuality, religion, and marital status) in sectors where employment is expected to fall relative to the baseline is broadly in line with the general population of the workforce. [131, 132] Employment in some sectors is estimated to fall slightly as workers move over time to sectors in which returns and wages are higher because of the agreement.

As noted in the above, this analysis is based on the sector employment results from CGE modelling, which captures the long-term impact after the full reallocation of resources. As the agreement is modelled on a long run impact, comparing employment estimates to the current structure of the workforce has several limitations and conclusions should be drawn with caution.

**Sex** - 48% of those in employment in the UK are female and 52% are male. Women are disproportionately likely to be working in sectors which will not experience a change in their employment share because of the FTA.[133] 53% of the workforce in these sectors are women,

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[128] Industrial turbulence indices are calculated as: $1/2 \sum(|\Delta E_i/E|)$ where $\Delta E_i$ is the change in employment in each sector, and E is overall employment in the economy. (Layard, Nickell and Jackman (1991) "Unemployment" Chapter 6.

[129] For the purposes of this analysis, 23 GTAP sectors are used. For the purposes of these figures, employment market shares refer to the percentage of all employment attributed to a given sector.

[130] Figures referring to a period from June 2009 to June 2024[131] The protected characteristics pregnancy and maternity and gender reassignment are not analysed due to a lack of data covering their demographics across sectors of the economy.

[131] The protected characteristics pregnancy and maternity and gender reassignment are not analysed due to a lack of data covering their demographics across sectors of the economy.

[132]Race is a protected characteristic under the Equality Act 2010. For this analysis, data on ethnicity is used to reflect this protected characteristic, as ethnicity is a key component of how race is defined within the Act

[133] Defined as a change in employment of between 0.05% and -0.05% in the long run under the FTA, compared to a baseline without the FTA.

compared to 38% in sectors which contract relative to the baseline, and 23% in sectors which expand relative to the baseline

**Ethnicity** - Across the UK, 85% of those currently in employment identify as white and 15% identify as being from an ethnic minority group. Overall workers who identify as belonging to an ethnic minority background are less likely to work in sectors which are expected to expand because of the FTA, with approximately 8% of workers in these sectors identify as belonging to an ethnic minority group. The proportion of workers from an ethnic minority group in sectors where employment numbers are expected to contract or remain constant are broadly in line with the employment share, at just over 15%.

**Age** - 11% of the UK workforce are aged 16-24, 85% are 25-64 and 4% are 65+. Younger workers are marginally more likely to work in sectors which do not experience a change in employment levels because of the FTA. 13% of workers in such sectors are aged between 16 and 24, compared to 9% in contracting sectors and 8% in expanding sectors. Older workers are no more likely to work in sectors which are expected to experience a change in their employment share because of the FTA, with 4% of workers in expanding, contracting and unaffected sectors aged 65 or above.

**Disability** - Around 17% of those in employment in the UK report that they have a disability (as defined by the Equalities Act 2010). Workers who identify as having a disability are slightly more likely to work in sectors which do not experience a change in employment levels because of the FTA. 18% of workers in such sectors identify as having a disability, compared to 15% and 13% respectively in sectors which are estimated to contract and expand in employment size due to the FTA.

**Sexuality** - 96% of the total workforce identify as heterosexual, 2.2% as gay/lesbian, 1.4% as bisexual and 0.6% responded as 'other'. Individuals who identify as gay/lesbian, bisexual or as part of the "other" category are less likely to work in sectors which are expected to expand as part of the FTA, with under 1% of workers in these sectors identifying with each of the gay/lesbian, bisexual and other categories. The proportion of workers in sectors where employment is estimated to fall or remain roughly constant relative to the baseline is broadly in line with the proportions in the total workforce.

**Religion** - 50% of the UK workforce report to have no religion, around 40% of the workforce are Christian, 4% are Muslim, 2% are Hindu, 2% selected 'Any other religion' and <1% responded as Jewish and Buddhist. Individuals identifying as Christian are marginally more likely to work in sectors which are expected to expand or remain the same in employment size because of the FTA, with 41% and 42% of workers in these sectors identifying as Christian respectively. By comparison, individuals identifying as Buddhist, Hindu, Jewish, Muslim or as part of the "any other religion" category are less likely to work in sectors which are expected to expand due to the FTA.

**Marital Status** - 41% of the UK workforce identified as 'single, never married', 49% responded as 'married and living with husband/wife', 6% are 'divorced', 2% identified as being 'married and separated from husband/wife', 1% are 'widowed' and <1% identified as having a 'civil partner'. Individuals who reported they were married and living with their husband/wife were slightly more likely to work in sectors which are expected to expand due to the FTA, with 53% of workers in these sectors identifying as part of this group. All the other marital status groups identified above were less likely to work in these expanding sectors. The trends for sectors which are expected to contract or remain broadly constant in terms of employment numbers are more mixed, but overall, the distribution of workers by marital status remains similar to the baseline in these cases.

**Limitations** - There are several limitations to the figures above. The analysis is based on the structure of the UK workforce in 2023.[134] This means it does not capture changes to the composition of the workforce in the long run, which is the timeline of the CGE modelling results. Workers in sectors where the share of employment is estimated to be lower than in the absence of the agreement may not necessarily be adversely affected. For example, workers who remain in such a sector could benefit from increases in wages, owing to higher productivity. In addition, some of the adjustment may take place as workers leaving the labour market are not replaced, with new entrants more likely to find employment in expanding sectors. Any workers who do transition across sectors may incur short-term adjustment costs. However, they could ultimately benefit from higher wages in other sectors of the economy.

A more detailed breakdown of the demographics in this section are available in Annex 7.

[134] ONS Annual Population Survey (APS) for calendar year 2023. This is the latest complete year of data available.

# Section 8: Environmental impacts

This section explores the environmental impacts of the UK-India FTA. The environment chapter of the agreement supports high environmental standards in both countries, preventing deviation from environmental laws to secure artificial trade advantages and encouraging high levels of environmental protection. The agreement recognises and reaffirms the objectives of the Paris agreement and its temperature goals, including the UK's and India's commitment to implementing it. The analysis suggests that:

- UK CO2 emissions are estimated to increase by 0.8 MtCO2e against 2019 emissions of 393.5 MtCO2e (0.21%) and relative to a baseline of no agreement. The analysis is based on 2019 emissions data and does not take into consideration any structural changes to emissions intensities since then. It also does not account for the projected decline in GHG emissions as countries meet net-zero commitments. This 0.21% increase in UK emissions resulting from the FTA compares to a 4% decrease in GHG emissions between 2023 and 2024[135]

- the agreement is expected to lead to an increase in transport emissions. The estimates suggest that the long-run increase in maritime and aviation freight emissions on bilateral trade between the UK and India is between around 1.3 $MtCO_2e$ and 2.5 $MtCO_2e$ (43% and 49%) each year from 2040.[136] These impacts do not account for changes in transport emissions with third countries, which means the results are not directly comparable with the total GHG emission changes above. It also doesn't account for decarbonisation policies or future technological changes in green energy

- the reduction of trade barriers for emission intensive sectors, combined with differing climate mitigation policies across countries, can increase the risk of the displacement of emissions from the UK to other countries – known as carbon leakage. The FTA could potentially exacerbate the carbon leakage risk in the textiles, apparel and leather sector. The extent of the risk also depends on the UK and India's environmental policies as well as external factors like technological change

- the agreement provides opportunities to increase trade in environmental goods, which can speed up the development and uptake of environmentally friendly production techniques. As a result of the FTA, tariffs on bilateral trade of £640 million of environmental goods (3.4% of all bilateral trade) will be reduced or removed. The agreement also commits the UK and India to endeavour to facilitate trade in environmental goods and services

- the agreement is estimated to have minimal environmental impacts on biodiversity, ecosystems, land use and deforestation in both countries. The extent of any impacts will depend on how domestic and international policies mitigate these risks

## 8.1 The potential impact of an FTA on the environment

Trade liberalisation can boost economic growth, which often leads to increased economic activity and associated environmental impacts. It can shift a country's production and consumption patterns, with environmental consequences depending on the emissions intensity of the sectors involved and the distances goods must travel. However, trade can also

[135] Provisional Greenhouse Gas Emissions Statistics, ONS, 2024

[136] This is a new methodology to calculate long-run emissions impacts after full adjustment has occurred, to align more closely with production emission estimates. These results are therefore not directly comparable with previously published Transport emissions in SAs and IAs. A comparable emissions impact can be found in Annex 11.

support environmental progress by facilitating the transfer of cleaner, more efficient technologies and production methods. This can help economies transition to low-emission models. Additionally, trade can promote a global circular economy by encouraging reuse, repair, and recycling.

## 8.2 Greenhouse gas emissions and climate change policy

The UK and India have previously made commitments to reduce GHG emissions. In 2019, the UK became the first G20 country to legislate binding commitments to bring net GHG emissions to zero by 2050, to end its contribution to global warming. UK territorial GHG emissions fell by 53% from 1990 to 2023.[137] At COP26 in November 2021, Indian Prime Minister Modi announced a 2070 Net Zero target for India.[138] India's Long-Term Low-Carbon Development Strategy has since outlined that this ambition will be supported by reducing the emission intensity of GDP to 45% below 2005 levels, and meeting 50% of India's cumulative electric power installed capacity from non-fossil sources, both by 2030.[139]

The UK has committed to being at the forefront of tackling maritime emissions. The UK was a leading voice in the negotiations at the International Maritime Organization (IMO) in 2018, resulting in the first ever greenhouse gas (GHG) strategy for the sector, agreeing a target of reducing emissions by at least 50% by 2050.[140]

The UK and India are signatories to several of the same international climate and environment agreements. This includes the United Nations Framework Convention on Climate Change (UNFCCC), the Paris Agreement and the Kyoto Protocol. [141, 142, 143] Both countries co-lead the Clean Energy Ministerial Industrial Deep Decarbonisation Initiative (IDDI) - a global coalition of public and private bodies seeking to grow demand for low carbon industrial materials.[144]

Under the FTA, the UK and India have reaffirmed their commitment to implement multilateral environmental agreements to which they are a party. This includes the Paris Agreement, which aims to limit the temperature increase to 1.5°C above pre-industrial levels.

The UK and India have also committed to not waive or derogate from environmental laws in order to encourage bilateral trade and investment. Both India and the UK shall strive to ensure their respective environmental laws and policies provide and encourage high levels of environmental protection.

Table 12 below sets out contextualising economic and environmental statistics.

[137] Greenhouse Gas Emissions Data, ONS, 2024
[138] Government of India press release, India's Stand at COP-26, (accessed April 2024)
[139] Ministry of Environment, Forest and Climate Change, Government of India, India's Long-Term Low-Carbon Development Strategy, 2022.
[140] DfT, Clean Maritime Plan, 2019 (accessed April 2024)
[141] Parties to the United Nations Framework Convention on Climate Change
[142] United Nations Treaty Collection, Paris Agreement.
[143] United Nations Treaty Collection, Kyoto Protocol.

[144] Clean Energy Ministerial Industrial Deep Decarbonisation Initiative

Table 12: Contextual environmental statistics for the UK and India

| Metric | UK | India |
|---|---|---|
| GDP (2024)[145] | £2.8 trillion (6th largest) | £3.1 trillion (5th largest) |
| $CO_2$ emissions (2023)[146] | 302 $MtCO_2e$<br>(1.0% of global emissions) | 2,955 $MtCO_2e$<br>(7.6% of global emissions) |
| Total Greenhouse Gas (GHG) emissions (2023)[147] | 379 $MtCO_2e$ | 4,134 $MtCO_2e$ |
| Greenhouse Gas emissions per capita (2023)[148] | 5.5 tonnes CO2e | 2.9 tonnes CO2e |

Source: IMF and World Bank Data

## 8.3 Quantitative estimates of the impact on greenhouse gas emissions

To assess the impact on UK and global emissions, the following analysis utilises the GTAP Centre's environmental model (GTAP-E) and applies 2019 emissions intensities. Annex 11 provides further detail on the modelling approach.

### UK-based emissions

The agreement is expected to lead to UK $CO_2$ emissions increasing by around 0.8 $MtCO_2e$ (0.21%) when compared to baseline levels of 2019 emissions of 393.5 million tonnes of $CO_2$ equivalent ($MTCO_2e$) and relative to no agreement. The expansion in the wider economy, and specifically its industrial sector, contributes to emissions growth outpacing the increase in overall UK GDP. Approximately 20% of these increased emissions (0.2 $MtCO_2e$) come from UK firms increasing their usage of electricity, whilst 24% (0.2 $MtCO_2e$) comes from UK firms increasing their usage of transportation services such as freight and shipping services. However, it should be noted that the analysis does not reflect the expected reduction in emissions intensity in the electricity sector. Specifically, it doesn't consider the role of the government's mission to become a Clean Energy Superpower, through delivering clean power by 2030 and accelerating to Net Zero.

The estimated increase in UK GHG emissions of 0.21% resulting from the agreement compares to the UK's progress in reducing overall GHG emissions. For instance, in 2024 UK emissions were 4% lower than in 2023 - primarily driven by falling emissions intensity in the electricity sector. The agreement is projected to have a limited impact on the overall composition of the UK's $CO_2$ emissions, with approximately 73% of national emissions continuing to be caused by business activity, and the remaining 27% from household consumption. Emissions from UK household consumption may rise by 0.2 $MtCO_2e$ in the long run, half of which is attributed to an increased consumption of gas services. $CO_2$ emissions impacts can be evaluated with respect to the origin of energy sources. The agreement is expected to increase the UK's demand for both domestic and international fuel sources, particularly in petroleum products and gas. Approximately 49% (0.4 $MtCO_2e$) of the increased UK emissions from the agreement are sourced from domestic fuels, whilst the remaining 51% (0.4 $MtCO_2e$) of additional UK $CO_2$ emissions come from increased fuel imports. However, this analysis does not account for significant expected reductions in emissions intensities in these sectors. As part of the UK's transition to Net Zero by 2050, gas consumption in UK buildings will be gradually reduced through the phasing-out of gas boiler installation.

[145] IMF World Economic Outlook Database, April 2025 edition.
[146] World Bank Data, $CO_2$ emissions (total) excluding Land Use, Land Use Change and Forestry (LULUCF) 2023, $MtCO_2e$ refers to millions of tonnes of carbon dioxide equivalent emissions.
[147] World Bank Data, Total Greenhouse Gas Emissions, excluding LULUCF, 2023
[148] World Bank Data, Total Greenhouse Gas emissions excluding LULUCF per capita, 2023

## Global change in emissions

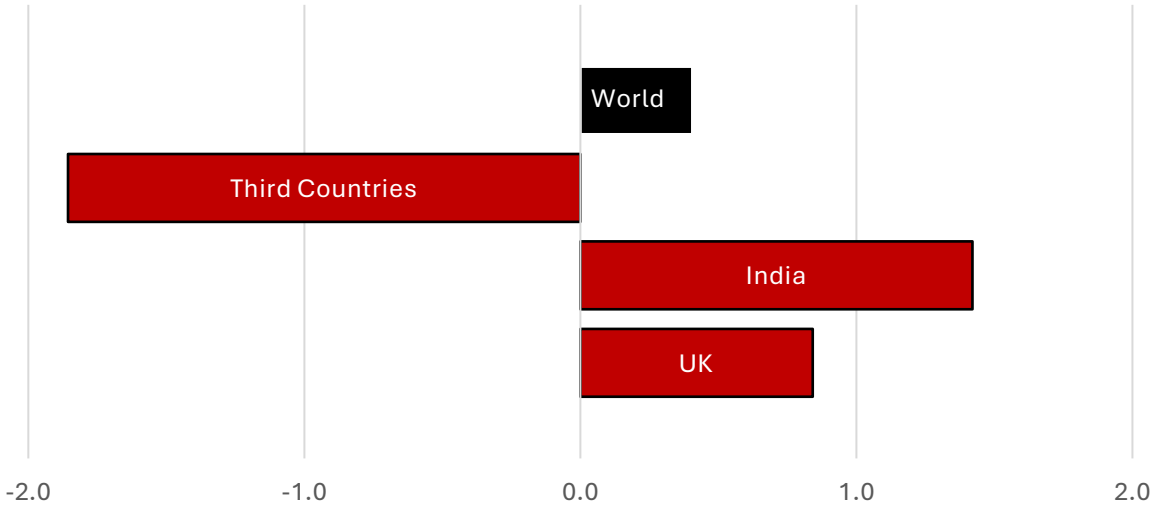
The overall effect of the agreement on global $CO_2$ emissions goes beyond the UK effects described above.

For India. the agreement is expected to lead $CO_2$ emissions increasing by around 0.06% (1.4 $MtCO_2e$) when compared to baseline 2019 emissions of 2,310 $MTCO_2e$. The agreement may see economic activity in India shift increasingly to its services and clothing sectors, which have emissions intensities similar to the economy-wide average, as opposed to higher energy-use industries.[149] This results in an emissions change broadly in line with the increase in Indian GDP. Approximately 52% of the growth in Indian emissions (0.6 $MtCO_2e$ in 2019 terms) comes from Indian businesses increasing their demand for electricity, whilst another 40% (0.4 $MtCO_2e$ in 2019 terms) comes from Indian firms increasing their usage of freight transportation. Unlike in the UK, the agreement may alter the sourcing of energy within the Indian economy. Higher relative prices in India, driven by increased wages because of the agreement, may see Indian firms reduce their usage of domestic fuels and increase imports. Emissions from Indian fuels may fall by 0.1 $MtCO_2e$ in 2019 terms, whilst emissions from imported fuel rise by 1.6 $MtCO_2e$ in 2019 terms, against the baseline.

There may be an estimated fall of 1.9 $MtCO_2e$ (0.01%) in third countries' $CO_2$ emissions, when compared to baseline levels. Approximately 82% of this fall in emissions (1.5 $MtCO_2e$ in 2019 terms) can be attributed to reduced business related emissions. The agreement may lower fossil fuel usage in the production of electricity, transportation, and iron and steel in third countries – much of which is reallocated to the UK and Indian economies. The reallocation of notable quantities of Chinese, Vietnamese, and Bangladeshi textiles and wearing apparel production to India also contribute to the fall in third country electricity demand.

Combining the UK, India and third country emission changes, the overall global $CO_2$ emissions are estimated to increase by 0.001% (0.4 $MtCO_2e$), when compared to baseline 2019 emissions of 34,037 $MTCO_2e$. The change in global emissions impacts by regions can be seen in Figure 4 below.

Figure 4: Composition of net global GHG emissions change resulting from the FTA by country group ($MtCO_2e$)




Source: DBT Modelling

[149] Emissions intensities refer to the emissions produced for every £1 of economic output.

### Limitations to these estimates

There are limitations to the modelling presented above, which include:

- the modelling uses 2019 data, which is the latest year available, yet there is evidence that emissions in the UK have been falling steadily over the last 6 years[150]
- the results do not account for either governments' decarbonisation policies which aim to deliver a projected decline in $CO_2$ emissions over the long-term. The UK's Climate Change Act 2008 and Environment Act 2021 mean that there is a strong legal framework to meet Net Zero emissions by 2050, which would necessitate a significant falling trajectory for emissions. India has set a Net Zero emissions target of 2070, as announced by Prime Minister Modi at COP26
- the modelling does not consider the positive effects on emissions made by the technique effect. This is when UK and Indian businesses adopt environmentally friendly production techniques from one another because of more liberalised trade
- India's economy is expected to grow significantly over the long-term. This growth would increase the Indian-based emissions from production which is not captured in the modelling
- the modelling does not reflect emissions due to changes in deforestation and land use

The results cannot be directly compared to the transport emissions in Section 8.4. This is partly due to methodological differences between the two approaches, but also because the emission estimates in Section 8.4 are solely bilateral. Consequently, they do not consider any potential decreases in emissions resulting from trade reallocation away from 3rd countries

### Non- $CO_2$ GHG emissions

The modelling described above only covers $CO_2$ emissions due to data limitations in the GTAP 12p1 dataset which does not include non-$CO_2$ GHG emissions. While this excludes some emissions, $CO_2$ made up approximately 84% of the UK's total GHG emissions in 2023.[151] The remaining 16% consisted mainly of methane (11%), nitrous oxide (4%), and hydrofluorocarbons (1%), with all other GHGs contributing less than 0.1%.

Different GHGs have varying levels of relative contributions to global warming. The Intergovernmental Panel on Climate Change (IPCC) uses Global Warming Potentials (GWP) to compare the relative warming effect of different GHG gases over a 100-year period. $CO_2$ is deemed to have less warming potential than other non-$CO_2$ emissions such as Methane or Nitrous Oxides. This means the estimate excludes emissions which have a more significant impact on global warming.

Therefore, the estimated absolute change (0.8 $MtCO_2e$) is conservative since over 15% of the UK's GHG emissions are not captured by this estimate. There is evidence to suggest that this fraction of GHG emissions has a more significant effect on global warming. However, the estimated percentage change in emissions (0.21%) may be reasonable depending on whether non-$CO_2$ emissions rise at a slower or faster rate than $CO_2$ emissions, in response to the FTA

[150] UK government, Provisional greenhouse gas emissions statistics, page 7, 2024
[151] Greenhouse gas emissions, UK- Office for National Statistics

## 8.4 Quantitative estimates of the impact on trade-related transport emissions resulting from UK-India FTA

### Transport emission estimates

International trade was linked with 8,800 $MtCO_2e$ or over a quarter (27%) of global $CO_2$ emissions from fuel combustion in 2015.[152] International transport is estimated to be responsible for 33% of world-wide trade-related emissions, with shipping freight alone accounting for 3% of global greenhouse gas emissions. [153, 154] Maritime freight contributes to approximately 99% of the weight by volume of trade with India in 2022 whilst aviation freight contributes approximately 1% of the weight by volume in the same year.[155]

This agreement is estimated to lead to a long-run annual increase in bilateral transport (aviation and maritime freight) $CO_2$ emissions from 2040 of between 1.3 $MtCO_2e$ and 2.5 $MtCO_2e$ per year. This is equivalent to between a 43% and 49% increase from the baseline (depending on the shipping route). As wider context, in 2023, UK territorial GHG emissions were 385 $MtCO_2e$.[156]

Table 13 Estimated impact of India FTA on trade-related maritime and aviation freight emissions

| Impact | Emissions from UK exports | | | Emissions from UK imports | | | Total |
|---|---|---|---|---|---|---|---|
| | Aviation | Maritime | Total | Aviation | Maritime | Total | |
| Long term annual change ($MtCO_2e$) | 0.3 | 0.5 - 1.4 | 0.8 - 1.7 | 0.4 | 0.1 - 0.4 | 0.5 - 0.8 | 1.3 – 2.5 |
| Change relative to baseline of no agreement (%) | 117% | 76% | 81% - 88% | 48% | 13% | 21% - 29% | 43% - 49% |

Source: Internal analysis. The range for maritime emissions is based on a sensitivity analysis looking at the shortest and longest typical routes ships may take between the UK and India. Long-term changes modelled are assumed to materialise in 2040.

The main drivers for this increase are:

- Increased volume of bilateral trade
- Increased distance travelled by transported goods where there is displacement of trade with partners that are geographically closer to the UK
- A change in the composition of goods traded and the modes of transport used.[157] The sectors driving the emissions are: paper products & publishing (which accounts for 45% of increased maritime export emissions, and 12% of increased aviation export emissions), wearing apparel (which accounts for 45% of increased aviation import emissions and 8% of increased maritime import emissions), and iron & steel (which accounts for 23% of increased maritime export emissions and 10% of increased maritime import emissions)

[152] OECD - $CO_2$ Emissions embodied in international trade and domestic final demand
[153] A. Cristea, et al., Trade and the greenhouse gas emissions from international freight transport, Journal of Environmental Economics and Management (2012).
[154] International Maritime Organization Fourth Greenhouse Gas Study 2020
[155] DESNZ analysis of HMRC Trade data between UK and India, 2022
[156] DESNZ, Final UK greenhouse gas emissions national statistics: 1990 to 2023
[157] Different modes of transport vary greatly in their carbon intensity; one kilogram of cargo flown on a plane generates approximately 44 times the emissions of a kilogram of cargo transported by ship. This rises to 74 times when also considering indirect aviation emissions (over the same distance). The mode of transport used will be influenced by the type of good being exported, whether it is perishable or part of a supply process that requires rapid delivery of intermediate products, and the proximity of the export destination to an airport, seaport or rail network. Based on DESNZ analysis of freight good emission factors.

A large proportion of services trade does not involve any transport at all.[158] It is reasonable to assume that more high-value activity would take place on existing trips, rather than through new travel. Insofar as it does increase the movement of people it could increase transport emissions. While it has not been possible to quantify this impact, it is expected to be small.

Further information on the transport emissions methodology is available in Annex 11.

### Limitations

The above analysis does not take account of potential improvements in the emissions intensity of transport over time, either in the baseline or resulting from this FTA. Both the IMO and the International Air Transport Association (IATA) recognise that transport emissions are a significant driver of global emissions and have made commitments to improve the climate impact of maritime and aviation transport. The IMO have adopted mandatory measures to reduce emissions of various pollutants under their pollution prevention treaty (MARPOL), and the IATA have adopted a four-pillar strategy to address the global challenge of climate change.

Moreover, the transport modelling does not reflect any decreases in trade with third countries resulting from the UK-India FTA, which may in turn reduce any increases in global transport emissions. As described in Section 6.2, the CGE modelling estimates that around 59% and 34% of the increase in UK exports to, and imports from, India result from trade reallocation away from 3rd countries respectively.

## 8.5 Carbon leakage

Carbon leakage is the movement of production and associated emissions from one country to another in response to different levels of decarbonisation effort through carbon pricing and climate regulation. Carbon leakage can undermine efforts to reduce global emissions and curtail private investment in decarbonisation, thereby compromising the goal of limiting global warming to 1.5°C. By reducing trade barriers, an FTA could facilitate higher levels of trade in sectors where there is a risk of carbon leakage. This is because climate mitigation policies could differ between the UK and India in the future. The UK has pledged to reach Net Zero emissions by 2050 and India by 2070.

Section 8.3 sets out the overall global emissions impact. The extent to which any associated increases in emissions may be attributable to carbon leakage versus increased economic output (scale effect) remains uncertain, as carbon pricing is not considered in the modelling. In principle, the FTA could exacerbate carbon leakage risks for sectors which are more emission intensive in India, experience significant reduction in trade barriers because of the FTA, and where Indian producers may directly compete with UK producers.

The modelling suggests that the FTA is expected to lead to the largest increase in UK imports from India in the textiles, apparel, and leather sector, with an estimated rise of £2.9 billion over the long term. This increase is driven by tariff and NTM liberalisation. While most of this increase, around 82%, is expected to substitute imports from other countries, there are estimated minor reductions in the UK's textiles sector output and increases in production in the same sector in India. The $CO_2$ emissions intensity of Indian exports in this sector is 578 tonnes of $CO_2$ equivalent ($tCO_2e$) per USD million, significantly higher than the UK's 134 $tCO_2e$ per USD million.[159] Although the 2025 UK Emissions Trading Scheme (ETS) review found the textile sector to have a lower carbon leakage risk than more emissions-intensive sectors like heavy manufacturing, future risks may increase as the UK moves towards its Net Zero

[158] Of all the Modes for Services trade Mode 4 is the most significant in terms of actual passenger travel and likely to be the main driver of transport emissions. According to experimental data, Mode 4 trade made up around 11% of cross-border services trade (excluding Investment) with India in 2019.
[159] OECD (2021) Emissions embedded in International Trade. The analysis also compares the model estimated emissions intensities in the textile, apparel and leather sector between the UK and India. On average, production in this sector is more emissions intensive in India compared to the UK.

target.[160] In addition, modelling results indicate that not all products in the affected sectors will be impacted equally, with finished textile goods such as wearing apparel and made-up textile articles being the most impacted. These products are likely to be exposed to carbon leakage risks if UK production directly competes with imports.[161]

The manufacturing n.e.c sector is estimated to see an increase in UK imports from India by £418 million due to the FTA. This sector is estimated to experience slight reductions in its output in the UK. Given the diverse range of products within this sector, which includes various light manufactured goods such as medical devices, assessing the carbon leakage risk is challenging.[162] While certain products in this sector are not currently considered at risk of carbon leakage, future carbon leakage risks could increase as the UK introduces climate policies to meet Net Zero targets.

Given the differences in Net Zero targets between the UK and India, the extent of carbon leakage risk will depend on how environmental policies in both countries develop over the coming decades, as well as external factors like technological change. In addition, assessing the extent to which land use change could lead to carbon leakage remains challenging due to the lack of granular data on emissions from land use change and deforestation, and the degree of substitutability between similar products grown in different climates. This is particularly difficult in sectors such as agriculture, where substitution effects are influenced by climate, geography, and the potential for land to be used for alternative purposes.

## 8.6 Opportunities for increased trade in environmental goods

Environmental goods refer to products with an environmental end use or benefit. Increased trade in environmental goods and services can promote the adoption of more sustainable production practices, contributing to positive environmental and climate outcomes. There is no internationally agreed definition for environmental goods. This IA follows the OECD's approach in using the Combined List of Environmental Goods. The UK currently imposes tariffs on imports from India on 66 8-digit tariff lines classified as environmental goods, covering £67 million (0.6%) of UK goods imports from India in 2022. These tariffs will no longer apply, creating an opportunity for more competitive imports of these goods into the UK. Similarly, tariffs will be removed or reduced on UK exports to India, including on 585 8-digit tariff lines classified as environmental goods, covering £577 million (7.0%) of India's goods imports from the UK in 2022 such as electric cars and goods used in offshore wind. India's MFN schedule has 597 environmental goods tariff lines which charge a tariff, averaging 12% and reaching over 100%.[163] The agreement includes a commitment to endeavour to facilitate trade in environmental goods and services. It is difficult to quantitatively assess the impacts of liberalisation on environmental and climate outcomes, although the role of environmental goods and services in facilitating transitions to Net Zero is recognised internationally.

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[160] Sector level carbon leakage risk is assessed using trade intensity and emissions intensity. The technical note of the 2025 UK ETS review assessed the carbon leakage risk of a total of 81 manufacturing sectors at SIC 4-digit level. Only one sector, 13.10 Finishing of textiles, is related to textile and the carbon leakage indicator for SIC13.10 is estimated to be 0.08, below the carbon leakage risk threshold of 0.14. Please note that only certain parts of the textile, wearing apparel, and leather sector are included in the ETS, and are covered under the textile sector classification. https://www.gov.uk/government/consultations/uk-emissions-trading-scheme-free-allocation-review

[161] Two UK producers in the textile sector are covered by UK ETS in 2025. Public information on these companies indicates their main products are synthetic textiles and fibres.

162 The manufacturing n.e.c sector encompasses a diverse range of products, which are classified under various HS codes. For example, medical devices are included under: HS 30 Pharmaceutical Products, and HS 90 Optical, Photographic, Cinematographic, Measuring, Checking, Precision, Medical or Surgical Instruments and Apparatus, Clocks and Watches, Musical Instruments, Parts and Accessories Thereof.

[163] OECD, Environmental Goods List, 2019

## 8.7 Impacts on natural capital and nature loss

Increased economic activity, as well as increased production or trade can be associated with other environmental issues beyond GHG emissions. The evidence below examines the GVA changes for the sectors with the strongest link to natural capital and considers the existing damage to that area of natural capital in both the UK and India. The methodology used is described in more detail as part of Annex 11. However, CGE models mainly capture macroeconomic effects and may not fully reflect agricultural dynamics, natural capital, or rural policy impacts. This is because they make assumptions such as assuming land use is fixed. This could lead to less accurate representations of agricultural growth compared to more nuanced or granular models.

### UK air quality

The UK ranks highly (19th out of 180 countries) on air quality according to the Environmental Performance Index (EPI).[164] This measures the impact of air quality on human health in each country and considers seven indicators which are anthropic PM2.5 exposure, household solid fuels, ozone exposure, nitrogen oxides exposure, sulphur dioxide exposure, carbon monoxide exposure, and volatile organic compound exposure. The UK's GHG emissions intensity (the number of emissions produced per unit of output) was significantly below the global median (0.11 $ktCO_2e$ per $ million compared to 0.62 $ktCO_2e$ per $ million).[165]

The sectors with strong links to impacts on air quality in the UK have been determined using 2019 emissions intensities from the GTAP Centre's environmental model (GTAP-E). [166] This is at best a proxy, given that air quality is often closely linked to broader pollutants rather than $CO_2$ emissions. However, as there is not a comprehensive mapping between pollutants and the GTAP sectors, this represents the best option for defining the most closely linked sectors. As detailed in Table 14, when looking at the five sectors with the strongest links to air quality combined, there's an overall increase in UK GVA expected because of the FTA.

Table 14: UK GVA increases in sectors most closely linked to air quality

| Sector | UK GVA increase (%) |
|---|---|
| Energy | 0.11% |
| Other services (transport, water, dwellings) | 0.16% |
| Minerals, ferrous metals and wood products | 0.10% |
| Agriculture and forestry | -0.02% |
| Beverages and tobacco products | 1.48% |
| Average across the five sectors above[167] | 0.16% |

Source: DBT CGE modelling. The average here is weighted by baseline (and so assumes there is no FTA) GVA in each of the five sectors

In the UK, 'energy' has been identified as the most emissions-intensive sector and so is important to consider in evaluating the impacts on air quality. The increase in GVA for the sector is primarily driven by an expansion in gas manufacture and distribution, and electricity. However, the FTA does not directly liberalise trade in the energy sector. Instead, the sector expands in response to greater demand from households and other businesses. The beverages and tobacco sector sees the largest increase in GVA. However, as the sector is

[164] Air Quality, Environmental Performance Index, 2024
[165] Total Greenhouse Gas Emissions excluding LULUCF, 2023, IMF World Economic Outlook, April 2025, GDP in USD Current Prices 2023, NB ktCO2e per $ million is kiloton of carbon dioxide equivalent per million dollars.
[166] Top 5 strongest link sectors for air quality were determined using data from GTAP 12p1 .
[167] Average weighted by baseline (for example with no FTA) GVA in each of the five sectors.

considerably smaller than the others, it contributes relatively little to the weighted average increase.

While the analysis does not take into account potential future policy, the UK has taken steps to mitigate against any unforeseen risks to air quality in the future, by implementing a mix of regulatory frameworks, encouraging investment in cleaner processes and a shift towards cleaner forms of energy to tackle air pollution, for example ending the use of unabated coal-fire electricity generation in 2024.[168, 169] The UK has also developed a Clean Power 2030 Action Plan to map out where it can go further in this area in future.

As such, while sectors most closely linked to air quality do see an overall increase in output due to the FTA, potentially posing a risk, this should be viewed in the context of the UK's high existing performance when it comes to air quality along with the wider mitigation policies in place.

### India air quality

Air quality is a significant area of concern in India. The EPI shows that India ranks 177th among 180 countries in terms of air quality.[170] India's greenhouse gas emissions intensity was also significantly above the global median (1.14kt$CO_2$e per $ million compared to world average of 0.62kt$CO_2$e per $ million).[171]

The sectors with strong links to impacts on air quality in India have been determined using 2019 emissions intensities from the GTAP Centre's environmental model (GTAP-E). This is once again a proxy and subject to the limitations described above. Table 15 illustrates that when looking at the five sectors with the strongest links to air quality combined, there is no overall increase in Indian GVA expected because of the FTA.

Table 15: India GVA increases in sectors most closely linked to air quality

| Sector | India GVA increase (%) |
|---|---|
| Minerals, ferrous metals and wood products | -0.07% |
| Energy | -0.06% |
| Other services (transport, water, dwellings) | 0.09% |
| Paper and printing products | -0.17% |
| Agriculture, forestry and fishing | 0.01% |
| Average across the five sectors above | 0.00% |

Source: DBT CGE modelling. The average here is weighted by baseline (and so assumes there is no FTA) GVA in each of the five sectors

As such, while there is evidence that the existing level of air quality in India is poor, the modelling suggests there could be no overall increase in output when looking across the five Indian sectors most closely linked to air quality, and therefore the UK-India FTA is not expected to increase air quality challenges in India.

### UK's water quality and use

The UK has high water quality and sanitation compared to the global average, ranking joint 1st out of 180 countries in the EPI for sanitation and drinking water.[172] The UK was significantly

[168] Department for Environment, Food & Rural Affairs, Air quality factsheet, 2021.
[169] Department for Business, Energy & Industrial Strategy, Net Zero Strategy: Build Back Greener, 2021.
[170] Air Quality, Environmental Performance Index, 2024
[171] Total Greenhouse Gas Emissions excluding LULUCF, 2023, World Bank Databank, GDP in USD Current Prices 2023, IMF World Economic Outlook, April 2025
[172] Water Quality, Environmental Performance Index, 2024. Joint first with Switzerland, Germany and Finland.

above the global median for water-use efficiency[173] with around $340 of economic value added per cubic meter of water used compared to the global median of $15.[174]

The sectors with strong links to impacts on water quality and water-use have been determined using a combination of data from AQUASTAT database and DBT analyst desk research. [175] Table 16 illustrates the UK GVA increases expected because of UK-India FTA for the five sectors most closely linked to water quality and use. Overall, UK GVA across the sectors is expected to see a modest increase.

Table 16: UK GVA increases in sectors most closely linked to water quality and use

| Sector | UK GVA increase (%) |
|---|---|
| Agriculture, forestry and fishing | -0.02% |
| Energy | 0.11% |
| Textiles and wearing apparel | -0.68% |
| Chemical, rubber and plastic products | 0.29% |
| Minerals, ferrous metals and wood products | 0.10% |
| Average across the five sectors above | 0.07% |

Source: DBT CGE modelling. The average here is weighted by baseline (and so assumes there is no FTA) GVA in each of the five sectors

Moreover, while the modelling does not account for future policy developments, the UK has also committed to improving water use and quality in the 25 Year Environment Plan, which may help to mitigate any potential impacts.

As such, there is an overall increase in UK GVA across the sectors most closely linked to water quality and use, potentially posing a risk due to the FTA. However, this should be viewed in the context of the comparatively good baseline performance of water quality in the UK.

### India's water quality and use

Water quality and use is an area of concern in India. The EPI shows that in terms of water quality, India ranks 143rd among 180 countries for sanitation and drinking water.[176] India's water-use efficiency was also significantly below the global median. It had water-use efficiency at $3 of economic value added per cubic meter of water used compared to the global median of $15.[177]

The sectors with strongest links to impacts on water quality and water-use have been determined using a combination of data from AQUASTAT database and DBT analyst desk research. Table 17 illustrates the Indian GVA increases expected because of the UK-India FTA for the five sectors most closely linked to water quality and use. Overall Indian GVA across these sectors is expected to see a modest increase.

[173] The amount of economic value added in US dollars per cubic meter of water used by a given economic activity over time.
[174] Water Use Efficiency 2022 Data, AQUASTAT, United Nations
[175] Top 5 strongest link sectors for water quality and water use were determined using data from UN water development report, Aquastat data, World bank freshwater usage data and CDP water watch. AQUASTAT data is collected by the United Nations, Food and Agriculture Organisation (FAO).
[176] Sanitation and Drinking Water, Environmental Performance Index, 2024
[177] Water Use Efficiency 2022 Data, AQUASTAT, United Nations

Table 17: India GVA increases in sectors most closely linked to water quality and use

| Sector | India GVA Increase (%) | Ranked importance on water quality |
|---|---|---|
| Agriculture, forestry and fishing | 0.01% | 1 |
| Energy | -0.02% | 2 |
| Textiles and wearing apparel | 1.22% | 3 |
| Chemical, rubber and plastic products | -0.09% | 4 |
| Minerals, ferrous metals and wood products | -0.07% | 5 |
| Average across the five sectors above | 0.06% | |

Source: DBT CGE modelling. The average here is weighted by baseline (and so assumes there is no FTA) GVA in each of the five sectors

Three of the five sectors most closely linked to water quality and use see a decline in GVA in India due to the FTA. However, the large size of India's agriculture, forestry, and fishing sector—combined with strong GVA growth in textiles and apparel—results in a modest overall GVA increase across the five sectors. To mitigate against this threat, India has policies and regulations which help protect against water scarcity and water pollution such as the National Water Policy 2002 and the National Action Plan on Climate Change 2008.[178] India also mandates sustainability reporting for large companies through its Business Responsibility & Sustainability Reporting scheme which helps compliance with water pollution standards.[179]

In conclusion, the sectors most closely associated with water quality and use issues are expected to see a marginal increase in output because of the FTA this should be seen in the context of India's relatively low existing performance on water quality and use, which may mean the FTA exacerbates existing concerns.

### Marine habitats and fisheries

The EPI ranks the sustainability of the UK's fisheries 114th out of 141 countries. By comparison, India is ranked lower at 116th out of 141 countries.[180]

The UK is estimated to see a -0.02% GVA change in the agriculture, forestry and fishing sector and a 0.02% change in the other processed foods sector, which contains fish products. GVA in the agriculture, forestry and fishing sector in India is estimated to rise by 0.01% following the UK-India FTA and the other processed foods sector is estimated to see a small increase in GVA of 0.06%.

Although these increases are insignificant, there is evidence that the existing level of sustainability in fisheries in both countries is low compared to global standards. As such, whilst there is not a notable threat to marine habitats and fisheries because of the UK-India FTA, the future sustainability of marine habitats and fisheries is an area of concern for both countries.

For wider context, to mitigate against any future threat not accounted for, both the UK and India are signatories to the MARPOL convention and share ambitions for improving marine habitats and supporting sustainable fishing practices. This is recognised under the environment chapter of the FTA where the UK and India commit to cooperate with regards to the marine environment and fisheries.[181, 182]

[178] Future policy development is not considered as part of the modelling, and these mitigations are only discussed for broader context on the direction of travel of natural capital components.
[179] New Environmental Laws in India - Enhesa, January 2022.
[180] Fisheries, Environmental Performance Index, 2024
[181] International Convention for the Prevention of Pollution from Ships.
[182] UN IMO, Status of IMO Treaties, 2020.

## Land use and deforestation

Yale University's EPI ranked India higher (less tree-loss) than the UK for tree cover loss, in 48th place out of 161 countries, while the UK ranked 81st (more tree-loss).[183]

The main drivers of deforestation in the UK and India are the agriculture, forestry and fishing and semi-processed foods sectors.[184] In the UK, GVA in the agriculture, forestry and fishing sector is estimated to contract by 0.02% and GVA in semi-processed foods is expected to contract by 0.07%. GVA in the semi-processed foods sector in India is also estimated to decrease by -0.06%, while the agriculture, forestry and fishing sector is estimated to see a marginal increase of 0.01%.

There are no significant changes in the sectors most closely linked to land use and deforestation. The evidence suggests that the existing level of threat to land-use and deforestation in both countries is low-to-moderate. Therefore, there is no significant evidence to suggest that the UK-India FTA could result in a greater threat to land use and deforestation, although it is important to note the limitations of CGE models in this regard as highlighted at the start of this section.

## Waste management

Yale University's EPI ranked the UK as 10th out of 180 countries for waste management (waste treated to reduce environmental risks and waste recycled), India is ranked as 86th out of 180 countries.[185]

In both the UK and India, the following sectors are the most prominent sources of waste generation: construction, minerals, ferrous metals and wood products and chemical, rubber and plastic products.[186]

The modelling results estimate that in the UK, the FTA leads to a relatively small increase in GVA in these sectors: minerals, ferrous metals and wood products (0.10%), construction (0.15%) and chemical, rubber and plastic products (0.29%). When considering India, GVA in the construction sector is estimated to expand (0.13%). The other sectors (chemical, rubber and plastic products and minerals, ferrous metals and wood products) are estimated to decrease, against a baseline of no FTA.

The UK GVA increases for the sectors most prominently associated with waste generation suggest that there may be a risk to waste management because of the FTA. However, this should be viewed in the context of the UK's strong current position on waste management. This risk to India from the FTA is more mixed given the expansions and contractions of different sectors.

Under the environment chapter of the FTA, the UK and India have agreed to endeavour to avoid the generation of waste and to reduce the amount of waste sent to landfill. They recognise the importance of transitioning towards a resource efficient and circular economy through measures such as extending product life cycles, sustainable product design, increasing re-use and recycling and reducing waste.

## Biodiversity and ecosystems

The ecosystem vitality policy objective is a component of the Environmental Performance Index which measures how well countries are preserving, protecting, and enhancing ecosystems and the services they provide. The UK ranks 11th for this objective and India ranks

[183] Tree cover loss weighted by permanency, Environmental Performance Index, 2024
[184] JNCC, Environmental Dashboard, 2022.FAO, Remote Sensing Survey, 2021.
[185] Waste Management, Environmental Performance Index, 2024
[186] Waste Generation Factors and Waste Minimisation in Construction, Alotaibi, S. Martinez-Vazquez, P. Baniotopoulos, C. 2024

171st.[187] Within the ecosystem vitality policy objective is a ranking for biodiversity and habitat. This assesses countries' actions toward retaining natural ecosystems and protecting the full range of biodiversity within their borders. The UK ranks 15th out of 180 countries and India ranks 178th.[188]

CGE modelling suggests that GVA in the agriculture, forestry and fishing sectors – a major driver of biodiversity loss due to land-use change - is estimated to decrease in the UK (-0.02%) relative to a baseline of no agreement and increases by 0.01% in India.[189] GVA in the semi-processed foods sector, which indirectly contributes to biodiversity loss, is estimated to contract in both the UK and India.

For wider context, there are no significant changes in the sectors most closely linked to biodiversity and ecosystems. Therefore, there is not significant evidence to suggest that the UK-India FTA will result in a greater threat in the UK. The existing threat to biodiversity and ecosystems in India is much greater so whilst it is not evident that the UK-India FTA will directly increase this threat, it is still an area of concern for India.

The UK and India are signatories to multilateral environment agreements to protect biodiversity such as the Convention on Biological Diversity and the Convention on Trade in Endangered Species of Wild Fauna and Flora.[190]

[187] Ecosystem Vitality, Environmental Performance Index, 2024
[188] Biodiversity, Environmental Performance Index, 2024
[189] WWF, Deforestation Fronts Drivers and Responses in a Changing World, 2021.
[190] Convention on Biological Diversity.

# Section 9: Analysis caveats, uncertainty and sensitivity analysis

Many of the modelled results throughout this IA are presented for clarity as central point estimates. However, the ex-ante CGE modelling is not a forecast, and the modelling results should not be interpreted as precise estimates or forecasts of what will happen; rather, it represents an indication of the broad directions and scale of the expected impacts. The section highlights that:

- while the CGE modelling provides insights on the expected orders of magnitude of the economic impacts, it does not capture all possible factors affecting the future trading relationship between the UK and India. This is because it estimates, within the simplified and stylised model framework, the marginal economic impacts of the agreement, compared to a counterfactual of no agreement. It holds all other factors affecting both the UK and Indian economies and the UK - India economic relationship constant.

- when testing key modelling inputs, in 90% of simulations, the modelled increase in UK GDP ranged between 0.11% and 0.14%. This is equivalent to between £4.2 billion and £5.4 billion when applied to 2040 UK GDP projections

- changes in the underlying economic forecasts of the UK and Indian economies, along with any changes to their sectoral compositions may affect the £ and % benefits of the UK-India FTA. This section provides some illustrative analysis on the extent of such changes. For instance, it shows a minimal change in the sectoral composition of UK GVA but a more substantial change in the composition of UK-India trade, particularly when looking at services

- beyond these sensitivities, there are many geopolitical and structural trends, and possible policy changes that are not captured in the modelling but could affect the UK, Indian and global economy. Subsequently, these changes are likely to affect the eventual long-run impacts of the agreement. For example, recent changes in the United States (US) global tariff policies have not been factored into the modelling of the UK-India FTA due to the level of uncertainty regarding their scope and implementation. These are also assessed qualitatively

## 9.1 Modelling caveats

Modelling underpinning this assessment is based on a stylised representation of the global economic system grounded in microeconomic theory. No economic model can fully capture the complexity of the real world and country-specific behaviours, nor the full range of impacts that might result from a trade agreement.

Modelling the impacts of an FTA is particularly challenging when it involves a dynamic economy such as India. Inherent within the modelling is a specific set of relationships between sectors in both the UK and India and their economies in aggregate. If these were to change over time this would affect the impact of the FTA. This section explores some of the key uncertainties associated with the modelling and how they might impact the headline results presented. For a more detailed discussion of the modelling structure, assumptions and the caveats, please refer to Chapter 1.1 in the Technical Annex.

## 9.2 General equilibrium modelling: Monte-Carlo sensitivity analysis

Monte Carlo analysis can be used to test the sensitivity of the modelling results to variations in the model parameters, assumptions used, and input values. Monte Carlo analysis enables the testing of a wide range of scenarios and can capture interactions between inputs and outputs which other sensitivity methods are unable to capture. However, it assumes that the model structure is correct (and does not reflect uncertainty around the model equations or assumptions), and it does not address potential biases or inaccuracies in the underlying data.

The CGE model is simulated 500 times, using values of the uncertain variables (effective tariffs, NTM reductions, NTM ratio of rent to deadweight and Armington elasticities) drawn at random from the relevant distributions to produce a range for the key results. The details of the Monte Carlo analysis are covered in Annex 5.

Table 18 summarises the modelled results for the change in UK GDP, changes in bilateral and total trade between UK and India, and real wages. This exercise shows that in 90% of simulations:

- the increase in UK GDP ranged between 0.11% and 0.14%, which is equivalent to between £4.2 billion and £5.4 billion when applied to 2040 UK GDP projections
- the increase in UK exports to India ranged between 47.0% and 73.5%, which is equivalent to between £12.4 billion and £19.4 billion when applied to 2040 trade flow projections
- the increase in UK imports from India ranged between 19.6% and 31.0%, which is equivalent to between £7.7 billion and £12.2 billion when applied to 2040 trade flow projections
- the increase in total trade between the UK and India ranged between 29.1% and 43.2%, which is equivalent to between £19.2bn and £28.4bn when applied to 2040 trade flow projections
- the increase in UK wages ranged from 0.17% and 0.22% - which is equivalent to a £2 billion and £2.5 billion increase when applied to 2024 data

Table 18: Ranges based on the Monte Carlo sensitivity analysis

| Impact | Percentage change from the baseline | | £bn change, applied to 2040 projections | |
|---|---|---|---|---|
| | 5th Percentile | 95th Percentile | 5th Percentile | 95th Percentile |
| Change in UK GDP | 0.11% | 0.14% | £4.2bn | £5.4bn |
| Change in UK exports to India | 47.0% | 73.5% | £12.4bn | £19.4bn |
| Change in UK imports from India | 19.6% | 31.0% | £7.7bn | £12.2bn |
| Change in total trade between the UK and India | 29.1% | 43.2% | £19.2bn | £28.4bn |
| | Percentage change from the baseline | | £bn change compared with 2024 data (in 2024 prices) | |
| | 5th Percentile | 95th Percentile | 5th Percentile | 95th Percentile |
| Change in UK real wages | 0.17% | 0.22% | £2.0bn | £2.5bn |

Source: DBT Modelling

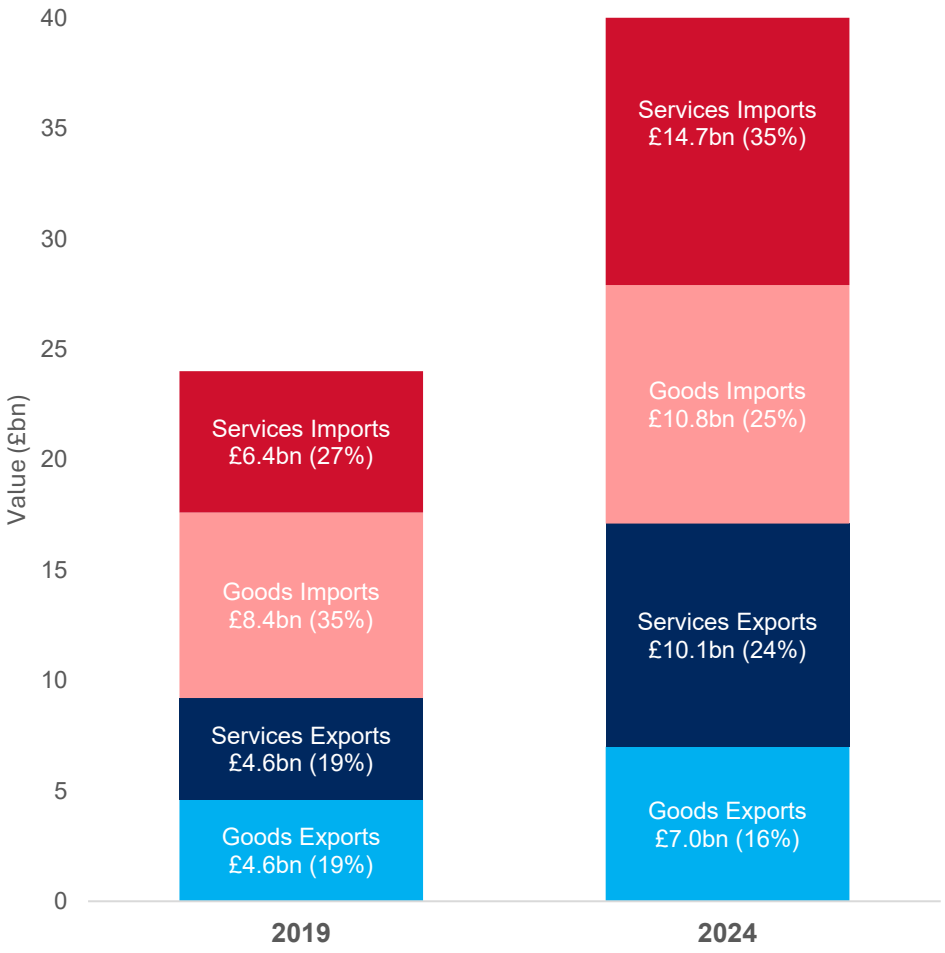
## 9.3 Uncertainty about the future structure of the Indian economy

The modelled estimates presented throughout this IA are an estimate of the additional benefits to the UK and India from the UK-India trade agreement. While the modelling represents the best approximation of the impacts, the results may not fully reflect the agreement's potential £ impacts, especially if the UK and Indian economies have diverged from baseline assumptions. The sections below explore these potential impacts.

**Uncertainty around the economic growth of the Indian economy**

According to ONS data, between 2019-24, total bilateral trade almost doubled between the UK and India, as shown in Figure 5.[191] This occurred during a period in which there were multiple shocks to the global economy, affecting trade patterns for the UK and others. As a result, India's share of the UK's imports and exports has grown significantly in recent years, from around 2.2% in 2019 to 3.0% in 2024.[192] Estimates from the Global Trade Outlook, expect this to increase slightly further, to 3.1% by 2040.[193]

Figure 5: Comparing the composition of UK-India bilateral trade, 2019 and 2024




Source: ONS, Total Trade All Countries, Seasonally Adjusted, current prices, £m, April 2025. The chart uses UK reported data, so exports refer to UK exports to India

[191] ONS, UK total trade: all countries seasonally adjusted data, April 2025

[192] Based on ONS UK Total Trade dataset, October to December 2024 edition. Calculated as the value of UK imports and exports with India divided by the value of total UK imports and exports.

[193] Global trade outlook: June 2025 report - GOV.UK. These estimates are not directly comparable to the ONS figures for India's share of UK exports

Additionally, except for the 2019 and 2020 Covid-19 pandemic years, the Indian economy consistently grew faster than the global average over this period. Its average annual growth rate in real GDP was 5.0% between 2019 and 2024 compared to 2.8% globally. It is expected to continue this trajectory into the near future.[194]

Consequently, any movements in the long-term forecasts of Indian GDP, or UK-India bilateral trade, will have an impact on the £ value benefits discussed throughout this IA. For example, the main analysis estimates a long-term £25.5bn increase in bilateral trade between the UK and India because of the FTA. This is based on the 2023 version of the Global Trade Outlook, which was the latest available at the time of modelling. However, a subsequent 2025 version of the GTO has since been published with an updated set of forecasts. The updated GTO projects stronger growth in Indian GDP and import demand up to 2040. Applying the FTA bilateral export and import increase figures to the updated projections provides an estimate of long-term increase in UK-India bilateral trade of £31.3bn.[195] As such, changes to the baseline forecasts will have an impact on the £ benefits of the FTA.

The future growth of the Indian economy could influence the estimated GDP impact of the UK-India Free Trade Agreement (FTA). This is because the original estimates - such as the projected 0.13% long-term boost to UK GDP - are based on the global economic structure from 2017-2019. If India's economy grows faster than average and its share of UK trade increases, the benefits of the FTA could be greater than originally modelled. This is especially true if the sectors that benefit most from the FTA also grow in relative importance. As a result, the actual increase in UK GDP - both in percentage and £ terms - could exceed current estimates. Given India's strong growth outlook, it is possible that the headline macroeconomic benefits presented in this IA are underestimated.

**Uncertainty around the composition of the UK and Indian economies**

Figure 5 also demonstrates that the composition of UK-India trade changed between 2019 and 2024, with the import and export of services making up a larger proportion of bilateral trade by the end of the period (59% in 2024 compared to 46% in 2019, in current prices).

As discussed, in Section 4, the impacts of the FTA can vary significantly between sectors. As such, in addition to the scale effects discussed above, the overall impact of the FTA depends on how the composition of the UK and Indian economies change over time. If UK-India bilateral trade became increasingly concentrated in the products and sectors which benefit the most from the FTA, then this could in turn increase the headline macroeconomic impacts (which are ultimately weighted averages across sectors). The reverse would be true if trade was increasingly concentrated in sectors which benefit less from the FTA.

Reliable sectoral forecasts of changes to trade composition are difficult to produce. They require firm assumptions about changes in comparative advantage for the UK and Indian economies, in addition to other countries with whom they trade. However, it is possible to explore how the composition of UK-India bilateral trade has changed between the baseline years of the CGE modelling (2017 for services, 2019 for goods) and 2024.[196] Table 19 illustrates how the share of UK exports to India by sector has changed between these years.

[194] IMF, World Economic Outlook Report, April 2025, pages 129 and 131

[195] Real bilateral trade data is not available as part of the 2025 GTO dataset. As a result, the approach used is to first estimate the proportion of UK nominal imports and exports which is attributed to India. This proportion is then applied to the UK's overall real (2024 prices) import and export forecasts, to estimate 2040 trade flows under the baseline.

[196] This is done using HMRC trade in goods and ONS trade in services data for UK exports to India in 2017, 2019 and 2024. This is then combined with a mapping between commodity codes and GTAP-65 sectors as produced by the GTAP centre, along with DBT desk research on services.

Table 19: Change in share of UK exports to India attributed to each GTAP-23 sector

| GTAP-23 Sector | Percentage point (pp) change in the share of UK exports to India attributed to sector between CGE baseline year and 2024 |
|---|---|
| Agriculture, forestry, and fishing | 0.0 |
| Energy | -0.2 |
| Semi-processed foods | 0.0 |
| Other processed foods | 0.0 |
| Beverages and tobacco products | -0.4 |
| Textiles, apparel and leather | -0.1 |
| Minerals, ferrous metals and wood products | -3.2 |
| Paper and printing products | -0.3 |
| Chemical, rubber, plastic products | -1.2 |
| Manufacture of electronic equipment | -1.0 |
| Manufacture of machinery and equipment n.e.c | -1.8 |
| Manufacture of motor vehicles | -0.3 |
| Manufacture of other transport equipment | -1.0 |
| Manufacturing n.e.c | -0.3 |
| Other services (transport, water, dwellings) | -0.4 |
| Construction | -0.1 |
| Wholesale and retail trade | 11.4 |
| Communications | -0.2 |
| Financial services | -1.8 |
| Insurance | -0.5 |
| Business services | 1.4 |
| Personal services | 2.6 |
| Public services | -2.6 |

Source: HMRC trade data accessed through UKTradeInfo. GTAP centre mapping of HS6 codes to GTAP-65 sector.

The results show some variation in the composition of UK exports to India. 21 out of the 23 sectors see a change in their share of exports that is less than 3 percentage points. The two exceptions are the minerals, ferrous metals and wood products sector and the wholesale and retail trade sector. These see changes in their exports of -3.2 percentage points and 11.4 percentage points (primarily driven by an increase in accommodation and food services) respectively.

Similarly, it's possible to consider the extent to which the sectoral composition of UK GVA changed between 2019 and 2022.[197] Significant changes to the composition may mean lower or higher benefits from the UK-India FTA depending on the extent to which the fastest growing sectors benefit from the agreement. The analysis shows that between these years there were limited changes to sectoral composition. Across the 104 sectors in the data, the average change in the share of GVA attributed to a given sector was less than 0.1 percentage point. The largest change was 0.7 percentage points for the extraction of crude petroleum, natural gas and mining of metal ores sector.

These shifts in sectoral composition highlight the kinds of changes that could affect the headline benefits of the UK-India FTA if the analysis were based on a hypothetical 2024 GTAP

[197] Analysis based on GVA figures from ONS supply-use tables, where 2022 is the latest year of data available.

dataset. Such a dataset would require updated estimates of the UK, India and all other economies in the model, in addition to their interactions. This currently isn't available and means it is challenging to draw firm conclusions about the potential scale and significance of these compositional changes.

Moreover, the long-run impacts of the FTA will depend on both changes in sectoral composition between the CGE baseline years and today, and future changes in composition. Modelling such changes would be extremely challenging and would require long-term detailed sectoral growth GVA and trade forecasts (again for all economies in the model simultaneously). This is why the GTAP dataset is only provided with significant time lags. As such, producing any further informed scenario analysis, is tricky and this analysis only provides a qualitative discussion of the mechanisms through which changing sectoral compositions may impact the benefits of the UK-India FTA.

## 9.4 Discussion on the impacts of exogenous factors

In addition to the factors discussed in Section 9.3, there are several other short-term (for example, higher inflation or global conflict) and long-term trends and shocks which may impact the benefits presented (including climate change, future pandemics or technological developments).

### Short-term uncertainties

**Conflicts** - The modelling assumes that the world readjusts to previous patterns of trade and therefore does not include impacts of conflict. It also does not account for a long-term continuation or implementation of sanctions on third countries and their impacts.

**High rates of inflation** - If nominal wages do not grow in line with inflation, this reduces the take home pay (and real wages) for workers. This means they have lower purchasing power – ultimately reducing demand for imports. This could affect UK demand for imports from India and Indian demand for UK imports.

Persistent high UK inflation could also affect the competitiveness of UK companies exports. Relative inflation in India and the UK might affect the impact of the agreement, with the overall effect depending on how sectors respond. If the response affects the sectoral composition of both economies, then inflation might affect the economic reaction to the opportunities provided by the agreement. Furthermore, if inflation is persistently higher, it would affect the £ value equivalent estimates of the CGE modelling results.

**A recession in the short-term** - Academic research has highlighted that world trade growth slows by two percentage points for every one percentage point fall in world GDP.[198] However, trade typically rebounds strongly after a global downturn. The modelling captures long-run impacts and therefore does not account for the short-run implications of a recession. It is also a static model and does not consider potential dynamic changes to the economy in the long run.

**US global tariff policies** - The US government announced an increase in global tariffs with all major trading partners in April 2025. At the time of writing this IA, the UK is negotiating the EPD with the US. US trade negotiations with other partner countries also continue. As such, these have not been captured by this modelling.

The fabric of international trade across countries is highly interlinked. The economic impacts of a UK-India FTA, as set out in the IA, may be affected by the UK-US EPD. There could be trade diversion and reallocation effects in the long run once businesses adjust to new trading

[198] Economic Observatory, What happens to trade in a global downturn?, 2020, released 20th May 2020.

rules within these agreements. Due to the uncertainty associated with tariff announcements made by the US and other countries, these are not reflected within the baseline.

### Long-term uncertainties

**Climate change and Net Zero** - whilst there is significant uncertainty around the economic effects of climate change and achieving Net Zero, the impacts are likely to be large. It could affect the size of the UK economy, and those of its partners. For example, estimates published as part of the Climate Change Committee's 7th carbon budget suggest that the economic cost of climate change to the UK could be between 2% and 8% of GDP by 2050, depending on the degree of warming.[199] This could occur through mechanisms such as deterioration of soil health and agricultural productivity, water availability and energy supply. The Committee on Climate Change's (CCC) latest estimates put the net cost of achieving a balanced pathway to Net Zero at around 0.2% of annual GDP expected through 2025 to 2050.[200]

**India climate vulnerability** - India may be particularly vulnerable to extreme weather events, which can raise the cost of trade by destroying or degrading transport infrastructure and reducing agricultural production.[201] If these risks materialised, it would mean that the modelling results may overstate the true impacts of a UK-India FTA. Studies suggest the impact of climate change on agricultural productivity, negative health outcomes, and rising sea levels may have significant costs for the Indian economy, with determinantal consequences to poverty rates.[202]

**Industrial structure** - Economic development could significantly reshape the economic structure of India's economy, which would change the nature of India's trading relationship with the UK. The extent of this change would depend on several factors including the speed of urbanisation and the evolution of India's income distribution. India's urban population is projected to grow by 416 million between 2018 and 2050.[203] Urbanisation is linked to higher productivity and higher living standards as cities offer economies of scale, agglomeration benefits and act as hubs for trade. The size of India's high income consumer base is projected to grow significantly, which could bolster demand for UK exports of services and high-end goods. However, the extent of this increase depends on how growth is distributed among different income groups. Rising urbanisation rates are expected to continue to provide a tailwind to economic growth in the decades ahead. These uncertainties around the trajectories of India's industrial structure mean that CGE modelling results might underestimate or overestimate the true impacts of the agreement on the UK and India.

**Globalisation and protectionism** - Future multilateral trade agreements through the WTO (or other international organisations) could reduce trade costs and increase the integration of global supply chains. The effects on this on the potential impacts of the UK-India agreement are uncertain. It could stimulate additional trade in value chains that stretch across both the UK, India and third countries. It could reduce the impact where these alternate agreements prove more attractive than the UK-India agreement and therefore dampen its long-term effects. Any additional fragmentation or geopolitical tensions which undermine the stability of the global trading system could have the opposite effects, with the net impact on the value of the UK-India agreement also being uncertain.

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[199] The Seventh Carbon Budget, the Climate Change Committee, February 2025
[200] UK Seventh Carbon Budget, February 2025
[201] University of Notre Dame, Climate adaptation index, 2022
[202] Skoufias, E., Rabassa, M. and Olivieri, S. (2011) The poverty impacts of climate change: a review of the evidence. Policy Research Working Paper 5622. Washington DC: World Bank; Kompas, T., Pham, V. H., & Che, T. N. (2018). The effects of climate change on GDP by country and the global economic gains from complying with the Paris Climate Accord. Earth's Future, 6, 1153– 1173.
[203] United Nations Department of Economic and Social Affairs, World Urbanisation Prospectus, Revised 2018

**Future technology** - Technological improvements could reduce trade costs, improve production practices and create new markets, which may stimulate demand for these goods and services. For example, the motor industry will increasingly see a shift in both how cars work and are built, with a greater focus on digital technology design and software. As new zero-carbon policies and incentives are introduced, this will likely accelerate the adoption of electric vehicles (EVs). Demand for critical metals and minerals are likely to increase to enable these changes. Such developments are crucial to the analysis and as such, the UK-India FTA aims to provide support to the EV sector as well as the traditional motor sector. Further, a more rapid adoption of digital technologies could increase the tradability of services and reduce the role of distance. This may affect the volume and composition of trade captured in the CGE modelling, with greater exports and imports from services sectors.

These and other sources of uncertainty mean that the impacts of the agreement are likely to differ from the central estimates and fall outside of the ranges estimated as part of the sensitivity analysis shown above.

# Section 10: Plans to monitor and evaluate the agreement

Monitoring and evaluation (M&E) activities which monitor the implementation and assess the impact of FTAs are crucial to ensuring that the benefits for businesses and consumers are maximised. They help ensure new trade opportunities created by FTAs are fully grasped and that lessons are learnt which inform the design of the UK's future trade policies.

For this agreement:

- DBT intends to take forward a structured programme of M&E that evolves in line with the availability of data, the maturity of implementation, and the needs of stakeholders. DBT will focus on ensuring that M&E activity is timely, credible, and analytically robust
- DBT will publish a monitoring report for the agreement approximately two years after entry into force. This would provide early insights on implementation progress, initial trends in trade flows and (subject to data availability) the extent to which businesses are using the preferential terms agreed under the FTA
- DBT will publish an ex-post evaluation for the agreement approximately five years after entry into force. This will ensure that any early impacts and emerging outcomes are assessed in a timely and robust manner
- where appropriate, DBT may also publish a follow-up evaluation (for example, approximately ten years after entry into force). This could provide additional insights on longer-term impacts. This would go beyond previous commitments made for past FTAs signed by the UK. To ensure it captures when long-term impacts are most likely to emerge, the exact timing of this follow-up evaluation will be determined based on when such impacts are expected to materialise

The monitoring report will:

- provide an initial analysis of early trade trends between the UK and India and (subject to data availability) measure the utilisation of the agreement
- where possible, discuss the extent to which short-term changes in trade flows can be attributed to the FTA itself rather than wider factors
- provide an overview of the work of the committees established to facilitate co-operation on implementation and to enhance utilisation

The monitoring report (subject to data availability and suitability) will draw on a combination of UK national statistics (for example, trade flows for goods and services, commodity and sector level trends), HMRC trade and regional statistics, international trade data, and customs administrative data. These can provide an early assessment of how the UK-India FTA is being implemented. Where possible, it will also triangulate with qualitative insights from any business surveys and interviews that may be available.

The monitoring report will aim to inform and engage Parliament, the public, and other interested stakeholders about how the agreement is working in practice during its early years. It will help provide insights to DBT on how to maximise the benefits of the agreement for businesses and consumers and it will also help guide the development of the evaluation by identifying priority areas for deeper analysis.

The evaluation report will:

- aim to show how, why and for whom the agreement and its implementation has generated outcomes. It will highlight where and how the agreement has worked well and, if applicable, where and how it has worked less well
- where possible, seek to identify ways to improve the performance of the agreement as well as future ones

- assess the impact and effectiveness of the agreement and its implementation. It will seek to answer a set of detailed evaluation questions across a range of thematic areas. The evaluation report will synthesise these findings to answer three overarching evaluation research questions:
    - to what extent is the agreement being implemented as intended, and how is it contributing to the UK's trade policy objectives and delivering benefits for the UK?
    - how is the agreement being used by UK stakeholders, what factors are influencing its uptake, and what scope exists to improve implementation or increase the realisation of benefits?
    - what early lessons can be drawn from the implementation and emerging impacts of the agreement, to inform the negotiation, design, and delivery of future UK trade agreements?

The evaluation will be proportionate to the agreement's size, content, context, and the expected scope of learning. Proportionality means that DBT's evaluations for some FTAs may not deploy the full range of analytical techniques or deploy them to the same extent as for other FTA evaluations DBT may conduct. This ensures that any follow up evaluation, where undertaken, is proportionate and focused on areas where additional insights can add most value.

For this evaluation, DBT expects to deploy a mixed methods analytical approach that makes best use of the strengths of a range of quantitative and qualitative research methods and analytical techniques. This approach helps to make evaluations comprehensive and helps to generate more insightful and actionable findings. The evaluation will make best use of:

- econometric analysis
- surveys
- qualitative research such as in-depth interviews or focus groups
- deep dives via sector specific case studies

The evaluation is expected to draw from a range of data sources to address the key evaluation questions. These may include (but not limited to):

- ONS Trade Statistics: to examine total trade flows for goods and services and for commodity and sector level trends
- HMRC Overseas Trade Statistics covering imports and exports at a detailed product level
- HMRC regional trade statistics to examine patterns of trade across regions
- preference utilisation of UK goods
- literature reviews to understand academic studies on the impact of the agreement
- Business surveys examining businesses' experience of using the FTA including familiarisation and ongoing costs

The M&E approach will be aligned with the UK Government's broader Trade Strategy and the ongoing monitoring and evaluation of other FTAs. This ensures coherence across the UK's trade policy portfolio, enables comparative learning, and supports consistent, high-quality evidence to inform future trade negotiations and implementation.

# Technical annexes accompanying the impact assessment of the Free Trade Agreement between the United Kingdom of Great Britain and Northern Ireland and India

# Annex 1: Description of models

DBT uses two models to assess the quantitative impact of the trade agreement - the Computable General Equilibrium (CGE) model and the partial equilibrium (PE) model. These are static models which simulate the economic impact that changes in barriers to trade, such as tariff rates, can have. Both types of models simulate a change from an initial equilibrium period, based on historical data, to a new equilibrium once all the impacts of the simulated policy change have worked their way through the model. They do not predict the path of how the economy will move to its new equilibrium. Neither model produces a forecast or projection. Rather they provide a guide to the direction of movement and order of magnitude of possible changes, as well as how sensitive these might be to variations in the policy changes.

## 1.1 Computable General Equilibrium Model

The macroeconomic analysis in this assessment uses a CGE model developed by Purdue University, referred to as a Global Trade Analysis Project (GTAP) model throughout this document.[204] For a full technical description of the model and database please see the original model documentation.[205] In line with international standards, CGE modelling presents the best available technical framework for estimating the overall long run impacts of trade policy given it captures both direct impacts of an agreement, and impacts due to interlinkages between sectors.[206] As such, this model is used to estimate the economy-wide impacts associated with the trade agreement.

### GTAP Database

Any CGE model requires a dedicated analytical database that includes a consistent and complete picture of national economies based on countries' input-output tables, bilateral tariffs and trade flows, and a robust and comprehensive set of modelling parameters.

The modelling undertaken for the Impact Assessment (IA) uses the GTAP 12p1 dataset. This is currently the latest dataset provided by GTAP at the time the IA was being developed, which is available to its members only under pre-release and not publicly available. The latest publicly available dataset was GTAP 11c with all reference data for 2017.

For the IA, DBT used this pre-release dataset for the CGE modelling as it captures national production data and global goods trade in 2019. However, it uses global services trade data from 2017. This dataset ensures the most recent data is used for the assessment of the economic and environmental impact of UK-India trade agreement, which also contains an update to the model's UK input-output (IO) table.[207] The database was being quality assured by GTAP ahead of publication. Revisions made to the database for publication may lead to changes in the published estimates in the IA. The direction of this change is uncertain.

The GTAP 12p1 database's sectoral coverage is 65 sectors. The full 65 sectors are used for the modelling to utilise the full available detail for different sectors, including the differences in elasticities and trade flows, to determine the drivers of the overall results. It can also help with avoiding aggregation bias which can occur if modelling at a higher level of sector aggregation.

### Presentation of the impacts and sector aggregations

The CGE modelling is conducted at 65 sector level, utilising the full disaggregation offered by GTAP database. For brevity and presentational purposes, sectoral results are aggregated to 23 sectors in the main body of the IA. Table 1 shows how the sectors provided in the source

[204] For this analysis, DBT used RunGTAP user interface, which itself relies on GEMPACK software.
[205] Erwin L. Corong, Thomas W. Hertel, Robert McDougall, Marinos E. Tsigas, Dominique van der Mensbrugghe, 2017. "The Standard GTAP Model, Version 7" Journal of Global Economic Analysis. Vol 2 No 1
[206] Trade Modelling Review Expert Panel Report, January 2022.
[207] The most recent published dataset by GTAP uses exclusively 2017 data.

data and used in the modelling are grouped together for the presentational purposes of this IA analysis. However, where there are noteworthy changes at the more disaggregated level, these have been highlighted. Additionally, where possible, insights from PE models are reflected in addition to the more aggregated CGE modelling results.

Table 1: Sector Aggregation[208]

| 3 Sector name | 23 Sector name | GTAP 12 abbreviations (65 Sectors) | GTAP Sector description |
|---|---|---|---|
| Agri- food | Agriculture, forestry, and fishing | pdr | Paddy rice |
| | | wht | Wheat |
| | | gro | Cereal grains n.e.c |
| | | v_f | Vegetables, fruit, nuts |
| | | osd | Oil seeds |
| | | c_b | Sugar cane, sugar beet |
| | | pfb | Plant-based fibres |
| | | ocr | Crops n.e.c |
| | | ctl | Bovine cattle, sheep and goats, horses |
| | | oap | Animal products n.e.c |
| | | rmk | Raw Milk |
| | | wol | Wool, silk-worm cocoons |
| | | frs | Forestry |
| | | fsh | Fishing |
| | Semi-processed foods | cmt | Bovine meat products |
| | | omt | Meat products n.e.c |
| | | vol | Vegetable oils and fats |
| | | mil | Dairy products |
| | | pcr | Processed rice |
| | | sgr | Sugar |
| | Other processed foods | ofd | Food products n.e.c |
| | Beverages and tobacco products | b_t | Beverages and tobacco products |
| Industry | Energy | coa | Coal |
| | | oil | Oil |
| | | gas | Gas |
| | | Oxt | Other Extraction (formerly omn Minerals n.e.c) |

[208] *Where used, n.e.c stands for not elsewhere classified.*

| | | | |
|---|---|---|---|
| Industry | Energy | p_c | Petroleum, coal products |
| | | ely | Electricity |
| | | gdt | Gas manufacture, distribution |
| | Textiles, apparel and leather | tex | Textiles |
| | | wap | Wearing apparel |
| | | lea | Leather products |
| | Paper and printing products | ppp | Paper products, publishing |
| | Chemical, rubber, plastic products | chm | Chemical products |
| | | bph | Basic pharmaceutical products |
| | | rpp | Rubber and plastic products |
| | Minerals, ferrous metals and wood products | lum | Wood products |
| | | nmm | Mineral products n.e.c |
| | | i_s | Ferrous metals |
| | | nfm | Metals n.e.c |
| | | fmp | Metal products |
| | Manufacture of motor vehicles | mvh | Motor vehicles and parts |
| | Manufacture of other transport equipment | otn | Transport equipment n.e.c |
| | Manufacture of electronic equipment | ele | Computer, electronic and optical products |
| | Manufacture of machinery and equipment n.e.c | eeq | Manufacture of electrical equipment |
| | | ome | Machinery and equipment n.e.c |
| | Manufacturing n.e.c | omf | Manufactures n.e.c |
| Services | Construction | cns | Construction |
| | Wholesale and retail trade | afs | Accommodation, Food and service activities |
| | | trd | Trade |
| | Other services (transport, water, dwellings) | wtr | Water |
| | | otp | Transport n.e.c |
| | | wtp | Water transport |
| | | whs | Warehousing and support activities for transportation |
| | | atp | Air transport |
| | | dwe | Dwellings |
| | Communications | cmn | Communication |
| | Financial services | ofi | Financial services n.e.c |
| | Insurance | ins | Insurance (formerly isr) |
| | Business services | rsa | Real estate activities |
| | | obs | Business services n.e.c |
| | Personal services | ros | Recreational and other services |

| | | | |
|---|---|---|---|
| | Public services | edu | Education |
| | | hht | Human health and social work activities |
| | | osg | Public Administration and defence |

Note: n.e.c stands for not elsewhere classified

## Model structure, assumptions and caveats

The model is based upon a set of structural assumptions grounded in economic theory. These describe the interactions between households, firms, investment, and government in the domestic economy, and the trade linkages between different countries.

The specification of the CGE model used in this assessment is based on the standard GTAP model, which relies on an Armington trade theory specification. This specification captures the impacts arising from increased specialisation across and within countries (according to Ricardian comparative advantage).

CGE models contain more variables than equations; hence, some variables must be determined outside the model. The choice of variables which are to be exogenous is called the model closure. Alternative closures may significantly influence the results of CGE simulations and the way in which to sensibly interpret them. The default closure in the GTAP model fixes the labour supply and requires the model to restore equilibrium by adjusting the wage rate. This is sometimes described as reflecting a medium-term or long-term time horizon, in which factor accumulation does not play a large role. Under an alternative closure rule, wages can be fixed. The supply of labour then adjusts to restore equilibrium. The closure rule with inflexible wages is often chosen for a situation in which there is an excess supply of labour and employment levels are demand-driven.

The modelling in this IA assumes that the global economy is at full employment when the trade shock is applied. This is not based on the belief that the UK, India or global economy is currently at full employment. The assumption is used so that the modelled policy shock can be considered a proxy for the impacts in the long run, when the economy may be expected to fully adjust and return to equilibrium. This assumption that an FTA is not expected to have significant macroeconomic implications on the levels of employment or unemployment in the long run is widely accepted among trade economists and is in line with economic evidence on the topic (see Kovak and Marrow (2012) for example). This approach is also in line with common practice among the UK's peers (for example, EU CGE modelling of FTAs). Instead of modelling employment or unemployment, the modelled results identify the relative shifts of employment between sectors necessary to achieve the benefits from the FTA.

In addition, to help assess the isolated long run impacts of the FTA, the model includes the following features:

- the capital supply in the model is not fixed, allowing for capital stock accumulation to occur by assuming a fixed rate of return to capital (so that the capital supply can adjust). The rate of return to capital is parameterised using the GTAP database
- perfect labour mobility is possible between sectors in the same country but not across skill types or between different countries
- countries are primarily linked via trade in goods and services, there are no migration flows.[209]
- the primary trade policy levers impacting these links are tariffs, non-tariff measures, and regulatory restrictions on services

[209] The standard GTAP model and associated analytical databases do not allow us to quantify the impact of the agreement on foreign direct investment flows.

One further key feature of the CGE model is that firms are assumed to operate in perfectly competitive markets, meaning that lower tariffs fully feed through to lower prices for consumers instead of increasing profit margins. The standard CGE model, including the GTAP framework, is grounded in classical Walrasian assumptions: perfect competition, price-taking behaviour, market clearing, and zero economic profits. While these assumptions provide analytical clarity and tractability, they abstract from important real-world features such as market power, increasing returns to scale, and firm heterogeneity.

A growing body of literature, such as Roson (2006) and Francois (1998), has explored the integration of imperfect competition into CGE models. These extensions are conceptually distinct from, but often complementary to, models that incorporate firm heterogeneity (for example, Melitz-type frameworks), which typically require some form of monopolistic competition.

Incorporating imperfect competition into a GTAP-style model generally involves the introduction of markup pricing, where prices are set as a markup over marginal cost. The markup is typically a function of the firm-level price elasticity of demand. Several modelling approaches have been proposed, including:

- monopoly without price discrimination
- oligopoly with a fixed number of symmetric firms and conjectural variations
- monopolistic competition with increasing returns to scale and product differentiation (at the firm or national level)

These modifications introduce significant complexity. They require additional data for all countries in the model, such as for margins and markups, to calibrate the model, and often necessitate non-standard assumptions about firm behaviour, market structure, and scale economies. As a result, while such models may offer a more "realistic" representation of market dynamics across countries, they remain highly stylised, data-intensive and open to great subjectivity.

Empirical findings on the macroeconomic impact of introducing imperfect competition into CGE models are mixed. However, many studies suggest that trade liberalisation may yield larger welfare gains under imperfect competition due to pro-competitive effects of trade liberalisation, such as reduced markups and increased firm efficiency.

Despite these potential benefits, the use of models with imperfect competition by other countries in official government modelling remains limited. For policy analysis, particularly in the context of Free Trade Agreements (FTAs), the preference has generally been to use standard, well understood widely accepted specifications. This simpler approach helps manage the risk of greater imprecision and ensures transparency and comparability across studies.

Nevertheless, it is valuable to acknowledge that standard models may underestimate the full benefits of trade liberalisation by omitting pro-competitive effects, scale economies, and firm-level dynamics.

While the CGE model captures the impacts from the reductions in trade costs in the UK and India bilateral relationship on trade and other key macroeconomic variables, it cannot capture the full range of other channels through which a trade agreement may generate economic gains. These channels include, for instance, the entry and exit of firms and products into and out of the export markets, the adjustment of firms' mark-ups in the response to changes in trade costs or the impacts of increased resilience for UK businesses and consumers due to an enhanced access to a diverse range of markets in the face of regional or global shocks.

### Developments compared to the India scoping assessment

DBT's modelling approach takes advantage of new developments, such as when new data becomes available or new evidence supports recalibration of the model, to derive an estimate of impact that is as up to date as possible. This means that the modelling approach used for the IA differs in some respects from the approach used to estimate impacts that were presented in the scoping assessment (SA).

The modelling results presented in the IA use the same model specification (Armington specification) as the one used for the modelling presented in the India SA analysis that was published in January 2022. However, there are some differences between the two assessments, including:

- the modelling database has been updated from GTAP 10.1 to 12p1. This includes an update to the reference year from 2014 to 2017 for services and 2019 for goods[210]
- the IA modelling allows the capital stock to adjust across all regions (as opposed to just the trading partners) until the return to capital is identical globally; this consistent with long-run approach
- non-tariff measures (NTMs), a key input to the CGE modelling, are estimated through a new trade dataset, allowing for a more granular set of estimated inputs than before[211]
- updates to the inputs to better approximate the potential impact of the UK-India FTA

Due to the developments in DBT's modelling approach, strict like-for-like comparisons of CGE results between recent assessments and past publications should not be made. For example, whilst the analysis in this IA differs from the India SA for the reasons listed above, it also differs from the analysis in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) IA published in July 2023. This is primarily due to the use of a slightly older version of GTAP database used for the CPTPP analysis (the most recent at the time of modelling).[212]

## 1.2 Partial Equilibrium Trade Model (PE-D)

The results of the direct impacts for goods sectors presented in the IA have been generated using the UK government's PE-D trade model.

### PE-D model

The outputs from PE-D complement the results from other UK government models, especially the CGE model, by simulating potential impacts at a more disaggregated product level. Because it requires less data than CGE models, it can be run for more detailed sectors. However, its sectors still contain a variety of products with different characteristics so care should be taken before assuming that the results apply to all the products produced within that sector. For this IA the PE-D model has been run at HS6 product line level, although results have sometimes been amalgamated into broader sectors.

Like all PE models, PE-D focuses on the direct impact of a policy change on a particular sector. It does not incorporate general equilibrium effects that might result from policy changes, for example from a reallocation of resources or changes in capital allocation.

[210] An updated GTAP database was released in June 2025, which also includes 2019 data for services. However, it was not used in this IA as the analysis had already commenced prior to its release
[211] Dataset compiled from Borchert, I., Larch, M., Shikher, S., and Yotov, Y. (2021), "The International Trade and Production Database for Estimation (ITPD-E)," International Economics, 166, 140–166 and World Integrated Trade Solution, https://wits.worldbank.org/
[212] CPTPP: Impact Assessment, July 2023.

PE-D was developed within the Department for Business and Trade. A detailed description of PE-D and other UK government PE models can be found in the accompanying methodological notes and working paper.[213]

## Basic features of PE-D

The PE-D model draws upon Krugman's (1980) extension to trade of the industrial organisation framework of Dixit & Stiglitz (1977). It assumes monopolistic competition, in which industries are composed of small firms trading differentiated goods, with demand following a constant elasticity of substitution (CES) structure. Each firm produces a different variety of a good, with the number of firms set equal to the number of countries in the simulation. Therefore, each country is assumed to have one firm that produces a different variety.

The model is fundamentally demand-driven, with production assumed to respond in the long run to meet demand. Demand is driven by consumer preferences, prices (including trade costs) and elasticities (both the income elasticity of demand and the Armington elasticity of substitution between different varieties).[214]

## PE-D modelling reference databases

PE-D uses data for over 5,000 HS6 codes. The underlying data is drawn from the following sources:

- Bilateral trade flows are based on HS6 data for 2022 from HMRC overseas trade statistics and the Government of India department for commerce and industry trade statistics
- Tariffs are ad valorem equivalents (AVEs), based on average effectively applied rates for 2022
- UK tariff rates have been adjusted to reflect the UKGT
- Demand derived from estimates made by Kee-Nicita-Olarreaga (2009) and Ghodsi-Gruebler-Stehrer (2016). Armington and supply elasticities are based on econometrically derived estimates by Fontagne et al (2022)

[213] DBT Modelling working papers, July 2025

[214] The elasticities referenced in this analysis are not included in this technical annex as they are derived from a proprietary database that is not publicly accessible

# Annex 2: Method for calculating pound sterling (£) figures from modelling outputs

The results presented throughout the IA have been expressed in pound sterling values (£). These are derived from the modelling outputs, which represent changes resulting from the agreement relative to a baseline of no agreement when the economy returns to equilibrium (assumed to be in the long run) and are expressed in percentage change terms not values. The data used to convert the percentage figures produced by the model to pound values are detailed in Table 2. The conversion to £ values allows the contextualisation of results in terms relatable to today's economy.

Any long-term economic projection is subject to large bounds of uncertainty – particularly in the current economic environment when the impacts associated with tariff announcements made by the USA and other countries remains highly uncertain. In addition, while the CGE model is based on 2017 and 2019 data and hence reflects the structure of the UK and global economy in those years, the actual sectoral structure of the economy could look very different by 2040. To isolate the marginal impact of the FTA, these calculations do not take such variations into account and instead rest on the assumption that the structure of the UK and Indian economies and trade between them remains broadly the same in 2040 as it was in 2019. This may have a significant impact on the results. A discussion of the potential impact of long-term economic structural shocks is in Section 9 of the IA.

Table 2: Data sources used to convert CGE and PE-D impacts into pound values

| Key metrics | Data used |
|---|---|
| GDP | • CGE model % impacts<br>• OBR GDP data[215]<br>• OBR short- and long-term economic determinants (for 2040 estimates)[216]<br>• Global Trade Outlook projections of India GDP (for 2040 estimates)[217]<br>• IMF World Economic Outlook, GDP in current prices $[218]<br>• Bank of England exchange rate[219] |
| UK total trade and trade with India (Exports and Imports) | • CGE model % impacts<br>• UK total trade: all countries, seasonally adjusted[220]<br>• Global Trade Outlook projections of UK total exports and imports (for 2040 estimates)[221]<br>• For bilateral trade between the UK and India in 2040, it is further assumed that both the UK and India share of partner import demand evolves in line with their share of global import demand (as projected in the Global Trade Outlook).<br>• ONS GDP Deflators[222] |
| Wages | • CGE model % impacts |

[215] OBR, Economic and fiscal outlook (March 2025)
[216] Short-term determinants – OBR, Economic and fiscal outlook (March 2025)
Long-term determinants – OBR, Economic and fiscal outlook (May 2024)
OBR, Fiscal risk and sustainability – July 2023
[217] DBT, Global trade outlook – February 2023
[218] International Monetary Fund, World Economic Outlook Database, April 2025
[219] Bank of England Data, average annual spot exchange rates
[220] ONS, UK total trade: all countries, seasonally adjusted (April 2025)
[221] DBT, Global trade outlook – February 2023
[222] GDP deflators at market prices, and money GDP, ONS March 2025

| | |
|---|---|
| | • ONS total UK wages data[223] |
| Imports/exports by sector | • CGE model % impacts<br>• ONS total trade data[224] |
| GVA by sector | • CGE model $ impacts<br>• ONS GVA by industry data[225]<br>• ONS GDP Deflators[226] |
| GVA by region | • % CGE impacts<br>• ONS regional GVA by industry data[227]<br>• Employment data[228] |
| Household spending | • % CGE impacts<br>• OBR Economic and fiscal outlook[229]<br>• ONS GDP Deflators[230] |
| PE-D trade flows | • PE-D model % impacts<br>• HMRC UK trade in goods by HS6, imports, 2022[231]<br>• Government of India (GoI), Indian imports from UK by HS6, 2022[232] |

## 2.1 CGE impacts

### Gross domestic product

For UK gross domestic product (GDP), £ values (expressed in 2024 prices) are calculated by applying the percentage change in aggregate GDP from the modelling to a projected level of real GDP in 2040. Based upon the OBR's medium and long-term economic determinants, UK real GDP could increase to around £3.8 trillion by 2040, in 2024 prices. This is because the 'long run' is typically assumed to be around 10-15 years following the implementation of an agreement. However, the time in which the economy takes to fully adjust to the new trading relationship is uncertain.

For India, GDP £ values (expressed in 2024 prices) are calculated by applying the percentage change from the modelling to projections of Indian GDP in 2040 set out in DBT's Global Trade Outlook.[233]

### Bilateral trade

For bilateral trade impacts, £ values (expressed in 2024 prices) are calculated by applying the estimated percentage changes provided by the modelling to the projections set out in DBT's Global Trade Outlook. These projections are supplemented by additional assumptions regarding the evolution of the UK and India's market shares where necessary.

[223] UK sector (S.1): Wages and salaries (D.11): Resources: Current price: £million: Seasonally adjusted (March 2025)
[224] ONS, UK total trade: all countries, seasonally adjusted (April 2025)
[225] ONS, Nominal and Regional Gross Value Added Balanced by Industry (April 2025).
[226] GDP deflators at market prices, and money GDP, ONS March 2025
[227] ONS, Regional gross value added (balanced) by industry: all ITL regions (April 2025)
[228] ONS, Business Register and Employment Survey (BRES) 2022, November 2024; NISRA NI Business Register and Employment Survey (BRES) 2022, September 2023
[229] OBR Economic and fiscal outlook (March 2025)
[230] GDP deflators at market prices, and money GDP, ONS March 2025
[231] HMRC, overseas trade statistics (April 2025)
[232] GoI, department for commerce and industry, India imports from UK (April 2025)
[233] DBT, Global trade outlook – February 2023 report.

## Trade with the world

To account for trade reallocation, an alternative method to the one used for bilateral trade is used to calculate the value of the impact of the agreement on UK trade with the world.

The CGE results estimate that UK trade with India increases by more than total UK trade with the world (all countries including India). This is a result of the agreement causing a reduction in trade with countries that are not part of the agreement, a process known as trade reallocation. To calculate the £ value changes in trade with the world,

- first, based on underlying trade patterns contained within the GTAP datasets, the CGE results are used to calculate the proportion of the increase of trade that is 'trade reallocation'. For example, if the CGE model estimates that, as a result of the agreement, exports to India will increase by £2 billion, but exports to the world (including India) only increases by £0.5 billon, then £2 billion - £0.5 billion = £1.5 billion (or 75%) of the increase in exports to India is estimated to have been reallocated from the rest of the world
- to ensure that all the trade value figures use a consistent data source, this percentage of trade reallocation is then multiplied by the value increase in bilaterial trade computed using the GTO forecasts used elsewhere in the IA. For example, if exports with India are estimated to increase by £3 billion, compared to 2040 GTO projections, 75% of this (£2.25 billion) is estimated to be trade reallocated from 3rd countries, and therefore world exports increase by £0.75 billion overall

Therefore, to calculate the £ value changes in trade with the world, the CGE results are used to estimate the percentage of the increase in bilateral trade that is new trade, which is in turn applied to the value increase in bilateral trade. This method assumes the increase in trade to the world is the proportion of the increase in exports to the partner country that has **not** been reallocated from the rest of the world. Table 3 shows the results of this approach in the IA, in comparison to the SA scenario using this approach.

Table 3: Comparison of results between IA and SA

| Impact | IA | SA – Scenario 1 |
|---|---|---|
| Increase in UK exports to India | £15.7bn (59.4%) | £8.8bn (49.5%) |
| Increase in UK exports to the world | £6.5bn (0.7%) | £3.8bn (0.5%) |
| Share of increase in exports to India that is trade reallocation | £9.2bn (58.6%) | £5.0bn (56.8%) |
| Increase in UK imports from India | £9.8bn (25.0%) | £5.2bn (30.7%) |
| Increase in UK imports from the world | £6.4bn (0.6%) | £3.1bn (0.4%) |
| Share of increase in imports from India that is trade reallocation | £3.4bn (34.4%) | £2.1bn (40.4%) |

## Wages

When the IA presents wage results in £ terms, they are relative to a baseline of 2024. These are calculated applying the estimated percentage change in real wages from the CGE model to the ONS level of total wages for 2024.

## Imports/exports by sector

When the IA presents the sectoral exports and imports in £ terms, they are relative to a baseline of 2024. DBT reports the change in UK exports and imports to India at the GTAP23 sector level.

CGE modelling in the IA uses the 2019 GTAP 12p1 database, therefore, 2024 sector-specific trade flows are not available in this data source. To estimate the £ changes in trade growth by

sector because of the agreement, 2024 ONS estimates of bilateral trade are used.[234] The percentage growth in bilateral trade from the CGE modelling is applied to the ONS 2024 data to determine a projected change in bilateral trade (in 2024 prices). This figure is then apportioned by individual sectors, reflecting how much of the change in UK trade with India was driven by the sector in question. For example, if 2024 UK exports to India are estimated at £1,000 million, and the CGE modelling estimates UK exports to India to grow by 10% due to the FTA, the calculated change in 2024 UK exports is £100 million. Furthermore, in this hypothetical example, if the CGE model suggested that 50% of the change in UK exports to India is derived from industry, 40% from services, and 10% from agri-food, the decomposition of the 2024 change in UK exports to India is presented as: £50 million from industry, £40 million from services, and £10 million from agri-food.

### Sectoral gross value added

Sectoral gross value added (GVA) results are presented for GTAP23 sectors in £ terms, relative to a baseline of 2024.

As with imports/exports by sector, an apportionment method is used. The percentage quantity growth in total GVA from the CGE modelling is multiplied by ONS data for total GVA in 2023 (which is then multiplied by the UK's GDP deflator for 2024), to determine the projected change in total GVA (in 2024 prices).[235] This figure is then apportioned by individual sectors, reflecting how much of the change in UK GVA was driven by the sector in question.

### Regional GVA

Indicative estimates of the percentage and £ changes in regional GVA are calculated by combining the CGE estimated percentage change in sector impacts with 2022 ONS sectoral GVA data. The data used to convert the percentage figures to pound sterling values are detailed in Table 2. A more detailed explanation of the methodology and impact on regional GVA can be found in Annex 8.

## 2.2 PE-D impacts

The PE-D results have been modelled for goods imports and exports for over 5,000 HS6. The results are presented in percentage terms, relative to a baseline of 2022.

The percentage results are converted to pound values by multiplying the percentage PE-D result to the corresponding monetary value of trade. HS6 results are then aggregated into sub sectors to present sectoral results. The values presented are in nominal terms at 2022 prices.

[234] ONS, UK total trade: all countries, non-seasonally adjusted (April 2025)
[235] Note: GVA data for 2024 is unavailable, therefore the UK's GVA for 2023 is converted from a 2023 price base to a 2024 price basing using the growth in the UK's GDP deflator for 2024 to ensure the estimates are in the same price base year as other sector results.

# Annex 3: Modelling inputs

This annex outlines the method and assumptions used to derive the tariff and NTM estimates used as inputs for the CGE modelling.

## 3.1 Adjustment to tariffs

In line with the GTAP database, trade weighted tariffs are used in the modelling. Where appropriate, adjustments have been made to estimate impact more accurately.

To access preferential tariffs as set out in the agreement, a good must meet the preferential Rules of Origin (RoO) requirements. RoO requirements determine the source of a good and can vary between different goods. For example, one rule could require that a good is exclusively produced in the countries covered by the FTA, whilst another rule could require that a good is 'sufficiently worked or processed' from inputs. RoO requirements also set out what exporters must do to demonstrate their goods meet the requirements of these rules. Combined with the many factors that can influence an exporter's decision to trade under preferential tariffs, estimating the cost of RoO compliance on exporters is difficult.[236]

Econometric modelling of the estimated reductions in non-tariff trade costs account for the impact RoO can typically have on trade. However, these estimates are based on past agreements and are not specific to those found in the UK-India FTA. Where RoOs in this agreement are broadly in line with historical agreements, no adjustments are made and existing NTM estimates capture the impact RoOs can typically have in these sectors – for example, for primary agricultural products, whisky, chemicals, plastics, footwear, key machinery and electronic equipment and cars. For some sectors, the RoOs in the agreement are stricter than those in historical agreements. To account for this, the level of tariff liberalisation in India's schedule has been adjusted downwards where relevant – including for leather, textiles, clothing and articles of metal.

No adjustment is made on UK imports from India. Its assumed UK imports from India can meet rules which are stricter than those in historical agreements, a result of India's relatively domesticated supply chains.

## 3.2 Approach for estimating NTM inputs for goods and services

NTMs, including regulatory restrictions for services, are any policy measure outside of tariffs that can influence trade costs and flows. Not all NTMs are aimed at restricting trade and can serve legitimate policy objectives. However, they may still have an impact on trade flows.

NTMs can be hard to observe directly. Therefore, for this assessment they are estimated using an econometric gravity model. Gravity modelling is an econometric framework for estimating the determinants of international trade patterns. It is consistently able to explain patterns of international trade. Building upon best practice in the academic literature, a gravity model is used to provide estimates of NTMs in goods and services in various countries.

The estimates are expressed in ad valorem equivalent (AVE) terms. This reflects the equivalent tariff that would create a similar cost and therefore, have the same impact on trade flows as the NTM. Therefore, a 10% NTM implies the equivalent change in trade flows as a 10% tariff, although tariffs and NTM shocks enter the CGE model differently (see Annex 9).

The gravity models use data from the United States International Trade Commission's International Trade and Production Database for Estimation on the sectoral trade flows

[236] Factors that can influence an exporters decision to trade under preferential tariffs can include awareness and understanding of the agreement, the degree to which the incentive of preferential tariffs outweigh the associated costs of the usage of preferences and rules of origin.

between 243 countries for the years 2000 to 2016.[237] This data is mapped to 65 GTAP sectors

**Box 1: Gravity model specification for goods sectors**

The specification for the econometric model used is shown below, where $y_{ijt}$ is bilateral trade, $\pi_{it}$ and $\omega_{jt}$ are sets of exporter-time and importer-time fixed effects respectively, and $\boldsymbol{\delta_{ijt}}$ is a vector of standard gravity resistance variables. $GDP_{jt}$ is importer GDP which is included with a coefficient constrained to unity. Also included are dummy variables for EU and European Economic Area (EEA) membership and a measure of tariff barriers, which is necessary to separately identify NTM changes.

To obtain NTM estimates for goods, the following specification is used:

$$(1)\ y_{ijt} = \exp\left(\beta_1 EU_{ijt} + \beta_2 EEA_{ijt} + \beta_3 DESTA_{ijt} AVE_{jt} + \beta_4 \ln\left(Tariff_{ijt}\right) + GDP_{jt} + \boldsymbol{\delta_{ijt}} + \boldsymbol{\pi_{it}} + \boldsymbol{\omega_{jt}}\right) + \varepsilon_{ijt}$$

– the level at which the regressions are run – and combined with Harmonised System six-digit codes (HS6) tariff data from the World Integrated Trade Solution.[238] Time-consistent networks of product codes have been used to ensure that product definitions stay constant in the tariff data, despite changes to HS reporting nomenclatures during the sample. While the methodological approach is consistent with previous IAs, the India IA is the first time that DBT has used this dataset to derive changes in NTMs because of an FTA.

## Econometric inputs for goods sectors

The Design of Trade Agreements (DESTA) database of historic FTAs is used to estimate the changes in the NTMs for each goods sector.[239] Different estimates are derived to reflect differences in FTA ambition. These changes are used in the gravity model to estimate the impact of the changes and are shown in the equation below as $DESTA_{ijt}$.

To account for asymmetric impacts between trading partners, an estimate of the AVE Most Favoured Nation (MFN) level of NTMs is included in the regression. This is interacted with the DESTA variable to give the interpretation of $\beta_3$ in the regression below as being the impact of the FTA ambition for a given starting level of NTMs. These MFN NTMs are estimated econometrically within the same framework using the methodology of Fontagné et al. (2011).[240]

The modelling assumes NTMs for industrial sectors are reduced in line with a medium depth agreement, as proxied by a 4 in the DESTA database.

The modelling assumes NTMs are reduced in line with a shallower agreement for the non-ferrous metals sector and agricultural sectors. This is equivalent to a DESTA 1. This is because there are limited provisions in the agreement affecting trade in the agricultural sectors and no new requirements for Indian goods to enter UK market. For non-ferrous metals, a UK-India FTA is likely to have only a limited impact on NTMs due to the nature of some of the markets included in the sector.

The modelling assumes no non-tariff trade cost reductions for the energy sector. This reflects the role infrastructure (for example, pipelines) plays in determining energy sector trade.

[237] Borchert, I., Larch, M., Shikher, S., and Yotov, Y. (2021), "The International Trade and Production Database for Estimation (ITPD-E)," International Economics, 166, 140–166.
[238] World Integrated Trade Solution, https://wits.worldbank.org/
[239] Dür, Andreas, Leonardo Baccini and Manfred Elsig. 2014. "The design of international trade agreements: Introducing a new database". Review of International Organizations, vol. 9, pp. 353-375.
[240] Lionel Fontagné & Amélie Guillin & Cristina Mitaritonna, 2011. "Estimations of Tariff Equivalents for the Services Sectors," Working Papers 2011-24, CEPII research center.

## Econometric inputs for services sectors

The benefits of services liberalisation can come both from 'applied liberalisation' (liberalisation in the actual restrictions affecting services trade) or through 'bound liberalisation' (commitments to maintain liberalisation at a given level in the future).[241] The difference between the bound and applied restrictions to services trade is often known as 'water'. FTAs primarily aim to reduce this 'water' as countries' applied regimes tend to be lower than their bound regimes. In other words, FTAs aim to 'lock-in' countries' applied regimes and reduce future policy space which in turn provides greater legal certainty to businesses.

The NTM estimates aim to account for the reduction in this 'water' or increased legal certainty secured from the FTA.

To derive the NTM inputs for services sectors, equation (2) is estimated:

$$(2)\ y_{ijt} = \exp\left(\beta_1 EU_{ijt} + \beta_2 EEA_{ijt} + \beta_3 FTA_{ijt} + GDP_{jt} + \boldsymbol{\delta_{ijt}} + \boldsymbol{\pi_{it}} + \boldsymbol{\omega_{jt}}\right) + \varepsilon_{ijt}$$

The measure of MFN NTMs is captured using the importer-time fixed effects methodology laid out in Fontagné et al. (2011). This method aims to estimate AVE NTMs that would create observed trade distortions, controlling for standard gravity variables and using a ranking of estimated fixed effects. Once NTMs have been estimated for each country in the dataset, one third of NTMs are assumed to be "actionable" and can be impacted by the FTA. These actionable NTMs are reduced in proportion to reductions in water, or increased legal certainty, arising from the FTA as well as any applied liberalisation (methodology is outlined below).

## STRI methodology for services

Services sectors are scored using the OECD's Services Trade Restrictiveness Index (STRI) methodology.[242] The STRI is an evidence-based index that provides a score between 0 (open) and 1 (closed) for how restrictive a country is to services trade in 22 sectors. Each sector score is determined by several individual policy measures.

The STRI represents the actual level of restrictiveness that a country imposes on imported services, whereas this IA also includes an estimate of the bound level of restrictiveness which is referred to as the General Agreement of Trade in Services (GATS) Trade Restrictiveness Index (GTRI). Prior to an FTA, the GTRI is equal to the terms of the GATS schedule that countries committed to, whereas following an FTA it reflects the terms of the agreement in the areas of market access and national treatment.

The methodology requires OECD estimates of India's MFN STRI and commitments under the GATS and an estimate of the change in the STRI and GTRI under a UK-India FTA.[243] The latter has been proxied by modelling binding commitments equivalent to 30% of those found in CPTPP, alongside no change to the applied services regime for either party to the agreement. The STRI scoring of CPTPP is based on legal and policy judgments made by the London School of Economics' (using the OECD's Services Trade Restrictiveness Index Framework).[244]

The difference between the GTRI and STRI is taken as a proxy for water and used in a composite index alongside the applied STRI. A change in water is assumed to have a 42% impact on NTMs compared to a change in the applied rate, in line with results found in the literature.[245] The percentage change in the composite index because of the India FTA is used to scale the actionable NTM estimates outlined above to produce the final AVE services inputs.

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[241] Ciuriak, D., Dadkhah, A. Lysenko, D. The Effect of Binding Commitments on Services Trade, World Trade Review, Volume 19, Issue 3, July 2020, pp. 365 – 378.
[242] STRI policy simulator available at https://sim.oecd.org/
[243] GTRI available here https://www.oecd-ilibrary.org/trade/services-trade-restrictiveness-index-stri_fee5c901-en
[244] OECD STRI
[245] Ciuriak, D., Dadkhah, A. Lysenko, D. The Effect of Binding Commitments on Services Trade, World Trade Review, Volume 19, Issue 3, July 2020, pp. 365 – 378.

## 3.3 Summary of inputs

The processes described above are used to estimate a reduction in tariff and NTMs for each GTAP65 sector, which are then fed into the CGE model. Table 4 below shows the average reductions fed into the model by broad sector categories, both a simple mean and weighted by the relative trade in GTAP65 sectors that make up the broad sector.

Table 4: Trade weighted average sectoral applied percentage point reduction in tariffs and NTMs (simple average in brackets)

| Sectors | UK imports from India | | UK exports to India | |
|---|---|---|---|---|
| | Reductions in tariffs | Reductions in NTMs | Reductions in tariffs | Reductions in NTMs |
| Agri-food | 2.9 (5.1) | 2.3 (2.0) | 95.5[246] (8.4) | 1.9 (2.2) |
| Industrial goods | 2.3 (1.6) | 2.7 (2.6) | 5.2 (7.4) | 2.6 (2.6) |
| Services | N/A | 2.2 (2.5) | N/A | 7.3 (5.4) |

Source: DBT CGE Modelling

[246] As these average reductions are trade-weighted, this figure represents the large reduction in tariffs on beverages and tobacco, which makes up most exports in the agri-food sector.

# Annex 4: Supplementary results

This annex provides additional detail to the analysis set out in the main IA.

## 4.1 Additional macroeconomic results

### Table 5: GDP results

| Metric | £ billion estimate, applied to 2040 projections (in 2024 prices) | £ billion estimate, applied to 2024 data (in 2024 prices) |
|---|---|---|
| Change in UK GDP | £4.8 | £3.6 |

Source: DBT CGE Modelling

### Table 6: Macroeconomic results

| Metric | Percentage change on baseline in 2040 | £ billion estimate, applied to 2040 projections (in 2024 prices) | £ billion estimate, applied to 2024 data (in 2024 prices) |
|---|---|---|---|
| Change in UK exports to India | 59.4% | £15.7 | £10.2 |
| Change in UK imports from India | 25.0% | £9.8 | £6.4 |
| Change in UK exports to World* | 0.7% | £6.5 | £4.2 |
| Change in UK imports from World* | 0.5% | £6.4 | £4.2 |
| Change in UK real wages | 0.2% | Not available | £2.2 |

Source: DBT CGE Modelling

*Note that these % changes are calculated using the method described to calculate the change in trade with the world in Annex 1. The changes in the other GDP components are a direct output of the CGE model

## 4.2 Sectoral results (CGE model)

Table 7: Change in UK-India trade by sector and £ equivalents (economy-wide impacts, CGE modelling)

| Broad sector category | GTAP 23 sector | Change in UK exports to India, % | Change in UK exports to India, £m 2024 | Change in UK imports from India, % | Change in UK imports from India, £m 2024 |
|---|---|---|---|---|---|
| Agri-food | Agriculture, forestry, and fishing | 16.0% | 1 | 18.0% | 84 |
| | Beverages and tobacco products | 180.8% | 696 | 10.0% | 1 |
| | Semi-processed foods | 11.8% | 1 | 10.1% | 30 |
| | Other processed foods | 100.5% | 42 | 30.8% | 166 |
| Industry | Chemical, rubber, plastic products | 104.5% | 1263 | 24.4% | 541 |
| | Energy | 0.2% | 0 | 0.0% | 0 |
| | Manufacture of electronic equipment | 68.4% | 738 | 18.1% | 51 |
| | Manufacture of machinery and equipment n.e.c | 163.1% | 3124 | 45.0% | 560 |
| | Manufacture of motor vehicles | 311.4% | 894 | 65.1% | 302 |
| | Manufacture of other transport equipment | 18.8% | 200 | 15.5% | 115 |
| | Manufacturing n.e.c | 89.6% | 251 | 40.7% | 418 |
| | Minerals, ferrous metals and wood products | 25.5% | 865 | 30.2% | 427 |
| | Paper and printing products | 84.1% | 302 | 33.8% | 84 |
| | Textiles, apparel and leather | 143.8% | 162 | 85.9% | 2854 |
| Services | Business services | 26.9% | 474 | 4.2% | 229 |
| | Communications | 22.8% | 140 | 18.4% | 443 |
| | Construction | 28.4% | 26 | -0.3% | 0 |
| | Financial services | 22.9% | 233 | 0.1% | 0 |
| | Insurance | 34.6% | 149 | 0.1% | 0 |
| | Other services (transport, water, dwellings) | 12.1% | 65 | 16.8% | 41 |
| | Personal services | 29.0% | 70 | 12.5% | 5 |
| | Public services | 8.2% | 94 | 7.9% | 22 |
| | Wholesale and retail trade | 38.4% | 395 | -0.4% | -9 |

Source: DBT CGE Modelling. n.e.c means not elsewhere classified.

Table 8: Change in UK GVA by sector and £ million equivalents (economy-wide impacts, CGE modelling)

| Broad sector category | GTAP 23 sector | Change in UK GVA, % | Change in UK GVA, £m 2024 |
|---|---|---|---|
| Agri-food | Agriculture, forestry, and fishing | -0.02% | -5 |
| | Beverages and tobacco products | 1.48% | 165 |
| | Semi-processed foods | -0.07% | -9 |
| | Other processed foods | 0.02% | 4 |
| Industry | Chemical, rubber, plastic products | 0.29% | 146 |
| | Energy | 0.11% | 57 |
| | Manufacture of electronic equipment | -0.07% | -24 |
| | Manufacture of machinery and equipment n.e.c | 1.65% | 527 |
| | Manufacture of motor vehicles | 0.47% | 80 |
| | Manufacture of other transport equipment | -0.40% | -85 |
| | Manufacturing n.e.c | -0.10% | -33 |
| | Minerals, ferrous metals and wood products | 0.24% | 93 |
| | Paper and printing products | 0.46% | 56 |
| | Textiles, apparel and leather | -0.68% | -114 |
| Services | Business services | 0.02% | 108 |
| | Communications | -0.01% | -17 |
| | Construction | 0.15% | 255 |
| | Financial services | 0.02% | 26 |
| | Insurance | 0.12% | 57 |
| | Other services (transport, water, dwellings) | 0.16% | 551 |
| | Personal services | 0.13% | 105 |
| | Public services | 0.06% | 285 |
| | Wholesale and retail trade | 0.12% | 405 |

Source: DBT CGE Modelling. n.e.c means not elsewhere classified.

Table 9: Change in UK exports to the world and imports from the world (economy wide impacts, CGE modelling)

| Broad sector category | GTAP-23 Sector | % Change in UK exports to World | Change in UK exports to World, £m, 2024 | % Change in UK imports from World | Change in UK imports from World, £m, 2024 |
|---|---|---|---|---|---|
| Agri-food | Agriculture, forestry, and fishing | -0.2% | -12 | 0.1% | 19 |
| | Beverages and tobacco products | 3.6% | 655 | 0.2% | 24 |
| | Semi-processed foods | -0.7% | -67 | 0.4% | 61 |
| | Other processed foods | -0.1% | -23 | 0.5% | 124 |
| Industry | Chemical, rubber, plastic products | 0.8% | 816 | 0.4% | 392 |
| | Energy | -0.1% | -48 | 0.2% | 92 |
| | Manufacture of electronic equipment | 0.0% | 28 | 0.3% | 204 |
| | Manufacture of machinery and equipment n.e.c | 2.6% | 2505 | 0.4% | 345 |
| | Manufacture of motor vehicles | 0.7% | 624 | 0.3% | 278 |
| | Manufacture of other transport equipment | -0.4% | -370 | 0.2% | 52 |
| | Manufacturing n.e.c | -0.2% | -73 | 0.5% | 198 |
| | Minerals, ferrous metals and wood products | 0.6% | 599 | 0.4% | 648 |
| | Paper and printing products | 2.6% | 258 | 0.5% | 70 |
| | Textiles, apparel and leather | -0.1% | -18 | 0.9% | 514 |
| Services | Business services | -0.2% | -375 | 0.4% | 359 |
| | Communications | -0.2% | -107 | 0.5% | 218 |
| | Construction | 0.0% | 1 | 0.3% | 15 |
| | Financial services | -0.2% | -166 | 0.3% | 127 |
| | Insurance | 0.1% | 46 | 0.2% | 24 |
| | Other services (transport, water, dwellings) | -0.1% | -45 | 0.2% | 86 |
| | Personal services | 1.2% | 50 | 0.4% | 12 |
| | Public services | -0.3% | -104 | 0.4% | 55 |
| | Wholesale and retail trade | 0.1% | 44 | 0.3% | 262 |

Source: DBT CGE Modelling. n.e.c means not elsewhere classified.

## 4.3 Sectoral results (PE-D modelling)

Table 10: Change in UK-India trade by goods sector and £ equivalents (direct impacts, PE modelling based on 2022 baseline)

| Category | Change in India imports from UK, £m | Change in India imports from UK, % |
|---|---|---|
| Cosmetics | 400.3 | 364% |
| Whisky | 239.5 | 88% |
| Auto parts & car engines | 189.6 | 148% |
| Pharmaceuticals | 97.5 | 118% |
| Plastics | 82.4 | 69% |

| Category | Change in UK imports from India, £m | Change in UK imports from India, % |
|---|---|---|
| Women's clothing | 181.3 | 35% |
| Other clothing | 153.7 | 94% |
| Household textiles | 95.5 | 66% |
| Men's clothing | 86.2 | 48% |
| Footwear | 55.5 | 31% |

Source: DBT Modelling, cars are excluded from the modelling due to complexity of TRQs.

## 4.4 Estimated $CO_2$ emissions results

Modelling results for greenhouse gas (GHG) emissions are presented in Section 8.3 of the IA. The modelling results for carbon dioxide emissions ($CO_2$) are presented below.

Table 11: Change in $CO_2$ emissions resulting from the FTA

| Country group | Net change, $MtCO_2e$ | % change |
|---|---|---|
| Global | 0.41 | 0.00% |
| UK | 0.84 | 0.21% |
| India | 1.42 | 0.06% |
| Third countries | -1.86 | -0.01% |

# Annex 5: Sensitivity analysis

## 5.1 CGE Modelling

The modelling results in the IA are presented as central estimates. However, given the caveats and considerations discussed in Section 9, it is important to consider the full possible range of modelling results that the central results presented in the IA lie within.

The sensitivity of the modelling results to variations in the parameters, assumptions, and input values used in the modelling are tested using a Monte Carlo sensitivity analysis. The model runs 500 simulations, using different values of the uncertain variables (effective tariffs, NTM reductions, NTM ratio of rent to deadweight and Armington elasticities). These are drawn at random from the distributions described below to produce a statistical range for the results. This approach is used for sensitivity analysis of the GDP, bilateral trade and wage impacts (which are shown in Table 18 of the IA).

The key elements of the Monte-Carlo analysis are:

- the core scenario includes a downward revision to tariff liberalisation levels to account for the restrictiveness of Rules of Origin (RoO) associated with the UK-India FTA. Proxying the effect of RoO for a sector is difficult, and its quantitative impacts are uncertain. Therefore, this sensitivity analysis draws values of the RoO adjustment from a uniform distribution between 50% and 150% of the primary input
- NTMs and regulatory restrictions can be hard to observe directly. Therefore, the scale of NTM reductions between India and the UK is estimated econometrically, based on the policy judgement and in line with academic best practice. These estimates may over or underestimate the magnitude of changes to the NTMs resulting from the agreement. To account for the estimation uncertainty, NTM reductions for each sector are drawn from a normal distribution with mean and variance estimates informed by the underlying econometric analysis
- the extent to which NTMs represent a pure 'iceberg' cost (a deadweight loss) is uncertain and many studies indicate that a proportion of NTMs may be rent-generating. The modelling assumes that 70% of NTMs represent a pure deadweight loss (30% are rent-generating). This assumption is broadly in line with the approach taken by Francois (2013) and Bekkers et al. (2016), and it was consulted and agreed with GTAP centre.[247] This sensitivity analysis varies this proportion uniformly between 50% and 90%
- key parameters of the CGE model are the Armington elasticities, which govern the substitutability of goods produced domestically and imported from different origins. The values of these elasticities are estimated econometrically and, in line with most CGE analyses, the estimates contained in the GTAP database are used. However, to account for the impact of variation in this critical parameter in the sensitivity analysis, a uniform distribution between 50% and 150% of the GTAP database value is applied

### Varying Armington elasticities

Trade elasticities govern consumers' preferences for imports from different countries and are taken from the GTAP 12p1 database. In the Monte Carlo analysis, the elasticities are drawn from a uniform distribution between 50% and 150% of the GTAP database value, following Hertel (2003) and DBT's previous IAs.

[247] There exist other approaches in the literature, for example. OECD's "The Trade Impact of the UK's exit from the EU Single Market" acknowledge NTMs liberalisation can be rent-generating but do not reflect that in the modelling; Itakura et al. (2019) treats NTMS for services purely as tariff-equivalents; Walmsley et al. (2016) do not treat it as an iceberg cost nor tariffs but treat them as shifts in preferences.

### Varying reductions in NTMs

The likely reductions in NTMs affecting trade between India and the UK due to the FTA are estimated econometrically. To account for estimation uncertainty, the sensitivity analysis uses values of NTM reductions for each sector drawn from a normal distribution with mean and variance estimates informed by the underlying econometric analysis.

### Varying how NTM reductions are implemented

NTMs can be considered 'rent-generating' where they behave as a tariff, acting like a marginal tax on imports, with the tariff revenue or 'rent' going to the government. NTMs can also be considered as a pure loss of efficiency or an 'ice-berg cost', akin to some of the product being lost between the buyer and the seller (like an iceberg melting on its journey). These NTMs do not raise any 'rent'.

NTMs are in fact varied and impact trade in different ways. This means it is uncertain what proportion of the NTM should be treated as 'rent-generating' and what proportion should be treated as an 'iceberg cost'. The choice of variable can have important consequences for the estimated impact of reductions in NTMs. Variables that reduce inefficiency (reduce 'iceberg' costs) tend to result in greater impacts than those that treat NTMs as associated with economic rents. For each modelling exercise there is a need of a judgement on the relative weight given to each variable.

In line with the analysis in previous assessments on the potential impacts of UK FTAs (SAs with India, Australia, New Zealand, the GCC, and accession to CPTPP and IAs of FTAs with Australia, New Zealand and UK accession to CPTPP), the core scenario assumes a 70:30 ratio (iceberg: rent-generating) when implementing NTM shocks within CGE models. This means that 70% of the NTMs liberalisation is expected to materialise as output gains for the relevant importers and 30% of the NTMs ad-valorem reductions are assumed to be rent-generating. This assumption is broadly in line with the approach taken by Francois (2013) and Bekkers et al (2016).

In CGE modelling applications the share of rent-generating NTMs varies from 0% to 40%. This means the ratio assumptions vary from 100:0 to 60:40. Most studies assume 0%, typically for the sake of analytical simplicity, meaning 100% of the NTM liberalisation is expected to materialise as lower iceberg costs with no impact on revenue.

Sensitivity analysis assesses the impact of drawing the iceberg rent-generating ratio from a uniform distribution between 90:10 and 50:50 alongside variations in trade elasticities, and NTM estimation, and final tariffs.

### Varying tariff inputs

For some sectors, tariffs are adjusted on India's imports from the UK to account for the effect of RoO (see Annex 3 for description of how these tariffs are derived). As RoO restrictiveness and therefore its impacts are uncertain, sensitivity tests are performed around tariff inputs adjusted for RoOs.

# Annex 6: Method for assessment of the impacts on small and medium-sized enterprises (SMEs)

This annex describes the data and method used to assess the implications of the FTA for SMEs.

SMEs can be defined as:

- firms employing fewer than 250 employees respectively; and
- firms not exceeding either (a) £44.0 million in annual turnover or (b) an annual balance-sheet total of £38.0 million

The analysis shows the variation of SMEs across different sectors and compares them with the estimated pattern of impacts across sectors set out in the IA. Due to data limitations, SMEs have been defined in this context using employment characteristics only. This is consistent with the approach applied in the DBT Business Population Estimates dataset (BPE).[248]

SMEs represent a key component of the UK economy: in 2024 these made up over 99% of the total number of private sector businesses, representing 60% of private sector employment and 52% of private sector turnover.[249]

## 6.1 Data and method

Information on the characteristics of UK businesses comes from the DBT BPE dataset. The BPE combines data sources on the business population (UK Business: Activity, Size and Location (ONS), Business Demography (ONS) and Small and Medium Enterprise Statistics (DBT)) to generate estimates of number, employment, turnover and other characteristics for all active private sector businesses, including sole-traders and unregistered businesses. Business characteristics by sector are then mapped from the Standard Industrial Classification (SIC) 2007 used by the BPE to the GTAP 12p1 sector definitions used in the CGE modelling. The table below summarises this information, capturing the number of businesses, employment and turnover for businesses according to the number of employees they have.

Table 12: SMEs in the profile of UK businesses

| Business size (number of employees) | Businesses | % of total businesses | Employment (millions) | % of employment | Turnover (£bn) | % Turnover Proportion |
|---|---|---|---|---|---|---|
| None | 4,071,825 | 74.0% | 4.4 | 16.0% | 366.0 | 6.9% |
| 1-49 | 1,381,165 | 25.1% | 8.5 | 30.7% | 1,459.7 | 27.7% |
| 50-249 | 37,750 | 0.7% | 3.7 | 13.2% | 926.4 | 17.6% |
| >249 | 8,250 | 0.2% | 11.1 | 40.0% | 2,520.5 | 47.8% |
| All Businesses | 5,498,990 | 100.0% | 27.8 | 100.0% | 5,272.6 | 100.0% |

Source: DBT Business Population Estimates, 2024.

[248] DBT Business Population Estimates, October 2024
[249] DBT Business Population Estimates, October 2024

The BPE shows that the concentration of SMEs varies markedly across sectors of the economy. Table 13 gives the distribution of SMEs across the economy using the sector definitions used by the GTAP dataset.[250] SMEs are present in all sectors of the economy, but four sectors – construction, business services, public services, and retail and wholesale trades are estimated to make up over two-thirds of the total number of UK SMEs.

Table 13 – Estimated change in GVA, trade and distribution of SMEs, by sector

| GTAP Sector | GTAP Sector | Sectoral Distribution of SMEs | SMEs Turnover by Sector | Estimated Contribution to Turnover | | |
|---|---|---|---|---|---|---|
| | | | (£m) | Micro/Small | Medium | Large |
| Agri-food | Agriculture, forestry, and fishing | 2.7% | 51,792 | 80.3% | 9.2% | 10.5% |
| | Beverages and tobacco products | 0.2% | 11,950 | 15.5% | 19.4% | 65.1% |
| | Semi-processed foods | 0.3% | 17,925 | 15.5% | 19.4% | 65.1% |
| | Other processed foods | 0.7% | 35,849 | 15.5% | 19.4% | 65.1% |
| Industry | Chemical, rubber, plastic products | 0.3% | 17,925 | 15.5% | 19.4% | 65.1% |
| | Energy | 0.5% | 49,660 | 14.3% | 10.9% | 74.7% |
| | Manufacture of electronic equipment | 0.1% | 5,975 | 15.5% | 19.4% | 65.1% |
| | Manufacture of machinery and equipment n.e.c | 0.8% | 41,824 | 15.5% | 19.4% | 65.1% |
| | Manufacture of motor vehicles | 0.1% | 5,975 | 15.5% | 19.4% | 65.1% |
| | Manufacture of other transport equipment | 0.6% | 29,874 | 15.5% | 19.4% | 65.1% |
| | Manufacturing n.e.c | 0.2% | 11,950 | 15.5% | 19.4% | 65.1% |
| | Minerals, ferrous metals and wood products | 0.5% | 23,900 | 15.5% | 19.4% | 65.1% |
| | Paper and printing products | 1.3% | 40,638 | 22.1% | 18.0% | 60.0% |
| | Textiles, apparel and leather | 0.3% | 17,925 | 15.5% | 19.4% | 65.1% |

[250] The estimated changes in GVA, imports and exports cover all businesses (and are not specific to SMEs). Figures do not cover NI businesses and businesses in the insurance sector.

| | | | | | | |
|---|---|---|---|---|---|---|
| Services | Business services | 22.2% | 532,740 | 41.4% | 16.2% | 42.4% |
| | Communications | 1.0% | 28,688 | 25.4% | 17.2% | 57.4% |
| | Construction | 15.8% | 305,795 | 61.9% | 13.3% | 24.9% |
| | Financial services | 1.0% | - | - | - | - |
| | Insurance | 0.5% | - | - | - | - |
| | Other services (transport, water, dwellings) | 9.0% | 204,882 | 37.3% | 15.8% | 46.9% |
| | Personal services | 9.4% | 115,504 | 37.1% | 13.3% | 49.6% |
| | Public services | 16.3% | 171,911 | 39.3% | 15.3% | 45.5% |
| | Wholesale and retail trade | 16.2% | 1,029,473 | 32.0% | 20.6% | 47.3% |

Source: DBT Internal Analysis of DBT Business Population Estimates, 2024. Note: No turnover data available for Financial or Insurance sectors. DBT Business Population Estimates available for the 16 SIC categories, DBT analysis has mapped this to GTAP-23 categories.

The data on sectors where SMEs are located (as above), are paired with the sectors where output is expected to increase or decrease relative to the baseline because of the agreement. This provides a preliminary assessment of whether SMEs are concentrated in industries where GVA decreases relative to the baseline.

## 6.2 Limitations

The preliminary analysis requires several simplifying assumptions and is subject to several limitations:

- this approach does not consider does not consider the impacts on SMEs from changes to trade barriers relative to other businesses.
- mapping the SIC to the sector aggregations used in the GTAP modelling requires several simplifying assumptions which could result in biases in the estimated distribution of SMEs across GTAP sectors
- DBT BPE data captures data on unregistered and sole traders, however it does not allow for disaggregation between small and micro businesses and there is no available turnover data for the finance or insurance sectors.

# Annex 7: Method for assessment of impacts on groups in the labour market

This annex describes the data and method used to assess the implications of the agreement for various groups in the labour market including sex, ethnicity, disability and age.[251]

The international evidence suggest that trade agreements and trade liberalisation have the potential to affect various sectors of the economy and groups differently.[252] This is because consumption patterns and employment patterns can differ systematically across groups.

The method analyses the characteristics of the workforce within sectors where employment is predicted to decline relative to the baseline over the long run due to the agreement.

## 7.1 Data and method

Sectors in the CGE model are defined by the GTAP 12p1 dataset used. These sectors are mapped from GTAP to the SIC 2007 sectoral definitions used by the ONS Annual Population Survey (APS).[253] The APS is a combined survey of households in Great Britain that draws on data from the Labour Force Survey.

The table below presents data from 2023 of the APS, showing estimates of the proportions of those employed in each of the 23 GTAP sectors with various characteristic.[254]

The CGE modelling provides estimates of the changes in overall employment accounted for by each sector of the UK economy resulting from a free trade agreement. For the purposes of estimating potential impacts on different groups in the labour market, the analysis focuses on sectors in which employment decreases by more than 0.05% relative to the baseline.

Table 14: Employment shares in sectors by group

| Sex | | |
|---|---|---|
| **Proportions** | **Overall workforce** | **Sectors where employment is decreasing relative to the baseline** |
| Men | 52% | 62% |
| Women | 48% | 38% |

| Ethnicity | | |
|---|---|---|
| **Proportions** | **Overall workforce** | **Sectors where employment is decreasing relative to the baseline** |
| White | 85% | 85% |
| Mixed/Multiple ethnic groups | 2% | 2% |
| Indian | 3% | 4% |
| Pakistani | 1% | 1% |

[251] Sex, disability and age are a subset of those characteristics protected under the Equality Act 2010. For the purposes of this analysis, data regarding ethnicity is used to consider the protected characteristic of race. Other characteristics are not analysed due to a lack of data covering their demographics across sectors of the economy.

[252] The characteristic that has been studied in the greatest depth is sex. (UNCTAD, 2017) uses a method similar to the one used in this annex and (OECD, 2018) extends this approach to look at how women are affected because of impacts to global value chains

[253] More information of the survey is available ONS Annual population survey (APS) QMI, September 2012

[254] 2023 was the most recent dataset available that provided data for all the protected characteristics examined in this IA.

| | | |
|---|---|---|
| Bangladeshi | 1% | 1% |
| Chinese | 1% | 1% |
| Any other Asian background | 2% | 1% |
| Black/African/Caribbean/Black British | 3% | 3% |
| Other Ethnic Group | 2% | 2% |
| Ethnic Minority | 15% | 15% |

| **Disabled** | | |
|---|---|---|
| **Proportions** | **Overall workforce** | **Sectors where employment is decreasing relative to the baseline** |
| Disabled | 17% | 15% |
| Not disabled | 83% | 85% |

| **Age** | | |
|---|---|---|
| **Proportions** | **Overall workforce** | **Sectors where employment is decreasing relative to the baseline** |
| 16-24 | 11% | 9% |
| 25-64 | 85% | 87% |
| 65+ | 4% | 4% |

| **Religion** | | |
|---|---|---|
| **Proportions** | **Overall workforce** | **Sectors where employment is decreasing relative to the baseline** |
| No Religion | 50% | 53% |
| Christian (all denominations) | 40% | 37% |
| Buddhist | 0% | 0% |
| Hindu | 2% | 2% |
| Jewish | 0% | 1% |
| Muslim | 4% | 4% |
| Any Other Religion | 2% | 2% |

| **Sexuality** | | |
|---|---|---|
| **Proportions** | **Overall workforce** | **Sectors where employment is decreasing relative to the baseline** |
| Heterosexual/Straight | 96% | 96% |
| Gay/Lesbian | 2% | 2% |
| Bisexual | 1% | 1% |
| Other | 1% | 1% |

| Marital Status | | |
|---|---|---|
| **Proportions** | **Overall workforce** | **Sectors where employment is decreasing relative to the baseline** |
| Single, never married | 41% | 41% |
| Married, living with husband/wife | 49% | 50% |
| Married, separated from husband/wife | 2% | 2% |
| Divorced | 6% | 6% |
| Widowed | 1% | 1% |
| Civil Partner | 0% | 0% |
| Former Civil Partner, legally dissolved | Suppressed | Suppressed |
| Separated Civil Partner | Suppressed | Suppressed |
| Surviving Civil Partner, partner died | Suppressed | Suppressed |

Source: DBT Internal Calculations

## 7.2 Limitations

The aim of the analysis is to estimate the long run changes in employment in sectors according to population group. This provides a proxy for whether the labour market impacts of the agreement may result in a disproportionate impact on specific groups.

The analysis requires several simplifying assumptions and is subject to the following limitations:

- the data from the APS only allows descriptive analysis of the composition of sectors where individuals with various characteristics are employed, not inferential analysis of how these individuals or employers will respond to sectoral shocks. The analysis therefore cannot make inference about how groups will be impacted
- the analysis uses the available data sources to describe the characteristics of workers in sectors which the share of employment may increase or decrease relative to the baseline under an agreement. It does not assess the welfare impacts of any agreement on various groups
- mapping the employment data, which is recorded in the APS by Standard Industrial Classification to the sector aggregations used in the GTAP modelling could result in biases in the estimated distribution of employment across the GTAP sectors
- the proportions estimated above are based on a snapshot of the demographics. By only using the years available, the analysis does not reflect trends that may be present in the proportions
- the analysis is based on the structure of the UK workforce from 2023, whereas the CGE modelling results reflect the UK economy in the long run when the composition of the workforce may have changed
- results have been suppressed when there are less than 3 respondents, results are caveated as being less robust with * if there are less than 25 respondents (No results were caveated in this instance)

# Annex 8: Method for assessment of impacts on English regions and UK nations

This annex describes the data and method used to assess the implications of the agreement for the regions and nations of the UK, including sensitivity analysis.

This method uses the differing composition of economic activity across UK regions and nations to consider how regions could be positively or negatively impacted based on the modelled sectoral changes in GVA.

## 8.1 Methodology

The impact on nations and regions of the UK are estimated by apportioning the estimated sectoral impacts from the CGE model to the nations and regions of the UK. These are apportioned using GVA data and, where necessary, employment shares for each sector within each nation and region of the UK at the International Territorial Level (ITL-1).

The methodology weights the UK-wide change to each sector's output from the CGE modelling (denoted as UK Impacts below) by the share of the sector's GVA that is produced in that region. This is then summed across all sectors to calculate the overall impact for each region (where r stands for ITL-1 region and s stands for sector):

$$Regional\ Impact_r = \sum_s^S Share\ of\ GVA_{r,s} \times UK\ Impact_s$$

The apportionment approach means that the uncertainties affecting the sectoral impacts also affect the sub-national impacts.

Since the last published IA, a change has been applied to the UK impact by sector term in the above equation, so that the impacts in the main body of the IA are now on a basis of real GVA rather than nominal GVA. This previous (nominal) approach showed the increased expenditure on resources (such as land, labour and capital) by firms in each region, making no adjustment for relative price changes because of the FTA. The new (real) methodology deflates sectoral GVA with respect to the relative price changes in the goods and services produced in each sector. Therefore, this new method represents how real quantity produced changes because of the agreement.

Measures of nominal value added, which includes the effect of sectoral price rises because of the agreement can still contain important information on how the agreement affects production in the nations and regions of the UK. The use of both value and quantity impacts on the regions provide a more comprehensive assessment of the impacts of the agreement on economies of the UK's regions. For completeness, the table below shows regional impacts on a nominal value basis, which is comparable to the method published for subnational impacts in previous IAs.

Table 15: Indicative change in UK regional nominal value added, long run % change

| Region | % Change in GVA | £m change |
|---|---|---|
| East of England | 0.26% | 460 |
| East Midlands | 0.27% | 320 |
| London | 0.22% | 1,100 |
| North East | 0.28% | 170 |
| North West | 0.26% | 550 |
| South East | 0.26% | 780 |
| South West | 0.25% | 400 |
| West Midlands | 0.29% | 430 |
| Yorkshire and the Humber | 0.27% | 390 |
| Northern Ireland | 0.27% | 130 |
| Scotland | 0.27% | 430 |
| Wales | 0.27% | 190 |

Source: DBT Internal *Calculations*
*Note: Pound values have been rounded to the nearest £10 million*

## 8.2 Location Quotients

There is some evidence to support the presence of regional multipliers resulting from changes in trade. These occur when tradeable sectors and exporters pay higher wages and the expansion of trade leads to the creation of jobs in other non-tradeable sectors, through a 'local multiplier effect'.

The location quotient is calculated by dividing a sector's employment share in a region by the employment share in the UK. A value of one indicates that an industry's share of employee jobs in the region is the same as its share of employee jobs nationally. A value greater than one means that the industry makes up a larger share of employee jobs in the region than the national levels, indicating that the nation or region is particularly specialised in a sector).

Location quotients are calculated using data from the ONS' Business Register and Employment Survey, the official source of employee and employment estimates by geography and industry.

To calculate the regional impact, the approach multiplies the region by sector GVA value by each sector's location quotient and the modelled CGE shock for that sector. This location quotient attempts to proxy for potential second order effects in each region. The sectoral changes are then constrained to ensure that the overall change in a sector matched the sectoral change from the CGE results, as shown below:

$$Regional\ Impact_r = \sum_{s}^{S} Share\ of\ GVA_{rs} \times UK\ Impact_s \times Location\ Quotient_{rs} \times Constraint_S$$

where $r$ = ITL1 UK regions, $s$ = sector.

Estimates from this analysis are shown in the table below. Values presented below should be treated as indicative orders of magnitude based on 2022 GVA data. Due to uncertainty

around the degree to which the location quotient is an accurate proxy for multiplier effects, results presented below are taken as the average in between the location quotient approach and simple approach. The results presented in Section 5 of the IA are calculated without using the location quotient.

Table 16: Indicative change in UK real regional value added, long run % change (LQ average)

| Region | % Change in GVA | £m change |
|---|---|---|
| East of England | 0.10% | 180 |
| East Midlands | 0.10% | 120 |
| London | 0.06% | 290 |
| North East | 0.13% | 80 |
| North West | 0.09% | 200 |
| South East | 0.09% | 270 |
| South West | 0.09% | 150 |
| West Midlands | 0.15% | 230 |
| Yorkshire and the Humber | 0.12% | 170 |
| Northern Ireland | 0.11% | 50 |
| Scotland | 0.14% | 220 |
| Wales | 0.12% | 80 |

Source: DBT Internal *Calculations*
*Note: Pound values have been rounded to the nearest £10 million*

## 8.3 Limitations

The aim of the analysis is to provide a high-level overview of potential UK regional impacts using an intuitive analytical approach. The results should not be treated as forecasts. The analysis is subject to the same limitations as CGE modelling in general, and relies on several simplifying assumptions:

- the analysis is based on sector results at an aggregate level, so will not fully reflect differences in patterns of production across nations and regions of the UK. Similarly, due to data limitations, regional apportionment of sector results is carried out at a higher level of aggregation than the level used in the sectoral results presented in Section 4 of the IA
- the analysis does not explicitly consider the varying trade patterns of individual sectors across each part of the UK. It assumes the same sectors in each region trades the same
- the analysis assumes that the long-term structures of regional economies are consistent with GVA and employment data from 2022
- the analysis assumes that the UK sector GVA shock produced by the CGE model is the same for that sector in all nations and regions
- the analysis assumes that the regional share of GVA remains constant over the modelling horizon. It does not give any insight into how regions adjust to a new long-term equilibrium position
- the modelling does not explicitly take account of any impacts arising from the Windsor Framework

# Annex 9: Method for assessment of tariff reductions

This annex sets out the method for estimating changes in duties paid on trade between the UK and India following implementation of the agreement. These estimates assume full utilisation of all available preferences, which is unlikely to be in the case in practice.

## 9.1 Method for estimating duties

### UK exports to India

Estimated duties paid on India's imports from the UK are calculated by multiplying India's MFN tariff rates as of 2022 by India's imports from the UK in 2022 at the 8-digit product classification level. Using India's preferential tariff schedule set out in the agreement, it is then possible to identify India's tariff lines subject to:

- immediate reductions (where tariffs are removed at entry into force)
- long-term reductions (immediate tariff reductions plus tariff reductions on goods that are subject to staged tariff removal).

Based on this, it is possible to calculate the estimated duties paid in these lines.

### UK imports from India

To estimate reductions in duties paid on UK imports from India, the lower of the applied UKGT tariff rate and the General Framework in the UK's Generalised Scheme of Preferences (where applicable) for developing countries (both applied in 2022) is multiplied by UK imports from India in 2022 at the 8-digit product classification level. For UK imports from India, HMRC imports by preference data is used, which provides a more detailed breakdown of the tariff regime by which a product enters the UK.

Using the agreement's preferential tariff schedule, it is then possible to identify tariff lines subject to immediate (where tariffs are removed at entry into force) and long-term tariff reductions (immediate tariff reductions plus tariff reductions on goods that are subject to staged tariff removal), and corresponding estimated changes in duties collected in these lines by UK authorities. The data are also grouped into intermediate or final consumption goods using the UN's Broad Economic Categories (BEC5).

Reduced duties also reflect an equivalent reduction in government tariff revenues on these products. This may be partly offset by increased tax revenues from higher economic activity in the UK.

## 9.2 Limitations

Following a similar approach widely applied in the literature, the calculations aim to provide an indication of the magnitude of duties applicable to tariff lines that are liberalised. These estimates are subject to several limitations:

- they are based upon 2022 trade and tariffs and do not reflect the likely changes in trade patterns resulting from tariff liberalisation
- these estimates assume full utilisation of all available preferences, which is unlikely to be the case in practice as businesses require time to adjust and utilise preferential trade agreements
- generally, it is importing businesses that pay tariffs and therefore save the cost of tariffs paid. These savings may be passed on to consumers, however, the proportion passed through to consumers is uncertain

## 9.3 Additional results on duty estimates

Table 17: Top 10 HS sections, ranked by estimated duty reductions after staging (assuming full utilisation) on Indian imports from the UK based on trade in 2022

| Product Section (HS) | India imports from UK, 2022 £m | Estimated duties under MFN terms, 2022 £m | Estimated duty reductions after staging, £m |
|---|---|---|---|
| Prepared foodstuffs, beverages and tobacco | 302.4 | 434.3 | 316.9 |
| Precious stones and metals | 2,867.9 | 302.2 | 216.1 |
| Machinery and mechanical appliances | 1,288.7 | 120.9 | 105.8 |
| Chemical products | 580.4 | 78.8 | 70.9 |
| Vehicles, aircraft, vessels and associated transport equipment | 157.9 | 58.9 | 54.3 |
| Base metals and articles of base metal | 1,163.2 | 46.4 | 36.1 |
| Paper products | 267.5 | 27.3 | 25.9 |
| Optical and medical equipment | 274.8 | 23.9 | 21.1 |
| Plastic and rubber | 187.1 | 21.2 | 17.1 |
| Textiles and textile articles | 55.9 | 7.5 | 7.3 |

Source: DBT Analysis, 2025

## 9.4 Additional results on consumer goods

Table 18: Top 5 HS sections, ranked by estimated duty reductions after staging (assuming full utilisation) for businesses importing final consumption goods from India based on trade in 2022

| Product Section (HS) | UK imports from India, 2022 £m | Estimated duties under MFN terms, 2022 £m | Estimated duty reductions after staging, £m |
|---|---|---|---|
| **Total final consumption goods** | **6,000.1** | **183.7** | **180.1** |
| Textiles | 1,402.4 | 132.3 | 132.3 |
| Footwear | 231.6 | 13.2 | 13.2 |
| Prepared foodstuffs, beverages and tobacco | 168.2 | 11.7 | 11.7 |
| Precious stones and metals | 346.5 | 7.1 | 7.1 |
| Vegetable products | 265.2 | 8.2 | 4.7 |

Source: DBT analysis, 2025

Table 19: Top 5 HS sections, ranked by estimated duty reductions after staging (assuming full utilisation) for businesses importing intermediate and capital goods from India based on trade in 2022

| Product Section (HS) | UK imports from India, 2022 £m | Estimated duties under MFN terms, 2022 £m | Estimated duty reductions after staging, £m |
|---|---|---|---|
| **Total intermediate and capital goods** | **5637.2** | **40.9** | **40.5** |
| Textiles and textile articles | 251.3 | 11.9 | 11.9 |
| Chemical products | 1163.1 | 11.3 | 11.3 |
| Base metals and articles of base metal | 876.8 | 4.4 | 4.4 |
| Plastics | 381.4 | 3.9 | 3.9 |
| Machinery and mechanical appliances | 1477.7 | 3.4 | 3.4 |

Source: DBT analysis, 2025

# Annex 10: Method for assessment of the impacts on businesses

This annex describes the data and method used to assess one-off familiarisation costs that businesses incur to take advantage of an FTA. These are the one-off costs to businesses from reading and understanding the text of this agreement. Familiarisation costs to groups such as enforcers, and customs and government officials are assumed to materialise through business as usual (BAU) activities.

## 10.1 Data and method

The method to estimate the one-off familiarisation costs to businesses is as follows:

- estimates are produced for the number of UK businesses trading with India to inform the scope of the familiarisation costs.
- assumptions are applied to the number of businesses in scope to determine the proportion of businesses that use an external agent to familiarise themselves with the agreement and the costs associated with this.
- for the remaining businesses that are assumed to not use an external agent, the costs of familiarising themselves with the agreement are calculated based on the time required to read the agreement text.
- total costs for businesses using external agents are combined with the total costs of businesses familiarising themselves with the agreement to calculate the total one-off familiarisation cost. Ranges are applied to this estimate to reflect differences in reading time.

Table 20 illustrates the key assumptions used.

Table 20: Key assumptions used for calculating one-off familiarisation costs to businesses

| Assumption | Value (central assumptions) | Source |
|---|---|---|
| A1: Number of UK businesses importing/exporting goods to India in 2024 | 25,400 | HMRC Regional Trade Statistics, March 2025 |
| A2: Services as a proportion of UK imports/exports to India | 58% | ONS UK Economic Accounts.<br><br>% of UK imports/exports to India which are services is used as a proxy. |
| A3: Estimated number of businesses importing/exporting goods and service to India | 60,600 | Estimated as A1/(1-A2) |
| A4: Proportion of businesses using an agent | 60% | HMRC, Understanding tax administration for businesses, HM Revenue and Customs Research Report |
| A5: Cost per business using an agent | £352 | HMRC, Understanding tax administration for businesses, HM Revenue and Customs Research Report, scaled to 2024 prices |
| A6: Estimated agreement text length | 170,000 words | DBT internal estimate |
| A7: Estimated reading words per hour | 13,700 | Standardized Assessment of Reading Performance: The New International Reading Speed Texts IReST |
| A8: Time taken to read agreement per business (hours) | 12.4 | A6/A7 |
| A9: Cost per hour | £20.61 | Median hourly pay for all employees from the Annual Survey of Hours and Earnings (2024), uplifted by 21% to account for non-wage costs[255] |
| A10: Cost per business not using an agent | £256 | A8*A9 |
| **Total familiarisation cost** | £19.0m | (A3*A4*A5) + (A3*(1-A4)*A10) |

[255] DBT analysis based on ONS methodology

## 10.2 Limitations

The limitations to precisely estimate the one-off familiarisation cost are:

- the method assumes that the proportion of businesses using an agent, as well as the associated costs, are equivalent for businesses managing their tax affairs and business seeking to utilise and FTA for exporting
- the estimated impact could be up to double the value provided if counting firms who both export and import goods
- the method does not consider the number of new businesses that may begin trading with the partner country because of the agreement
- data are not available on the number of business that trade in services with the partner country, and an estimated number is based on the share of UK trade in services with the partner country

# Annex 11: Method for assessment of environmental impacts

This annex sets out the methodology for estimating the impact of the agreement on carbon dioxide ($CO_2$) emissions and transport emissions. It also provides the environmental performance indicators (EPI) for the UK and India. Different analytical methods are used to derive each set of emissions. As with the economic modelling, improvements have been made to the methodology used to derive the environmental impacts through the use of new approaches. This means that the results are not directly comparable to those presented in the scoping assessment.

## 11.1 Greenhouse gas (GHG) emissions

To estimate the impacts of the FTA on global, UK and India GHG emissions, an extension to the core CGE model is used, known as GTAP-E. This model has been used as part of DBT's development work to incorporate recommendations from the Modelling Review and represents a change in the methodological approach used for the scoping assessment.[256]

Much like how the GTAP model reflects the reallocation of economic activity between sectors and countries resulting from the agreement, the GTAP-E model aims to capture the associated changes in magnitude, distribution and composition of emissions. Emissions change is closely linked with the relative expansion and contraction of fuel intensive sectors. In most economies, fuel is disproportionately used for electricity generation and transportation. To a lesser extent, fossil fuels are also used in the direct production processes of some industrial sectors such as iron and steel manufacturing.

Compared to the GTAP model used to estimate the economic impacts, GTAP-E includes additional assumptions, such as the ability and rate of inter-fuel and fuel-factor substitution to present a more realistic representation of energy use and dynamism.

### GTAP-E background

GTAP-E builds on the standard GTAP model by incorporating carbon emissions from the combustion of fossil fuels used in production of goods and services. It also adjusts the production and consumption structures used in the GTAP model to better suit the modelling of environmental impacts.

In line with the economic CGE modelling presented in this IA, GTAP 12p1 data is used for the environmental modelling of the agreement. However, at the time when the modelling was undertaken, the GTAP 12p1 database had not been published and there currently is no official environmental-equivalent database to use. Following consultation with the GTAP Centre, DBT created its own database using all trade, production, and $CO_2$ estimates from GTAP 12p1, Where elasticities and parameters are needed, DBT applies values from GTAP-E 11c data, which in turn is a replication of the GTAP-E 11b dataset. As a results of these steps, DBT has operationalised the GTAP Centre's pre-release economic database into one that can be run within the GTAP-E environmental model.

GTAP-E is widely used in other countries, by international institutions and by academics (World Bank, United Nations, IMF). Further information on the mechanics behind GTAP-E can be found in work by Burniaux and Truong (2002).[257]

[256] Trade modelling review expert panel: report and recommendations, January 2022
[257] "GTAP-E: An Energy-Environmental Version of the GTAP Model, 2002.

### UK emissions

GTAP-E assumes energy substitution is an important factor in assessing energy-environment-economy linkages. Energy is modelled as a primary input, instead of being an intermediate input (as is the case in the standard GTAP model). The production structure in the model therefore captures energy as an additional factor of production. The impact of this is captured on two levels: first, allowing for the possibility of substitution between alternative fuels; and secondly, allowing for the substitution between energy and capital as factors of production (jointly creating the energy-capital composite in the model). The energy-capital composite is then substitutable with other factors of production (labour, land and natural resources). If the demand for the energy-capital composite increases, there might still be an increased overall demand for energy inputs. This reflects short-term complementarity between energy and capital.

This approach in the model is supported by the economic literature, which highlights that physical capital, and energy could be substitutes or complements in production, often depending on the time horizon.[258] They are more likely to be complements in the short or medium term, and substitutes in the long term, as firms have more time to adjust their factors of production. The GTAP-E model also assumes the energy market is perfectly competitive in the long-run.

Being a fully specified general equilibrium model, GTAP-E accounts for the impacts originating in both supply side (production) and demand side (consumption) of the economy a top-down approach).[259] It therefore estimates the emissions changes related to household consumption of energy (such as gas and petrol).

### Partner country emissions

GTAP-E provides a single consistent framework to estimate the impact of an FTA on both UK emissions and partner country and global emissions. This is because it captures the impact of changes in wider trade patterns. Therefore, the modelling results are used to produce an estimate for the impact on global and Indian emissions as well as for the UK.

### Limitations of the quantitative estimates of greenhouse gas emissions

The quantitative assessment of the environmental impact is based on the estimated economic impact of the FTA. Consequently, the environmental assessment conducted in this analysis inherits the limitations of the economic modelling.

With respect to the environmental modelling, there are caveats concerning the interpretation of the results:

- results do not consider the projected decline in UK greenhouse gas emissions in various sectors or declines in emissions intensity that might be expected to follow from UK government policies. For example, the decarbonisation or policy measures to deliver the UK's Net Zero commitment, and firm and consumer behaviour
- it is a top-down approach to energy modelling and therefore does not include a detailed specification of energy technologies
- the reference year used for the GTAP-E modelling is 2019. UK territorial GHG emissions have declined significantly since 2019. According to ONS data, total UK emissions have fallen by around 14% between 2019 and 2023 (from 448 $MtCO_2e$ in 2017 to 384 $MtCO_2e$ in 2023)[260]

[258] See Burniaux & Truong, 2002. Rutherford & al, 1997.
[259] The top-down approach to energy modelling starts with a detailed description of the macro economy and then derives from there the demand for energy inputs in terms of the demand for various sectors' outputs through highly aggregate production or cost functions.
[260] ONS, Greenhouse gas emissions in the United Kingdom, 1990 to 2023.

- the current static version of GTAP-E does not account for the technique effect – where trade opening can lead to the adoption of more environmentally friendly production techniques, either through technology transfer or investment which can lead to a decline in $CO_2$ emissions and emission intensity over the long-term
- DBT's version of the model uses only GTAP's 2019 $CO_2$ emissions estimations (non- $CO_2$ emissions data is currently unavailable under the GTAP 12p1 dataset and as such has not been considered for this analysis

## 11.2 Transport emissions

### Methodology

The impact of an FTA on aviation and maritime emissions (Section 8.4 of the IA) is estimated using the CGE-based economic analysis and HMRC trade data as inputs.

HMRC trade data gives the tonnage of goods transported via each mode of transport. Published forecasts in aviation and maritime traffic are used to estimate projected traffic by mode. The estimated output changes from the CGE-based economic analysis are linked to HMRC Overseas Trade Statistics to convert the impact of the FTA to tonnage and added to traffic projections to estimate the effects of the bilateral agreement on aviation and maritime traffic. [261] Using the distance between trading partners and emissions factors for specific ship types and freighter aircraft, this traffic impact is converted into an emissions impact.

### Limitations

As with production emissions, the impact of the UK-India FTA on transport emissions is based on the CGE results and therefore inherits the same limitations of the economic modelling.

Furthermore, the transport methodology applies several other simplifying assumptions:

- the scope of this assessment does not include the impact on transport emissions from changes in trade with third countries. As such, the magnitudes cannot be directly compared with the global emission estimates from the CGE models

- service trade impacts are assumed to be negligible (for example, it ignores the movement of people driven by the UK-India FTA and examines goods only)

- emissions intensity does not change over time. In reality, emissions intensity ($CO_2e$ emissions per tonne per km) is expected to improve over time under business-as-usual conditions, reflecting technological change and global climate ambitions. With emissions savings coming from more modest improvements such as cleaner fuels, energy efficiency savings and engine upgrades. However, robust estimates of future changes in emissions factors for maritime and aviation are not available. Using current emissions factors is a conservative approach that will likely overestimate the change in emissions. As part of this, significant technological change is assumed to have a negligible impact in the mid-term (for example, long-haul electric aircraft and hydrogen-powered cargo ships do not become available)

### Transport emissions including indirect effects

Whilst the estimates provided in the IA capture the direct impact on transport emissions, the indirect impact of other non-$CO_2$ aviation emissions, such as water vapour, contrails, and nitrogen oxides, have also been explored. The modelling estimates that indirect aviation

[261] UK trade in goods statistics - GOV.UK

emissions could increase total emissions by up to 0.5 $MtCO_2e$. Overall, the FTA could therefore lead to a long-run annual increase in bilateral transport emissions from 2040 of between 1.8 $MtCO_2e$ and 3.0 $MtCO_2e$. These estimates are subject to the same modelling limitations outlined above and are not included in the IA, given the GTAP-E model used for wider emission estimates only cover $CO_2$.

Table 21: Estimated impact of India FTA on trade-related maritime and aviation freight emissions, incl. indirect aviation emissions

| Impact | Emissions from UK exports | | | Emissions from UK imports | | | Total |
|---|---|---|---|---|---|---|---|
| | Aviation | Maritime | Total | Aviation | Maritime | Total | |
| 2040 annual change ($MtCO_2e$) | 0.5 | 0.5 - 1.4 | 1.0 - 2.0 | 0.7 | 0.1 - 0.4 | 0.8 – 1.0 | 1.8 – 3.0 |
| Change in 2040 relative to 2040 baseline (%) | 116% | 76% | 83% - 93% | 48% | 13% | 24% - 34% | 45% - 53% |

**Trade-related Transport Emissions – 2020 – 2040 average annual (consistent old methodology)**[262]

Comparing results from the old methodology, the impacts from the final agreement are broadly consistent with the impacts in both scenarios from the scoping assessment. The overall magnitude of change closer to the shallower scenario. The main changes in the results since the scoping assessment are:

- a much smaller than expected increase in maritime imports because of a reduction in expected imports from the petroleum and coal products and sugar sectors. This has primarily been driven by improvements to the CGE methodology where input assumptions for energy and agricultural sectors have been updated to better reflect real-world scenarios for changes in trade resulting from FTAs. This is partially offset from an expected increase in imports of Iron & Steel from India.
- a larger than expected increase in maritime exports particularly for UK exports of the paper products and publishing sector and the rubber and plastic product sector.

This agreement is expected to lead to an increase in transport emissions because of the increase in bilateral trade with India. The estimates suggest that the increase in emissions associated with maritime and aviation freight could be between around 0.5 $MtCO_2e$ and 1.0 $MtCO_2e$ on average each year until 2040, between a 21% and 24% increase against the baseline of transport emissions associated with trade with India. These impacts cover trade both ways and are gross impacts. This means they do not account for changes in trade, and therefore transport emissions, with third countries.

[262] Results have also been produced using an old methodology to enable comparison with earlier environmental IAs and the UK- India FTA SA. This earlier approach estimates the average annual impact on emissions during the implementation period, up to the point where full economic adjustment is expected. In contrast, the new methodology presents the full long-run impact, assuming all adjustments have already taken place.

Table 22: Estimated impact of India FTA on bilateral trade-related maritime and aviation freight emissions

| Impact | Emissions from UK exports | | | Emissions from UK imports | | | Total |
|---|---|---|---|---|---|---|---|
| | Aviation | Maritime | Total | Aviation | Maritime | Total | |
| Average annual change ($MtCO_2e$) | 0.1 | 0.2 - 0.6 | 0.3 - 0.7 | 0.1 | 0.1 - 0.2 | 0.2 - 0.3 | 0.5 – 1.0 |
| Change relative to baseline (%) | 63% | 37% | 39% - 43% | 28% | 7% | 10% - 15% | 21% - 24% |

*The range for maritime emissions is based on a sensitivity analysis looking at the shortest and longest typical routes ships may take between the UK and India.*

The above estimates capture the direct impact on transport emissions, but the indirect impact of other non- $CO_2$ aviation emissions, such as water vapour, contrails, and nitrogen oxides, have also been explored. The modelling estimates that indirect aviation emissions could increase total emissions by up to 0.2 $MtCO_2e$. Overall, the FTA could therefore lead to an average annual increase in bilateral transport emissions over 2020 to 2040 of between 0.7 $MtCO_2e$ and 1.2 $MtCO_2e$. These estimates are subject to the same modelling limitations outlined above.

Table 23: Estimated impact of India FTA on bilateral trade-related maritime and aviation freight emissions (incl. indirect aviation emissions)

| Impact | Emissions from UK exports | | | Emissions from UK imports | | | Total |
|---|---|---|---|---|---|---|---|
| | Aviation | Maritime | Total | Aviation | Maritime | Total | |
| Average annual change ($MtCO_2e$) | 0.2 | 0.2 - 0.6 | 0.4 – 0.8 | 0.2 | 0.1 – 0.2 | 0.3 – 0.4 | 0.7 – 1.2 |
| Change relative to baseline (%) | 63% | 37% | 40% - 45% | 28% | 7% | 12% - 17% | 22% - 27% |

*The range for maritime emissions is based on a sensitivity analysis looking at the shortest and longest typical routes ships may take between the UK and India.*

## 11.3 Environmental Performance Indicators (EPI)

### Indicators

EPI rankings are used within Section 8 to provide context on the environmental performance of the UK and India. The EPI provides an indication of a country's environmental performance towards addressing issues specified by each of the categories. Table 24 summarises the EPI indicators for the UK and India covered in the main IA and provides further information about how these have changed over the past decade.

Table 24: EPI rank, score and 10-year change for the UK and India

| EPI category | UK | | | India | | |
|---|---|---|---|---|---|---|
| | Rank | Score | 10-year change | Rank | Score | 10-year change |
| Air quality | 19 | 69.9 | 6.0 | 177 | 6.8 | 1.0 |
| Water quality and sanitation | 1 | 100 | 1.6 | 143 | 25.4 | 6.7 |
| Marine habitat and fisheries | 114 | 38.1 | -5.0 | 116 | 27 | -1.5 |
| Land use and deforestation | 81 | 45.6 | 1.9 | 48 | 63.6 | -7.9 |
| Waste Management | 10 | 65.4 | 3.5 | 86 | 31.8 | 0.5 |
| Biodiversity and ecosystems | 15 | 71.5 | 1.5 | 178 | 11.2 | -1.9 |

*Source: Yale* – 2024 Environmental Performance Index - Environmental Performance Index (EPI 2024)

## Methodology for impacts on natural capital

Assessing the impact of the UK-India FTA on natural capital and nature loss is difficult for several reasons. Firstly, it is difficult to isolate the causal links between changes to natural capital and changes to trade patterns induced by the FTA. Natural capital is impacted by a range of factors, and it is difficult to quantify the marginal effect of the FTA. Secondly, data used to assess the existing picture of natural capital is not universally available. Domestic measures of natural capital indicators are not always comparable internationally and so international measures, such as rankings, are used. These do not capture all the nuances of each area of natural capital but allow for cross-country comparison.

Given these limitations, the qualitative approach used in the IA involves assessing the modelled changes in GVA across both the UK and India for sectors most closely linked to various forms of natural capital. This can be thought of as a proxy for the potential impact of the FTA on natural capital as, all else equal, there could be more of a risk to natural capital if these sectors were to expand. However, there are several limitations to consider:

- this approach does not take into consideration future policy steps to reduce the risks on natural capital. However, the extent to which natural capital outcomes worsen overall depends on whether these types of mitigations outweigh any impacts of the FTA

- the modelling uses historic emissions intensities and water withdrawal rates, combined with broader desk research to identify the sectors most closely linked to each form of natural capital. These may not be fully reflective of how sectors change in the future, both in terms of the products/services they produce but also any advancements in production technologies. As such, it is possible that the sectors most closely linked to natural capital change over time, which the analysis above does not consider.

# Annex 12: method for assessment of impact on developing countries

This annex describes the data and methods used to assess the effect of the UK-India FTA on developing countries trade. For this analysis, developing countries are defined as those in the African, Caribbean and Pacific (ACP) regions, and trading under Economic Partnership Agreements with the UK, or trading under the UK's Developing Country Trading Scheme (DCTS). The UK annually imported goods worth £21.3 billion from developing countries (excluding India). This includes £6.3 billion from South Africa, £2.8 billion from Bangladesh, £1.3 billion from Pakistan, and £1.2 billion from Indonesia.[263]

Developing countries where a higher share of their trade is with the UK or India, or those exporting products in which the UK or India are highly competitive, are more likely to experience preference erosion because of the UK-India FTA. This is because the FTA would reduce their relative competitiveness, due to greater market access agreed between the UK and India. This can lead to the UK or India demand shifting away from the developing countries' products and towards the FTA partner's products, known as trade diversion. Reduced demand for developing country exports could have a negative impact on their trade balance, foreign reserves and GDP. It may also reduce demand for goods and industries that drive development and growth.

The table below identifies sectors where products exported from developing countries to the UK may be at risk of trade diversion. To provide context, it includes the total value of UK imports of each product from developing countries (excluding India), offering insight into current trade flows. Additionally, the table presents the value of exports from individual developing countries to the UK for those products, helping to illustrate the relative importance of UK trade for each country.

Table 25: Developing countries' exports identified as being at potential risk of trade diversion from a UK-India FTA (2021 to 2023 average, calculations on HMRC trade data)[264]

| HS2 Code and description | UK imports of sensitive products from developing countries, £m | Top developing country exporters to the UK in sensitive products (HS6), £m[265] |
|---|---|---|
| 2 - Meat and edible meat | £5.1 | Namibia £1.3 |
| 3 - Fish and crustaceans | £80.9 | Bangladesh £52.7<br>Myanmar £11.1<br>Sri Lanka £3.2 |
| 6 - Live Trees and plants | £3.1 | Kenya £3.0 |
| 7 - Edible vegetables | £57.3 | Senegal £19.8<br>Kenya £11.0<br>Ghana £7.3<br>Bangladesh £1.9<br>Sri Lanka £1.0 |

[263] Data source from HMRC, 2021-23 annual average. Direct data was used in all cases, except where data is missing in which case mirror data was used.
[264] Developing countries are defined as those eligible to trade under the UK's unilateral developing country trading scheme (DCTS) or an Economic Partnership Agreement (EPA). For totals imports in these products, India is removed from the total.
[265] This column identifies countries where specific products in the HS2 category have been identified as at risk of trade diversion using the methodology set out in this annex. Taking the outputs of this assessment, this table presents exports from developing countries using UK reported HMRC import data. Where relevant imports averaging less than £0.1m are excluded and limit the section to a top 5 if there are a number of countries.

| | | |
|---|---|---|
| 8 - Edible fruit and nuts | £418.4 | South Africa £154.5<br>Dominican Republic £90.1<br>Belize £29.8<br>Cameroon £23.5<br>Ghana £19.4 |
| 10 - Cereals | £64.0 | Pakistan £45.4<br>Guyana £6.0<br>Myanmar £1.0 |
| 15 - Animal or vegetable fats and oils | £1.4 | South Africa £1.4 |
| 16 - Preparations of meat or fish | £20.9 | Indonesia £5.8<br>Mauritius £3.0<br>Bangladesh £1.0<br>Myanmar £0.7 |
| 17 - Sugars and sugar confectionery | £5.4 | Pakistan £1.2 |
| 19 - Preparations of cereals etc. | £4.8 | Pakistan £1.7<br>Sri Lanka £0.6<br>Ghana £0.3 |
| 20 - Preparations of veg, fruit or nuts | £24.3 | South Africa £11.8<br>Jamaica £2.4<br>Pakistan £1.5 |
| 22 - Beverages, spirits and vinegar | £15.5 | Jamaica £6.6<br>Guyana £2.7<br>St Lucia £0.2 |
| 23 - Residues and waste (food industries) | £2.0 | Ghana £0.4<br>Pakistan £0.4 |
| 29 - Organic chemicals | £2.9 | South Africa £2.9 |
| 52 - Cotton | £11.5 | Pakistan £11.1 |
| 54 - Man-made filaments | £3.7 | Pakistan £1.6 |
| 55 - Man-made staple fibres | £13.5 | Pakistan £13.4 |
| 56 - Wadding, felt and non-wovens; special yarns | £9.8 | South Africa £5.8<br>Pakistan £1.7<br>Indonesia £1.3 |
| 57 - Carpets and other textile floor coverings | £1.0 | Sri Lanka £0.9 |
| 60 - Knitted or crocheted fabrics | £1.5 | Pakistan £1.5 |
| 61 - Articles of apparel and clothing, knitted | £2,060.6 | Bangladesh £357.1<br>Pakistan £223.1<br>Sri Lanka £171.4<br>Cambodia £55.3<br>Myanmar £25.2 |
| 62 - Articles of apparel and clothing, not knitted | £974.2 | Bangladesh £301.9<br>Sri Lanka £148.9<br>Pakistan £47.1<br>Cambodia £22.0<br>Myanmar £19.1 |
| 63 - Other made up textile articles; sets | £144.8 | Pakistan £116.8<br>Bangladesh £4.0<br>Cambodia £2.4<br>South Africa £0.9 |

| | | |
|---|---|---|
| 64 - Footwear, gaiters and the like or parts | £190.7 | Laos £1.6<br>Pakistan £1.0 |
| 71 - Precious stones and metals | £14.5 | Pakistan £3.2 |
| 76 - Aluminium and articles thereof | £9.1 | South Africa £2.9<br>Indonesia £2.5<br>Pakistan £1.0 |

## 12.1 Data and method

This analysis provides an indication of whether the market access agreed as part of the FTA is likely to negatively impact on the trade flows of developing countries receiving preferential market access to the UK. It does this by identifying products at the HS6 code level that are particularly vulnerable to preference erosion (these are then presented aggregated to the HS2 level in the table above)

To determine whether trade diversion may occur because of tariff reductions between the UK and India, trade data from the FTA partner is analysed first to determine the competitiveness of their exports. This is followed by an analysis of trade flows from developing countries to determine the value of their exports and the relative importance of the UK market for those goods. Products which are competitive for the partner country, have a positive tariff (under either the UKGT or under the DCTS access India receives), and are at risk of preference erosion for developing countries are identified.

### Criteria to identify competitive goods for the FTA partner[266]

FTA partner exports of a good at HS6 are defined as competitive if any of the following indicators are met:

- partner's global exports exceed UK total imports
- more than 5% of UK imports of the good are imported from the partner
- global exports from the partner are greater than 5% of total global imports
- revealed comparative advantage is greater than 1, indicating that the partner exports a higher proportion of the good than the global average[267]

### Criteria for goods at risk of preference erosion for developing countries

Developing countries' exports of a good at HS6 are defined as "at risk of preference erosion" if:

- exports to the UK account for more than 10% of global exports of that product, indicating reliance on the UK market.

And either of the following two criteria are also met:

- exports exceed 1% of the country's total exports
- annual average exports are greater than US$1m

Products which meet both sets of the above criteria are highlighted as potentially at risk of trade diversion from an agreement that will liberalise these product lines over time. The list of sensitive products is analysed to assess any goods missing as an output of the methodology, for which trade diversion risks were expected but the trade data had not flagged. Additionally, data is scrutinised further to more fully to interrogate partner country competitiveness and developing country trade flows, and other information sources are consulted to assess the full

[266] FTA partner's trade data sourced from TradeMap, averaged from 2021-23.
[267] Calculated as the product share of the FTA partner's global exports divided by the product share of global imports, using TradeMap data, averaged 2021-23.

risk of preference erosion. A summarised version of the conclusion of the analysis at an HS2 is provided in the section above, representing an aggregation of relevant HS6 codes.

### Limitations

There are however limitations with this analysis. Only static competitiveness threats are considered, rather than dynamic considerations of emerging industry and trade expansion across developing country partners. Therefore, these results cannot comprehensively predict the extent to which a change in relative tariffs faced by the developing country and by the FTA partner would lead importing firms in the UK to switch from suppliers in one country to another.

The presence of globally competitive producers in the FTA partner country is one factor, however using Revealed Comparative Advantage may be an imperfect measure of the FTA partner's competitiveness in each sector. Developing countries may already be more competitive than other producers where preferential access is not being used.

Other factors that shape how the market will respond include price elasticity, the availability of substitutes, the transaction costs involved in changing suppliers. These are not considered in this static analysis.

Furthermore, the analysis takes averages between 2021-23 in nominal terms. Therefore, the results do not consider inflation and exchange rate differentials which would both impact the value of imports and exports at product level.

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