

Title: Impact assessment of the EU-Japan Economic Partnership Agreement (EPA) on the UK IA No: DIT003 RPC Reference No: RPC-4231(1)-DIT Lead department or agency: Department for International Trade. Other departments or agencies:	Impact Assessment (IA)			
	Date: 24/05/2018			
	Stage: Final			
	Source of intervention: EU			
	Type of measure: Other			
Contact for enquiries: enquiries@trade.gsi.gov.uk				
RPC Opinion: Green				

Summary: Intervention and Options

Cost of Preferred (or more likely) Option				
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANDCB in 2014 prices)	One-In, Three-Out	Business Impact Target Status
£25,000 m	N/A	N/A	No	Not a regulatory provision

What is the problem under consideration? Why is government intervention necessary?
 The European Commission and the Japanese Government have concluded negotiations and agreed a final text for the EU-Japan EPA. The European Commission will present a proposed decision on signature of this agreement to the Council of the European Union. The Council will then vote on whether to formally adopt the necessary Council Decision authorising signature of the EU-Japan EPA. In the past, EU trade agreements have typically been agreed through Common Accord, requiring the agreement of all Member States. Ahead of this, the Council's decision and the position the UK will take is subject to UK Parliamentary scrutiny.

What are the policy objectives and the intended effects?
 The policy objectives are to support the EU's ambitious trade agenda and specifically the implementation of the EU-Japan EPA to promote bilateral trade and increase economic growth. The measures to achieve this include: a) eliminating most tariffs and b) reducing non-tariff barriers that businesses face when trading goods and services and when investing abroad. The UK Government's objective is to make it possible for the UK and Japan to continue trading on equivalent preferences after EU exit. The implementation of the EU-Japan EPA is estimated to increase EU bilateral exports to Japan by around £22bn (45%) to £35bn (71%) per annum in the long run. The EU-Japan EPA will enable UK firms to export and import at a lower cost and give more opportunity for UK businesses to bid for public procurement contracts in Japan. Furthermore, the EU-Japan EPA will increase the welfare of UK households by lowering the price of goods and services and by increasing consumer choice due to greater competition. Overall the implementation of the EU-Japan EPA is estimated to increase GDP by 0.10% to 0.14% across the EU in the long run.


What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)
 The agreement has already been negotiated and agreed by the EU and Japan, therefore there is no scope to change the agreement. The policy options are to support or not signature of the agreement. The following options are assessed against a baseline where the EPA is not implemented.
 The options are:

- The UK votes in favour of a Council Decision on signature and the implementation of the EU-Japan EPA.** The EPA is signed and enters into force early in 2019. This is the Government's preferred option.
- The UK does not support a Council Decision on signature of the agreement. Should the agreement not be implemented, the EU and Japan would continue to trade on WTO, Most Favoured Nation (MFN) terms. Under this option the UK does not accrue any additional costs and benefits. This is the baseline of this IA.

Will the policy be reviewed? It will not be reviewed. **If applicable, set review date:** Month/Year

Does implementation go beyond minimum EU requirements?	No			
Are any of these organisations in scope?	Micro Yes	Small Yes	Medium Yes	Large Yes
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)	Traded: N/Q		Non-traded: N/Q	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible SELECT SIGNATORY:  Date: 24/05/2018

Summary: Analysis & Evidence

Policy Option 1

Description: The UK approves implementation of the Japan-EU EPA. This is the governments preferred option and the one being taken forward.

FULL ECONOMIC ASSESSMENT

Price Base Year 2017	PV Base Year 2017	Time Period Years 15	Net Benefit (Present Value (PV)) (£m)¹		
			Low: 20,800	High: 29,100	Best Estimate: 25,000

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	3.1	-	3.1
High	3.3	-	3.2
Best Estimate	3.2	-	3.14

Description and scale of key monetised costs by 'main affected groups'

Where a business chooses to trade under the EPA preferences they will incur a one-off familiarisation cost associated with reading the EPA guidance (£3.2 million). UK businesses are not expected to incur costs if they do not use the preferences set out in the EPA.

Other key non-monetised costs by 'main affected groups'

There will be lower domestic production in some sectors due to increased competition from imports. This is captured within the net GDP effects set out below.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	-	1,800	20,800
High	-	2,500	29,100
Best Estimate	-	2,100	25,000

Description and scale of key monetised benefits by 'main affected groups'

Figures presented here reflect the long run impacts per annum and should be treated as a magnitude of change and not a forecast.

In the IA we present a range of estimates based on the scenarios within which the negotiated outcome is likely to fall in. It is important to note the results below are not based on the final EU-Japan EPA text and are therefore subject to a degree of uncertainty.

Copenhagen Economics (2009) estimate the long run net increase in real Gross Domestic Product (GDP) across the EU28 could range between 0.10% to 0.14% per annum. We estimate the UK share of this benefit to equate to between £2.1 billion to £3.0 billion. The mid-point between the two estimates, £2.6 billion, is reflected in the best estimate scenario presented above. These benefits include the elimination of all tariffs and the reduction of actionable Non-Tariff Measures (NTM) that impede cross-border trade. UK long-run national income (a measure of welfare) is estimated to increase by £2.9 billion to £4.7 billion. Around 42% of this increase is derived from tariff elimination, and 58% from NTM reduction.

The increase in net GDP is associated with:

- An increase in **net bilateral exports** across the EU by up to £40bn (71%) which equates to around £3.2 billion to £5.4 billion in the UK.
- An increase in **net bilateral imports** across the EU by up to £49bn (61%), which equates to around £5.5 billion to £8.4 billion in the UK.

Most of the bilateral export gains are expected to be in the chemicals (£1.3bn), motor vehicles (£1.0bn), and metal and metal products (£0.7bn) sectors. Import gains are expected to be in motor vehicles (£4.8bn), chemicals (£1.1bn), and electrical machinery (£0.7bn). These are economic changes that underlie and drive the change in GDP, but they are not additive components of GDP.

Other key non-monetised benefits by 'main affected groups'

- Increase in consumer choice of goods and services.
- UK business will benefit from greater ease to bid for Japanese government contracts.

Key assumptions/sensitivities/risks	Discount rate (%)	3.5%
<ul style="list-style-type: none"> • The analysis assumes that the UK continues to trade with the European Union on a frictionless basis after EU exit, and that it trades with Japan on an equivalent preferential basis to the EPA. Whilst UK-EU access to each other's markets may, in certain ways, be less than it is now, it is not currently possible to model how that would change the baseline. • The analysis is based on the results of Computable General Equilibrium (CGE) modelling, and as such is sensitive to the assumptions and methodologies employed within that. Such results should be treated as guidance on the plausible magnitude and direction of impacts, rather than a forecast. • Estimates are produced against a baseline of 2008 and reflect a world in which the Doha trade round and EU-Korea FTA are un-concluded. • We estimate UK GDP gains by applying the percentage increase in EU28 GDP to the 2016 level of UK GDP. We apportion UK bilateral trade gains across the EU based on the UK's share of EU total trade with Japan at a sectoral level. • The European Commission's analysis, which is the main source of evidence, is not based on the final EU-Japan EPA. The results presented should therefore be treated as an illustration of the potential benefits that could be achieved. 		

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:	Score for Business Impact Target (qualifying provisions only) £m: Not a regulatory provision
Costs: N/A	Benefits: N/A
Net: N/A	

¹ Note all figures have been rounded

Evidence Base

The structure of this Impact Assessment is as follows:

Section 1: Economic background

Section 2: Strategic overview of the Japan EU EPA.

Section 3: Problem under consideration

Section 4: Rationale for intervention

Section 5: Policy objective

Section 6: Description of options considered (including status-quo)

Section 7: Monetised and non-monetised costs and benefits of each option

Section 8: Wider impacts including small and medium business impacts analysis

Section 9: Direct costs and benefits to business calculations (following BIT methodology)

Section 10: Sensitivities

Section 11: Risks and assumptions

Section 12: Summary and preferred option with description of implementation plan

1 Economic background

Introduction

- 1.1 Under the UK's current membership of the EU, decisions on trade policy are taken by the Council of the European Union and European Parliament, and the day to day conduct of EU trade relations, including the negotiation of free trade agreements, is led by the European Commission.
- 1.2 While we are members of the EU, we will continue to cooperate fully and constructively with our partners. Once we have left, we will remain committed to working collaboratively with the EU to press our shared free trade agenda. We will then also have the opportunity to take forward our interests, priorities and ambitions through a new independent trade policy.

The world in which the UK trades

- 1.3 Free and fair trade is fundamental to the prosperity of the EU, the UK and the world economy. Trade has historically been an important part of the UK economy. Excluding major shocks such as the Great Depression and two World Wars, both exports and imports have accounted for over 20% of UK GDP for the last 160 years.¹
- 1.4 A substantial proportion of the growth in global trade in recent decades has been driven by growth in intra-industry trade and the development of cross-border supply chains, where different stages of production for a particular good are located in different countries. Well-functioning global trade relationships help businesses to manage their supply chains effectively and source the imports they need for their business. Over 70% of global trade is now in intermediate products, or in capital goods (many of which will be employed in the production of other goods).² Intra-industry trade (the import and export of the same or similar goods) has increased; between 1997 and 2008, over 80% of UK manufacturing trade was intra-industry, having increased from around 70% in the late 1980s.³
- 1.5 This has driven significant shifts in shares of world trade. Developed economies' share of global exports fell from 69% in 1980 to 54% in 2013.⁴
- 1.6 Services are also an important, and growing, component of supply chains. Firms increasingly use logistics, communications services, and business services to enable the efficient functioning of their supply chains, and almost one third of the value of manufactured exports of developed countries represents service value added.⁵ Digital technology is continuing to develop rapidly, facilitating economic growth and making more and more services tradable.⁶
- 1.7 Trade agreements at the multilateral, plurilateral and bilateral level help to facilitate international trade.

The benefits of international trade

¹ DIT using Bank of England research datasets: Three centuries of macroeconomic data. see <http://www.bankofengland.co.uk/research/Pages/datasets/default.aspx>

² OECD, see for example https://www.oecd.org/tad/gvc_report_q20_july_2014.pdf

³ 'Economic Globalisation Indicators', (2012) and OECD, 'Intra Industry and Intra Firm Trade and the Internationalisation of Production', Economic Outlook, (2002)

⁴ DIT estimates based on UNCTAD trade data.

⁵ WTO working paper see https://www.wto.org/english/res_e/reser_e/ersd201503_e.pdf

⁶ <https://www.gov.uk/ukdigitalstrategy>.

Global benefits

1.8 An open and rules-based international trading environment creates benefits and enables economic integration and security cooperation, encourages predictable behaviour by states and the peaceful settlement of disputes. It can lead states to develop political and economic arrangements at home which favour open markets, the rule of law, participation and accountability.

Growth, prosperity and jobs

1.9 Empirical studies generally suggest a positive relationship between trade openness and economic growth. The dramatic increase in China's trade with the rest of the world since it opened up its economy provides a striking example, and analysis by the OECD suggests that a 10% increase in openness is associated with a 4% increase in income per head.⁷

1.10 Trade enables countries, firms and individuals to specialise in economic activities that play to their relative strengths, abilities, resources and expertise, and to buy from and sell to other countries doing likewise. Specialisation increases global output and increases the quality and value of goods and services for consumers.

1.11 Free trade also allows businesses to benefit from access and exposure to ideas, innovation, talent and technology across borders, and so become more competitive. Businesses that export into new markets can access more customers and help grow overall UK exports which contribute to growth in the UK economy.

Choice, value and quality for consumers

1.12 Free trade and imports have a significant impact on consumers, through the variety of choice and price of goods available, and therefore on overall living standards.

1.13 Trade benefits consumers and households directly through lower tariffs on imported final consumption goods and indirectly through the associated productivity gains of domestic and foreign firms. For example, between 1996 and 2006 import prices for textiles and clothing fell by 27% and 38% respectively in real terms, in large part because of the phasing out of restrictive quotas which had greatly limited access to most developed countries' markets for textiles and clothing. For the same period the import price of consumer electronics fell by around 50%,⁸ reflecting the impact of the Information Technology Agreement.

⁷ OECD (2003), Sources of Economic Growth in OECD Countries, <https://www.oecd.org/eeco/growth/2505752.pdf>

⁸ J. Francois, M. Manchin, and H. Norberg, 2007, "Passing on of the benefits of trade openness to consumers", European Commission, Directorate General for Trade, p.7.

1.14 Free trade drives businesses to innovate and move up the value chain to compete with cheaper imports in order to set themselves apart which means that consumers benefit from better quality products at lower prices.

Summary

1.15 Countries engage in trade because it is mutually beneficial and can lead to several benefits to businesses, consumers and the wider economy. Businesses gain from greater revenue and profit which can lead to more investment, productivity and innovation. Consumers gain from greater choice in the variety and quality of goods and services, lower prices through increased competition, higher real wages and living standards. Trade allows countries to allocate their resources to activities in which they are more productive.

1.16 Domestic policies may reduce trade flows between countries and the associated benefits. The most common policy measures are tariffs, subsidies and quantitative restrictions, but can also include complex regulations (for example, health and safety, packaging, labelling and product regulations) and customs procedures. These restrict free trade, which distorts the market price, lowering competition and reducing choice for consumers.

1.17 Given the benefits of free trade, liberalisation generally has a positive impact on GDP and citizens' welfare. However, changes in the pattern of trade does lead to some sectors expanding and some sectors declining in response to increased international competition.

Trade between the UK and Japan

1.18 This section examines current trade flows between the UK and Japan and the extent to which trade is restricted by tariffs and non-tariff measures (NTMs).

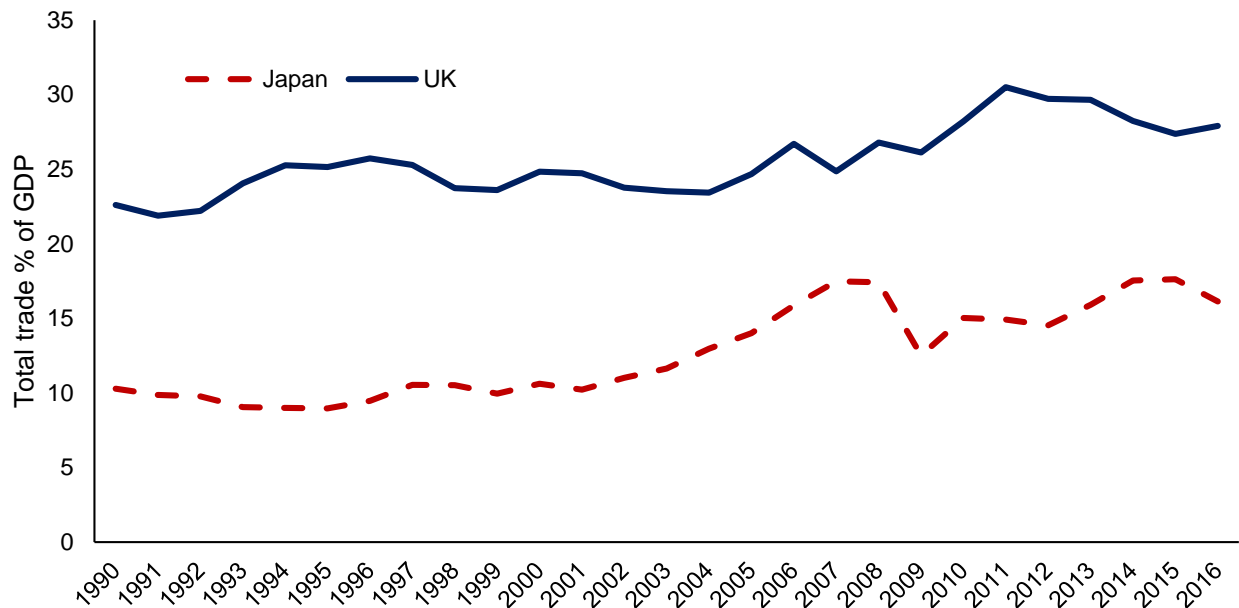
1.19 Trade between the EU and Japan was worth, on average, around £127 billion a year between 2012-2016. Over this period the EU has held a positive trade balance with Japan, driven primarily by service exports. The UK was Japan's second largest trading partner within the EU, following only Germany in the total value of goods and services traded. The UK was the second biggest exporter of services to Japan accounting for around 16% of the EU total. Table 1 below shows the breakdown of trade between Japan and its top 10 EU trading partners.

	Total trade with Japan	Share of EU28 total trade with Japan	Exports to Japan	Imports from Japan
Germany	32,700	26%	17,600	15,100
United Kingdom	19,900	16%	9,900	10,000
Netherlands	13,400	11%	4,100	9,200
France	12,800	10%	7,500	5,200
Belgium	10,200	8%	3,400	6,800
Italy	8,900	7%	5,700	3,200
Ireland	6,000	5%	4,400	1,500
Spain	4,700	4%	2,600	2,100
Sweden	3,500	3%	2,000	1,500
Denmark	3,000	2%	2,200	800
Total (EU28)	127,100		65,600	61,400

Source: Eurostat database. International Trade in Goods and Services. Available at:
http://ec.europa.eu/eurostat/statisticsexplained/index.php/International_trade_in_services
<http://ec.europa.eu/eurostat/web/international-trade-in-goods/data/database>
 Note: Services data is on a balance of payments basis, goods data is on a physical movement basis.

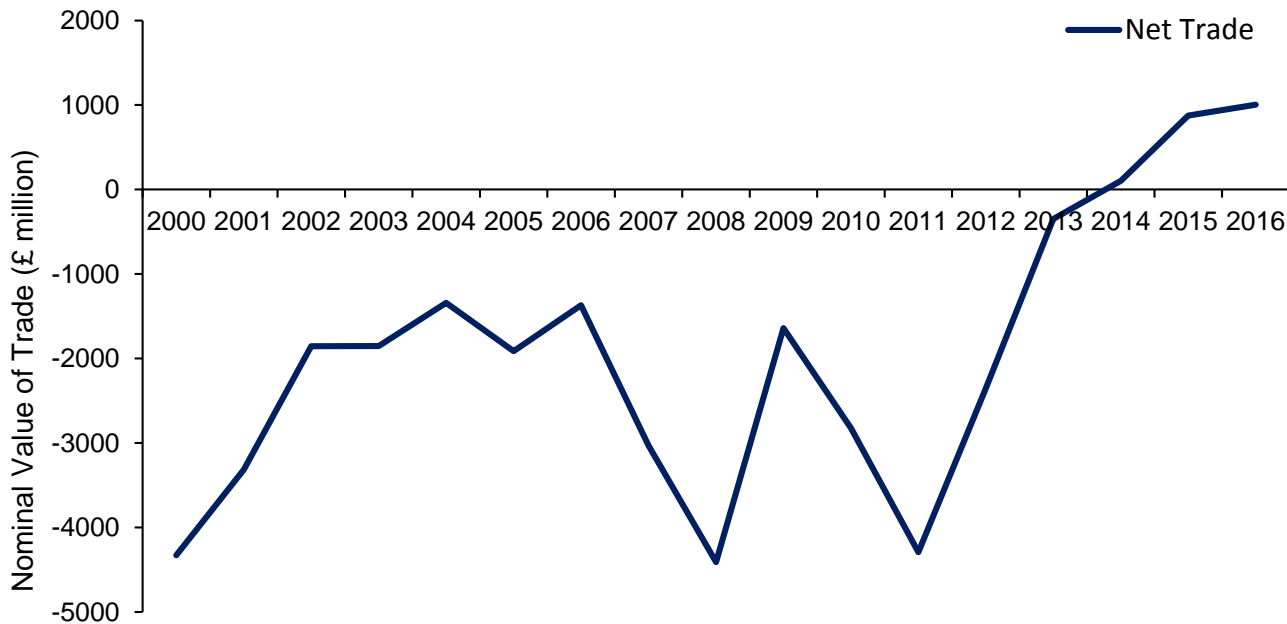
1.20 Graph 1 indicates that trade as a proportion of GDP has been increasing for both Japan and the UK over the long-term. Trade is becoming increasingly important to both economies.

Graph 1: Total trade as a percentage of GDP



Source: Organisation for Economic Co-operation and Development (OECD) data.
<https://data.oecd.org/trade/trade-in-goods-and-services.htm>

Graph 2: UK net trade with Japan



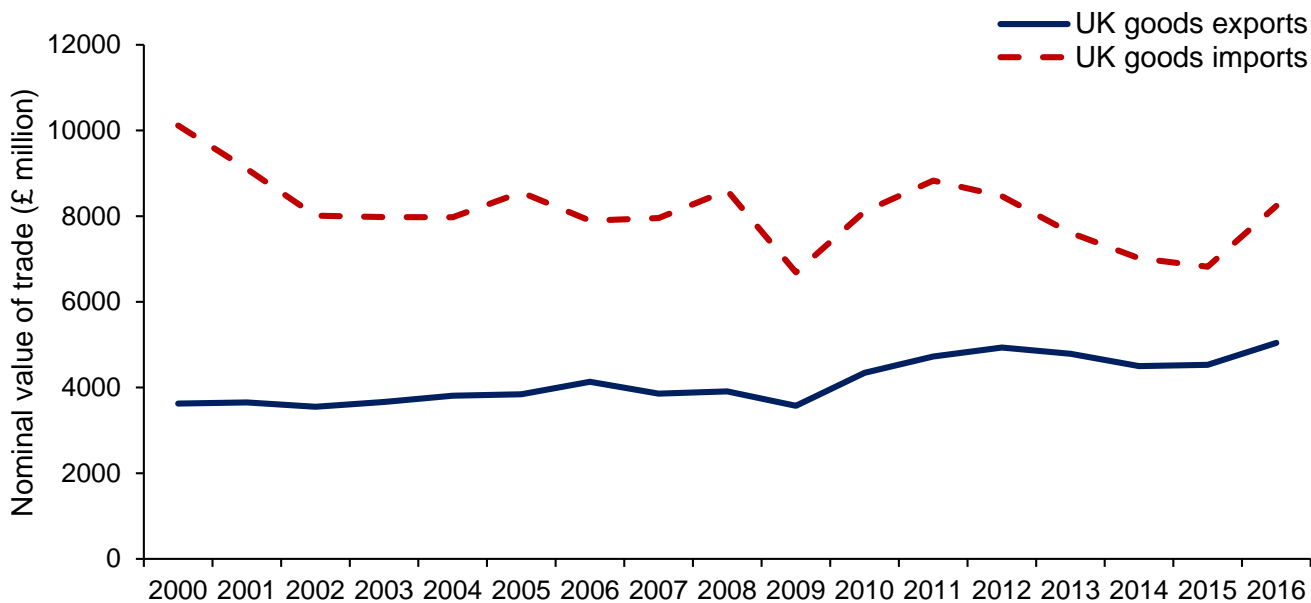
Source: Office of National Statistics (ONS), Pink Book 2017

1.21 Japan accounts for 2.1% of UK total trade. In 2016, the UK had a trade surplus of just over £1 billion with Japan, with UK exports to Japan valued at nearly £12.5 billion and imports from Japan valued at nearly £11.5 billion. As seen in Graph 2, the UK has had a trade surplus with Japan since 2014.

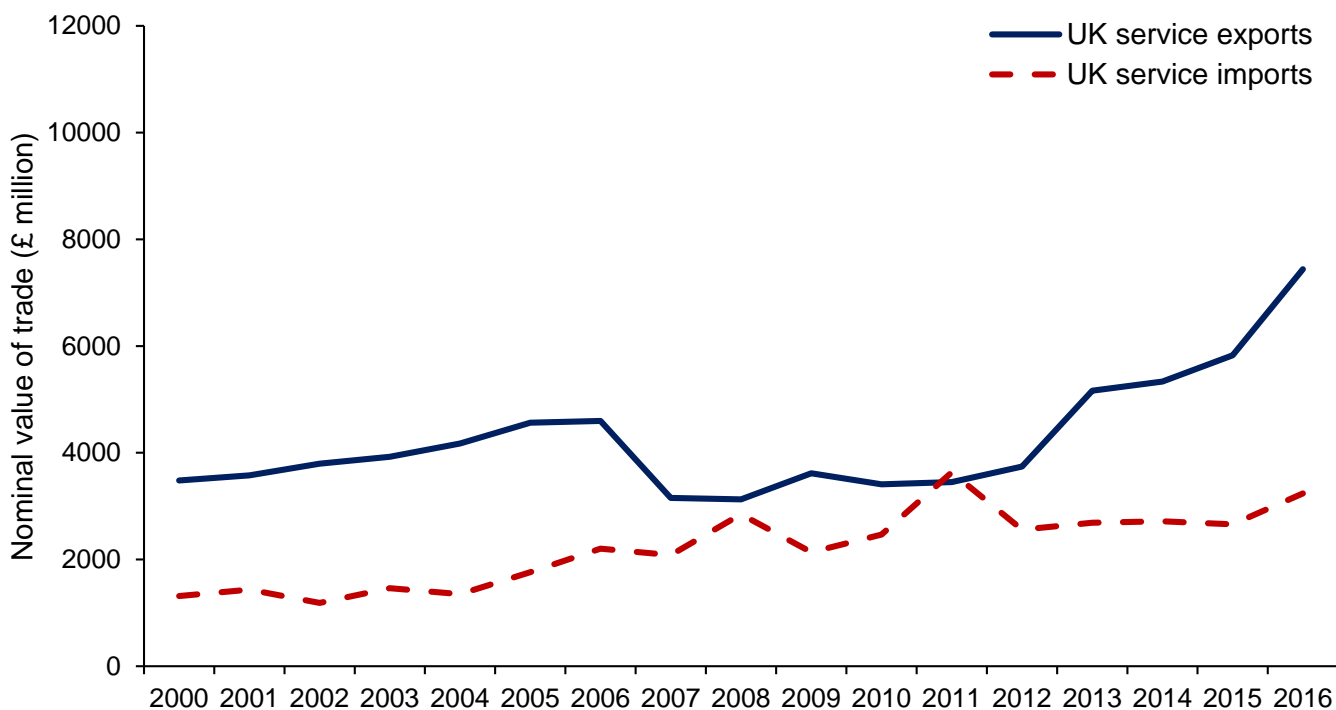
1.22 Graph 3 shows that these trade surpluses were driven by a marked increase in UK service exports to Japan since 2012. The UK has consistently imported more goods from than it exported to Japan since 2000. In comparison, over the same period the UK has continuously exported more in services than it imported from Japan.

Graph 3: UK trade in goods and services with Japan from 2000 to 2016

Trade in goods



Trade in services



Source: ONS Pink Book (2017)

Table 2: Top 10 UK goods export and import categories, on average from 2014 to 2016

Product Categories	3 year average value (£, millions)	Proportion of total exports to Japan	Change from 2011 - 2013 average to 2014 - 2016 average
Top 10 goods exports to Japan average 2014 to 2016			
84 - Nuclear reactors, boilers, machinery	1,078	24%	5%
87 - Vehicles other than railway	642	14%	25%
30 - Pharmaceutical products	509	11%	-23%
90 - Optical, photographic, cinematographic	384	9%	10%
85 - Electrical machinery and equipment	256	6%	-5%
71 - Precious or semi-precious stones and metal	251	6%	-14%
38 - Miscellaneous chemical products	137	3%	11%
88 - Aircraft, spacecraft, and parts thereof	110	2%	28%
22- Beverages, spirits and vinegar	103	2%	7%
39 - Plastics and plastic products	96	2%	-10%
Top 10 goods imports from Japan average 2014 to 2016			
84 - Nuclear reactors, boilers, machinery	2,005	25%	-10%
87 - Vehicles other than railway	1,884	24%	-10%
71 - Precious or semi-precious stones and metal	950	12%	-25%
85 - Electrical machinery and equipment	897	11%	-16%
90 - Optical, photographic, cinematographic,	398	5%	-13%
86 - Railway or tramway locomotives, and railway parts	193	2%	5832%
37 - Photographic or cinematographic products	182	2%	21%
73 - Articles of iron or steel	125	2%	-43%
39 - Plastics and plastic products	120	2%	-20%
29 - Organic chemicals	111	1%	28%
Source : https://www.uktradeinfo.com/Statistics/BuildYourOwnTables/Pages/Table.aspx			
Notes: Data presented is based on 2 digit HS codes.			

1.23 The top 10 goods imported and exported between the UK and Japan can be seen in Table 2. Most of the trade between the UK and Japan is concentrated in these sectors. The data shows that they accounted for 79% and 87% of the total goods exported and imported respectively between 2014 and 2016. The top products exported to Japan are nuclear reactors, boilers and machinery, vehicles and aircrafts. These top products imported and exported are similar, reflecting a pattern of intra-industry trade.

1.24 On average, 59% of UK exports within the 'nuclear reactor, boilers, and machinery' category are in turbojets, which also accounted for 35% of UK imports from Japan in the same category. 69% of imports within the 'vehicles other than railway' category were in automobiles.

1.25 Table 3 below shows the breakdown of UK trade in services with Japan in 2016. Financial services are the largest export service valued at £4.6 billion. Financial services are also the largest services import, valued at £959 million, followed closely by Intellectual Property services, valued at £894 million.

Service Type	Exports to Japan (£ millions)	Proportion of total export services to Japan (%)	Imports from Japan (£ millions)	Proportion of total import services from Japan
Financial	4,604	62%	959	30%
Other business services	1,111	15%	742	23%
Transportation	569	8%	256	8%
Travel	279	4%	286	9%
Telecommunications, computer and information services	248	3%	49	2%
Intellectual property	238	3%	894	28%
Personal, cultural and recreational	175	2%	6	0%
Insurance and pension	129	2%	-	0%
Government	62	1%	21	1%
Construction	-	0%	1	0%
Total	7,441	100%	3,237	100%

Source: ONS Pink Book 2017

1.26 We can examine which goods the UK and Japan export relatively more in compared to world trade by estimating each country's revealed comparative advantage (RCA). This is based on the Balassa Index (1965). It calculates the percentage of exports of a given sector in a given country and compares it to the equivalent measure of world trade. If a country has a greater share of its total trade in a given sector than the share that world exports in that sector has of total world trade, then it has a revealed comparative advantage in that sector. The RCA estimates have been normalised to range between +1 and -1, where a positive RCA reflects a good in which the UK exports relatively more compared to other countries, and a negative RCA identifies a good in which the UK exports relatively less than other countries.

1.27 Table 4 below shows the RCA for the UK and Japan. The analysis shows the UK and Japan are better at exporting different products for most products listed in table 3, relative to the rest of the world. In only two sectors is there overlap in RCA between Japan and the UK: vehicles, aircraft and vessels (0.38 and 0.15 respectively) and instruments and clocks (0.25 and 0.05 respectively).

1.28 It should be noted that the RCA is based on a static, backward looking trade patterns which are subject to change as economies expand and contract in certain industries. However, RCA changes most between countries where one is industrialising rapidly (e.g. UK-China). The UK and Japan are both already predominantly service-based, high value-added economies, and both will be seeking to remain so.

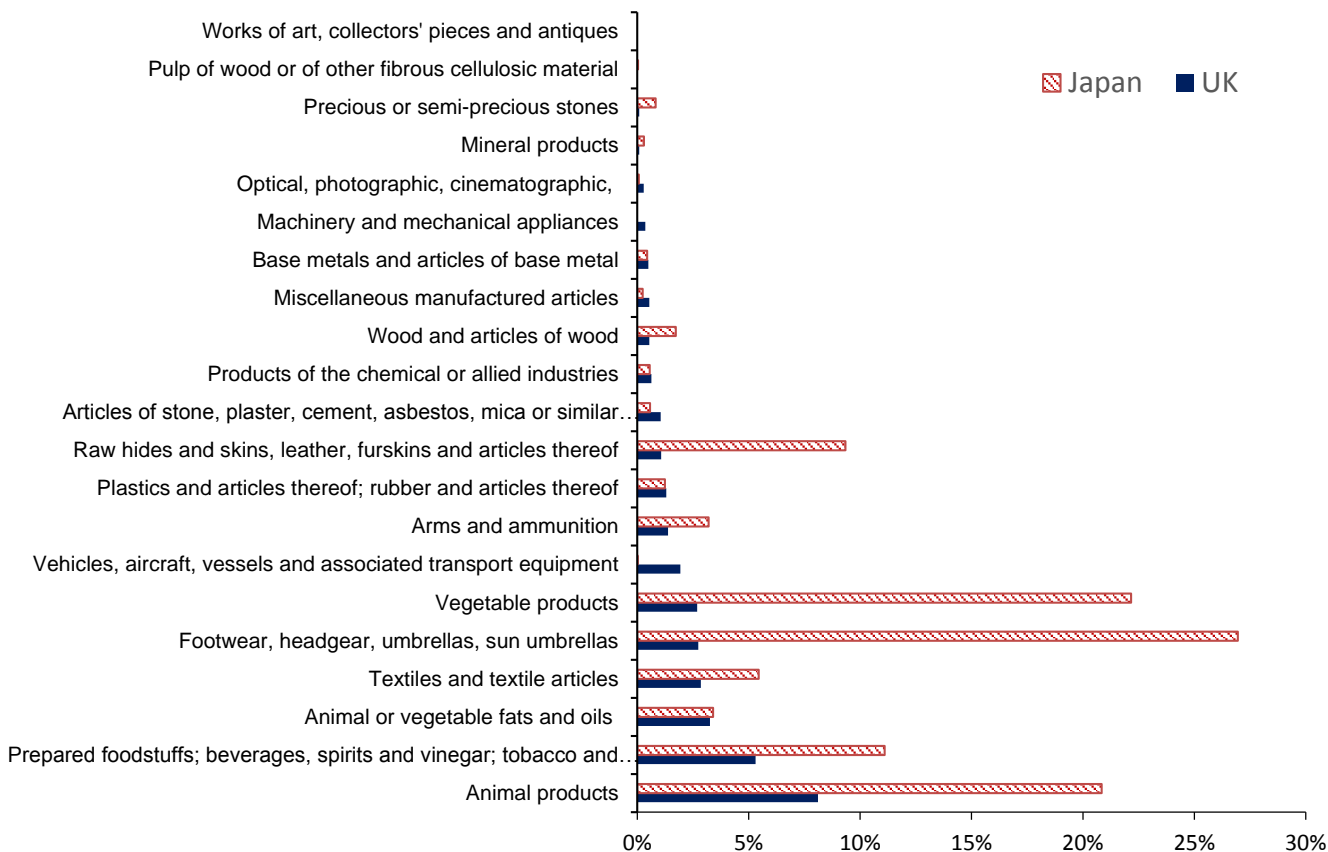
Product Category	UK RCA Normalised	Japan RCA Normalised
21 - Works of art and antiques	0.82	-0.61
14 - Pearls, precious stones and metals; coin	0.47	-0.42
19 - Arms and ammunition	0.32	-0.61
6 - Products of the chemical and allied industries	0.23	-0.08
17 - Vehicles, aircraft and vessels	0.15	0.384:
4 - Prepared foodstuff; beverages, spirits, tobacco	0.13	-0.76
10 - Paper, paperboard and articles	0.07	-0.44
18 - Instruments, clocks, recorders and reproducers	0.05	0.25
22 - Commodities not specified according to kind	-0.10	0.42
16 - Machinery and electrical equipment	-0.11	0.16
15 - Base metals and articles	-0.13	0.14
1 - Live animals and products	-0.16	-0.80
5 - Mineral products	-0.16	-0.75
7 - Resins, plastics and articles; rubber and articles	-0.17	0.09
13 - Articles of stone, plaster; ceramic prod.; glass	-0.24	0.06
11 - Textiles and articles	-0.26	-0.57
20 - Miscellaneous manufactured articles	-0.26	-0.44
12 - Footwear, headgear; feathers, artificial flower, fans	-0.30	-0.94
8 - Hides, skins and articles; saddlery and travel goods	-0.32	-0.88
3 - Animal and vegetable fats, oils and waxes	-0.53	-0.91
2 - Vegetable products	-0.59	-0.93
9 - Wood, cork and articles; basket ware	-0.73	-0.94

Source : <https://comtrade.un.org/data>.
Notes: Data presented is based on HS nomenclature codes grouped into 21 sectors.
Notes: The calculations are based on a 5 year average of 2012, 2013, 2014, 2015 and 2016 data, with the trade flow data extracted from Comtrade for goods categories

1.29 Tariffs can be levied by a government to increase the cost of importing from abroad to protect domestic industries and/or raise revenue. The impact of a tariff change depends on behaviour and responsiveness of domestic consumers and businesses. Graph 4 below presents the trade weighted tariffs imposed by Japan and the EU.

1.30 The data shows that in comparison to the EU, Japan imposes higher tariffs in several key sectors. The higher tariffs are predominantly levied in the agricultural and foodstuffs sectors, meaning Japanese consumers must pay a higher price for EU imports in these areas.

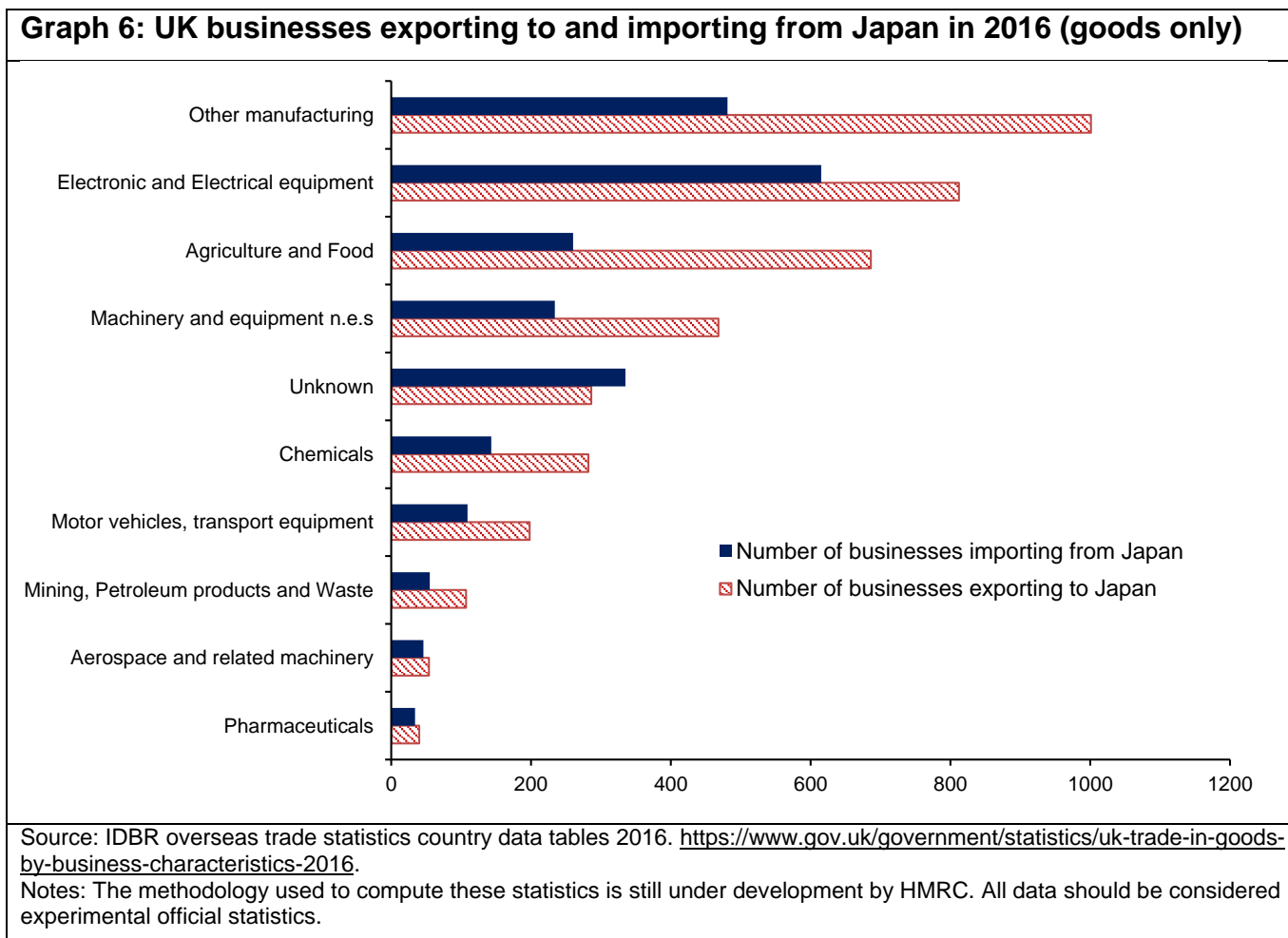
Graph 4: Trade weighted tariffs between the UK and Japan by sector



Note: Data presented is based on HS nomenclature codes grouped into 21 sectors.
 Source: International Trade Centre (ITC) market access maps. <http://www.macmap.org/CountryAnalysis/>.
 Tariffs can be calculated as a simple average over a range of goods i.e. the average tariff across several tariff lines. However, countries import different quantities of goods under different tariff lines which the simple average does not account for. A weighted tariff adjusts the average tariff for the volume of trade under each tariff line.

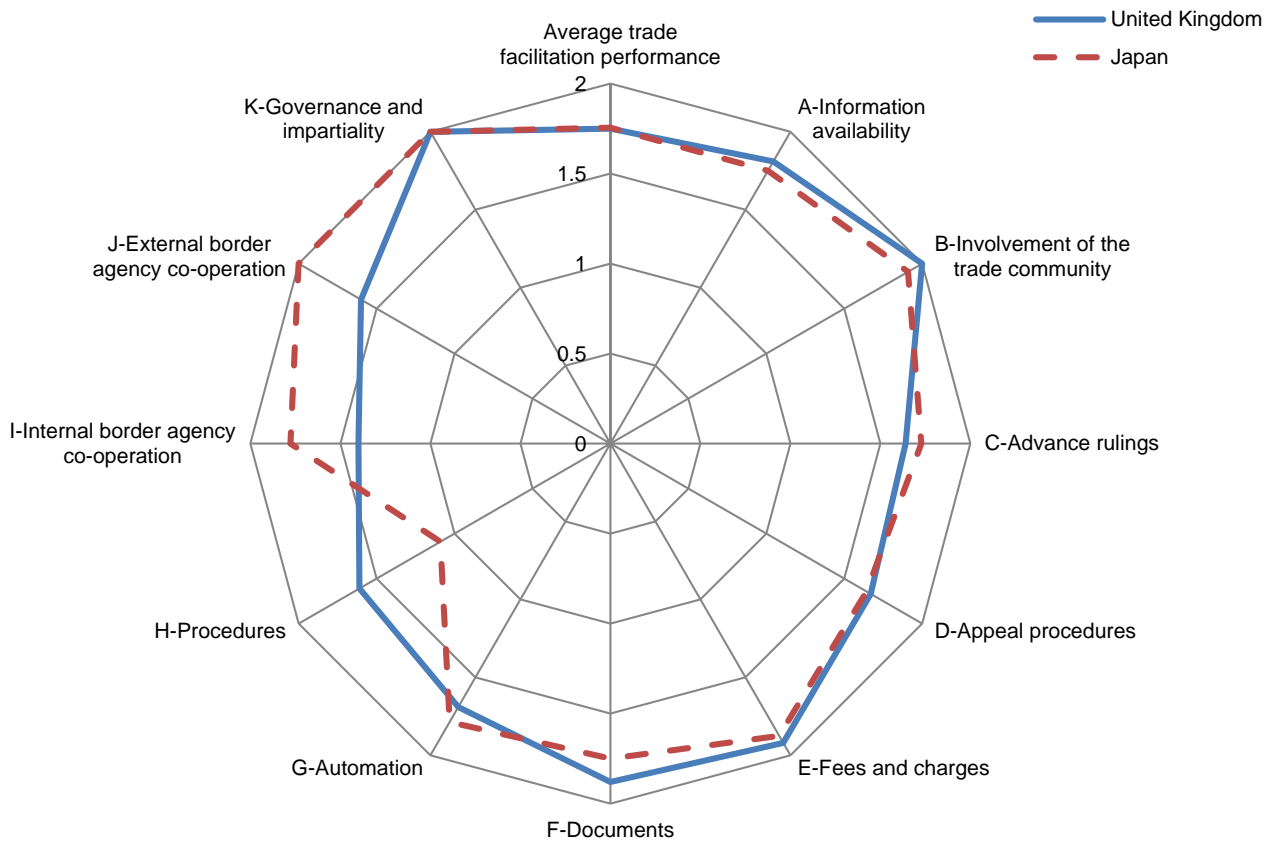
1.31 Tariffs impede trade by raising the cost of importing foreign goods. However, other measures can also restrict the trade of goods. Graph 5 shows the Trade Facilitation Index (TFI) estimated by the OECD for the UK and Japan, which covers 11 indicators. Each indicator, such as automation of processes, required documents, fees and charges, is scored from 0 to 2, where 2 represents the best performance that can be achieved. The data shows that both the UK and Japan have good systems in place to facilitate trade. The UK scores higher in ‘procedures’, which reflects a more streamlined border control for goods. Japan scores better in both internal and external border agency cooperation.

1.32 When looking at the breakdown of UK businesses by industry, the service sector has the highest number of firms trading with Japan. In 2016, around 5,500 UK firms exported services to Japan and 4,500 UK firms imported services from Japan.⁹ In terms of goods trade, ‘other manufacturing’ has the highest number of firms exporting to Japan, whilst ‘electronic and electrical equipment’ has the highest number of firms importing from Japan. Graph 6 below highlights the breakdown of businesses trading with Japan in each goods sector.



⁹ Source: IDBR overseas trade statistics country data tables 2016. <https://www.gov.uk/government/statistics/uk-trade-in-goods-by-business-characteristics-2016>.

Graph 5: OECD trade facilitation index



Source: OECD Trade Facilitation index . <http://www.oecd.org/trade/facilitation>

Notes:

- A- Information Availability** Publication of trade information, including on internet and enquiry points.
- B – Involvement of the Trade Community** The degree to which consultations are carried out with traders.
- C –Advance Rulings** Prior statements by the government to requesting traders concerning the classification, origin, valuation method, etc., applied to specific goods at the time of importation; the rules and process applied to such statements.
- D- Appeal Procedures** The ability to appeal administrative decisions by border agencies.
- E – Fees and Charges** Disciplines on the fees and charges imposed on imports and exports.
- F – Documents** Simplification of trade documents; harmonisation in accordance with international standards; acceptance of copies.
- G – Automation** Electronic exchange of data; automated border procedures; use of risk management.
- H – Procedures** Streamlining of border controls; single submission points for all required documentation (single windows); post-clearance audits; authorised economic operators.
- I – internal cooperation** Co-operation between various border agencies of the country; control delegation to customs authorities.
- J – External cooperation** Co-operation with neighbouring and third countries.
- K – Governance and Impartiality** Customs structures and functions; accountability; ethics policy

1.33 There are strong inward investment ties between the UK and Japan. Recent data from the ONS shows the stock of Japanese investment in the UK reached £46.5bn in 2016 which accounted for just under 4% of total foreign direct investment stock in the UK. In comparison, the UK companies invested £4.4bn in Japan in 2016 which accounted for 0.4% of total UK outward FDI stock.¹⁰ Large Japanese investment can be seen in a number of areas:

- In 2015, the Ministry of Foreign Affairs of Japan published that there were nearly 1,000 Japanese companies based in the UK in manufacturing, infrastructure, financial services and research and development, employing 140,000 people.
- Japanese car manufacturers produce 800,000 vehicles which account for 50% of UK total production. Of this, Nissan produced 500,000 vehicles.
- Japanese companies are a significant investor in the UK railway services with two major service links: Hitachi's Class 395 high speed passenger train between London and Kent and Hitachi's Class 800/801 trains which run on the Great Western Main Line and East Coast Mainline.
- Nikkei, Japan's largest media company, acquired the Financial Times for £844 million in 2015.
- A report published by Deloitte (2014) showed that Japan had the second largest number of non-EU headquarters in London after the US.¹¹

1.34 Over the past four years, data from the ONS shows inward UK FDI from Japan has been most concentrated in the financial sector, information and communication services, and professional, scientific and technical services (see Table 5). As mentioned above, Japanese plants account for half of British vehicle production and includes brands such as Honda and Toyota¹². This type of investment is categorised within the 'Transport equipment' category in the Table 5.

Sector	2013	2014	2015	2016	4-year total
Financial services	661	-301	1,128	847	2,335
Information and communication	168	345	251	..	764
Professional, scientific & technical services	..	150	176	183	509
Metal and machinery products	49	48	19	-42	74
Administrative and support service activities	1	5	-6	58	58
Electricity, gas, water and waste	..	2	18	7	27
Transportation & storage	-28	-5	10	28	5
Construction	..	-5	6	..	1
Agriculture, forest & fishing	..	..	..	..	0
Mining & quarrying	250	52	9	-324	-13
Textiles & wood activities	9	..	22	-46	-15
Transport equipment	85	14	-9	-105	-15
Computer, electronic and optical products	-89	25	98	-52	-18
Food products, beverages & tobacco products	-8	..	..	-16	-24
Petroleum, chemicals, pharmaceuticals, rubber, plastic products	..	-26	..	..	-26
Other services	..	-41	2	..	-39
Other manufacturing	-188	..	-1	-33	-222

¹⁰ ONS Foreign Direct Investment Involving UK Companies 2016.

¹¹ <http://www.uk.emb-japan.go.jp/files/000201478.pdf>

¹² <https://www.smm.co.uk/2017/10/japan-uk-auto-trade-strong-ever-third-british-car-buyers-choose-japanese-brands/>

Retails & wholesale trade, repair of motor vehicles & motor cycles.	-1,082	10	111	229	-732
Total	2,240	1,552	1,718	1,701	7,211
<p>Notes: A negative sign before values indicates a net disinvestment abroad. Negative foreign directive investment values indicate where outflows of investment exceed inflows. This may indicate, for example, disinvestment, or reinvestment outside the country.</p> <p>'..' indicates data are undisclosed.</p>					

2 Strategic overview of the Japan-EU EPA

- 2.1 In its 2015 trade strategy "Trade for all – towards a more responsible trade and investment policy", the European Commission recognised the Asia-Pacific region's crucial importance to European economic interests, and considered strengthening economic ties with Japan a strategic priority for the EU. On the Japanese side, Prime Minister Shinzō Abe's economic programme of 2013 identified three strategic priorities, known as 'policy arrows'. The third arrow aimed at enacting structural reforms, including the promotion of economic partnerships. In line with this objective, Japan has been pursuing a number of bilateral and plurilateral trade negotiations, with FTAs – termed economic partnership agreements (EPAs) in Japan – either in effect or currently being negotiated.
- 2.2 In November 2012, the Council of the European Union approved the mandate for the European Commission to negotiate the EU-Japan Economic Partnership Agreement (EPA)¹³. The Council stated that the objective is 'an agreement that would provide for the progressive and reciprocal liberalisation of trade in goods, services and investment, as well as rules on trade-related issues and the elimination of non-tariff barriers'.
- 2.3 Negotiations on an EU-Japan free trade agreement (FTA) were officially launched in March 2013. Following 18 rounds of negotiations and a number of meetings at the technical and political level, a political agreement in principle was reached during the 24th EU-Japan Summit in Brussels, on 6 July 2017. Negotiations continued until December 2017, when agreement on a final deal was announced.
- 2.4 The Agreement will remove around 91% of customs duties faced by UK companies when it comes into force¹⁴. From day one Japan will remove duties on more than 90% of agricultural imports from the EU. This will include the elimination of tariffs on alcoholic beverages including wine and sparkling wine and almost free access for pork meat. A number of other Japanese tariffs on food imports will be progressively reduced from day one, including those for hard cheese, including cheddar, and beef which will reach 0% and 9% after 15 years. With these reductions the Agreement will remove around 99% of customs duties for EU imports into Japan. The remaining 1% will be partly liberalised through quotas and tariff reductions (in agriculture). Japan fully liberalises 86% of its tariff lines when the Agreement enters into force, going up to 97% after 15 years.
- 2.5 The EU-Japan EPA includes a Most-Favoured Nation clause with a forward-looking effect. A Free Trade Agreement containing the forward-looking effect ('forward-looking MFN') ensures that countries are bound to provide service suppliers within scope the same treatment as those they extend to service suppliers from a third country. Any improved treatment provided to a third country is automatically extended to trade partners under the EU-Japan EPA. The EU-Japan EPA does include exceptions to the application of the forward-looking MFN.

¹³ As seen in the letter of 24 May 2017, Trade Commissioner Cecilia Malmström called on Member States to publish the mandate.

¹⁴ The agreement in principle: http://trade.ec.europa.eu/doclib/docs/2017/july/tradoc_155693.doc.pdf

- 2.6 Japan shares the UK's ambitions on global free trade, and in increasing bilateral trade flows. In August 2017, the British and Japanese Prime Ministers agreed the establishment of a formal Trade and Investment Working Group, focused initially on agreement on the final text of the EU-Japan Economic Partnership Agreement, and then on transitioning this as the basis for the future bilateral relationship. The Prime Ministers agreed to 'work quickly to establish a new economic partnership between Japan and the UK based on the final terms of the EPA'.
- 2.7 Investment protection standards and investment protection dispute resolution are not part of this deal. The EU and Japan have agreed that these chapters will be negotiated as part of a separate agreement.

3 Problem under consideration

- 3.1 Trade between the EU and Japan is currently governed solely by World Trade Organisation (WTO) rules. Reducing tariff and non-tariff barriers would help to boost trade flows. Improved trade flows between Japan and the EU could contribute positively to economic growth, job creation and greater choice for consumers. The EU and Japan entered into FTA negotiations to address these barriers and agree formal trading relations that provide certainty to businesses. Negotiations on the Japan-EU EPA have now concluded, and the final text has been agreed by both sides.
- 3.2 The European Commission is expected to present a proposed decision on signature of this agreement to the Council of the European Union in the first half of 2018. The Council will then decide whether to adopt a Council Decision authorising signature of the agreement. In the past, EU trade agreements have typically been agreed through Common Accord, requiring the agreement of all Member States. Ahead of this, the Council's decision and the position the UK will take is subject to UK Parliamentary scrutiny.

4 Rationale for Intervention

- 4.1 The UK Government supports the EU's ambitious trade agenda and remains a constructive partner in support of EU free trade agreements. A UK vote in favour of signature of EU-Japan EPA would be a demonstration of this policy commitment, and a positive move by the UK as a Member State by demonstrating support for EU-Japan EPA.
- 4.2 UK support for the Council Decision on the signature of the Agreement would support progress towards the European Commission target for signature in July 2018 and entry into force early in 2019.
- 4.3 The UK seeks continuity in its existing trade and investment relations, including continuity of existing EU FTAs such as EU-Japan EPA, so as to avoid disruption for businesses and consumers as the UK leaves the EU. UK support of EU-Japan EPA at the Council will, additionally, demonstrate the UK's commitment to this agreement and provide a clear endorsement that its provisions are positive for the UK.

- 4.4 Were the UK to vote against signature of this agreement, this would likely be damaging for the UK's bilateral relations with Japan and with the EU, which could make negotiations over future trading arrangements more challenging, and would conflict with our support for the EU's trade agenda while we remain a Member State.

5 UK policy objectives relative to EU-Japan EPA

- 5.1 The UK has always been deeply committed to free and open international trade and investment as drivers of growth, prosperity, jobs, and consumer choice. It is well established that trade is mutually beneficial, through:

- more consumer choice in the variety and quality of goods and services,
- lower prices through increased competition and efficiency
- higher productivity and,
- higher real wages and living standards for the countries engaged.

- 5.2 Free trade agreements, such as the EU-Japan EPA aim to increase trade and reduce trade barriers. The policy objectives of the EU-Japan EPA agreement are to promote bilateral trade and increase economic growth in both countries by a) eliminating most tariffs and b) reducing non-tariff measures businesses face when trading goods and services as well as when investing abroad. The EU-Japan EPA will enable UK firms to export and import at a lower cost and give more opportunity for UK businesses to bid for public procurement contracts in Japan. Furthermore, EU-Japan EPA will increase the welfare of UK households by lowering the price of final goods and services and increase consumer choice due to greater competition.

- 5.3 The UK's policy objective relative to the EU-Japan EPA is to provide support for strengthened international trade, specifically bilateral trade growth with Japan. UK's support in Council for signature of the EU-Japan EPA would:

- Provide a practical demonstration to the EU of the UK's commitment to support EU free trade activity whilst still a Member State, and support for early implementation of the Agreement;
- Demonstrate our support to Japan, which is pressing for early implementation.

6 Description of options considered (including status quo)

- 6.1 The options are either to support or not to support the signature of the agreement which would lead to formal implementation of the EU-Japan EPA. The economic assessment is carried out against the baseline where the EU-Japan EPA has not been implemented.

Option 1: UK supports signature and formal implementation of the EU-Japan EPA

- 6.2 Under this option, the UK votes in favour of the Commission's proposal on a Council Decision on Signature to aid the implementation of the agreement. **This is the Government's preferred option.**

- 6.3 The agreement has been negotiated by the European Commission and was concluded in December 2017. The agreement will enter into force following a Council decision authorising signature and conclusion, the consent of the European Parliament, and domestic ratification by the Japanese Diet. The UK has been a strong supporter of the agreement throughout the negotiating process and its vote in favour of signature would continue this policy.
- 6.4 The implementation of the EU-Japan EPA is the government's preferred option as it aims to increase the available export opportunities for UK businesses, to create greater competition and thus lower prices and boost economic growth, to facilitate innovation and investment including in R&D, and to bring benefits to consumers including a greater variety of goods and services to the UK. The agreement also sets out substantial provisions on sustainable development, intellectual property, sanitary and phytosanitary standards and public procurement, reflecting and building upon WTO law. These are expected to generate welfare gains both in the EU and Japan.
- 6.5 The analysis for this option assumes that the UK will continue trading with Japan on equivalent terms after EU exit. This reflects the Government's stated policy commitment to securing continuity of the effect of existing EU free trade agreements and other EU preferential arrangements with third countries. It also reflects an assumption of no change to the level of friction in UK-EU trade: whilst UK-EU access to each other's markets may, in certain ways, be less than it is now, it is not currently possible to model how that would change the baseline.
- 6.6 At the March European Council the UK agreed with the EU that the UK is to be treated as a Member State for the purposes of international agreements for the duration of the implementation period. The EU will formally notify other parties of this approach in due course.

Option 2: UK does not support signature of Japan-EU EPA

- 6.7 The Government does not support signature of the EU-Japan EPA in Council. This is not the Government's preferred option, as it runs counter to the Government's policies in relation to free trade and its support for an ambitious EU trade policy. Should the agreement not be implemented, the EU and Japan would continue to trade on WTO Most Favoured Nation (MFN) terms. Under this option the UK does not accrue any additional costs and benefits. This is the baseline of this IA.

7 Monetised and non-monetised costs and benefits of each option

- 7.1 This impact assessment draws on evidence from available and relevant external studies which explore the impact of the EU-Japan Economic Partnership Agreement. The beginning of this section provides a summary of previous literature which has assessed the economic impact of EPA. The latter part of the section provides a deeper look at the costs and benefits of each policy option under consideration, focussing on the impacts to UK businesses, consumers, and the wider economy. In the IA we present a range of estimates based on the scenarios within which the negotiated outcome is likely to fall in. The results below are not based on the final EU-Japan EPA text and are therefore is subject to a degree of uncertainty.
- 7.2 Most of the results reported in this section are derived from Computable General Equilibrium (CGE) modelling. This type of modelling is appropriate when there is a significant change in trade policy and an assessment of the impacts on the whole economy is needed. The model considers linkages between domestic markets within each economy and provides impacts at a sectoral and aggregate level. It also considers the knock-on consequences to trade flows of third parties, reflecting trade creation and trade diversion effects, as well as the allocation of resources within an economy.
- 7.3 CGE analysis can provide a useful indication of the potential magnitude of economic impacts resulting from policy changes. CGE results should not, however, be treated as a forecast or prediction of the future.
- 7.4 Given the short time between completion of negotiations and the European Council's anticipated decision, the Department for International Trade has not been able to conduct or commission CGE modelling of the negotiated text and its direct impact on the UK in time for this impact assessment. However, there are several external published studies which provide information about the likely impacts of the deal.
- 7.5 This impact assessment considers what portion of the net benefits estimated for the EU could be attributed to the UK.

Review of existing literature

7.6 Several quantitative impact assessments with respect to an EU-Japan free trade agreement have been undertaken. As the final agreement was only published in December 2017, none of the quantitative studies outlined are based upon the final text. Direct comparisons should not be made between the studies as they all use differing model calibrations, baseline data, and methods for estimating non-tariff measures (NTMs). Instead, we may consider the differing results as a range in which the benefit of the EPA will likely fall. A summary of the key findings can be found in the Table 6 below.

7.7 The majority of studies only report results for the EU28 as whole and not for individual member states. Later sections will apportion results to the UK specifically, but for the purposes of the literature review all results refer to the EU28 as a whole unless otherwise stated:

Study	Description of scenario(s) modelled	Methodology	Estimated long run increase in GDP per annum	Estimated impact on bilateral exports
Copenhagen Economics (2009)	Maximum liberalisation across tariffs and reduction in actionable NTMs in goods and services.	CGE analysis, bilateral reduction of NTMs in manufacturing and services sectors based on estimated levels of NTMs in EU and Japan derived from business surveys and gravity modelling.	EU = 0.14%, Japan = 0.31%	EU = +€43bn, Japan = +€53bn
Benz and Yalcin (2015)	Elimination of all tariffs. Reduction of NTMs equivalent to an average FTA effect.	CGE analysis, allowing for imperfect competition between firms in the same industry.	EU = 0.21%, Japan = 0.86%	EU = +€49bn Japan = +€70bn
European Commission (2012, 2016) ¹⁵	Maximum liberalisation across tariffs and reduction in actionable NTMs in goods and services.	CGE analysis, 50% overall reduction in Japanese NTMs, 16.5% reduction in EU goods NTMs, 50% reduction in EU services NTMs. 65% of bilateral between Eu and Japan reduction in goods and service NTMs to third countries.	EU = 0.34% to 0.79%, Japan = 0.27% to 0.67%	EU = +€15bn to +€22bn Japan = +€19bn to +€26bn
Felbermayr et al (2017)	Elimination of all tariffs. NTMs equivalent to a 'deep' FTA effect.	CGE analysis, does not involve sector-level detail, instead applies uniform reduction in NTMs consistent with previous literature. See Head & Mayer (2014).	EU = 0.42%, Japan = 1.63%, UK (lower bound) = 0.06% UK (upper bound) = 0.45%	EU = 146%, Japan = N/A, UK = +176%

¹⁵ The analysis in these papers uses an updated version (2011) of the Copenhagen Economics study (2009) cited in row 1 of Table 6.

- 7.8 The most recent study to assess the economic impact of EPA by Felbermayr et al (2017)¹⁶, uses a CGE model that disaggregates results for each individual EU country. Their estimates, which assume the abolition of all tariffs and a reduction in NTMs equal to those observed in a 'deep' FTA, predict that total EU GDP will increase by 0.42%. At a country level, Japanese, UK, German, and French GDP are estimated to increase by 1.63%, 0.45%, 0.68%, and 0.36% respectively. Felbermayr et al (2017) also model a scenario where all tariffs are eliminated and NTMs are reduced to the level observed in the EU-South Korea FTA. Under this scenario UK GDP is estimated to increase by 0.06%.
- 7.9 Benz and Yalcin (2015)¹⁷ use a slightly different specification to a traditional CGE model, which incorporates monopolistic competition, labour market unemployment, and intra-industry trade. This allows them to report results on changes in employment and productivity, as well as standard output and trade effects. Their upper bound estimates, which account for the abolition of all tariffs and a reduction in NTMs equal to an average FTA effect, predict that EU and Japanese GDP will grow by 0.21% and 0.86% respectively. The study estimates that EU exports to Japan will increase by €49bn, and Japanese exports to the EU by €70bn. The expected amount of additional employment created from the trade agreement is relatively low. However, the model predicts strong firm entry and exit dynamics in both the EU and Japan, meaning that less productive firms are forced out of the market and more productive firms expand. Aggregating these effects, the EU and Japan experience an increase in productivity of around 0.1% and 0.5% respectively. Benz and Yalcin conclude that most of the benefits from an EU-Japan FTA do not come from additional employment but from a higher average firm productivity.
- 7.10 The European Commission's Trade Sustainability Impact Assessment (2016)¹⁸ draws on CGE analysis produced by Copenhagen Economics (2011). Four separate scenarios are modelled which reflect potential asymmetries in NTM reduction between the EU and Japan as well as the scope to which NTMs are reduced. Additionally, it is assumed that NTM reductions on a bilateral basis, such as regulations and procedure, will reduce trade costs on a unilateral basis. The Commission's study assumes that 65% of NTM reductions also yield trade cost reductions for third countries, while 35% of any reduction is strictly bilateral. The key findings of the study show net GDP across the EU to increase by 0.34% to 0.79%, net bilateral exports to increase by €15bn to €22bn, and net bilateral imports to increase by €19 to €26bn. In comparison, net GDP in Japan is expected to increase by 0.27% to 0.67%.

¹⁶ Felbermayr, G. Kimura, F. Okubo, T. Steininger, M. and Yalcin, E., 2017. 'On the Economics of an EU-Japan Free Trade Agreement'. Study of the Ifo Institute on behalf of the Bertelsmann Foundation, Final Report,

¹⁷ Benz, S. and Yalcin, E., 2015. 'Productivity Versus Employment: Quantifying the Economic Effects of an EU-Japan Free Trade Agreement'. *The World Economy* 38 (6), 935–961.

¹⁸ European Commission, 2016. 'Trade Sustainability Impact Assessment of the Free Trade Agreement between the European Union and Japan.' <http://trade.ec.europa.eu/doclib/html/154522.htm>.

7.11 Copenhagen Economics (2009)¹⁹ use a CGE model to assess the impacts of EPA based on an upper and lower bound set of scenarios. The two scenarios differ only by the size of NTM reductions in manufacturing sectors and on the reduction of barriers to cross border service trade. The upper bound scenario covers the abolition of all tariffs for both parties and the removal of all NTMs that are actionable²⁰. The main findings estimate that EU and Japanese GDP will increase by 0.14% and 0.31% respectively. In terms of bilateral trade flows, EU exports to Japan are estimated to increase by €43bn, with the largest gains seen in the chemicals sector (+€11bn). Japanese exports to the EU are estimated to increase by €53bn, with the largest gains seen in the motor vehicles sector (+€27bn).

Economic appraisal the EU-Japan EPA on the UK

7.12 The section below assesses the impact of the EU-Japan EPA on UK businesses, consumers, the UK Exchequer and the overall macro-economy.

7.13 The main source of evidence used to assess the monetised impacts is the study produced by Copenhagen Economics entitled 'Assessment of Barriers to Trade and Investment between the EU and Japan' (2009)²¹. We consider this to be the best available source to examine the impacts of the EU-Japan EPA because:

- The modelling used in this study provides consistency with the European Commission's published impacts. However, the modelling used in this version (as opposed to the 2011 version) excludes assumptions around bilateral NTM liberalisation resulting in universal NTM liberalisation for all partners.
- The study uses survey data from the EU and Japanese firms to estimate the level of non-tariff measures. This enables the actual levels of NTMs to be reported for specific sectors. The overall modelling results are therefore more EU-Japan specific than other studies which use an 'average FTA effect' to estimate NTMs.

7.14 There are some limitations in using the study, such as:

- The study is not based on the final provisions agreed in the EPA.
- The analysis conducted by Copenhagen Economics estimates impacts to the EU in 2018 compared to structure of the economy in 2008 which is the baseline year of the study. This is then uplifted to reflect macroeconomic data on project growth from 2008 to 2018 using IMF forecasts. This means the impact on the UK economy would likely be larger in nominal terms if modelled with more recent data because total trade flows have increased over this period.
- From the EU's modelling, it is not possible to disaggregate the costs and benefits for individual countries from the overall impact. The report did not estimate the impact on the UK or any other Member State individually.

¹⁹Sunesen, E. Francois, J. and Thelle, M., 2009. 'Assessment of Barriers to Trade and Investment between the EU and Japan'. Final Report prepared for the European Union (DG Trade).

²⁰ There are a number of NTMs that are infeasible to reduce, such as: geography, language, culture, and preferences. A certain amount of trade costs related to these measures will always exist. The term 'actionable' therefore refers to NTMs that are conceivably reducible.

²¹ <http://trade.ec.europa.eu/doclib/html/145772.htm>.

7.15 It is uncertain how much of the estimated benefit may be attributable to the UK, given the complex patterns of global trade. To present the expected magnitude of these benefits, this IA has assumed that the UK will benefit from a portion of the agreement that is comparable to the UK's proportion of EU total trade with Japan.

Key assumptions

7.16 A few key assumptions in Copenhagen Economics analysis should be noted:

- Copenhagen Economics model two possible scenarios of the EPA: a minimum scenario and a maximum scenario. Both scenarios assume the removal of all tariffs in the EU and Japan. The two scenarios differ by the size of NTM reductions in manufacturing sectors and on the reduction of barriers to cross border service trade.
- Estimating the trade costs of NTMs is difficult and subject to many uncertainties. To contain these uncertainties Copenhagen Economics draw on several sources of information to derive the trade cost equivalent of NTMs. Firstly, a direct cost measure is developed based on a questionnaire completed by the managers of EU businesses that export to Japan. Secondly, a gravity model is used (see Annex A for a description of gravity modelling) with Japan as a country specific factor which acts as a control value or ceiling of trade costs. Finally, a second gravity model is used which uses an NTM index based on Ecorys (2009) to quantify the NTMs faced by Japanese firms exporting to the EU.
- The reduction potentials for NTMs in Japan are derived from the questionnaire EU business managers completed. This covered the: pharmaceutical, medical devices, motor vehicles, food and beverages, financial services, and communication services sectors. EU managers within these sectors were asked to assess how identified trade barriers could be reduced, and how much of the imposed trade cost they expect it to be possible to reduce. This produced a range of results, from which minimum and maximum NTM reduction scenarios were produced.
- For the sectors not covered by the questionnaire the actionability assumptions as applied in Ecorys (2009) have been used. Ecorys (2009) separate barrier estimates into cost creating and rent creating parts. The cost creating part is used as the minimum scenario and the combined cost and rent creating barrier estimates are used as the maximum scenario.
- We present a range of estimates from this study within which we expect the negotiated outcome is likely to fall in. However, it is important to note the results below are not based on the final EU-Japan EPA text and are therefore is subject to a degree of uncertainty.

7.17 Additionally, we make some further assumptions to apportion the results of the European Commission's study:

- The expected gains in UK GDP have been calculated as follows: we first apply the estimated percentage increase in EU28 GDP (0.10% - 0.14%) to the current level of EU28 GDP (£12.4 trillion). This gives a nominal value for the estimated increase in total EU28 GDP. We then apportion the estimated increase based on the UK's share of EU28 total trade with Japan in 2016 (17.3%).

- The sectoral impacts that are estimated by Copenhagen Economics are apportioned based on the UK's share of total trade with Japan in each sector relative to the EU28 to indicate the potential impact on the UK economy.
- A key assumption is that the EU and UK continue to trade on current terms and the UK and Japan trade on equivalent preferential terms for the duration of the assessment period after the UK has exited the EU. This is the Government's intended policy.
- Where prices are in non-sterling currency values, these have been adjusted in line with a five-year average of spot prices between Sterling and Euro where appropriate. Figures have also been inflated in line with HM Treasury GDP deflators into 2017 prices.
- The exact impacts of FTAs are uncertain, as they depend upon a wider range of behavioural responses by businesses and individuals. In this IA, to reflect that uncertainty, we make a number of assumptions and alter these to generate a high, low and central scenario, reflecting a range of potential outcomes.

Baseline: the EPA is not in force across the EU28 and Japan

7.18 The baseline is one where the EPA is not in force across the EU28 and Japan. Under the baseline scenario the EU28 trades with Japan under the MFN commitments agreed at the WTO and not under the preferences contained in the EPA. See Annex B for information on how the Comprehensive and Progressive Trans Pacific Partnership (CPTPP) could affect this baseline.

Assessment of policy option 1: The UK votes in favour of signature of the EPA

7.19 In this section we provide information on the impact of EPA, assuming no further changes in the trading relationship between the UK and Japan.

7.20 **Overall impact assessment:** Compared to a baseline in which the EPA is not in force, we estimate that the beneficial impact of the EPA on UK GDP could range from between £2.1 billion to £3.0 billion per annum in the long run. We estimate that because of the EPA UK bilateral exports to Japan could increase in the range of £3.3 billion to £5.6 billion, whilst UK bilateral imports from Japan could increase in the range of £5.5 billion to £8.5 billion. Additionally, consumers will also benefit from a greater choice of goods and services. It should be noted that some sectors may contract when faced with greater external competition, as less efficient firms exit the market. Businesses which choose to trade under the EPA terms will incur costs associated with familiarising themselves with the new agreement and complying with rules of origin certification.

7.21 The benefits identified under this policy option are expected to outweigh the costs relating to one-off agreement familiarisation costs, on-going compliance costs and foregone benefits to government revenue. **The government's preferred option is to approve the EPA in order to gain these benefits.**

7.22 The section below assesses the direct and indirect impact of the EPA on the overall macro-economy, UK businesses, consumers, the UK Exchequer and wider impacts. We define direct impacts as those that instantly affect businesses, in the absence of any behavioural change. For example, the elimination of tariffs allows UK business to import good from Japan at a lower cost automatically. In comparison, indirect impacts are those that require a behavioural response from businesses. For example, firms may increase domestic production to increase exports to Japan.

The net impacts of the EU-Japan EPA on the macro-economy

7.23 The EU-Japan EPA is one of the EU's most ambitious trading agreements and is expected to raise GDP across the EU by around 0.10% to 0.14%. We estimate that the EPA could increase UK GDP by between £2.1 billion and £3.0 billion in the long run relative to the economy in 2017. The large majority of this is driven by an increase in bilateral trade, which in turn occurs due to the elimination of all tariffs between the EU and Japan and the reduction of those NTMs which are actionable (as per the two scenarios modelled in the Copenhagen Economics study). The net impact of the EPA on UK GDP is accounted for in the total Net Present Value (NPV) of the agreement presented in section 9.

The net impacts of the EPA on UK businesses

a) Direct benefits to UK businesses from a reduced tariff and regulatory barriers to trade

i) Monetised impacts

7.24 UK businesses currently trading with Japan will benefit from reduced tariffs. This is a significant contributing factor to the agreement's impact on GDP. We estimate that UK businesses could save up to £266 million a year from the elimination of tariffs. Although it should be noted that some of this gain may be passed onto consumer in the form of lower prices. Tariff cuts will increase the competitiveness of UK firms by enabling them to offer Japanese consumers better value for money.

7.25 The elimination of tariffs is treated as a transfer as the reduction of cost to UK businesses is a revenue that otherwise would have been gained by the UK exchequer, and is therefore not captured within our calculated total net economic benefits. Copenhagen Economics model assumes a 100% reduction in tariffs, in practice however, the agreement falls slightly short of complete elimination of tariffs.

7.26 The final agreement states that upon entry into force Japan will liberalise 86% of its tariff lines. This figure rises to 97% after the full 15-year implementation period. The EU will liberalise 96% of its tariffs lines at entry into force, with 99% reached over the full implementation period. Agricultural and food products are likely to gain the most with 85% of EU agri-food exports to Japan now receiving tariff free access²². This corresponds to around 87% of current agri-food exports by value. The UK has a revealed comparative advantage (RCA) of 0.06 in this sector.

²² The agreement in principle: http://trade.ec.europa.eu/doclib/docs/2017/july/tradoc_155693.doc.pdf

7.27 Copenhagen Economics (2009) assume tariffs are fully eliminated. The final EU-Japan EPA eliminates 97% of Japan's tariff lines, 15 years after implementation. Therefore, in the context of tariffs, the study's modelling assumption is relatively close to the final provisions.

7.28 Some of sectorial gains presented in the table above are due to the following:

- Japanese tariffs on beef will be cut from 38.5% to 9% over the 15-year implementation period, and tariffs on nearly all pork products will be removed.
- In addition, Japanese duties on several hard cheeses will be abolished. This is of interest to UK cheddar cheese exporters who currently face a 29.8% tariff.
- Tariffs on wine and spirit exports will be removed, which is of interest to Scotch whisky producers.
- The EPA will also scrap Japanese tariffs on several processed agricultural products which the UK produces, including: chocolates, cocoa powder, candies, confectionary, biscuits, and starch derivatives.
- Import quotas and tariffs will no longer be applied to fisheries on both sides, meaning better prices for UK consumers and bigger export opportunities for UK fisheries.
- Tariffs on all Japanese industrial products will be fully abolished. Most notably for the UK this includes tariffs on chemical products (in which the UK has a RCA of 0.17), as well as plastics, cosmetics, textiles and clothing.
- Imports are expected to increase by 2% in part due to the elimination of a 10% tariff on Motor vehicles.

7.29 UK businesses currently trading with Japan will also benefit directly from a decline in regulatory barriers in Japan's services market as well as the reduction of NTMs restricting goods trade. These gains are monetised and included implicitly within the CGE modelling and overall gains in net UK GDP. Copenhagen Economics calculate tariff equivalent trade cost reductions through a series of surveys and gravity estimations which can be seen in Table 11.

7.30 The agreement lays out that the EU and Japan will fully align themselves to the same international standards, product safety, and environmental protection in relation to motor vehicles. This simplifies the process for UK exporters of cars significantly, and UK cars will no longer need to be tested and verified at Japanese customs. In anticipation on the agreement, in March 2015 Japan adopted an international standard of textiles labelling. As a result, UK exporters of textiles no longer need to produce separate labelling for the Japanese market.

7.31 The agreement ensures the UK and Japan have a mutual commitment to align with international standards to reduce technical barriers to trade. This specifically applies to UK exporters of chemicals and pharmaceuticals.

7.32 The agreement also creates a more predictable regulatory environment regarding sanitary and phytosanitary measures. This includes the simplification of approval clearance processes at customs.

7.33 It is difficult to disentangle the NTM reduction modelled in the Copenhagen Economics study compared to the final EPA provisions. We do however attempt to assess whether the final EPA provisions could drive the sectorial gains we estimate in table 7 below:

- Chemical sector - The study estimates that Japanese and EU NTM's could reduce by 20% (tariff equivalent reduction) and 12% respectively. The final EPA secures both Japan's and the EU's mutual commitment to align their production of chemical goods to international standards and align to each other's technical regulations.
- Motor vehicles – The study estimates that Japanese and EU NTM's could reduce by 4% (tariff equivalent reduction) and 5% respectively. The agreement sets out that the EU and Japan will fully align themselves to the same international standards, product safety, and environmental protection in relation to motor vehicles. This simplifies the process for UK exporters of cars significantly, and UK cars will no longer need to be tested and verified at Japanese customs.

Non-monetised impacts

7.34 The EPA grants additional access to contracts put out for tender in Japan by both the central and regional governments. The EU's main priority in the negotiations on procurement was to secure greater access to the Japanese market in railway equipment and infrastructure. Japan has in large part offered this by removing an 'operational safety clause'. This clause was aimed to ensure the safety of rail transport in Japan, a country where natural disasters frequently occur. However, in reality it precluded foreign suppliers from bidding for contracts to supply trains and other rail equipment. Japan has also agreed to open tenders to EU bidders for hospitals and academic institutions (87 entities) and electricity distribution (29 entities).

7.35 At a regional level, Japan has agreed to grant non-discriminatory access to the procurement market of 48 cities of around 300,000 inhabitants. Together they represent roughly 15% of the Japanese population.

7.36 In addition, Japan has agreed to several measures that: (1) Allow fairer assessment of EU companies technical abilities and experience when they bid for public tender. (2) Make information about public tenders more easily accessible. (3) Set new standards for the remedies available to bidding companies if they think unfair treatment has occurred. These measures go beyond the WTO's Government Procurement Act.

7.37 The UK exported around £7bn worth of services to Japan in 2016. The agreement will make it easier for UK firms to access the large Japanese service market due to:

- Mode 4 (movement of people for business purposes) provisions in the agreement. This will cover all traditional categories such as intra-corporate transferees, business visitors for investment purposes, contractual service suppliers, and independent professionals, as well as newer categories such as short-term business visitors and investors. It is possible that improvements in the mobility of temporary workers between the UK and Japan could lead to greater competition for UK citizens.
- The agreement will make it easier for UK companies to provide services on the Japanese market, particularly in sectors such as telecommunications, while safeguarding the right to protect public services. Moreover, it will open up Japanese public procurement markets at local level, guaranteeing non-discriminatory access for UK companies to government contracts in 48 large Japanese cities. The EU has also obtained greater access to railway procurement in Japan.

b) Indirect benefits to UK businesses from a reduction in trade barriers

i) Monetised impacts

- 7.38 Preferential agreements reduce or remove existing trade barriers that restrict free and efficient trade. The Japan-EU EPA would enable businesses to trade under preferences. Businesses would benefit from the reduction in tariffs and NTM costs making it cheaper to export to Japan. Businesses would also benefit from cheaper imports from Japan.
- 7.39 The elimination of tariffs and NTMs will make UK businesses more competitive in the Japanese market. The overall impact of EPA is expected to be positive for UK businesses. However, the impact will differ by sector and between firms within each sector. Due to increased competition from Japanese firms it is possible that some less efficient UK firms could be forced to exit the market.
- 7.40 Table 7 below presents more detailed information about the potential gains to UK businesses from an increase in bilateral exports/imports to/from Japan.
- 7.41 Table 7 shows that only 24% of bilateral exports gains are derived through a reduction in tariffs only (£1.3 billion). Lower bound NTM reductions alone are estimated to increase bilateral exports by £1.9 billion whilst upper bound NTM reductions are estimated to increase bilateral exports by £4.1 billion. Combining tariff and NTM reductions is estimated to increase bilateral exports in the range £3.2 billion to £5.4 billion. The largest sector gains are expected in chemicals (£0.7 billion to £1.3 billion), motor vehicles (£0.4 billion to 1.0 billion), and metal and metal products (£0.3 billion to £0.7 billion).
- 7.42 In terms of bilateral imports, tariff reductions alone are estimated to have a larger impact making up 48% of the total gains (£4 billion). The majority of this is driven by an increase in Japanese motor vehicle imports (£2.8 billion) due to the removal of a 10% tariff. Lower bound NTM reductions alone are estimated to increase bilateral imports by £1.5 billion whilst upper bound NTM reductions are estimated to increase bilateral imports by £4.4 billion. Combining tariff and NTM reductions is estimated to increase bilateral imports in the range £5.5 billion to £8.4 billion. The largest sector gains are expected in motor vehicles (£3.6 billion to 4.8 billion), chemicals (£0.5 billion to £1.1 billion), and metal and metal products (£0.2 billion to £0.7 billion).

Table 7: Monetised increases in bilateral exports from and imports to Japan as a result of the EPA

Sector	Baseline EU28 exports to Japan Copenhagen Economics (2009)	UK share of EU28 total trade with Japan*	Increase in UK bilateral exports to Japan (£, billions)				
			Tariffs only reduction ¹	Minimum NTM reduction only ²	Maximum NTM reduction only ³	Combined tariff and NTM lower scenario ⁴	Combined tariff and NTM upper scenario ⁵
Chemicals	8.4	13%	0.1	0.6	1.2	0.7	1.3
Motor vehicles	5.1	19%	0.1	0.3	0.8	0.4	1.0
Metals and metal products	1.3	26%	0.1	0.2	0.6	0.3	0.7
Other sectors	9.9	11%	0.6	0.0	0.1	0.7	0.7
Services	19.5	18%	0.1	0.2	0.4	0.2	0.4
Other machinery	5.6	13%	0.0	0.2	0.4	0.2	0.4
Other transport equipment	0.6	14%	0.0	0.2	0.4	0.2	0.4
Processed foods	3.9	5%	0.2	0.0	0.0	0.2	0.3
Wood and paper products	1.7	11%	0.0	0.1	0.2	0.1	0.3
Total	56.1	16%	1.3	1.9	4.1	3.2	5.4

Sector	Baseline EU28 imports from Japan Copenhagen Economics (2009)	UK share of EU28 total trade with Japan*	Increase in UK bilateral imports from Japan (£, billions)				
			Tariffs only reduction ¹	Minimum NTM reduction only ²	Maximum NTM reduction only ³	Combined tariff and NTM lower scenario ⁴	Combined tariff and NTM upper scenario ⁵
Motor vehicles	18.5	19%	2.8	0.7	2.0	3.6	4.8
Chemicals	8.3	13%	0.2	0.3	0.9	0.5	1.1
Metals and metal products	1.2	26%	0.2	0.0	0.6	0.2	0.7
Electrical machinery	8.1	13%	0.3	0.2	0.5	0.4	0.7
Other transport equipment	4.0	14%	0.2	0.1	0.4	0.3	0.5
Other machinery	22.9	13%	0.4	0.0	-0.2	0.4	0.2
Services	15.1	18%	-0.1	0.1	0.2	0.0	0.2
Other sectors	3.2	8%	0.1	0.0	0.0	0.1	0.1
Total	81.3	16%	4.0	1.5	4.4	5.5	8.4

Notes:

These results have been calculated by taking the estimates from Copenhagen Economics (2009) (which apply to the EU28 as a whole) and apportioning them based on the UK's share of EU28 total trade with Japan. Trade shares have been derived from the GTAP database version 8 that contain 2007 data. This has been applied as the Copenhagen Economics study uses 2008 trade data, therefore version 8 of GTAP most closely aligns.

¹ Estimated increase in UK exports/imports to/from Japan due to 100% tariff removal in Japan/UK *only*.

² Estimated increase in UK exports/imports to/from Japan due to minimum NTM reductions in Japan/UK *only*.

³ Estimated increase in UK exports/imports to/from Japan due to maximum bound NTM reductions in Japan/UK *only* (greater reduction in manufacturing and service barriers compared with lower bound).

⁴ Reflects the sum of tariff only reduction plus the minimum NTM reduction.

⁵ Reflects the sum of tariff only reduction and the maximum NTM reduction.

The results reported by Copenhagen Economics were in Euros and reflect the price level of the economy as it was in 2008. These have been exchanged into Sterling using the EUR:GBP annual 2008 average exchange rate (1.258) and inflated to 2017 prices in line with HM Treasury guidelines (GDP deflator 2008-2017 = 1.156)

ii) Non-monetised impacts

- 7.43 Trade liberalisation will increase UK business productivity by increasing competition. UK businesses can specialise in the production of goods and services that they are relatively better at producing, allowing them to expand production, benefit from economies of scale and produce goods at a lower average cost. In addition, UK businesses will have the incentive to reduce costs and increase efficiency in the face of greater international competition.
- 7.44 There are several channels through which competition raises productivity, but most importantly competition forces firms to innovate, coming up with new products and processes.

c) Direct Costs to UK businesses

i) Monetised impacts

- 7.45 The costs to UK businesses from trading under EPA preferences are voluntary. They have the option to choose whether to trade with Japan under EPA trading preferences (lower tariffs) or the baseline MFN tariffs. Therefore, there is no net cost to businesses for those who do not wish to trade under EPA preferences.
- 7.46 We attempt to monetise the direct cost to businesses where possible for both one-off and on-going costs. It is difficult to estimate business costs due to availability of data and there are considerable uncertainties around the cost estimates provided. For this reason, we provide ranges where possible and a description of the costs and activities involved. Our best estimate of business impact costs has then been included in the NPV calculations.

Business cost data limitations:

- The Japan-EU EPA is not yet in force. As a result, we cannot provide estimates on costs based on empirical data specific to this agreement and have used proxies to provide an estimation of costs.
- Evidence on preference utilisation of existing trade agreements is limited.

One-off costs

- 7.47 There will be one-off costs to firms and customs and government officials from reading and understanding the text of this agreement. It is not possible to monetise the precise impact of this one-off cost, but we provide an illustration of the potential impacts on UK businesses that trade with Japan. In 2016, 9,438 VAT registered businesses exported to Japan and 6,788 VAT registered businesses imported from Japan. Based on this, the number of businesses trading with Japan is 16,226 in 2016. This figure could be an overestimate as it double counts firms who export to Japan as well as import from Japan. However, it does not consider the number of new businesses that may trade with Japan as a result of the EPA which may lead to an underestimate.

7.48 Based on this number of firms, the aggregate cost to businesses currently trading with Japan could range from £3.1 to £3.3 million. The method for this estimate is shown in Annex B. In addition, firms could face other one-off costs such as IT set-up costs, custom declarations and rules of origin certification.

ii) Non-monetised impacts

7.49 Businesses will need to follow administration procedures in order to use the Japan-EU preferences. These include:

- **Customs Declarations:** this will be an additional cost borne by new firms that start trading with Japan because of the Japan-EU EPA. Firms already trading with Japan will already be bearing this cost as will firms that divert their trade from a third country outside of the EU to Japan. This cost has not been included in the NPV.
- **Outward Origin Quotas:** these are administered through import a permit, which has an associated cost. This cost will be borne by firms trading textiles and apparels under EPA. This cost has not been included in the NPV.
- **Rules of Origin:** To trade under the EPA preferences business are required to produce a certificate to confirm the origin of the export content meets the rules of origin set out in agreement. Businesses can submit rules of origin forms to HMRC to process free of charge, but this could take several days to complete. Alternatively, businesses can choose to get a certificate from the British Chambers of Commerce which processes the certificate in a shorter period of time for a fee of £46.80.¹ Recent academic studies (World Bank 2014, Ciuriak & Xiao 2014) estimate the tariff equivalent trade costs associated with rules of origin administration and compliance requirements to range between 2% to 6%. These estimates vary considerably depending on the methodology, time period, and the countries under consideration. Further research (Keck and Lendle 2012) has shown that utilisation of agreements can be very high, even where there are very small preferential margins, which should not be the case in the presence of high administrative costs.

d) Indirect Costs to UK businesses

i) Monetised impacts

There are no monetised indirect costs on UK businesses.

iii) Non-monetised impacts

¹ <https://www.londonchamber.co.uk/LCCI/media/media/Export%20Docs/Prices/Export-Documents-Price-List.pdf>

7.50 As highlighted above the EU-Japan EPA is expected to increase UK exports and imports across several sectors. In the section above, we estimate the UK increases imports in motor vehicles, chemicals and metal products. UK businesses in these sectors might become less price competitive and may experience a fall in domestic production. The Copenhagen study does identify sectors which potentially experience a decline in production across the EU. It is not possible to estimate the UK share of this decline therefore has not been included in this impact assessment.

The net impact of EPA to consumers

a) Direct benefits to UK consumers

7.51 There are no direct benefits to UK consumers.

b) Indirect benefits to UK consumers

7.52 UK consumers are expected to see an increase in welfare as a result of the EPA. We estimate long run national real income to increase in the range £2.9 billion to £4.7 billion. National real income is a welfare measure based on equivalent variation, which is commonly used to translate consumer welfare into monetary values. Table 8, below, shows how the composition of welfare is split between tariff and NTM reductions.

7.53 This is different from measuring welfare in GDP terms. GDP is based on quantities and measured as output at fixed prices. Real income changes are what matter for consumers, as they reflect changes in both prices and wages. The EPA will reduce the prices of imported goods through a reduction in trade costs. As a result, UK consumers will be able to purchase products at a lower cost. The EPA will also cause a productivity enhancing reallocation of resources between sectors leading to a long-run increase in UK wages. The national real income measure incorporates both of these factors into one single measure.

	Tariffs only	Minimum NTM reduction only	Maximum NTM reduction only	Combined effect minimum scenario	Combined effect maximum scenario
UK	1.6	1.3	3.1	2.9	4.7

Source: Copenhagen Economics (2009)

7.54 These impacts are not captured in the total NPV as seen in section 9 as the welfare gains are an alternative way of looking at the impacts of GDP once accounting for price changes.

c) Direct cost to UK consumers

There are no direct costs on UK consumers.

d) Indirect costs to UK consumers

There are no indirect costs on UK consumers.

Impacts of the EPA to the UK Exchequer

a) Direct benefit

There are no direct benefits on the UK Exchequer.

b) Indirect benefits

7.55 A loss in government revenue is in part a transfer to UK businesses who benefit from an increase in profit from increased trade under the EPA preferences. In addition, consumers will benefit directly from lower prices on final goods. Furthermore, the EPA is expected to increase domestic economic activity in specific sectors of the economy which in turn will increase revenue for the UK Exchequer.

c) Direct costs

7.56 The gains described above may, to some extent, be offset by on-going forgone revenue to the EU and the UK from lower tariffs on imports from Japan. As set out in Table 9 we estimate the potential loss in revenue to equate to around £266 million per annum in the UK. In addition, there will be one-off minimal costs to customs and government bodies from reading and understanding the text of this agreement. This impact is not captured in the total NPV as seen in section 9 as they are implicitly captured within the impact on net UK GDP.

Sector Name	Estimated Revenue (£, thousands)
Animal products	£1,100
Beverages and tobacco	£300
Cereals and preparations	£1,000
Chemicals	£25,500
Clothing	£1,700
Coffee and tea	£100
Cotton	-
Dairy products	-
Electrical machinery	£25,300
Fish and fish products	£900
Fruits, vegetables, plants	£200
Leather and footwear	£3,200
Manufactures nes	£9,200
Minerals and metals	£8,500
Non-electrical machinery	£30,100
Oilseeds, fats & oils	£100
Other agricultural products	£200
Petroleum	£1,300
Sugars and confectionary	-
Textiles	£3,200
Transport equipment	£153,300
Wood, furniture, raw materials	£800
Total	£266,000

Source: Agriculture AVEs are sourced from the MacMaps, non-Agri AVEs are sourced from WITs World Bank and trade flow data is sourced from HMRC trade database.
Notes: AVEs do not include the various reductions that importers can get, e.g. inward processing exemption, outward processing exemption.

d) Indirect cost

There are no indirect costs to the UK Exchequer.

Assessment of policy option 2: The UK does not vote in favour of signature of the EPA

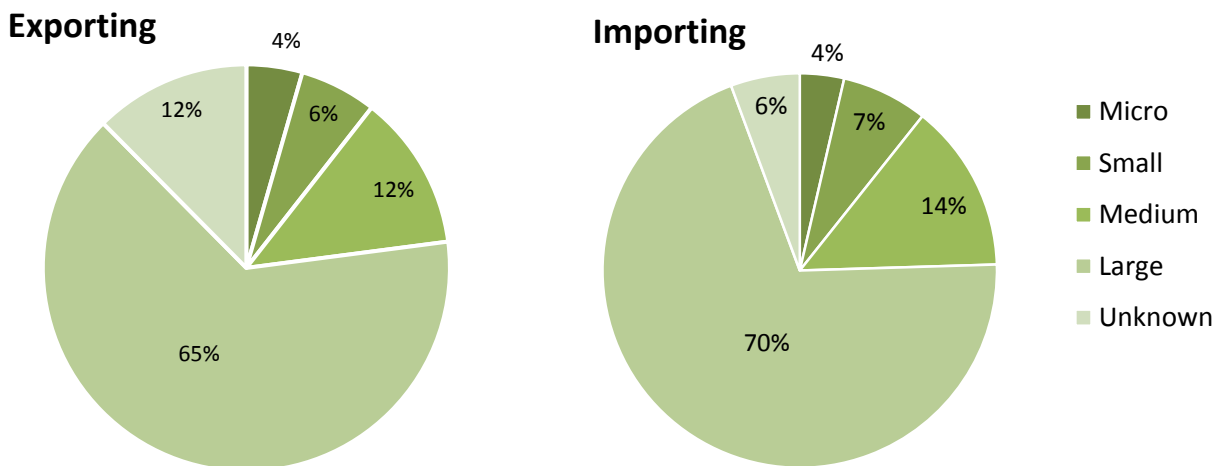
7.57 Under this option the Government opposes the Commission's proposed decision on signature of the Japan-EU EPA. If the Council choose to use qualified majority voting and a qualified majority of Member States favoured proceeding to signature, the EU-Japan EPA will still come to force, as in option 1. However, should the Council continue to seek consensus before proceeding, the agreement would not be implemented and the EU and Japan would continue to trade on WTO, Most Favoured Nation (MFN) terms. Under this option, the UK does not accrue any additional costs and benefits and is therefore the same as under the baseline of this IA.

7.58 This is not the Government's preferred option, as it runs counter to the Government's policies in relation to free trade and its support for an ambitious EU trade policy. This could also damage the UK's bilateral relations with Japan and with the EU, which could make negotiations over future trading arrangements more challenging.

8 Small and medium business impacts analysis

- 8.1 This section provides a qualitative assessment of the impacts of the Japan-EU EPA on Small and Micro Businesses (SaMBA). We discuss whether the impact on the operations and performance of small businesses are likely to be disproportionate compared to larger businesses.
- 8.2 There is a small and medium enterprise (SME) chapter included in the Japan-EU EPA agreement in which the parties agreed to provide clear and specific advice to SMEs on how to access the opportunities presented by the EPA. The websites have yet to be launched.
- 8.3 In 2016, 9,438 VAT registered UK businesses exported to Japan and 6,788 VAT registered UK businesses imported from Japan.² Around 60-64% of UK businesses trading with Japan are micro or small businesses (0-50 employees). Around 20% are medium sized (50-250 employees) and 10-12% are large scaled businesses (more than 250 employees). However, as graph 7 shows, whilst most of the companies trading with Japan are small and micro businesses the majority of the total value of trade is made up by large companies. Of the £9.6 billion worth of goods and services exported to Japan in 2016, 65% was exported by large companies. The comparable figure for imports was 70%.

Graph 7: Percentage share of total exports/imports to/from Japan, by size of business



Source: IDBR overseas trade statistics country data tables 2016. <https://www.gov.uk/government/statistics/uk-trade-in-goods-by-business-characteristics-2016>.

Notes: The methodology used to compute these statistics is still under development by HMRC. All data should be considered experimental.

² IDBR overseas trade statistics country data tables 2016. <https://www.gov.uk/government/statistics/uk-trade-in-goods-by-business-characteristics-2016>.

Rules of Origin

- 8.4 All firms will have to comply with rules of origin requirement. This cost may affect small business disproportionately to larger businesses as these firms may be more affected by fixed costs compared to larger firms. Larger organisations may be able to spread the costs across a higher volume of exports and hire professional advisors. Small firms may not have the capacity and capabilities to deal with understanding the process and regulations around complying with rules of origin requirements compared to larger firms.
- 8.5 This cost is mitigated in that small businesses can choose to trade under MFN terms (baseline of the assessment) if the regulatory cost outweighs the cost of compliance. As such the cost will only be incurred if the benefit of using preferences outweigh the cost of compliance.
- 8.6 The burdens of understanding and addressing technical barriers to trade such as different conformity standards and regulatory requirements in Japan can be disproportionately large for small businesses. The Japan-EU EPA provides a basis for greater cooperation on customs related matters and rules of origin, establishing a specialised committee on this. Both parties also agreed to increase cooperation on harmonisation and simplification of customs procedures, which will benefit small businesses.
- 8.7 Though the exact nature of the advice function in the chapter on SMEs in the agreement is not explicit, this aims to facilitate SME exports to Japan. This tailored advice may mitigate some of the issues associated with export costs.

Tariff Reductions

- 8.8 Small firms that export to Japan are likely to expand production and experience an increase in revenue as their products become cheaper for Japanese importers. Similarly, small UK firms will be able to import products from Japan at a lower cost. This could lead to small businesses becoming more productive and competitive in the UK. Some uncompetitive small businesses in the UK may be adversely affected from greater competition from Japanese firms.
- 8.9 Overall, greater competition can have positive and negative impact on small business. We do however expect small business to experience a net gain overall when accounting for the elimination of tariffs and reduction of non-tariff measures between the UK and Japan.

9 Total Net Present Value impacts on the UK population under option 1

- 9.1 As explained in section 7, we present a range of estimates based on the scenarios within which the negotiated outcome is likely to fall in. The results below are not based on the final EU-Japan EPA text and are therefore is subject to a degree of uncertainty.
- 9.2 Our central estimate of the net impact on the EU-Japan EPA on UK GDP is £2.6 billion per annum in the long run. Not all these gains are expected to accrue in the first year that the EU-Japan EPA is implemented. To calculate the NPV over 15 years, we assume the impacts will follow the same profile as those set out in the Impact Assessment for the EU-Canada Comprehensive Economic and Trade Agreement (CETA).¹ Furthermore, we do not expect all firms to incur the one-off familiarisation costs in the first year of the EPA's implementation. We assume that 60% of the total one-off familiarisation cost to businesses (£3.2 million) occurs in the first year that the EPA is implemented, followed by 25% in year two and 15% in year three. In total the benefits to the UK are estimated to equal £24,978 million over a 15-year period in our central scenario. Costs are estimated at around £3.14 million over the same period. Subsequently, it is estimated that the net impact, in present value terms of option 1 is around £24,975 million over 15 years.

Table 10: The estimated Net Present Value (NPV) of EPA across 15 years (£, millions)																
	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Total
Costs (2017 Real Prices)																
Time path	60%	25%	15%													
One-off familiarisation costs	1.92	0.80	0.48													3.2
Benefits (2017 Real Prices)																
Time path	61%	65%	68%	72%	75%	79%	82%	85%	87%	90%	92%	95%	98%	100%	100%	
Increase in UK GDP	1,574	1,669	1,761	1,852	1,937	2,023	2,101	2,176	2,246	2,314	2,380	2,447	2,511	2,575	2,575	32,100
Total Costs (present value)	1.92	0.77	0.45													3.14
Total Benefits (present value)	1,574	1,613	1,644	1,670	1,688	1,703	1,709	1,711	1,706	1,698	1,688	1,676	1,662	1,646	1,591*	24,978
Net Present Value	1,572	1,612	1,643	1,670	1,688	1,703	1,709	1,711	1,706	1,698	1,688	1,676	1,662	1,646	1,591	24,975
<small>Note: The EU-Japan study by Copenhagen Economics does not set out information on when benefits from the agreement are expected to incur. We therefore apply the profile of gains set out the EU-Canada Comprehensive Economic and Trade Agreement Impact Assessment. * Under the central scenario we estimate the net increase in UK GDP to be around £2.3 billion per annum in the long run. When discounted and presented in present value terms the net increase in UK GDP is estimated to be around £1.4 billion per annum in the long run.</small>																

¹ <http://www.legislation.gov.uk/ukdsi/2018/9780111169438/impacts>

10 Sensitivities

10.1 This section explores the degree to which our understanding of the net benefits can change when considering the construction of a CGE model.

CGE modelling

10.2 Computable General Equilibrium models are used widely to estimate the impact of trade policy changes. However, there are several limitations to these models. The results depend on the assumptions that are used in the models, which to some extent are subject to uncertainty, for example estimating elasticities in certain markets. The results will also depend on the data used in the model and the assumption that future outcomes depend on past behaviour, which is not always the case.

10.3 CGE models also struggle to model dynamic changes. For instance, this trade agreement is likely to result in increased competition between firms, which could result in higher innovation. However, the impact of increased innovation is not included explicitly within the model.

AVEs of non-tariff measures and regulatory barriers

10.4 The AVEs in the Copenhagen Economics study are derived from two sources, ECORYS (2009) and Copenhagen Economics (2009). The basis for the estimation of the impact of NTMs on cost in the ECORYS study originates from a survey of firms from the EU, US and third countries, operating in the EU and/or US.¹ The results from the survey were incorporated in a set of econometric models, using the Anderson et al (2009) methodology to estimate current levels of NTMs impacting on US-EU trade. The use of a gravity model allowed for calculation of ad valorem equivalents of NTMs. These were then used as basis for further analysis with a Computable General Equilibrium (CGE) model to estimate potential effects of lowering current levels on NTMs.

10.5 The subsequent study by Copenhagen Economics set out to estimate specific levels of EU-Japanese NTMs. These estimates were then used to calculate trade cost equivalents, expressing the cost impact on cross-border trade of the identified NTMs. The process of calculating levels of NTMs in manufacturing entailed a very similar process to that in the ECORYS study, albeit here in a three-stage process. Step one contained a complementing business survey aimed at European businesses operating in Japan. The two subsequent steps were based on gravity modelling (one using a country specific dummy and the other the ECORYS NTM survey index) according to the Anderson et al. (above) methodology. The Copenhagen Economics business survey outputs were then fed into the gravity models, yielding trade cost equivalents for Japan.

10.6 Table 11 below indicates the baseline trade costs and the extent to which they are reduced based on the minimum and maximum scenarios.

¹ See Annex D for more detail on the surveys used to calculate tariff equivalents reductions of non-tariff measures.

Table 11: Trade cost equivalents of non-tariff measures in the EU and Japan.

Sector	Scenarios of reduction of NTMs affecting EU exports to Japan			Scenarios of reduction of NTMs affecting Japanese exports to the EU		
	Baseline trade cost estimate (%)	Minimum reduction scenario (% point change)	Maximum reduction scenario (% point change)	Baseline trade cost estimate (%)	Minimum reduction scenario (% point change)	Maximum reduction scenario (% point change)
Food and beverages	25.0%	6.0%	9.0%	N/A	-	-
Chemicals	22.0%	15.0%	20.0%	18%	7.3%	12.1%
Electrical machinery	11.6%	2.6%	3.9%	4.5%	1.7%	2.8%
Motor vehicles	10.0%	1.2%	3.8%	16.3%	3.5%	5.3%
Other transport equipment	45.0%	33.8%	41.0%	18.8%	3.1%	5.6%
Metals and metal products	21.3%	4.3%	6.5%	6.0%	1.9%	5.2%
Wood and paper products	15.4%	7.1%	10.6%	N/A	-	-
Other machinery	30.0%	2.9%	3.9%	N/A	-	-
Air transport	2.0%	0.9%	1.3%	2.0%	0.4%	1.1%
Water Transport	8.0%	3.5%	5.2%	8.0%	1.4%	4.5%
Finance	15.8%	5.8%	8.7%	11.3%	2.9%	7.0%
Insurance	6.5%	0.8%	1.2%	10.8%	2.8%	5.6%
Business and ICT	2.5%	2.5%	3.7%	14.9%	2.5%	4.3%
Communications	24.7%	12.8%	19.2%	11.7%	4.3%	8.2%
Construction	2.5%	1.2%	1.9%	4.6%	1.9%	2.6%
Personal, cultural, other services	6.5%	2.5%	3.7%	4.4%	1.0%	2.5%

Source: ECORYS (2009) and Copenhagen Economics (2009)

10.7 The table below presents the NPV under a low scenario where we apply the minimum reduction in NTMs and a high scenario where we apply the maximum reduction in NTMs. The central scenario reflects the midpoint between the minimum and maximum reductions.

Table 12: Net Present Values under the low, central and high scenarios (£m) over a 15-year appraisal period

	Low	Central	High
Present value costs	3.1	3.14	3.2
Present value benefits	20,815	24,978	29,140
Total NPV (£m)	20,811	24,975	29,138

11 Risks and assumptions

- 11.1 The section below sets out the key modelling assumptions regarding the baseline, exchange rate, competition, employment and the UK's relationship with the EU.
- 11.2 **Baseline assumptions:** The baseline scenario in the Copenhagen Economics study assumes no changes in trade policy - tariffs and NTMs remain as they are at present, subject to the conclusions of trade negotiations currently underway. The study projects the world economy to 2018. The study's model runs on the GTAP database, version 8. This is a commonly used database and was seen at the time to have the most update, internally consistent data on production, consumption and international trade by country and sector. The database for the model was benchmarked for 2004, then updated into 2008 real terms and then projected to 2018. By using an old database the nominal values reported in the IA are likely to be an underestimate compared to a model that used more recent data. This is because trade flows between the UK and Japan have increased in nominal terms since 2008.
- 11.3 **Full employment:** The study assumes that all workers in the economy will still be employed after the Japan-EU EPA comes into force. A policy change in the model causes a reallocation of workers across the different sectors of the economy with the most productive sectors gaining workers from the least productive sectors. This assumption is widely adopted in studies which use a CGE model. In practice, the EU-Japan EPA, along with any new FTA, may cause an expansion or contraction of total employment across the economy in the short term.
- 11.4 **Market Structure:** Industrial sectors and most service sectors (except public services, utilities, and transport) are specified with monopolistic competition while all other sectors have perfect competition. In the sectors where perfect competition is assumed, products from different regions are assumed to be imperfect substitutes (an Armington market structure). By assuming perfect competition in some sectors, gains from an increase in productivity and innovation are not explicitly accounted for. Therefore, the results presented in the impact assessment are towards the lower bound.
- 11.5 **Sector aggregation:** CGE models require an aggregation of sub sectors into larger groupings. This can obscure specific sector impacts as NTMs or tariff changes for sub sectors will be aggregated to a higher level.

Annex A: Explanation of CGE modelling

There are various well established robust methods to estimate the impact of trade agreements:

- **Econometric gravity modelling** – This type of modelling test the relative importance of the economic and size and geographic distance between two countries in determining bilateral trade flows. Expansions of gravity modelling have included other components of ‘distance’ including trade costs and other country characteristics such as culture and language. This method has been applied since the late 1960s and is predicated on historical data.
- **Partial equilibrium modelling** – This tool of analysis estimates the isolated impact of a change in policy in one sector, e.g. automotive, agriculture, financial. In the context of trade agreements, it looks at the impacts of changes in trade costs on a sector’s production, exports, and imports. While it can observe the impacts for a much more granular sectoral aggregation than CGE models, it does not capture positive or negative spillover effects on complementary sectors or the wider economy.
- **General equilibrium modelling** – This model links all sectors and agents of an economy together and therefore captures any positive or negative spillover effects from a trade agreement. For example, if tariffs are reduced for a particular good, its use as a final and intermediate good may increase due to lower prices. This has expansionary effects for other sectors that rely on the good for their own production and further effects for the incomes of workers, firms, and government.

The simulations in both studies used in this impact assessment are performed on multi-sector, multi-region dynamic CGE models, which are based on the widely used Global Trade Analysis Project (GTAP) CGE model (though for different years).

Annex B: The impact of future free trade agreements on the baseline

The study by Francois (2009) accounts for the EU-Korea FTA in its baseline, but does not account for the Comprehensive and Progressive Trans Pacific Partnership (CPTPP) or the EU-Canada Comprehensive Economic and Trade Agreement (CETA). These have been signed since the study was written.

CPTPP is a free trade agreement involving 11 countries, including Japan, Canada, Australia, New Zealand, Singapore, Brunei, Malaysia, Vietnam, Chile, Mexico and Peru. It was signed in March 2018 but has not yet entered into force. The US was a member of the TPP, the precursor to CPTPP, but withdrew from the agreement in January 2017.

The European Commission's Trade Sustainability Impact Assessment (2016) on the EU-Japan EPA evaluates how the gains associated with the EPA would be affected by TPP if the US were a member. The study states that TPP could negatively affect the baseline for EU-Japan trade, due to some trade diversion to TPP members. The study concludes trade gains caused by tariff eliminations between the EU and Japan agreed in the EPA would be offset by TPP liberalisation – returning to the original baseline overall.

However, DIT does not consider the European Commission's (2016) study useful to assess the effect of CPTPP on EU-Japan trade. With the withdrawal of the US from the agreement, CPTPP will only bring Japan into partnership with economies worth \$6.8 trillion in 2020, rather than \$29 trillion if the US has remained part of the deal.² The trade diversion found in the European Commission's study would have been heavily dominated by the US effect, which is no longer relevant. The EU-Canada deal may have some diversionary effect but, again, relatively small given the size of Canada's economy (\$1.9 trillion GDP in 2020) compared to the EU's (\$21.7 trillion) and Japan's (\$5.3 trillion).³

The baseline used in the DIT study does not account for some trade agreements still under negotiation, such as the Transatlantic Trade and Investment Partnership (TTIP) – a trade agreement between the EU and the US - or the Regional Comprehensive Economic Partnership (RCEP), a trade agreement between ASEAN countries and Australia, China, India, Japan, South Korea and New Zealand. Negotiations for TTIP started in 2013 but are currently on hold following the change of US Administration in 2017, with no apparent prospect for resuming.⁴ RCEP negotiations have not yet concluded and the agreement will not enter into force for some time even after conclusion and signature.

Modelling that captures the impact of the EU-Japan EPA on the UK specifically, taking into account the final CPTPP, is not available.

We do however, expect the negative impact of CPTPP on UK-Japan baseline trade to be small in the short term, for the following reasons:

² IMF World Economic Outlook 2017, nominal GDP <https://www.imf.org/en/Publications/WEO/Issues/2017/09/19/world-economic-outlook-october-2017>

³ IMF World Economic Outlook 2017, nominal GDP <https://www.imf.org/en/Publications/WEO/Issues/2017/09/19/world-economic-outlook-october-2017>

⁴ http://trade.ec.europa.eu/doclib/docs/2017/march/tradoc_155462.pdf.

1. UK exports to Japan are concentrated in services and non-agriculture products, whereas the greatest negative impacts of TPP on EU countries were seen in agricultural and food products. The European Commission's study (2016) analyses the impacts of TPP, when the US was a member, on EU-Japan trade in processed foods (beef, pork, dairy and cheese, wine, spirits, confectionary and bakery).⁵ The Commission's analysis finds that food sectors across the EU could lose on average 20% to 25% of their current sales in Japan in the absence of the EU-Japan EPA and with the TPP enforced. The greatest negative impact would be seen in EU exports in pork and dairy to Japan which TPP is estimated to eliminate entirely. However, (a) this negative impact on the baseline would be considerably dampened by the US withdrawal from TPP, and (b) the UK share of total EU exports in pork, beef and dairy are small: 0.1%, 0.2%, 0.4% on average respectively between 2013 to 2017.⁶ We therefore expect the negative impacts associated with trade diversion away from the UK to CPTPP countries to be small.

2. The nature of UK exports to Japan is concentrated in services and non-agricultural products whereas Canada and New Zealand's exports with Japan are concentrated in agriculture products. Japan has an EPA with all CPTPP members except for Canada and New Zealand. The top products Japan imports from the UK are financial services, business services, nuclear reactors, boilers, machinery, vehicles other than rail way products and pharmaceuticals. In comparison, Japan mostly imports agricultural goods from Canada, for example, oil seeds, meat, cereals and wood. In terms of services, Japan mostly imports transportation and travel service from Canada. Japan mostly imports aluminium, dairy products, wood and fruits, vegetables and fish from New Zealand. We therefore expect Japan's trade diversion from the UK to Canada and New Zealand resulting from CPTPP to be minimal given the different nature of products traded with Japan.

⁵ The European Commission employs Partial Equilibrium (PE) modelling and runs a scenario where the EU-Japan EPA is not implemented but TPP with the US as a member is enforced. PE modelling differs from general equilibrium modelling as it models the impact of a policy change in one sector holding all other sectors the same after a change in policy. It therefore presents the isolated impacts in one sector and does not capture the potential knock-on impacts between sectors when a policy change is introduced.

⁶ Source: Eurostat database. International Trade in Goods and Services. Available at: http://ec.europa.eu/eurostat/statisticsexplained/index.php/International_trade_in_services
<http://ec.europa.eu/eurostat/web/international-trade-in-goods/data/database>

Annex C: Method description: estimated one-off costs associated with the EPA text familiarisation costs

The steps below set out the method applied to estimate the one-off familiarisation costs to businesses.

1	<p>UK businesses will need to read the following document:</p> <ul style="list-style-type: none"> 21 chapters of the EU-Japan Economic Partnership Agreement text¹, authentic as of 8th December 2017. <p>We assume a business will read the document stated above which collectively total 83,317 words.</p>
2	Evidence shows the average reading time is 228 words per minute with a range of 30 words either side. ²
3	<p>Based on the information above, we estimate the following ranges of time it may take a firm to become familiar with the EPA text:</p> <ol style="list-style-type: none"> High scenario: assuming an employee reads 198 words per minute, it will take 5.41 hours to read the document above. Central scenario: assuming an employee reads 228 words per minute, it will take 6.13 hours to read the collective documents above. Low scenario: assuming an employee reads 258 words per minute, it will take 7.06 hours to read the collective documents.
4	Average weekly earnings is £472 from the year ending September 2017 and the average number of hours worked per week is 37.5 over the same period. From this we estimate the average hourly pay is £13 per hour. ³
5	We uplift this by 20.2% to account for other non-wage labour costs such as national insurance, pensions and other costs that vary with hours worked, revising the cost per business to £15.63 (£13 + £2.62). ⁴
6	<p>Businesses may seek advice from a specialist agent on interpreting the text and implications for their trade.</p> <p>Survey evidence shows that 60% of businesses seek advice from an agent to complete tax affairs. Using this as a proxy for the number of firms which would seek advice on EPA. The same survey provides an average cost of using an agent of £265.⁵</p> <p>Published data shows 9,438 UK businesses exporting to Japan and 6,788 importing from Japan in 2016.⁶ From this we assume the maximum number of firms trading with Japan is 16,226.</p> <p>60% of these firms seek advice from specialist agents = £2.6 million (9,736 x £265)</p>
8	<p>We assume the remaining 40% of business (6,490) read the EPA text and guidance. The cost for one business is estimated at:</p> <ol style="list-style-type: none"> High scenario: £110.25 (£15.63 x 7.06 reading hours) Central scenario: £95.74 (£15.63 x 6.13 reading hours) <p>Low scenario: £84.61 (£15.63 x 5.41 reading hours)</p>
9	<p>The total one-off familiarisation costs can be calculated as follows:</p> <ol style="list-style-type: none"> High scenario: £3.3 million [(6,490 x £110.25 cost per firm) + £2.6 million] Central scenario: £3.2 million [(6,490 x £95.74 cost per firm) + £2.6 million] Low scenario: £3.1 million [(6,490 x £84.61 cost per firm) + £2.6 million]

Sources :

¹ <http://trade.ec.europa.eu/doclib/press/index.cfm?id=1684>

²<http://iovs.arvojournals.org/article.aspx?articleid=2166061#90715174>

³ Labour market statistics summary data tables (ONS) 2017. Table 15. Average Weekly Earnings (nominal) – Regular Pay (Great Britain, seasonally adjusted).

⁴ Understanding tax administration for businesses, HM Revenue and Customs Research Report 375, July 2015

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/443746/HMRC_Report_375_Tax_Administration.pdf

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/uklabourmarket/october2017/relateddata>

⁵ As cited in the Green Book, HSE uses 30% as an adjustment for non-wage labour cost. This is based on the labour force survey 1992.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf

⁶ IDBR overseas trade statistics country data tables 2016.

<https://www.gov.uk/government/statistics/uk-trade-in-goods-by-business-characteristics-2016>.

Annex D: Business survey employed in Copenhagen Economics (2009)

The reduction potentials for NTMs in Japan are derived from the questionnaire EU business managers completed. This covered the: pharmaceutical, medical devices, motor vehicles, food and beverages, financial services, and communication services sectors.

EU managers within these sectors were asked to assess how identified trade barriers could be reduced, and how much of the imposed trade cost they expect it to be possible to reduce. This produced a range of results, from which minimum and maximum NTM reduction scenarios were produced.

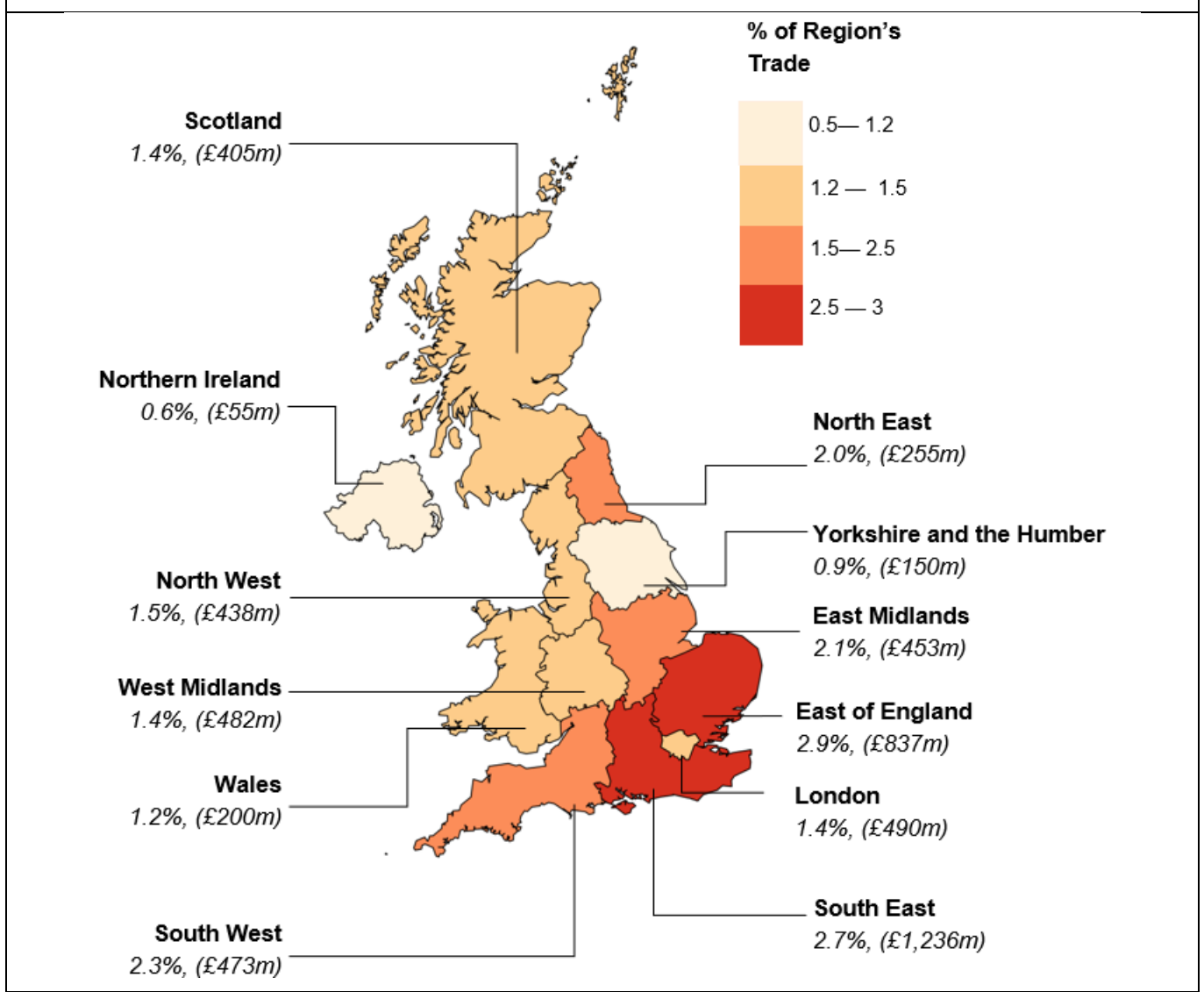
The reduction potentials for NTMs in Japan are derived from a questionnaire that EU business managers completed. 128 firms across the EU were asked, with a response rate of 72% (92 firms). One questionnaire covered manufacturing sectors including: pharmaceuticals, medical devices, motor vehicles, and food and beverages. A second questionnaire covered financial and communication services. The study does not include information stating the response rate by EU member state or the response rate by sector.

EU managers within these sectors were asked to assess how identified trade barriers could be reduced, and how much of the imposed trade cost they expect it to be possible to reduce. Given the subjectivity of this exercise respondents produced a range of results. The lower end of this range was used to define the minimum NTM reduction scenario, whilst the higher end of the range was used to define the maximum NTM reduction scenario. On average, NTMs are reduced by 6.4% in the minimum reduction scenario and 9.0% in the maximum reduction scenario.

Annex E: Regional Impact of Trade with Japan

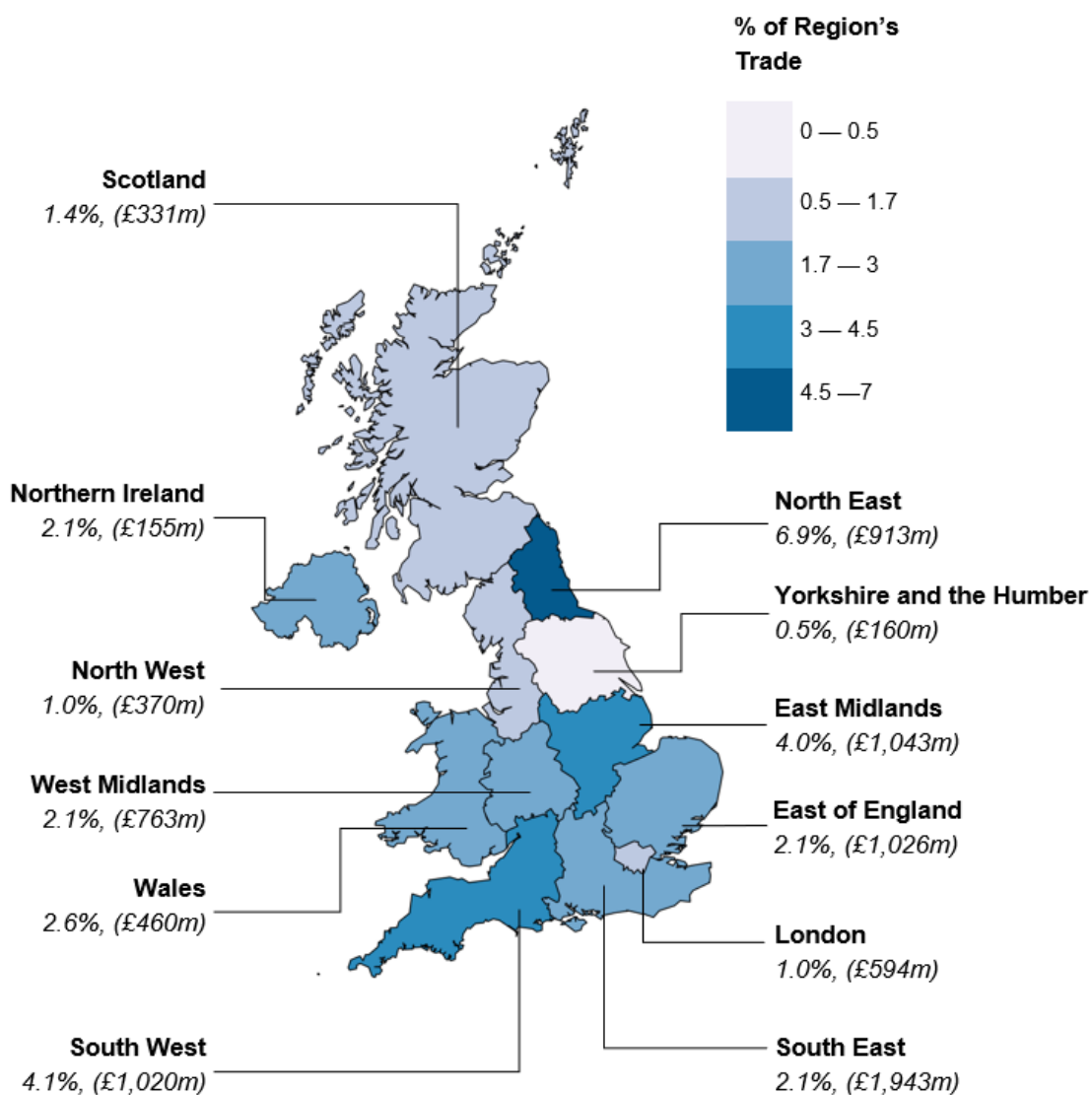
Section 7 showed that, under EPA, UK net exports to Japan could increase by between £1.6 billion and UK net imports from Japan could increase by £2.9 billion in the long run. The evidence indicates that most of the gains will be in processed foods, chemicals, and business services. The charts below highlights exports to Japan are more concentrated in the South East and the East of England in 2017 relative to the rest of the UK. In comparison, the data shows imports from Japan are more concentrated in the North East in 2017.

Graph 8: Exports of goods to Japan by UK region in 2017



Source: HMRC regional trade statistics
 Note: The percentage shares represent the value of trade each area exports in goods to Japan compared to the value of trade each area exports to the world.

Graph 9: Imports of goods from Japan by UK region in 2017



Source: HMRC regional trade statistics

Note: The percentage shares represent the value of trade each area exports in goods from Japan compared to the value of trade each area exports to the world.