Title: Impact assessment of the Comprehensive Economic and Trade Agreement (CETA) between the European Union and Canada **IA No: DIT002** **RPC Reference No: RPC-4213(1)-DIT** **Lead department or agency:** Department for International Trade. **Other departments or agencies:**	**Impact Assessment (IA)** **Date:** 17/05/2018 **Stage: Final** **Source of intervention:** EU **Type of measure:** Other **Contact for enquiries:** enquiries@trade.gsi.gov.uk

Summary: Intervention and Options

RPC Opinion: Green

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**
£7,800 m	N/A	N/A	No	Not a regulatory provision

What is the problem under consideration? Why is government intervention necessary?

The EU-Canada Comprehensive Economic and Trade Agreement has been provisionally applied since 21 September 2017. This brought the majority of the agreement into operation, reducing non-tariff measures and eliminating most tariffs between the EU and Canada. In order for the agreement to enter into force, all EU Member States must ratify the agreement and notify the European Commission of their ratification. Were a Member State government to notify the Commission that they were unable to ratify the agreement this would mean that the agreement could not enter into force and its provisional application would be ended. In the UK, the Government is required to lay the treaty before Parliament for 21 sitting days during which either the House of Commons or the House of Lords (or both) may pass a motion to object to ratification. If neither House objects, the UK may proceed to ratify the treaty. Parliament must also pass an affirmative statutory instrument designating it as an EU treaty as the agreement has provisions that need to have effect in UK law.

What are the policy objectives and the intended effects?

The policy objectives are to provide practical UK support for the EU's ambitious trade agenda and specifically the ratification and full implementation of CETA, to promote bilateral trade and increase economic growth. The intended effects include a) eliminating most tariffs and b) reducing non-tariff barriers that businesses face when trading goods and services and when investing abroad. Ciuriak (2018) shows CETA will increase UK exports to Canada by 5.5% per annum. CETA 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 Canada. Furthermore, CETA will increase the welfare of UK households by lowering the price of final goods and services and by increasing consumer choice due to greater competition.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

The policy options are to ratify, or not to ratify the agreement. CETA has already been negotiated and agreed by the EU and Canada. The UK has no scope to change the agreement, but Parliament does have the option to vote for or against ratification.

The options are:

Option 1 – Ratify CETA: The UK ratifies CETA. This is assessed against a baseline of CETA not being in place for any of the parties. The analysis assumes that the Government delivers its stated policy objective to seek continuity in the effect of its existing EU FTAs after EU exit, including CETA, thus ensuring broadly similar trading preferences in the long run between the UK and Canada, as those given by CETA.

Option 2 – Do not ratify CETA: Parliament opposes CETA ratification. In this scenario the UK government would notify the European Commission it is not able to ratify. CETA would no longer be implemented across the EU and Canada. This is the no-CETA baseline for Option 1 and is not assessed separately.

The UK Government proposes ratifying CETA as the preferred option, to maintain the trade liberalisation benefits of the agreement.

Will the policy be reviewed? No. **If applicable, set review date: N/A**

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: ..... Date: 17/05/2018

Summary: Analysis & Evidence

Policy Option 1

Description: The UK ratifies CETA. This is the government's 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)		
			Low: 5,300	**High: 10,300**	**Best Estimate: 7,800**

COSTS (£m)	Total Transition (Constant Price)	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	4.3	-	**4.2**
High	4.7	-	**4.6**
Best Estimate	4.5	-	**4.4**

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

UK businesses are not expected to incur costs if they do not utilise the preferences set out in CETA.
Where a business chooses to trade under CETA preferences they will incur a one-off familiarisation cost associated with reading the CETA guidance (£4.5 million).

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)	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	-	450	**5,300**
High	-	900	**10,300**
Best Estimate	-	700	**7,800**

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.

The benefits above represent a £485 to £730 million (0.02% - 0.03%) net increase in UK real Gross Domestic Product (GDP) from the elimination of most tariffs and the elimination of other measures that impede trade. The best estimate represents £730 million net increase in UK real GDP. This captures the impact of the agreement on the quantity of output and productivity, but it does not capture the welfare gains from 'terms of trade effects' (a relative fall in the price of imports).
In addition to this, the benefits also include a £65 - £80 million increase in public procurement activities for UK businesses.
The increase in GDP is associated with:

- £530 - £680 million (4.3% - 5.5%) net increase in UK exports to Canada from the elimination of most tariffs and reductions in service regulatory barriers.
- £1.1 billion (5.9%) net increase in UK imports from Canada from the elimination of most tariffs and reductions in service regulatory barriers.
- £900 million net increase in UK production from higher UK real income.

Alongside these benefits we expect a £300 – 400 million (0.01% - 0.02%) increase in UK consumer welfare from an increase in real income.

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

Increase in consumer choice of goods and services.
Efficiency savings from a reduction in non-tariff measures (NTMs), for example, the mutual recognition of conformity assessment bodies.

Key assumptions/sensitivities/risks — **Discount rate(%)** 3.5%

- The analysis assumes that the Government is able to deliver its stated policy intention to ensure continuity in the effect of CETA as the UK leaves the EU, and therefore ensures broadly similar trade preferences in the long run between the UK and Canada.
- The analysis is based on the results of computable general equilibrium 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.
- Within this, the simulations do not capture Mode 4 services liberalisation or reductions in goods sector non-tariff measures. That also omits potential increases in trade due to liberalised government procurement and contains relatively conservative assumptions on the scale of services liberalisation.
- The analysis assumes 25% of the services regulatory barriers can feasibly be removed from a change in policy. Sector specific reductions in service regulatory barriers, caused by CETA, are applied to this.
- UK apportionment of EU aggregated impacts, estimated by the European Commission's Economic Impact Assessment, is based on a) the UK's share of total EU GDP and b) the UK's share of total EU exports to Canada.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m			Score for Business Impact Target (qualifying provisions only) £m: N/A
Total Costs: N/A	**Total Benefits: N/A**	**Net: N/A**	

Evidence Base

The structure of this Impact Assessment is as follows:

1: Economic background
2: Strategic overview of CETA
3: Problem under consideration
4: Rationale for intervention
5: Policy objective
6: Description of options considered
7: Monetised and non-monetised costs and benefits of each option
8: Small and Micro Business Assessment (SaMBA)
9: Direct costs and benefits to business calculations
10: Sensitivities
11: Risks and assumptions

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 rapidly develop, 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.

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[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_g20_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.

The benefits of international trade

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, during 1996 – 2006 import prices for textiles and clothing fell by 27% and 38% respectively in real terms, in large part as a result 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 – a plurilateral agreement signed in 1996 which provided tariff free access for various IT products and which has now expanded to cover around 97% of global trade in these IT products.

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 and ever improving products, at lower prices.

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[7] OECD (2003), Sources of Economic Growth in OECD Countries, 'https://www.oecd.org/eco/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.

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 consumer 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 Government 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 Canada

1.18 The section below examines current trade flows between the UK and Canada and the extent to which pre-CETA trade has been restricted by tariffs and non-tariff measures in goods and services. Non-tariff measures include differences in product standards, conformity assessments (including those related to food safety), and customs and administrative procedures.

1.19 The value of bilateral trade in goods between the EU and Canada was £51 billion in 2016.[9] The EU is Canada's second most important trading partner after the United States, accounting for 9.6 % of its trade in goods (exports plus imports) with the world in 2016.

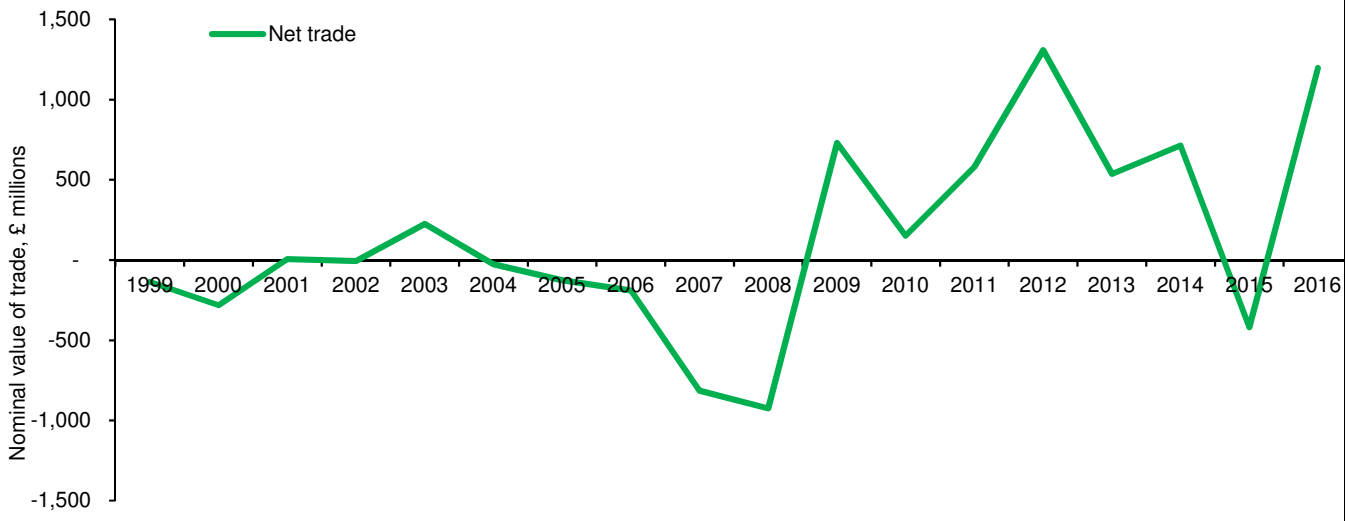
1.20 In 2016, trade between the UK and Canada totalled £15.4bn in goods and services. UK exports to Canada were £8.3 billion and imports from Canada were £7.1 billion in 2016. Canada was the UK's 16th largest export destination in 2016.[10] The UK was Canada's third largest export destination in goods in 2016 and 2nd largest export destination in services in 2015.[11] Canada accounts for 2% of UK (and EU) total trade, a level which has been steady since 1999. As seen in graph 1, the UK has experienced a trade surplus with Canada in seven out the last ten years.

[9] Estimate based on Eurostate data converted into UK sterling using an average exchange rate of £1/€1.25.

[10] Estimates based on ONS Pink Book 2016.

[11] Estimates based on UN Comtrade database. Data on a 'physical movement' basis.

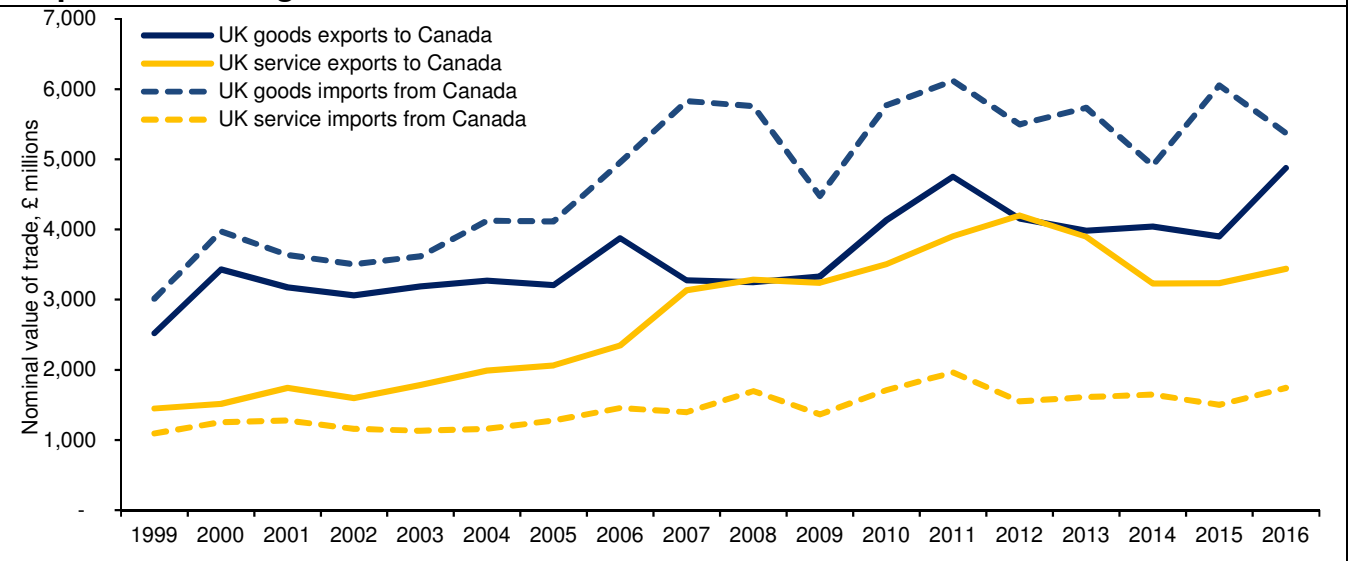
Graph 1: Net trade between the UK and Canada from 1999 to 2016



Source: Office of National Statistics (ONS) Pink Books (2017)
https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/bulletins/unitedkingdombalanceofpaymentsthepinkbook/2017

1.21 Graph 2 shows the UK's trade surplus is driven by an increase in UK service exports to Canada. Over this period the UK has continuously exported more in services than imported from Canada. In 2016, UK exports to Canada were £4.9bn (59%) in goods and £3.4bn (41%) in services. In comparison, UK imports from Canada in 2016 were £5.4bn (75%) in goods and £1.7bn (25%) in services.

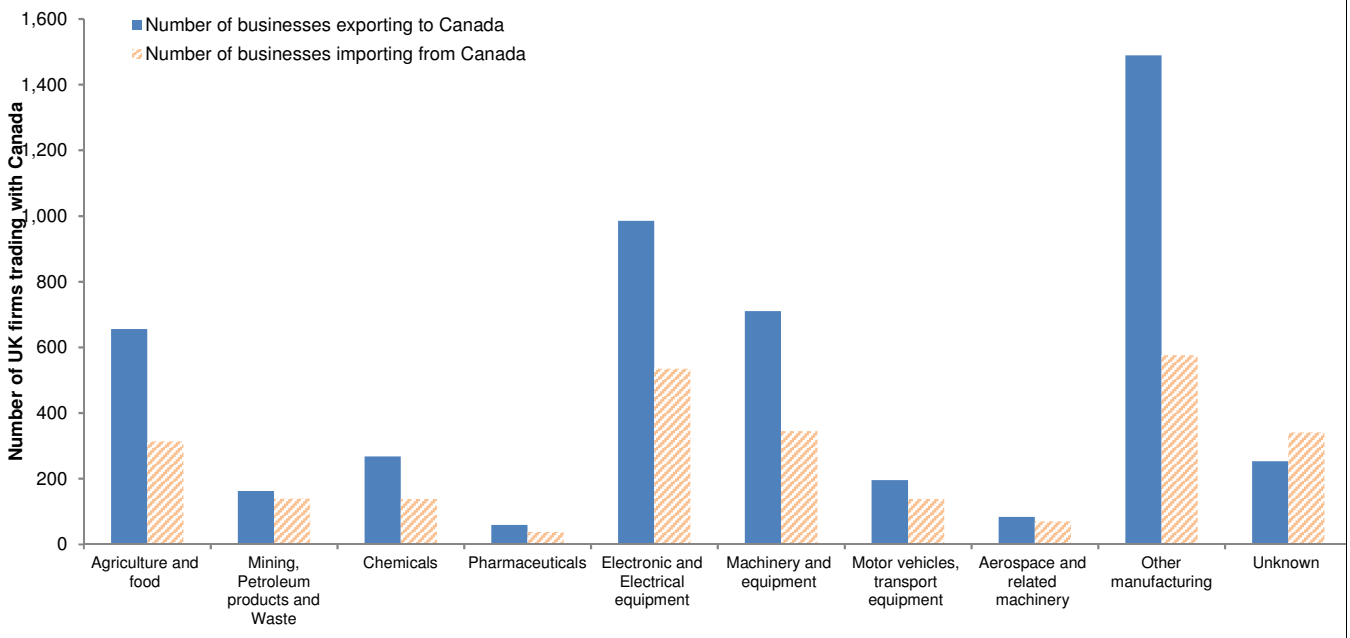
Graph 2: Trade in goods and services between the UK and Canada from 1999 to 2016



Source: ONS Pink Book (2017)

1.22 When looking at the breakdown of UK businesses by industry, the service sector had the most number of firms exporting and importing to Canada in 2016. Around 6,400 UK businesses in the service sector exported to Canada and around 5,800 of UK businesses imported services from Canada. Graph 3 shows that the number of business that trade with Canada is concentrated in 'other manufacturing'.

Graph 3: The number of businesses exporting to, and importing from Canada in 2016 (goods only)



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 official statistics.

1.23 The top 10 goods imported and exported between the UK and Canada can be seen in table 1. The top 10 goods imported from and exported to Canada by the UK accounted for 89% and 78% of the total goods imports and exports respectively. The top categories of exported to Canada are 'nuclear reactors, boilers and machinery', 'vehicles' and 'aircraft'. The data shows the UK imported on average around £6 billion in precious or semi-precious stones and metal. When breaking this down, we find this includes the trade of gold, diamonds and platinum.

1.24 The UK exports goods to Canada that are similar to the products it imports, reflecting a pattern of 'intra-industry trade'. The data presented has been aggregated at the 2 digit Harmonised Standard (HS) and therefore the pattern of trade within this may be more diverse. The table also demonstrates that the pattern of imports and exports has changed fairly significantly from 2011-2013 to 2014-2016, suggesting significant variability in the pattern of UK-Canada trade.

Table 1: Top 10 UK goods export categories, on average from 2014 to 2016			
Product categories	3 year average value (£ millions)	Proportion of total UK exports to Canada	% change from 2011 -2013 average to 2014 to 2016 average
Top 10 exported to Canada on average from 2014 to 2016			
Nuclear reactors, boilers, machinery	£804	19%	-18%
Vehicles other than railway	£564	13%	58%
Aircraft, spacecraft,	£505	12%	2%
Pharmaceutical products	£302	7%	-10%
Mineral fuels, mineral oils	£292	7%	-48%
Electrical machinery and equipment	£221	5%	8%
Precious or semi-precious stones and metal	£175	4%	-75%
Optical, photographic, cinematographic	£156	4%	-8%
Beverages, spirits and vinegar	£154	4%	16%
Ores, slag and ash	£101	2%	25%
Top 10 UK goods imported from Canada on average from 2014 to 2016			
Precious or semi-precious stones and metal	£6,002	59%	-22%
Nuclear reactors, boilers, machinery	£682	7%	14%
Aircraft, spacecraft, and parts thereof	£561	6%	47%
Nickel and articles thereof	£377	4%	-30%
Mineral fuels, mineral oils	£325	3%	-41%
Electrical machinery and equipment	£320	3%	-6%
Wood and articles of wood; wood charcoal	£206	2%	17%
Optical, photographic, cinematographic	£200	2%	5%
Inorganic chemicals	£194	2%	-70%
Ores, slag and ash	£109	1%	16%
Source: https ://www.uktradeinfo.com/Statistics/BuildYourOwnTables/Pages/Table.aspx			
Notes: Data presented is based on 2 digit HS codes.			

1.25 Table 2 shows the breakdown of UK trade in services with Canada in 2016. Travel is the largest export and import service valued at £832 million and £628 million respectively in 2016, followed by other business services.

Table 2: UK trade in services by type in 2016

Service type	Exports to Canada (£ millions)	Proportion of total export services to Canada	Imports from Canada (£ millions)	Proportion of total import services from Canada
Travel	£832	24%	£628	36%
Other business services	£632	18%	£498	29%
Financial	£563	16%	£86	5%
Transportation	£499	15%	£252	14%
Telecommunications, computer and information services	£323	9%	£145	8%
Insurance & Pension	£160	5%		
Intellectual property	£143	4%	£30	2%
Construction	£126	4%	£1	0%
personal, cultural and recreational	£100	3%	£33	2%
Government	£32	1%	£62	4%
Total	£3,441	100%	£1,745	100%

Source: ONS Pink Books (2017)

1.26 We can examine which goods the UK and Canada 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 does more of its trade in a given sector than the world does, 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 more than other countries.

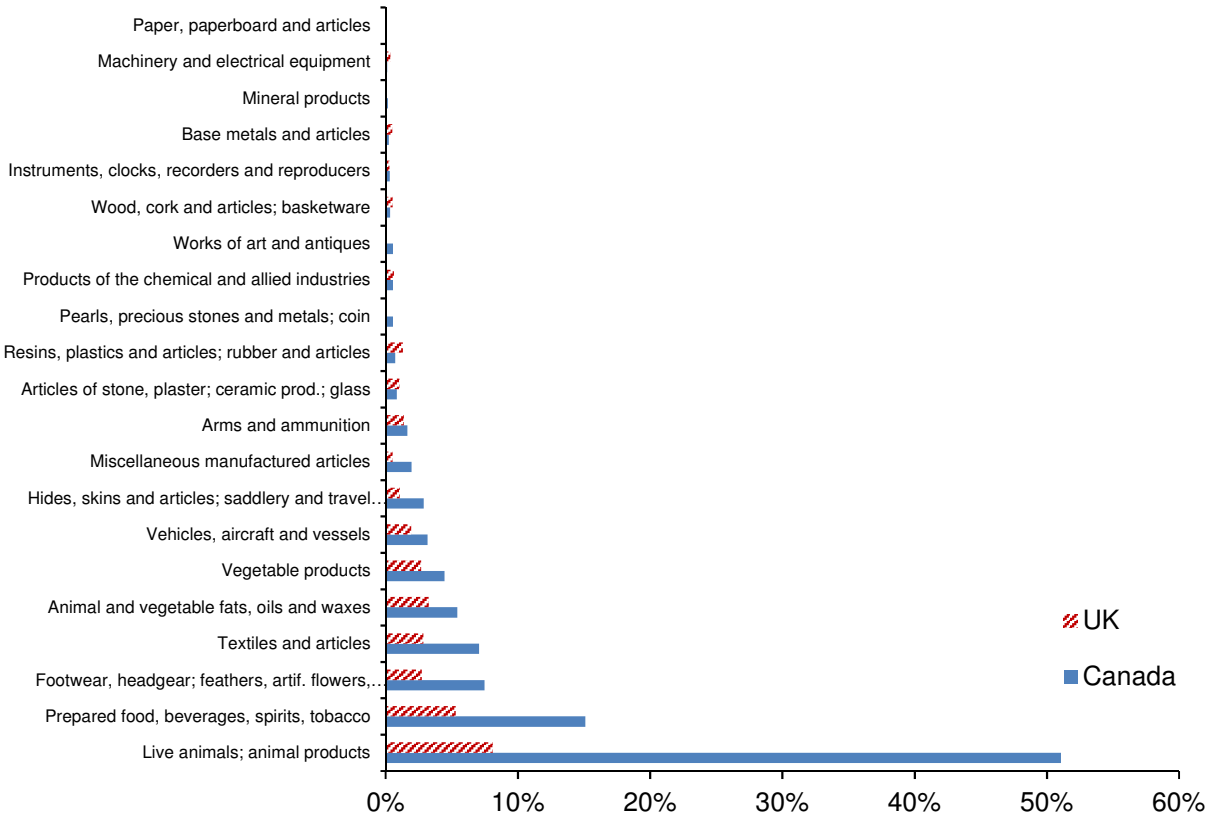
1.27 The analysis in Table 3 shows that the UK and Canada are better at exporting different products relative to the rest of the world. For example, the UK exports more works of art and antiques (0.82) compared to the Canada (-0.45) relative to other countries. Canada exports more wood, cork, and articles of basketware (0.58) relative to the rest of the world compared to the UK (-0.73). There are a number of products of which both the UK and Canada export more (e.g. pearls and precious stones) and less (e.g. machinery and electrical equipment) in comparison to other countries.

Table 3: Revealed Comparative Advantage (RCA) of UK and Canadian exports		
Product Category	**UK RCA Normalised**	**Canada RCA Normalised**
Works of art and antiques	0.82	-0.45
Pearls, precious stones and metals; coin	0.47	0.05
Arms and ammunition	0.32	-0.23
Products of the chemical and allied industries	0.23	-0.17
Vehicles, aircraft and vessels	0.15	0.21
Prepared foodstuff; beverages, spirits, vinegar; tobacco	0.13	-0.06
Paper, paperboard and articles	0.07	0.41
Instruments, clocks, recorders and reproducers	0.05	-0.43
Commodities not specified according to kind	-0.10	0.29
Machinery and electrical equipment	-0.11	-0.09
Base metals and articles	-0.13	0.03
Live animals and products	-0.16	0.14
Mineral products	-0.16	0.28
Resins, plastics and articles; rubber and articles	-0.17	-0.09
Articles of stone, plaster; ceramic prod.; glass	-0.24	-0.43
Textiles and articles	-0.26	-0.72
Miscellaneous manufactured articles	-0.26	-0.15
Footwear, headgear; feathers, artif. flowers, fans	-0.30	-0.82
Hides, skins and articles; saddlery and travel goods	-0.32	-0.40
Animal and vegetable fats, oils and waxes	-0.53	0.17
Vegetable products	-0.59	0.31
Wood, cork and articles; basketware	-0.73	0.58
Source : https://comtrade.un.org/data 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		

1.28 Tariffs or excise duties can be levied by a government to increase the cost of importing from abroad to restrict trade and/or raise revenue. The impact of a tariff depends on behaviour and responsiveness of domestic consumers and businesses to a change in tariff. In general, this means that the higher the tariff, the greater the trade restriction. Graph 4 presents the trade-weighted average tariffs imposed by Canada and the UK.[12] The data shows 'live animals and animal products' (including dairy) in Canada is highly protected with an average trade weighted tariff of 51%, in comparison to 8% in the UK. The UK imposes a relatively higher tariff on live animals and animal products, beverages spirits and tobacco.

[12] Tariffs can be calculated as a simple average over a range of good i.e. the average tariff across a number of 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.

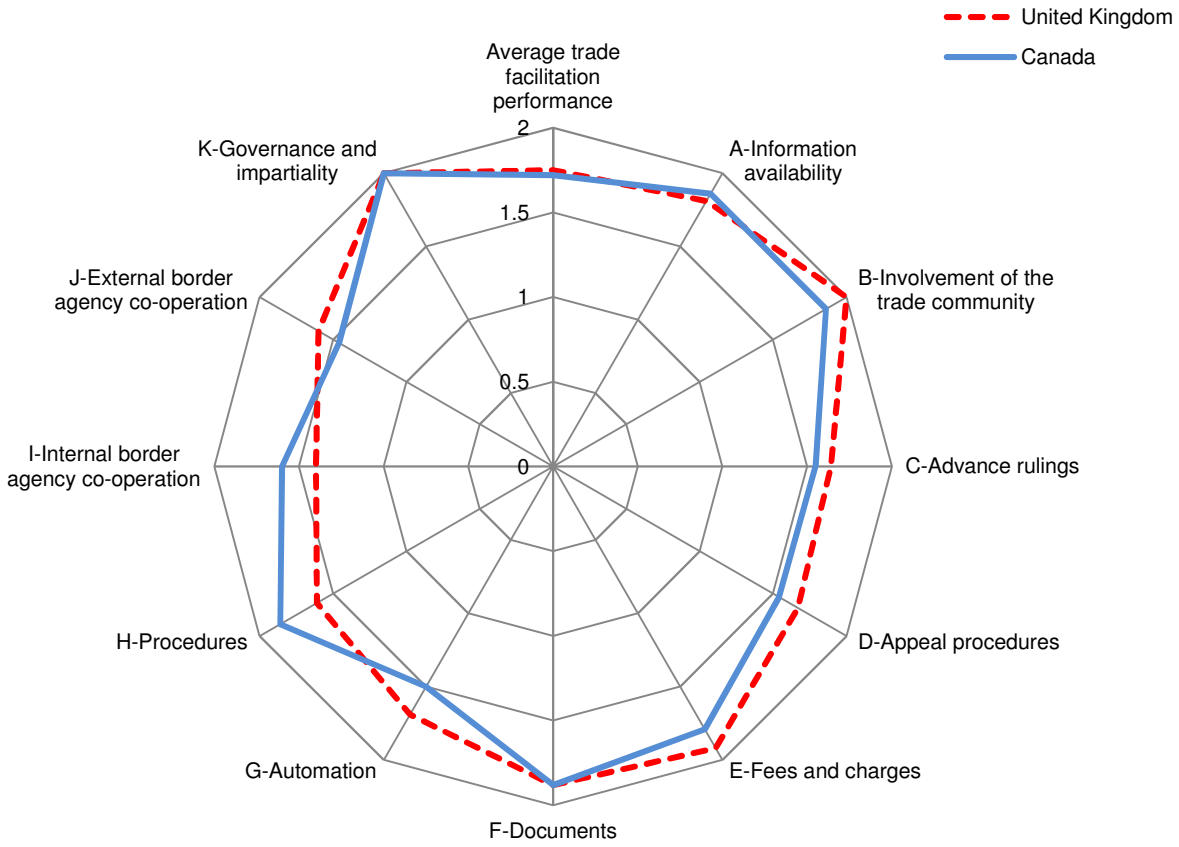
Graph 4. Trade weighted tariffs between the EU28 and Canada by sector



Source: International Trade Centre (ITC) market access maps. http://www.macmap.org/CountryAnalysis/.

1.29 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 Canada, 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 Canada have good systems in place. Canada scores higher in 'procedures', which reflects a more streamlined border control for goods. The UK scores marginally better in charging lower fees on traded goods and having more automated border procedures.

Graph 5. OECD Trade Facilitation Index in 2016



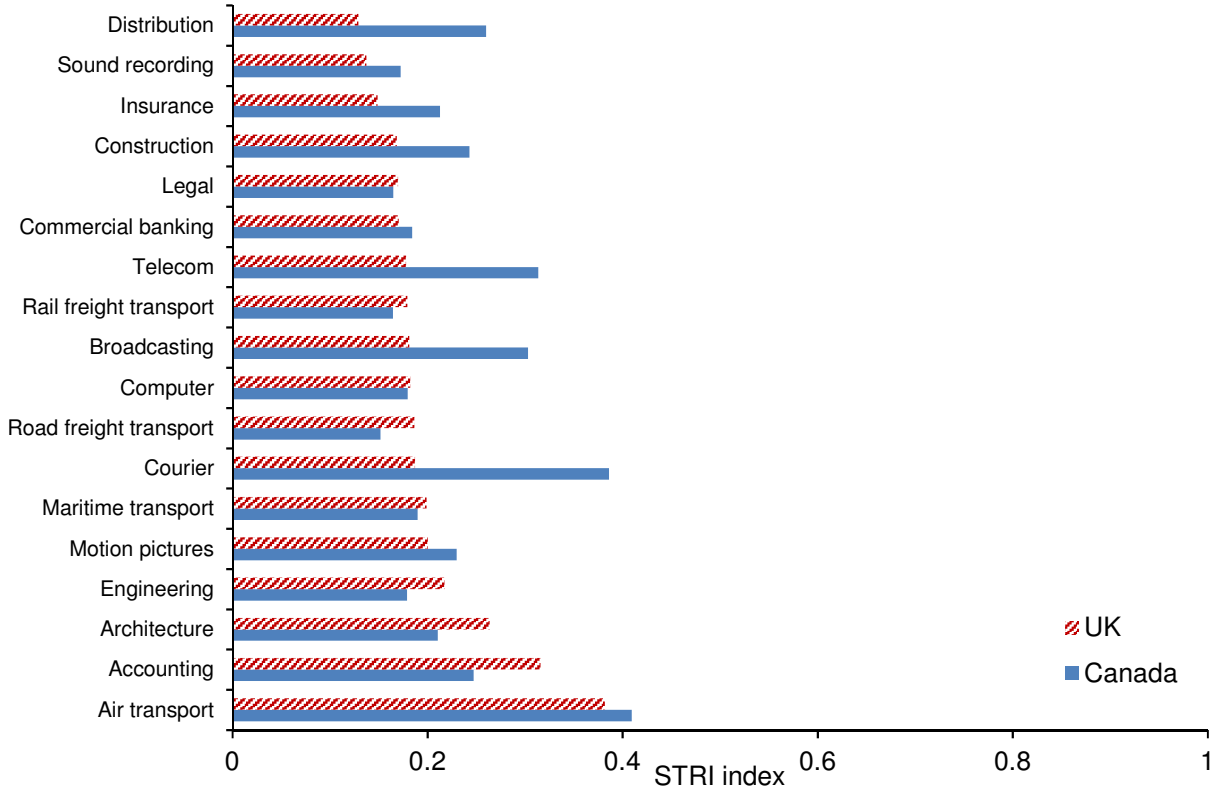
Source: OECD Trade Facilitation index . http://www.oecd.org/trade/facilitation

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.

1.30 As well as the barriers to trade in goods described above, the OECD has been measuring the Services Trade Restrictiveness Index (STRI) since 2014 to assess the barriers to trade in services. To estimate this index, the OECD looks at its international regulatory database which contains information on restrictions on foreign firms being allowed to provide services, restrictions on the movement of people, barriers to competition and transparency of regulation. Graph 6 presents the STRI for the UK and Canada in 2016. The more open a sector is, the closer the index is to zero. The data shows that insurance, commercial banking and legal services are more open than accounting in the UK. When comparing the UK to Canada, there are four sectors in which Canada appears notably less open, namely distribution, telecoms, broadcasting and couriering.

Graph 6. STRI for the UK and Canada by sector in 2016



Source: OECD STRI. http://stats.oecd.org/Index.aspx?DataSetCode=STRI
Notes: The STRI composite indices are derived by quantifying the qualitative information in the regulatory database as binary scores. The resulting sectoral indices take values between zero (complete openness to trade and investment) and one (total market closure to foreign services providers)

2 Strategic overview of CETA

2.1 CETA is a free trade agreement between the EU and Canada. The European Commission negotiated CETA in order to establish a preferential economic relationship with Canada. CETA opens up Canada's goods, services and public procurement markets, helps protect labour rights and the environment, and enables smaller firms in particular to export more to Canada.

2.2 Canada and the EU are strategic partners with a shared history based on common values and interests, and a shared wish to define a positive forward-looking relationship for the future. The economic relationship between the European Union and Canada has evolved and deepened over the last 40 years. Canada was one of the first industrialised countries with which the EU established a cooperative framework in 1976. This established a structure for ongoing dialogue, and since then a number of sectoral agreements have been concluded; however, prior to CETA none existed to address the EU-Canada economic relationship as a whole. To address this, the EU and Canada have reached an ambitious agreement, which will open up new opportunities for trade and investment for economic actors on both sides of the Atlantic.

2.3 In May 2009, authorised by Member States through the Council of the European Union, the European Commission opened negotiations with Canada with a view to concluding a comprehensive free trade agreement. In August 2014 negotiations concluded between European Commission and Canadian Government negotiators, and the EU and Canada announced the completion of negotiations on 20 September 2014.

2.4 CETA includes provisions aimed at establishing a standing court ("investment court system" – ICS) to resolve disputes arising from potential breaches of the investment protection chapter. Investment protection provisions protect investors from discriminatory or unfair treatment by a state. To note that the ICS is not being provisionally applied and will only come into force after the ratification of CETA by all EU Member States. The resource implications of the ICS, such as the remuneration of permanent judges, are yet to be decided by the EU and Canada.

2.5 In July 2016 the Commission proposed Council Decisions on the signature, provisional application and conclusion of CETA. These were passed by the Council on 28 October 2016 and the agreement was signed by Canada and the Commission on 30 October 2016. Following the European Parliament vote in favour of CETA on 15 February 2017 and the passage of the necessary Canadian implementing legislation in June 2017, the provisional application of CETA began on 21 September 2017, with full entry into force set to follow the successful ratification of the agreement in all EU Member States.

2.6 As CETA is a mixed competence agreement, all EU Member States must ratify the agreement before the provisions that are not being provisionally applied can be brought into effect. EU Member States are required to notify the European Commission when they have ratified or if they are unable to ratify CETA. As at 1 December 2017, five Member States had formally notified the Commission of their ratification of CETA, while successful parliamentary votes on CETA had taken place in three further Member States. If a Member State notifies the Commission that it is unable to ratify, the Commission would be required to end the provisional application of the agreement. It would then either fall completely or be subject to renegotiation. Therefore, if the UK were unable to ratify the agreement it could lead to the end of CETA in its current form.

2.7 CETA includes provisions on:

- national treatment and market access for goods,
- trade remedies,
- technical barriers to trade,
- sanitary and phytosanitary measures,
- customs and trade facilitation,
- subsidies,
- investment,
- cross-border trade in services,
- temporary entry and stay of natural persons for business purposes,
- mutual recognition of professional qualifications,
- domestic regulation,
- financial services,
- international maritime transport services,
- telecommunications,
- electronic commerce,
- competition policy,
- state enterprises,
- monopolies and enterprises granted special rights or privileges,
- government procurement,
- intellectual property,
- regulatory cooperation,
- trade and sustainable development,
- trade and labour,
- trade and environment,
- bilateral dialogues and cooperation,
- administrative and institutional provisions,
- transparency,
- dispute settlement.

2.8 Through these provisions, CETA will support growth and jobs in the EU. It has the potential to bring further benefits for European consumers, by keeping prices down and providing consumers with a greater choice of quality products.

2.9 It is important to note that CETA will not change EU standards and regulations such as those related to food safety, product safety, consumer protection, health, environment, social or labour standards. Without exception, all imports from Canada will have to continue to comply with EU product rules and regulations. However, CETA does provide the basis for mutual recognition of conformity assessment bodies and acceptance of their test assessments to reduce the costs of such compliance for many sectors.

2.10 CETA also creates a voluntary cooperation mechanism (Regulatory Cooperation Forum) which allows regulators to exchange experiences and relevant information. However, the role of the forum is only advisory, so as to ensure that it in no way restricts the decision-making power of regulators in the EU's Member States, at EU level or in Canada.

2.11 The EU and Canada are thus resolved to preserve their ability to achieve legitimate policy objectives, such as public health, safety, environment, public morals and the promotion and protection of cultural diversity including the ability of governments to subsidise cultural activities.

3 Problem under consideration

3.1 Trade flows between the EU and Canada under World Trade Organization (WTO) rules have historically been restricted by a variety of tariff and non-tariff measures. The EU and Canada sought to reduce these adverse impacts on free trade with a comprehensive economic and trade agreement.

3.2 The EU-Canada Comprehensive Economic and Trade Agreement (CETA) is a mixed agreement - parts of the agreement fall within the exclusive competence of the EU under the Common Commercial Policy, and parts fall within the competence of member states. The agreement was signed by the EU, pursuant to Council Decision 2017/37 of 28 October 2017. The UK voted in Council in favour of signature. Ratification by all member states is necessary in order for the agreement to enter into force. Pending such ratification the agreement is being provisionally applied. CETA provisional application commenced on 21 September 2017, reducing the non-tariff measures and eliminating most of the tariffs. A few elements such as the investor-state dispute resolution provisions are not being provisionally applied.

3.3 All EU Member States must now ratify the agreement and notify the European Commission of their ratification for the agreement to come fully into force. Were a Member State government to notify the European Commission that it was unable to ratify the agreement, CETA could not be brought fully into force and its provisional application would be terminated.

4 Rationale for intervention

4.1 The UK Government supports the EU's ambitious trade agenda including the free trade agreements in place and under negotiation. UK ratification of CETA would be a demonstration of this policy commitment, and a positive move by the UK as an EU Member State in demonstrating support for CETA. The rationale for intervention is, therefore, to provide UK support for the full entry into force of the agreement, and to secure the benefits for the UK and Canada, as described in this impact assessment.

4.2 CETA is a mixed agreement (parts of the agreement fall within the exclusive competence of the EU and parts fall within the competence of Member States). The agreement was signed by the EU, pursuant to a Council Decision [28 October 2016, Decision 10972]. The UK voted in favour of signature. Ratification by all Member States is necessary in order for the agreement to enter into force. Pending such ratification the agreement is being provisionally applied.

4.3 A statement agreed by the Council in October 2016 provides that: *"If the ratification of CETA fails permanently and definitively because of a ruling of a constitutional court, or following the completion of other constitutional processes and formal notification by the government of the concerned state, provisional application must be and will be terminated. The necessary steps will be taken in accordance with EU procedures."*

4.4 EU Member States are expected, once each has given their agreement in the Council, to proceed with ratification of CETA, though the timing and procedures for this are according to their domestic arrangements. While the UK remains a member of the EU the Government intends to ratify mixed EU trade agreements which have only been provisionally applied in order to support their entry into force.

4.5 Given the points above, it is not felt that the Government in practice has a 'do-nothing' option, given the UK's previous support for CETA in the Council.

4.6 As we prepare to leave the EU, the UK seeks continuity in its existing trade and investment relations, including continuity of existing EU FTAs such as CETA, so as to avoid disruption for businesses and consumers. Ratification of CETA will demonstrate the UK's commitment to this agreement and provide a clear endorsement that its provisions are positive for the UK.

5 UK policy objectives

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. Trade has lifted millions out of poverty, and supports peace and promotes security. 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-Canada CETA aim to increase trade and reduce trade barriers.

5.3 The UK's policy objectives are to provide UK support for the EU's ambitious trade agenda and as part of this support the ratification and full implementation of CETA, to promote bilateral trade and increase economic growth by a) eliminating most tariffs and b) reducing non-tariff measures that businesses face when trading goods and services and when investing abroad. CETA 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 Canada. Furthermore, CETA will increase the welfare of UK households by lowering the price of final goods and services and increase consumer choice due to greater competition.

5.4 As well as promoting bilateral trade and growth in Canada, the UK's ratification of CETA would:

- provide a practical demonstration to the EU of the UK's commitment to support EU free trade activity whilst still a Member State;
- demonstrate our support to Canada, which is pressing for early ratification.

6 Description of options considered

6.1 Two options have been considered against a baseline where CETA is not in force across the EU and Canada i.e. before the majority of CETA was provisionally applied in September 2017.

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Option 1: Ratify CETA

6.2 The UK ratifies CETA. This has been assessed against a baseline of CETA not being in place for any of the parties. **This is the Government's preferred option.**

6.3 The agreement has been negotiated by the European Commission, has been provisionally applied since 21 September 2017 and will enter into force when it has been ratified by all EU Member States. The UK was a strong supporter of the agreement throughout the negotiating process.

6.4 This is the government's preferred option as it aims to increase the available export opportunities for EU 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 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 Canada.

6.5 The analysis for this option assumes that the UK will continue trading with Canada on CETA-equivalent terms after EU exit. This is on the basis of the Government's stated policy intention to seek continuity of effect in relation to CETA as the UK leaves the EU, and therefore ensure similar trade preferences in the long run between the UK and Canada.

Option 2: Do not Ratify CETA

6.6 Parliament opposes CETA ratification. In this scenario the UK government would notify the European Commission it is not able to ratify. CETA would no longer be implemented across the EU and Canada.

6.7 The UK Government could choose to reject ratification of the agreement. If it did so, it would then notify the European Commission. This would lead to the termination of CETA's provisional application and trade restrictions that have been provisionally removed would be reintroduced. Canada's trading arrangement with the EU would revert to WTO, Most Favoured Nation (MFN) rules. This is not the Government's preferred option, as it runs counter to the commitment to Government's commitment to free trade and would have a negative impact on the UK when compared to option 1.

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

7.1 This impact assessment is based on the final CETA negotiated outcome. Many of the estimated impacts are based on Computable General Equilibrium (CGE) modelling. This type of modelling is appropriate for situations where a forward-looking assessment of the economic impacts of a change in trade policy is needed, capturing the whole economy. The modelled impact takes into account linkages between markets within each affected economy, and provides impacts at a sectoral and aggregate level. It also takes into account the knock-on consequences to trade flows of third parties, reflecting trade creation and trade diversion effects. It takes into account the allocation of resources within an economy, and relative price effects.

7.2 CGE analysis can provide a useful indication of the potential magnitude of economic impacts resulting from policy changes. The model calibrates economic parameters to a baseline and simulates how the economy could react to changes in economic and policy assumptions set out in a trade agreement. It should not be treated as a forecast or prediction of the future. As set out in the European Commission's Economic Impact Assessment of CETA (2017), CGE modelling presents a snapshot of the best estimates at a point in time. These models in practice tend to underestimate the impact of trade liberalisation as, for example, they do not take into account the synergies that are likely to be created in global supply chains by CETA and other existing and future trade and investment policy initiatives.

7.3 Evaluations conducted after trade agreements are implemented tend to find greater impacts. For example, a recent paper from the International Monetary Fund (IMF) (2016) uses gravity modelling and finds that trade agreements on average increase exports by 80 percentage points over ten years, based on a sample of 104 country pairs for the period 1983-1995.[13] The mechanics of CGE modelling are set out in Annex A.

7.4 We draw on evidence from "The impact of the EU-Canada Comprehensive Economic and Trade Agreement on the UK" (January 2018), a study commissioned by DIT and conducted by Ciuriak Consulting. This is the best available source to examine the impacts of CETA for the reasons set out below:

i. This study specifically looks at the impact of CETA on the UK. This reduces the need to make assumptions around the proportion of benefits attributable to the UK.

ii. The study applies a CGE model which shows the impacts of a trade agreement across the whole economy rather than in one specific sector.

iii. This study applies a dynamic model meaning we are able to understand how benefits are gained over time.

iv. This study assumes different levels of service liberalisation across different sectors based on the content of the final CETA text.

This study does not however explore the microeconomic (firm level), environmental and social impacts of CETA.

[13] IMF (2016), The Impact of Trade Agreements: New Approach, New Insights, IMF Working Paper WP/16/117, Washington DC: International Monetary Fund

7.5 We also use evidence from "The Economic Impact of the Comprehensive Economic and Trade Agreement" (September 2017) produced by the European Commission to assess the impacts of CETA under each option.[14] Annex B compares the methods applied in both studies.

7.6 We draw on evidence by Ciuriak (2018) to estimate the impacts of CETA on UK GDP, bilateral exports, bilateral imports, total exports and total imports. We also use the study to assess the impacts on consumer prices and domestic production. The estimated impacts can vary depending upon the assumptions built into CGE modelling. We therefore present the scale of benefits from Ciuriak (2018) as a range between:

a) **Central estimate:** applies the Ad Valorem Equivalence (AVE) [15] of service regulatory barriers estimated by Fontagne et al (2016) and assumes 25% of these can be reduced from a change in trade policy. Sector specific reductions in the AVE of service regulatory barriers, caused by CETA, are then applied. See section 10 (table 15) for more information.

b) **Low scenario:** applies the World Bank AVE trade cost of service regulatory barriers estimated by Jarfari and Tarr (2014). Sector specific reductions in the AVE of service regulatory barriers, caused by CETA, are then applied.

The impacts of a high estimate can be seen in section 10 and is not part of formal assessment as in this instance the low and central estimates illustrate net benefits.

7.7 We also draw on the CETA impact assessment conducted by the European Commission to qualitatively and quantitatively assess a range of measures included in CETA. In addition, this study monetises the impacts of a) new business activity from greater access to the Canadian public procurement market and b) tariff savings to businesses. There is no absolute method to apportion the UK share of EU aggregate estimates produced by the European Commission. However we attempt to indicate the scale of benefits as a range between:

a) **High scenario:** UK exports to Canada as a share of total EU exports to Canada which equates to around 19%.[16]

b) **Low scenario:** UK GDP as a share of total EU GDP which equates to around 14%.[17]

[14] Link to Ciuriak (2018), "The impact of the EU-Canada Comprehensive Economic and Trade Agreement on the UK"

EU Commissions CETA impact assesment (September 2017) http://trade.ec.europa.eu/doclib/docs/2017/september/tradoc_156043.pdf

[15] In this IA we refer to the Ad-valorem Equivalent (AVE) as the estimated tariff rate equivalence of non-tariff barriers on dutiable goods.

[16] See Annex C: Methods of apportioning EU aggregated impacts.

[17] See Annex C: Methods of apportioning EU aggregated impacts.

7.8 Key Assumptions:

- 2017 is the base year; before the agreement has provisionally taken effect.
- The Government is able to deliver its stated policy intention to seek continuity of effect in relation to CETA as the UK leaves the EU, and therefore ensure broadly similar trade preferences in the long run between the UK and Canada after the UK has exited the EU.
- In the event that the UK chooses to not ratify the agreement, the EU and Canada would lose access to the benefits associated with the agreement and would move to MFN tariffs. The cost of this is the foregone benefit quantified under option 1.
- This section uses analysis by Ciuriak (2018) and the European Commission (2017) both of which estimate the long run impacts on the economy in 2030.

Baseline: CETA is not in force across the EU28 and Canada

7.9 CETA was provisionally applied on 21 September 2017 – this meant the elimination of most tariffs between the EU28 and Canada. UK businesses are already able to trade with Canada under CETA preferences. However, for modelling purposes we adopt a baseline where CETA is not in force across the EU28 and Canada to demonstrate gains of CETA to the UK. Therefore under the baseline scenario the EU28 trades with Canada under the MFN rules set by the WTO and not under the preferences contained in CETA.

Assessment of policy option 1: The UK decides to ratify CETA

7.10 In this section we provide information on the impact of CETA, assuming no further changes in the trading relationship between the UK and Canada.

7.11 **Overall impact assessment:** Compared to the baseline set out above (where CETA is not in force across the EU and Canada), Ciuriak (2018) indicates that CETA could increase UK GDP by between £485 million (0.017%, low scenario) to £730 million (0.025%, central scenario) per annum. This range reflects the degree of service liberalisation which is covered in more detail in Section 10. Around 70% of the increase in UK GDP comes from the elimination of tariffs and 30% from a reduction in service regulatory barriers.

7.12 UK exports to Canada are shown to increase within the range of £530 million (4.3%, low scenario) and £670 million (5.5%, central scenario) per annum. Most of this increase, based on the central scenario, reflects higher exports in motor vehicles (£290 million), financial services (£90 million), business services (£50 million) and chemical products which include pharmaceuticals (£50 million). CETA enables greater opportunities for UK firms to compete for Canadian Government procurement projects worth between £65 to £80 million per annum. Consumer welfare is estimated to increase by between £330 million and £400 million. This reflects increased consumer purchasing power due an increase in real wages (between 0.1% to 0.2%). Consumers are also set to benefit from a greater choice of goods and services. There are several significant non-monetised benefits related to non-tariff measures, such as the mutual recognition of conformity assessment bodies and their assessments to reduce the costs of conformity assessments.

7.13 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 and on-going costs associated with the additional administration needed to trade under CETA preferences. **The government's preferred option is to ratify CETA in order to continue the UK's access to gain these benefits.**

7.14 The section below assesses the direct and in-direct impact of CETA on the overall macro-economy, UK businesses, consumers, the UK Exchequer and wider impacts. We define direct impacts as those that instantly effect businesses, in the absence of any behavioural change. For example, the removal of Canadian regulations allows UK business to export more to Canada automatically at a lower cost. In comparison, indirect impacts are those that require a behavioural response from businesses. For example, UK firms may increase domestic production to increases its exports to Canada.

The net impacts of CETA on the macro-economy

7.15 The European Commission's most recent assessment of CETA find the agreement could increase GDP across the EU from €1.7 to €2.1 billion on an annual basis.[18] Ciuriak (2018) shows CETA could increase UK Gross Domestic Product (GDP) by between £485 million (0.015%, low scenario) and £730 million (0.025%, central scenario) in the long run. The large majority of this is driven by an increase in bilateral trade, which in turn occurs from a 70% reduction in in tariffs and 30% reduction in service regulatory barriers. The net impact of CETA on UK GDP is accounted for in the total Net Present Value (NPV) of the agreement presented in section 9.

[18] European Commission Impact Assessment (2017).

The net impacts of CETA on UK businesses

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

i) Monetised impacts

7.16 UK Businesses currently trading with Canada will benefit from reduced tariffs. This benefit is accounted for in the assessment of the impact on GDP of the agreement. Analysis from the European Commission shows EU businesses could save up to €590 million a year from elimination of tariffs.[19] We estimate the UK proportion of these savings to range between £64 and £90 million. In practice this means tariff cuts will increase the competitiveness of UK firms by enabling them to offer Canadian consumers better value for money. 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.

7.17 UK businesses currently trading with Canada will also benefit directly from a decline in regulatory barriers in Canada's services market. CETA will reduce the scale of regulatory barriers faced by UK firms exporting services to Canada. Using a combined measure of the OECD's Services Trade Restrictiveness Index (STRI), the GATS Trade Restrictiveness Index (GTRI), and analysis of the agreement text, Ciuriak (2018) estimates that service regulation barriers faced by UK exporters will reduce by 7.9% in the financial sector; 11.1% in the recreational sector; 4.2% in the insurance service sector; and 11% in the business services sector. Ciuriak (2018) estimates a reduction in regulatory trade costs across 11 service sectors that occurs when CETA is implemented (as seen in the table 12 section 10). These gains are monetised and included implicitly within the CGE modelling and overall gains in net UK GDP.

ii) Non-monetised impacts

7.18 CETA increases market access for EU28 businesses by expanding the cheese Tariff Rate Quota (TRQ) by an additional 18,500 tonnes. In general, Canadian MFN duties for dairy exports range between 200% and 300% making UK dairy exports less competitive. Under the baseline scenario, cheese is exported to Canada via an existing WTO TRQ of 20,412 tonnes, of which 13,472 is reserved for the EU28 with an in-quota duty limited to a 1% Ad Valorem Equivalent (AVE), while the MFN tariff is 245%. As seen in the table 5, UK exports in the dairy sector increase by 138% which is mainly driven by the increase in market access. In practice this means CETA will more than double the quota of cheese which EU producers can export to Canada without paying any customs duties via the establishment of a new bilateral TRQ (on top of the WTO cheese TRQ).

[19] http://trade.ec.europa.eu/doclib/docs/2017/september/tradoc_156062.pdf

7.19 CETA mutual recognition of conformity assessment covers the following products: electrical and electronic equipment, machinery (including parts), measuring instruments, hot-water boilers and toys. This will reduce the costs of conformity assessments against the standards for these products, thereby improving the facilitation of goods across custom borders and reducing the cost of trade.

7.20 CETA contains Mode 4 provisions to improve the mobility of temporary workers between the UK and Canada. CETA has removed a number of limitations on citizenship and residency conditions for workers, such as allowing EU lawyers, accountants, architects and engineers to practice in Canada. This will allow businesses greater flexibility in managing their workforce. Under CETA, firms across the EU28 will be able to re-deploy staff through an 'intra-company transferees' scheme to Canada for up to 3 years across all sectors.

7.21 CETA establishes a framework by which professional regulatory authorities or bodies in both the UK and Canada can jointly develop recommendations for Agreements on the Mutual Recognition of Professional Qualifications (an "MRA"), to be approved by the CETA Joint Committee. This will improve the opportunities for UK citizens to take up and pursue professional activities in Canada on the basis of their UK professional qualifications. Equally, CETA will provide Canadian citizens the ability to pursue professional activities in the UK. This will allow firms to match vacancies to potential workers with relevant qualifications and skills more efficiently.

7.22 UK residents will be exempt from the Labour Market Impact Assessment previously required for EU nationals. Under Mode 4 of the service agreement, UK residents will still need a working visa but under CETA, employers will not need to conduct an economic need tests. This will lead to efficiency gains by removing a layer of process administration allowing UK workers better access to the Canadian labour market.

7.23 CETA contains measures to simplify export procedures relating to sanitary and phytosanitary standards. CETA will allow Canada to undertake EU-wide assessments and thereby accelerate the approval procedures for plants, fruits and vegetables. This will reduce trade costs and improve the predictability of trade in plant products.

b) In-direct benefits to UK businesses from a reduction in trade barriers

i) Monetised impacts

7.24 CETA is expected to increase business opportunities for UK businesses to bid for tenders at all levels of Canadian government. CETA has created open access to the Canadian public procurement market. The European Commission's Impact Assessment (2017) estimates that EU businesses could gain around €540 million annually in new contracts. We estimate the UK share of this equates to around £65 to £80 million.

7.25 Existing preferential agreements bring down existing trade barriers that restrict free and efficient trade. CETA enables businesses to trade under preferences, resulting in export opportunities to Canada becoming less expensive through lower tariffs. CETA is expected to increase net exports to Canada by around £530 million (4%, low scenario) to £680 million (5.5%, central scenario) per annum. However, total net UK exports to the world are estimated to increase by around £450 million (0.06%, low scenario) to £490 million (0.05%, central scenario). This means that, although UK exports to Canada are growing, some sectors may export less to third countries as a result i.e. trade will be diverted from third countries to Canada in the long run. This represents a situation where the full effects of the agreement have been reflected in the economy (in 2030) compared against a baseline where CETA is not in force for the EU28 or Canada.

7.26 The elimination of tariffs and reduction in service regulatory barriers make UK business more competitive in the Canadian market. The elimination of 98.6% of Canadian tariff lines generates most of the increase in UK exports to Canada. In the long term this is associated with a 33% increase in the value of motor vehicle exports to Canada, as well as a 72% increase in textiles and apparel. Most tariffs were eliminated when CETA was provisionally applied in September 2017; however some will be eliminated gradually over 3, 5 or 7 years. Table 4 presents the top 10 UK sectors that gain the most in total exports from CETA. These make up nearly 85% of the total export gains across all 39 sectors modelled. The modelling results provide a useful indication of the plausible magnitude of impacts, and sectors where the impacts might be greatest, but the specific figures should not be treated as a forecast or prediction of the future.

Table 4: Top 10 UK sectors export gains in goods and services in 2030 with CETA

Sector	Increase in UK export to Canada (per annum)	Percentage change compared to the baseline	Source of gain	Increase in UK total world exports
Motor vehicles	£290 million	33%	tariff elimination	£280 million
Financial Services	£90 million	3%	8% reduction in service regulatory barriers	£70 million
Non-Ferrous Metals	£3 million	1%	tariff elimination	£60 million
Textiles and apparel	£40 million	72%	tariff elimination	£30 million
Dairy	£20 million	138%	tariff rate quota increase	£20 million
Machinery and Equipment	£40 million	3%	tariff elimination	£13 million
Business Services	£50 million	4%	11% reduction in service regulatory barriers	£10 million
Other Services	£20 million	16%	11% reduction in service regulatory barriers	£10 million
Processed foods	£20 million	14%	tariff elimination	£10 million
Fossil Fuels	£13 million	3%	tariff elimination	£10 million
Total top 10 exports	**£570 million**			**£500 million**
Total increase in exports	**£680 million**			**£490 million**
Total increase in net exports	**£680 million**			**£490 million**

Source: Ciuriak (2018) 'The Impact of the EU-Canada Comprehensive Economic and Trade Agreement on the UK'.

Note: Figures may not sum due to rounding.

7.27 The European Commission estimates that trade between the EU and Canada will increase by 8% due to CETA. The study estimates that half of this increase will materialise in the first year of implementation, in particular as custom duties on 98% of all tariff lines will be eliminated at entry into force of the agreement. Ciuriak (2018) also finds that just over half of the benefits are expected to come in the first year. The Commission's Economic Impact Assessment finds European exporters of dairy (+€300m for the EU as a whole), automotive products (+€880m), chemicals (+€451m), textiles, apparel and leather products (+€812m), as well as business services (+€644m) will see the most considerable increases in their exports to Canada.

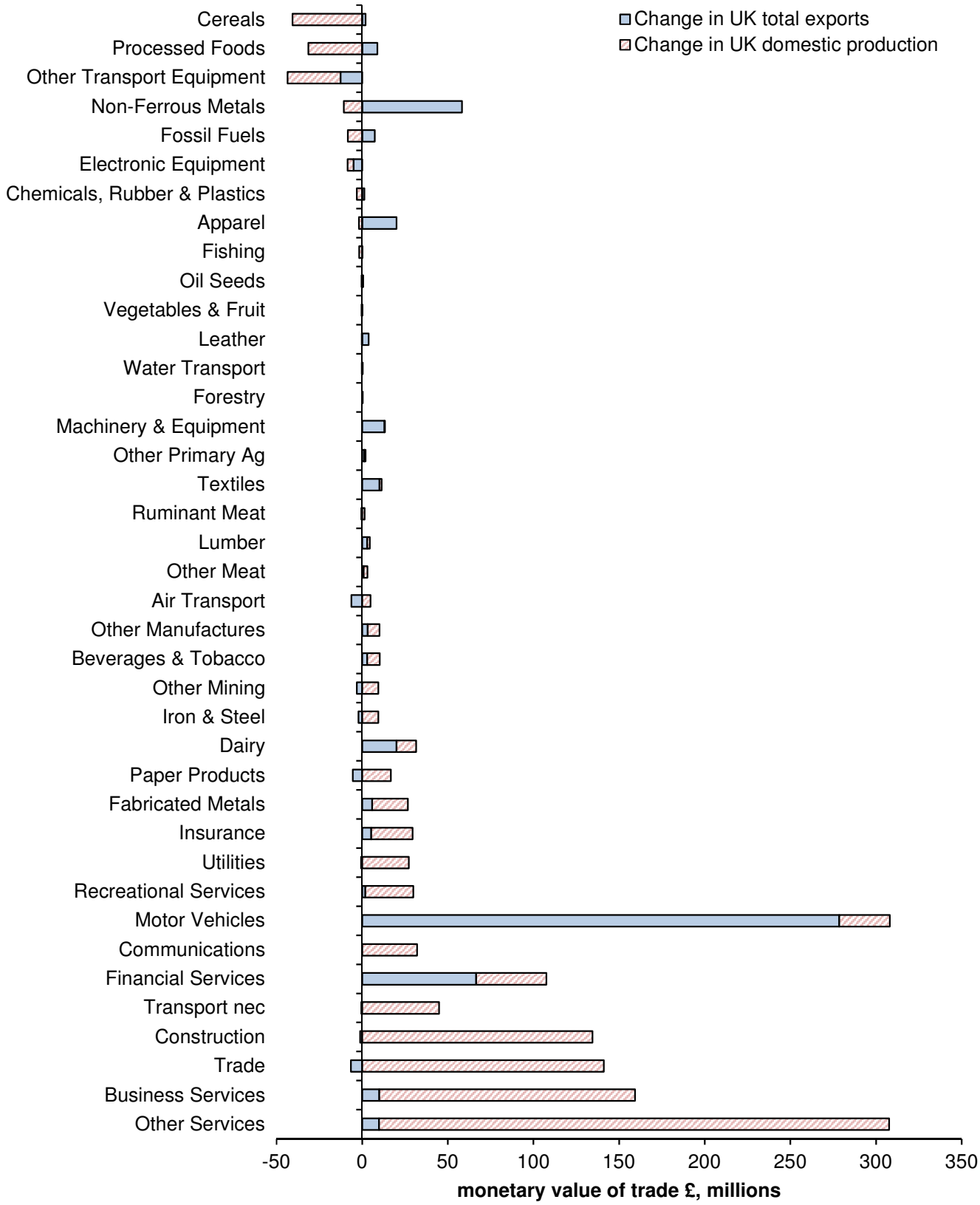
7.28 CETA is estimated to increase UK imports from Canada by £1.1 billion due to favourable preferential rates (Ciuriak (2018)). This could lead to lower UK business costs for intermediate products. The elimination of tariffs and the reduction in service regulatory barriers means UK businesses are expected to be able to purchase goods and services at a lower cost compared to the baseline, resulting in higher profits or lower consumer prices. The table below shows the top 10 sectors in the UK that will import more goods and services from Canada as a result of CETA. The top 10 sectors account for 95% of the increase in UK imports from Canada, mostly driven by the elimination of tariffs between the EU28 and Canada. The data shows a 62% increase in UK imports of processed foods from Canada in the long run due to the elimination tariffs previously enforced by the EU28.

Table 5: Top 10 UK sectors import gains in goods and services in 2030 with CETA				
Sector	**Value of import benefits (per annum)**	**Baseline percentage change**	**Source of gain**	**Total Imports**
Non-Ferrous Metals	£370 million	4%	tariff elimination	£80 million
Processed Foods	£150 million	62%	tariff elimination	£65 million
Other Machinery	£100 million	14%	tariff elimination	£60 million
Motor	£20 million	26%	tariff elimination	£50 million
Chemical products	£70 million	19%	tariff elimination	£45 million
Businesses	£10 million	0.3%	2.8% reduction in service regulation barriers	£30 million
Other Transport Equipment	£90 million	13%	tariff elimination	£30 million
Cereals	£85 million	88%	tariff elimination	£25 million
Fossil Fuel	£70 million	15%	tariff elimination	£20 million
Financial Services	£10 million	4%	14.7% reduction in service regulation barriers	£20 million
Electronic Equipment	£30 million	20%	tariff elimination	£10 million
Total top 10	**£980 million**			**£420 million**
Total gains in exports	**£1.1 billion**			**£580 million**
Source: Ciuriak (2018) 'The Impact of the EU-Canada Comprehensive Economic and Trade Agreement on the UK'.				
Note: Figures may not sum due to rounding.				

7.29 CETA is estimated to increase UK net domestic production of goods and services for domestic consumers estimated at £900 million. UK firms sell their goods to both the domestic market and to export markets. UK consumers can buy goods from UK firms and/or from foreign competitors – the choice is assumed to depend on which is more price competitive. Evidence from Ciuriak (2018) indicates that a number of UK sectors expand product to meet an increase in demand from domestic consumers. For example, the evidence suggests an increase in domestic production worth £150 million in business services, £40 million in financial services and £30 million motor vehicles as the UK becomes more price competitive in these sectors.

7.30 In total, UK domestic production increases by £1 billion across 30 sectors, however, may also experience a decline worth £130 million per annum across 9 sectors. Therefore the net increase in UK domestic is around £900 million per annum across all 39 sectors. Graph 7 shows the potential change in domestic production and total UK exports (to the world) across each sector.

Graph 7: The impact of CETA on UK domestic production and UK total exports



Source: Ciuriak (2018) 'The Impact of the EU-Canada Comprehensive Economic and Trade Agreement on the UK'.

ii) Non-monetised impacts

7.31 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.

7.32 There are several channels through which competition raises productivity, but most importantly competition forces firms to innovate coming up with new products and processes which can lead to step-changes in efficiency.

c) Direct Costs to UK businesses

i) Monetised impacts

7.33 The costs to UK businesses from trading under CETA preferences is voluntary i.e. they have the option to choose whether to trade with Canada under CETA trading preference (i.e. under lower tariffs) or the baseline MFN tariffs. Therefore there is no net cost to businesses for those who do not wish to trade under CETA preferences.

7.34 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 also a description of the costs and activities involved in order to demonstrate the impact on businesses. Our best estimate of business impact costs have then been included in the NPV calculations.

<u>Business Cost data limitations</u>

- CETA has only been in force since September 2017. Significant time lags in trade data means empirical trade data and survey data is not yet available to supports this analysis[20].
- Data on the preference utilisation of trade deals is not readily accessible. This means that existing evidence on preference utilisation is limited.
- HMRC empirical data on the administration costs incurred by businesses to trade are commercially sensitive and not available for this analysis.

[20] Trade data is available from a range of data sources, including HMRC trade flows data, ONS Pink Book, Eurostat, UN comtrade WITS and MacMaps.

7.35 There will be one-off costs to firms, enforcers, 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 however we provide an illustration of the potential impacts on UK businesses that trade with Canada. In 2016, 11,306 VAT registered businesses exported to Canada and 8,399 VAT registered businesses imported from Canada. Based on this, the upper bound of businesses trading with Canada is 19,705 in 2016. This is an upper bound because it is likely to be double counting a significant number of firms, and we are assuming all firms use the CETA preferences. We are also not taking into account the number of new businesses that may trade with Canada as a result of CETA. Based on this number of firms, the aggregate cost to businesses currently trading with Canada could range from £4.3 to £4.7 million. The method for this estimate is shown in Annex D. 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

7.36 Businesses will have a number of on-going administration activities to complete in order to use the CETA preferences which include custom declarations and rules of origin certification.

Customs declaration

7.37 The main customs form used in international trade is known as the Single Administrative Document (SAD). Traders and agents can use the SAD to assist with declaring import, export, transit and community status declarations in manual processing situations.

7.38 Estimates are not available on the number of firms that will begin trading with Canada due to the introduction of CETA. Firms already exporting to Canada would not incur this additional customs declaration costs. HMRC survey research from 2015 enables us to provide a qualitative assessment of the costs in this activity. In this survey, 68% of businesses undertook this obligation in-house, and estimated spending1 hour and 47 minutes on this activity. 19% of firms used a specialist agent, and were charged £41 per declaration. Firms using an agent spent an average of 2 hours 43 minutes on this activity.

Rules of Origin

7.39 To trade under CETA preferences business are required to produce a certificate to confirm the origin of the export content meets the rules of origin requirements set out in CETA.[21]

7.40 Businesses can submit rules of origin forms to HMRC to process free of charge however this could take several days to complete. Alternatively, businesses can choose to get an origins certificate from the British Chambers of Commerce which processes the certificate in a shorter period of time for a fee of £46.80.[22]

7.41 Recent academic studies (World Bank 2014, Ciuriak & Xiao 2014) estimate the tariff equivalent trade costs associated with rules of origin administration and compliance requirements ranges 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 could not be the case in the presence of high administrative costs.

7.42 Table 6 sets out the current administration requirements for business and how that could change if a business chooses to trade under CETA preferences.

[21] https://ec.europa.eu/taxation_customs/sites/taxation/files/ceta_guidance_en.pdf

[22] https://www.londonchamber.co.uk/LCCI/media/media/Export%20Docs/Prices/Export-Document-Price-List.pdf

Table 6: The main types of on-going administration UK businesses incur when trading with Canada			
Administration	**Baseline**	**CETA**	**Expected net impacts**
1) Rules of Origin Certificate for shipments over €6,000 euros.	UK businesses are not required to complete a RoO certificate when exporting to Canada under MFN rules.	To trade under CETA preferential tariff rates UK businesses will need to fulfil the Rules of Origin defined in the agreement and complete rules of origin certificate.	Small businesses exporting under CETA preferences will not need to complete a RoO certificate if thier shipment is less than €6,000 euros. There is a cost to business if they choose to trade under CETA preference.
2) Rules of Origin - cost of compliance.	UK businesses are not required to comply with RoO restrictions when trading under MFN rules.	UK businesses will need to adjust to RoO compliance under CETA. For example adjusting supply chains to meet domestic content thresholds.	
3) Mutual recognition of good manufacturing practices.	UK business that import pharmaceutical products from Canada require a second inspection of the products in addition to inspections carried out in Canada before it is exported.	CETA removed the need to duplicate inspections.	Net benefit against the baseline of no CETA as there would now be a smaller administrative burden and costs from eliminating double inspections by both EU and Canadian regulators.
4) Technical barriers to trade' (TBT): specific characteristics that a product should have, such as design, labelling, marking, packaging, functionality or performance.	There is an existing mutual recognition agreement (MRA) used by the parties in the area of conformity assessment between the EU and Canada but this only covers some products. Some goods have to go through Canada or EU specific conformity assessment to check compliance with standards and rules, for example inspection and certification.	CETA expands coverage to: Electrical and electronic equipment, Radio and telecommunications terminal equipment, Toys, Construction products, Machinery, including parts, components.	Net benefits against a baseline of no CETA due to greater efficiency gains. This gain could be greater for small and medium-sized businesses.
Source: The qualitative information was drawn from the European Commission's Economic Impact Assessment (2017).			

d) In-direct Costs to UK businesses

i) Monetised impacts

7.43 As highlighted above CETA is expected to increase UK domestic production by up to £1 billion across 30 sectors, however, the modelling identifies some sectors which due to reallocation across sectors, potentially experience a decline of about £130 million per annum as seen in Graph 7. Some sectors might become less price, which may experience a fall in domestic. This aligns with the sectors in which the UK imports more from Canada (as seen in the table 6).

7.44 CETA is expected to increase business opportunities for UK businesses to bid for tenders at all levels of Canadian government worth £65 to £80 million. Equally, CETA will increase the ability of Canadian businesses to bid for UK public contracts. An increase in competition for UK public contracts may lead to better value for money options for UK public procurement. However, this may also lead to some UK businesses losing out on UK public contracts to Canadian competitors.

<u>The net impacts of CETA to consumers</u>

a) Direct benefits on UK consumers

7.45 UK consumers will be able to imports products at a lower cost due to tariff reductions on final goods. This can be viewed as an increase in consumer purchasing power.

b) In-direct benefits on UK consumers

7.46 Consumer welfare is estimated to increase between £330 million to £400 million per annum due to an increase in real incomes. This occurs for two reasons:

- UK businesses are able to import goods and services at a lower price due to CETA preferences. This allows the income of consumers to go further if firms pass lower import prices on to consumers in the form of lower prices. This can be viewed as an increase in consumer purchasing power.

- An increase in real wages driven by an increase in UK productivity.

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 following the implementation of CETA.

7.47 UK consumers will benefit from a greater choice of goods and services available as Canadian products become less costly and easier to purchase.

7.48 UK businesses are also consumers. CETA preferences may attract UK businesses to import raw materials or intermediate products from Canada at a lower cost.

c) Direct cost on UK consumers
There are no direct costs on UK consumers.

d) Indirect costs on UK consumers
There are no indirect costs on UK consumers.

Impacts of CETA on the UK Exchequer

a) Direct benefit
There are no direct benefits on the UK Exchequer.

b) In-direct benefits

7.49 A loss in government revenue is in part a transfer to UK businesses who benefit from an increase in revenue therefore profit from an increase in trade under CETA preferences. In addition, consumers will benefit directly from lower prices on final goods. Furthermore, CETA 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

This will to some extent be offset by on-going forgone revenue to the EU and the UK from lower tariffs on imports from Canada. As set out in table 7 we estimate the potential loss in revenue to equate to around £90 million per annum in the UK. It should be noted that this estimate expected to be an overestimate as for modelling purposes the higher out-of-quota tariff is applied. 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 it is implicitly captured within the impact on net UK GDP.

Table 7: Estimated foregone revenue in the UK from the reduction in tariffs				
MTN Sector Name	**import weighted AVE MFN tariff**	**Simple average AVE MFN tariff**	**Trade value £millions (average 2014-2016)**	**Estimated Revenue, £millions (weighted tariff *value)**
Wood, pulp, paper & furniture, raw materials	0.4%	1%	£351	£1.5
Textiles	5%	7%	£25	£1.1
Clothing	12%	11%	£11	£1.3
Leather, footwear, etc	3%	4%	£11	£0.4
Minerals and metals	1%	2%	£606	£4.4
Chemicals	3%	5%	£232	£6.8
Transport equipment	2%	4%	£670	£10.8
Non-electrical machinery	1%	2%	£699	£10.3
Electrical machinery	2%	3%	£295	£5.1
Minerals and metals	0.02%	2%	£6,092	£1.1
Manufactures, not elsewhere specified	2%	2%	£301	£4.7
Fish and fish products	15%	12%	£120	£17.4
Fruits, vegetables, plants	3%	12%	£74	£1.9
Coffee, tea	2%	6%	£3	£0.1
Sugars and confectionary	6%	26%	£11	£0.7
Cereals and preparations	15%	16%	£115	£17.1
Animal products	15%	20%	£1	£0.1
Oilseeds, fats & oils	1%	7%	£20	£0.2
Fruits, vegetables, plants	2%	4%	£4	£0.1
Beverages and tobacco	9%	13%	£7	£0.6
Dairy products	35%	38%	£3	£1.0
Beverages and tobacco	39%	37%	£0	£0.0
Other agricultural products	5%	3%	£23	£1.1
Cotton	0%	0%	£0	£0
Petroleum	1%	3%	£295	£1.6
Simple averages	**7%**	**10%**	**£9,971**	**£89**

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.

The net wider impacts of CETA

7.50 CETA will maintain existing EU standards of goods and services. All Canadian products entering the EU market will have to comply in full with all EU standards (standards and regulations related to food safety, product safety, consumer protection, health, environment, social or labour standards), and vice versa.

7.51 Under CETA the EU and Canada have created a voluntary cooperation mechanism (Regulatory Cooperation Forum) which allows regulators to exchange experiences and relevant information on an advisory basis. This is expected to lead to positive effects in terms of improved regulation.

7.52 The European Commission Sustainability IA (2011) also highlights the EU-Canada Agreement could have an impact on the environment, particularly in certain sectors. Increased agricultural production could lead to a higher degree of intensification and use of chemical inputs, while increased beef production could lead to greater herd size and production of methane. However, if production increases in crops such as wheat could be achieved using more sustainable practices, such as no or reduced till, the negative environmental impact could be mitigated because of lower emissions and chemical inputs.[23]

7.53 Furthermore the study shows the environmental impact associated with energy and extractive industries is likely to be limited, though it could be exacerbated if the agreement leads to significant increases in foreign direct investment (FDI) in Canada's oil sands and mining industries since these sectors are environmentally intensive. Growth of trade would likely increase the greenhouse gas (GHG) emissions associated with transport. At the same time, the vast majority of additional trade would be expected to occur through maritime transport, which has a lower environmental impact than land or air transport. In addition, the impact could be mitigated if CETA helped to facilitate the development of Canada's short sea shipping industry, and led to a replacement of land transport by maritime transport.

Assessment of policy option 2: The UK decides against CETA ratification.

7.54 **Overall impact assessment:** There are no additional costs or benefits when assessed against the baseline where CETA is not enforced.

7.55 As mentioned in section 6, if the UK Government chose not to ratify the agreement it would notify the European Commission of this decision. CETA's provisional application would then be terminated and trade barriers that have been provisionally removed would be reintroduced. Canada's trading arrangement with the EU would revert to WTO, Most Favoured Nation (MFN) rules and therefore returns to original baseline.

[23] http://trade.ec.europa.eu/doclib/docs/2017/april/tradoc_155471.pdf

7.56 Under policy option 1 we estimate a direct benefit to UK businesses of around £80 million per annum and a net increase in UK GDP of around £730 million per annum, once the agreement is fully implemented. Given that CETA was provisionally applied on 21 September 2017, some of these benefits have already started to accrue. Some of the 6,400 UK businesses that exported to Canada and 5,800 UK business that imported from Canada in 2016 will now be trading with Canada under CETA preferences. If the UK government were unable to ratify CETA and the agreement ceased, these UK and other businesses would loss access to the CETA preferences. It is difficult to estimate the size of these losses as we do not have data on the number of firms that utilise the trade deal. The data available will show us the value of goods trade under CETA tariff preferences (Eurostat, 2018) but not trade that benefits from reductions in NTMs. It is too soon after provisional application to gather evidence on the impact of CETA on the value of goods and services traded with Canada. In addition, we do not know to what degree the UK and Canada have implemented the NTMs at this point in time. It is possible some investment such as relabelling or retooling has been made which would have to be reversed, however it is too soon after provisional application to gather evidence from businesses and we expect a lag on investment of this nature, therefore we expect any losses to be small.

7.57 UK businesses that invest time to read and become familiar with the agreement text and guidance will experience one-off costs, which we estimate at around £2.7 million in the first year of CETA implementation. These UK businesses would need to re-adjust to trading under MFN rules if the UK Government chose not to ratify the agreement. However, the costs of familiarisation and then re-adjustment should be less than the estimated £2.7m already incurred, as firms trading with Canada before the provisional application of CETA would be familiar with MFN terms. UK businesses would also face higher tariffs and higher regulatory barriers to trade in goods and services, which would result in a reduction in business profit and probably trade flows with Canada

7.58 This is not the Government's preferred option, as it runs counter to the commitment to Free Trade and would have a negative impact on the UK when compared to option 1.

8 Small and Micro Business Assessment (SaMBA)

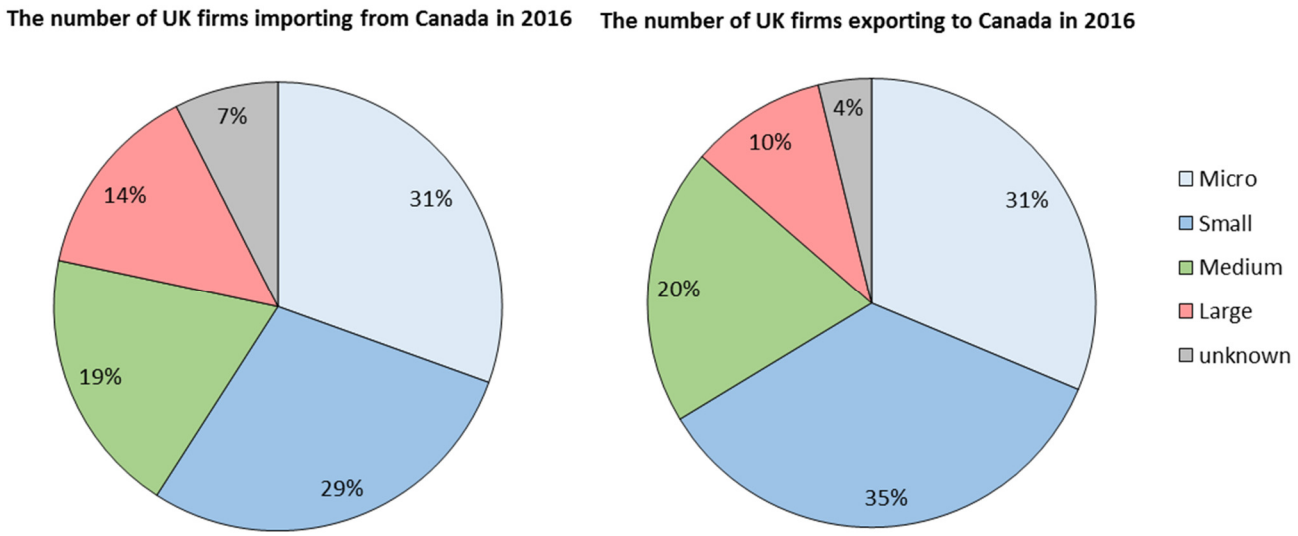
8.1 This section provides a qualitative assessment of the impacts of CETA on Small and Micro Businesses. We discuss whether the impact on the operations and performance of small businesses are likely to be disproportionate compared to larger businesses.

8.2 As background in 2016, 11,306 VAT registered UK businesses exported to Canada and 8,399 VAT registered UK businesses imported from Canada.[24] Data from the HMRC (graph 8) shows around 60% to 70% of UK businesses that trade with Canada are micro and small businesses, around 20% are medium sized and 10% are large businesses.[25]

[24] IDBR overseas trade statistics country data tables 2016. https://www.gov.uk/government/statistics/uk-trade-in-goods-by-business-characteristics-2016

[25] The size of the business is defined by the number of employees in a firm. Micro businesses have up to 9 employees, small businesses have 10 to 49 employees, medium businesses have 50 to 249 employees, and large businesses have 250 employees or more.

Graph 8: The size of UK businesses trading with Canada in 2016



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 official statistics.

Rules of Origin

8.3 Small and micro firms in the UK can choose to export goods and services under CETA preferences. These firms, along with larger firms, will have the incentive to export to Canada if the reduction in tariffs and service regulatory barriers outweigh the cost of complying with rules of origin. If this cost is too high for small businesses they can opt out and trade under the baseline MFN tariffs and as a result will not incur an additional cost above the baseline.

8.4 To reduce the burden on small businesses and as outlined in table 6, shipments up to €6,000 do not need to complete a RoO certificate to obtain CETA preferences. It should be noted they would still be expected comply with RoO. This cost will affect small business disproportionately to larger businesses as these firms will face relatively higher fixed costs compared to larger firms who may be more able to hire professional advisors and set up IT processes to automatically prove product origin. Furthermore, 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 increase in business revenue from greater exports. The estimates presented in the section 7 (table 4 and table 5) are based on Ciuriak (2018).

Tariff reductions

8.6 Small firms that export to Canada are likely to expand production and experience an increase in revenue as their products become cheaper for Canadian importers. Similarly, small UK firms will be able to import products from Canada at a lower cost resulting in an increase in revenue. This could lead to small businesses becoming more productive and competitive in the UK.

8.7 Some less competitive small businesses in the UK may be adversely affected from greater competition from Canadian firms. However the net impact on small businesses is expected to be positive.

Mutual recognition agreements

8.8 The burdens of understanding and addressing technical barriers to trade such as different conformity standards and regulatory requirements in Canada can be disproportionately large for small businesses. CETA provides a basis for the mutual recognition of conformity assessment bodies, which could reduce the costs to business of conformity assessments such as product testing. This may be of particular benefit to small business exporters. In addition, small businesses in the UK might benefit if they can import products more cost efficiently from Canada as a result of reduced product assessment costs in Canada.

8.9 **Overall SaMBA:** Small businesses can choose to trade under CETA preferences if the benefit of doing so (export gains) outweighs the regulatory cost. The agreement will benefit smaller firms who least can afford the cost of the red tape involved in exporting to Canada. Small businesses will benefit from:

- exemptions under RoO certification requirements (shipments less than €6,000),
- reduced conformity assessments burdens.

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

9.1 Our central estimate of CETA's net impact on UK GDP is £730 million per annum. In addition, we expect UK business to gain around £70 million from engaging in more public contracts in Canada, under the central scenario. Not all of these gains are expected to accrue in the first year that CETA is implemented. Ciuriak (2018) expects around 60% of the net impact on UK GDP to be achieved in the first year of the implementation, followed by 75% after 5 years and the full gains only after 14 years. Furthermore, we do not expect all firms to incur the one-off familiarisation costs in the first year of CETA's implementation. We assume that 60% of the total one-off familiarisation cost to businesses (£4.4 million) occurs in the first year that CETA is implemented, followed by 25% in year two and 15% in year three.

9.2 In total the benefits to the UK are estimated to equal £7.8 billion over a 15 year period in our central scenario. Costs are estimated at around £4.4 million over the same period. Subsequently, it is estimated that the net impact, in present value terms of option 1 is around £7.8 billion over 15 years.[26]

Table 8: The estimated total Net Present Value (NPV) of CETA across 15 years based on the central scenario.

Total Impacts on the UK (£m)	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15
Costs (2017 Real Prices)															
Time path	**60%**	**25%**	**15%**												
One-off familiarisation costs	2.7	1.1	0.7												
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	447	474	499	525	550	574	596	617	637	657	675	694	712	730	730
Increase in UK bidding for Canadian public contracts	43	46	48	51	53	55	57	59	61	63	65	67	69	70	70
Total NPV Costs	3	1	0.5	0	0	0	0	0	0	0	0	0	0	0	0
Total NPV Benefits	490	502	511	519	525	530	531	532	531	528	525	521	517	512	495
Net Present Value	**487**	**501**	**510**	**519**	**525**	**530**	**531**	**532**	**531**	**528**	**525**	**521**	**517**	**512**	**495**

Note: An appraisal over 10 year (the default appraisal period) would only account for 90% of the GDP gains to the UK from CETA. CGE analysis conducted by Ciuriak (2018) shows the long run gains of CETA is realised after 14 years, therefore the net benefits are also presented over 15 years. The total benefits are estimated to be £800 million in 2017 prices in the long run. This is discounted to calculate the present value of the gains which is estimated at £495 million in the long run.

	Total NPV (£M) 15 years
Discounted costs	4.4
Discounted benefits	7,800
Net present value	7,800

[26] The scenarios used, and why they are chosen, is discussed in section 10 of the Impact Assessment. Table 13 sets how the total NPV of CETA various under the low and high scenario.

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, ad valorem equivalents of non-tariff measures and the share of service regulatory barriers that can feasibly be addressed by changing policy.

CGE modelling

10.2 CGE models are used widely to estimate the impact of trade policy changes. However, there are a number of limitations of these models. The results depend on the underlying assumptions and parameters that are used in the model, which to some extent are subjective and difficult to estimate – for example estimating elasticities in certain markets and regions. 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. For example, if bilateral trade flows between two countries are non-existent or negligible, trade cost reductions facilitated by a trade agreement will not stimulate much impact in a CGE model.

10.3 However, CGE models can sometimes underestimate the full benefits of policy changes, as it is difficult and often requires further assumptions to model a comprehensive set of dynamic changes. For instance, this trade agreement is likely to result in increased competition between firms, which could result in higher levels of innovation. However, the positive impact of increasing innovation is not included explicitly within the model.

AVEs of service regulatory barriers

10.4 A number of methods can be used to estimate the ad valorem equivalent of service regulatory barriers. The monetised impacts in this this Impact Assessment are based AVEs calculated by Fontagné, et al (2016) from the Centre d'Études Prospectives et d'Informations Internationales (CEPII). However, there are alternative AVE measures of non-tariff measures such as Jafari and Tarr (2014) from the World Bank. Table 9 shows the estimated by Fontage et al (2016) is much higher than those calculated by Jafari and Tarr (2014) the reason for which the former is based on gravity modelling whereas the latter is based on a ‘price wedge’ approach.

Table 9: Comparison of AVE estimates						
	United Kingdom			Canada		
Sector	CEPII Fontage et al) (%)	World Bank (Jafari and Tarr) (%)	Percentage point difference	CEPII (Fontage et al) (%)	World Bank (Jafari and Tarr) (%)	Percentage point difference
Utilities	57	11	47	44	11	33
Construction	45	11	34	84	11	73
Trade	36	1	35	61	3	58
Transport	9	34	-25	41	0	41
Water Transport	35	0	35	66	12	54
Air Transport	49	19	30	104	22	82
Communication	20	1	19	68	4	65
Financial services	36	2	34	74	3	71
Insurance	60	11	49	61	14	47
Business services	20	20	0	65	33	33
Recreational services	36	11	25	61	11	49
Other Services	31	11	20	69	11	58
Source: Fontagné, Lionel, Cristina Mitaritonna & José Signoret. 2016. "Estimated Tariff Equivalents of Services NTMs," CEPII Working Paper No 2016-20 – August.						

10.5 This impact assessment and Ciuriak (2018) applied the CEPII AVE estimates as it was deemed a better fit to the nature of the UK economy, e.g. it seemed more plausible that the regulatory barriers to trade in financial services were equivalent to a 36% tariff rather than a 2% tariff. Table 14 shows how the results could change if the lower tariff equivalents calculated by Jarfari and Tarr (2014) were applied.

Proportion of service regulation barriers that are actionable

10.6 The estimates presented in section 7 are based on the assumption that 25% of the barriers to services trade are 'actionable' i.e. can be amended or eliminated in some way by policy. This is generally in line with other established research in the field of NTMs in goods and service regulation barriers, for example the ECORYS survey (2009) of non-tariff barriers to goods and services which showed 25% of the total observed barriers can be removed through Free Trade Agreements.

10.7 Ciuriak (2018) does not find it plausible to assume a higher proportion of regulatory barriers are actionable given the service agreements contained in CETA. Given the uncertainty around the estimation of NTM AVE's and the degree to which barriers are actionable we assess two additional scenarios in this impact assessment. Under the low scenario, Ciuriak (2018) uses the World Bank AVEs and assumes all regulation barriers are actionable. Under the high scenario, Ciuriak (2018) uses AVEs estimated by CEPII and assumes 50% of the service regulatory barriers are actionable. Table 10 shows the impact CETA under these scenarios.

Table 10: Sensitivity analysis of the macroeconomic and sectoral results, £ million per annum in 2030			
	Results used in the main body of the IA CEPII AVEs (assumes 25% of service regulatory barriers are actionable)	Sensitivity 1 World Bank AVEs (assumes 100% of service regulatory barriers are actionable)	Sensitivity 2 CEPII AVEs (assumes 50% of service regulatory barriers are actionable)
	Central Scenario	Low Scenario	High Scenario
Change in GDP	£730 million (0.025%)	£485 million (0.017%)	£980 million (0.034%)
Change in exports to Canada	£670 million (5.5%)	£530 million (4.3%)	£950 million (7.8%)
Change in imports from Canada	£1,100 million (5.9%)	£1,100 million (5.8%)	£1,100 million (6.3%)
Change in consumer welfare	£400 million (0.2%)	£331 million (0.01%)	£520 million (0.02%)
Source: Ciuriak (2018) 'The Impact of the EU-Canada Comprehensive Economic and Trade Agreement on the UK'.			

10.8 The table below presents the NPV under a low scenario where we apply the lower World Bank AVE estimates and a high scenario where we apply the CEPII AVE's but assume 50% of the service regulatory barriers are actionable.

Table 11: Net Present Values under the low, central and high scenarios (£m) over a 15 year appraisal period.			
	Low	Central	High
Present value costs	4.2	4.4	4.6
Present value benefits	5,300	7,800	10,300
Total NPV (£m)	5,300	7,800	10,300

Reduction in services regulatory barriers due to CETA provisions

10.9 The table below shows how the method used by Ciuriak (2018) estimates the reduction in service regulatory barriers from CETA. The author first evaluates how a combined STRI and GTRI index reduces (from column A to column B), in the UK and Canada, specifically due to provisions set out in CETA. The percentage change can be found in column C. Column D sets out the tariff equivalent cost estimated by Fontage et al (2016) as seen in table 12. As set out above the study assumes 25% of these tariff equivalent regulatory trade costs can be addressed by way of a change in policy. The share of service regulatory barriers that can be addressed is set out in column E. In the final step, the author applies the percentage reduction in service regulatory barriers (column C) to the actionable tariff equivalent trade cost (E) to estimate total reduction in regulatory barriers in the service sectors caused by CETA (column F).

Table 12: Reduction in services regulatory barriers						
	A	B	C	D	E	F
	regulatory barriers pre-CETA	regulatory barriers post-CETA	regulatory barriers % Change	AVE (total)	AVE (25% actionable)	CETA policy change %
1) Reduction in the UK						
Construction	0.052	0.052	0.0	44.8	11.2	0.00
Trade	0.005	0.005	0.0	36.0	9.0	0.00
Transport nec	0.082	0.079	-4.5	9.1	2.3	-0.10
Water Transport	0.126	0.103	-18.5	35.4	8.8	-1.63
Air Transport	0.224	0.224	0.0	48.8	12.2	0.00
Communication	0.052	0.052	0.0	19.5	4.9	0.00
Financial Services	0.204	0.174	-14.7	36.0	9.0	-1.32
Insurance	0.145	0.134	-7.5	60.0	15.0	-1.13
Business Services	0.082	0.080	-2.8	19.5	4.9	-0.14
Recreational	0.055	0.044	-19.5	36.0	9.0	-1.76
Other Services	0.046	0.042	-8.1	30.5	7.6	-0.61
2) Reduction in Canada						
Construction	0.160	0.152	-4.8	84.3	21.1	-1.02
Trade	0.041	0.041	0.0	60.5	15.1	0.00
Transport nec	0.089	0.083	-7.4	41.2	10.3	-0.77
Water Transport	0.165	0.148	-10.1	65.8	16.5	-1.67
Air Transport	0.259	0.259	0.0	103.6	25.9	0.00
Communication	0.062	0.059	-4.1	68.0	17.0	-0.70
Financial Services	0.174	0.160	-7.9	74.0	18.5	-1.46
Insurance	0.212	0.203	-4.2	60.7	15.2	-0.63
Business Services	0.088	0.078	-11.0	65.4	16.4	-1.80
Recreational	0.062	0.056	-11.1	60.5	15.1	-1.68
Other Services	0.101	0.067	-33.1	69.2	17.3	-5.72

11 Risks and assumptions

The section below sets out the key modelling assumptions regarding the baseline, exchange rate, competition, employment and the UK's relationship with the EU.

11.1 **Baseline assumptions:** The baseline is founded on the UK economy as it was in 2011 and projected forward to 2030. Ciuriak (2018) uses macroeconomic data from the IMF World Economic Outlook (April 2017) for the period 2011 to 2022, and the CEPII long-term real growth projections (Fouré et al., 2012) from 2023 onwards. This projection estimates UK GDP will be around £2.9 trillion by 2030. The CGE model accounts for the structure of historic trade in goods between the UK and Canada between 2011 and 2016. During this time period, there was a significant growth in UK automotive exports to Canada. The scale of trade gains from CETA will be concentrated in this sector as the underlying trade data shows strong baseline growth in this sector.

11.2 **Full employment:** The CGE model developed by Ciuriak (2018) assumes that all workers in the economy will still be employed after CETA comes into force. A policy change in the model will cause a reallocation of workers across the different sectors of the economy with the most productive sectors gaining workers from the least productive sectors. The analysis conducted by Ciuriak (2018) shows losses in sectors that contract will be offset by a significant expansion in production in other sectors namely, in the automotive sector, financial and business services. This assumption is widely adopted in studies which use a CGE model. In practice, CETA, along with any new FTA, may cause an expansion or contraction of total employment across the economy.

11.3 **Perfect competition market structure**: The CGE model developed by Ciuriak (2018) assumes for a particular sector and region that all firms have the same characteristics and sells the same type of products for the same price. There are no barriers to entry into the market meaning businesses can enter and leave the market with ease, making it a highly competitive market. In practice the structure of markets can vary by sector depending on the barriers to entry and ability for firms to ascertain a large market share. By assuming perfect competition, 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.

11.4 **Trade policy levers and AVEs:** CGE models often require Ad-valorem equivalents (AVEs) to model the resulting trade cost reductions from changes to policy. This is not always representative of the way barriers and tariffs work in practice. For example, a sector may face multiple trade barriers which are both volume and non-volume dependent. Converting trade policy changes on barriers to AVEs can sometimes obscure the impacts of specific trade barriers.

11.5 **Sectoral aggregation:** CGE models often require an aggregation of sub sectors into larger groupings. Depending on the chosen aggregation, this will obscure specific sector impacts as NTBs or tariff changes for sub sectors will be aggregated to a higher level.

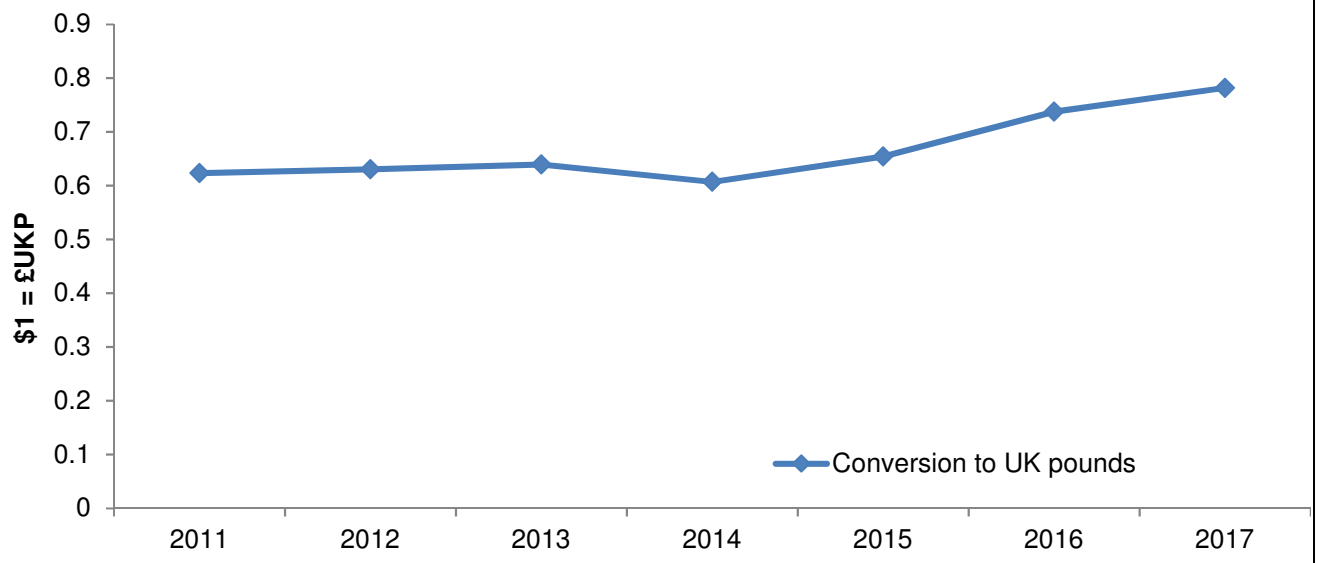
11.6 **The UK and the EU's relationship:** The future trading agreement between the UK and the EU is exogenous and for modelling purposes is assumed to be on the current status quo basis.

11.7 **Dairy Quotas:** The UK utilises the dairy quota allocated to the EU according to the average share the UK exported in cheese to Canada relative to the rest of the EU. The UK in practice could additionally still export cheese to Canada under Canada's WTO dairy quota.

11.8 **Rules of Origin**: The CGE modelling assumes diagonal cumulation of EU content in UK exports to Canada.

11.9 **Exchange rate:** The original data from the GTAP model are in US dollars at 2011 prices. We can estimate the equivalent pound sterling in 2017 prices by first inflating US dollar prices from 2011 to 2017 (about 10%) and then converting to pound sterling by estimating a 2017 exchange rate of 0.782 £/USD. Graph 9 shows the UK pound has weakened relative to the US dollar since 2014.

Graph 9: The exchange rate between the UK pound and US dollar



Source: Ciuriak (2018) 'The Impact of the EU-Canada Comprehensive Economic and Trade Agreement on the UK'.

Annex A: Explanation of the CGE model

a) Models appropriate for assessing the impact of trade agreements

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

- Econometric gravity modelling – This type of modelling is based on the assumption that bilateral trade flows are determined by the economic size of the countries in question and their geographic distance. 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 1960's 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 that 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 knock-on effects for the incomes of workers, firms, and government.

The simulations are performed on a multi-sector, multi-region dynamic computable general equilibrium (CGE) model, which is based on the widely used Global Trade Analysis Project (GTAP) CGE model, modified to incorporate foreign direct investment (FDI) – the GTAP-FDI model.

The analysis covers the CETA commitments on tariffs, cross-border services trade, and Foreign Direct Investment (FDI). The impact on non-tariff measures on goods trade is reviewed but a quantitative impact is not included because (a) CETA is found not to improve upon the goods trade facilitation commitments made by the parties under the World Trade Organization (WTO) Trade Facilitation Agreement (TFA); and (b) the cost savings of CETA's sector-specific facilitation measures in areas such as standards harmonization and mutual recognition of conformity assessment bodies could not be reliably quantified.

This study assumes 25% of the regualtory barriers in the service sectors, based on Ad Valorem Equivalent (AVE) estimates provided by Fontagné, et al. (2016) could be liberalised in principle. Section 10 sets out sensitivity analysis where the GDP impacts are assessed at different levels of actionability at 25%, 50% and 100%. It shows the results range between £730 million and £980 million.

In a number of other areas, CETA measures which aim to facilitate commerce could not be taken into account as the CGE modelling framework and database does not have the necessary structural features – this is the case for the movement of skilled workers (Mode 4), government

procurement, and the complex issues surrounding intellectual property and data flows. In other areas, the empirical basis for translating CETA measures into impacts of costs has not been established – as in the case for e-commerce and non-tariff measures for goods trade. The resulting caveats to the modelling are discussed in the conclusions.

b) CGE estimtions

Through the use of CGE modelling we can understand the how GDP, trade, welfare, domestic production can change from the implementation of a trade agreement. However, these results cannot be added without double counting benefits.

- Real GDP captures the impact of a trade agreement on the quantity of output an economy can produce in the long run. This does not take into account the impact of a trade agreement on the "terms of trade" – that is, on the relative price of a country's exports relative to the price of its imports. In addition, it does not take into account the change a change in consumer prices.
- Consumer welfare is used to assess the impacts on consumers when prices fall due to trade liberalisation. This is measured using a method called "equivalent variation" which looks at how much consumers would need to be paid or compensated to keep them as well off in the absence of the trade agreement.
- UK domestic production, is modelled using two stages to evaluate the efficiency gains from the reallocation of workers and capital (machinery). In the first stage, land, labour and capital substitute for one another to generate domestic value-added by sector. In the second, imported intermediate inputs are substituted in domestic value-added goods.

Each of these can be calculated in a way that is consistent, but cannot be added without double counting benefits.

Annex B: CGE methodology comparison

Table 13 provides a high level comparison of the CGE modelling approach adopted by the study by Ciuriak (2018) and the European Commission (2017).

Table 13: CGE Methodology Comparison		
	Ciuriak (2018)	**European Commission's Economic Impact Assessment (2017)**
Type of CGE model	Dynamic – the model is solved each year Model augmented for FDI	Same method applied Model augmented for FDI based on (Ciuriak & Xiao, 2014)
Baseline	CETA is not in force	CETA is not in force
Base year	The simulations are based on 2011 data in GTAP version 9.	Same method applied
Long run estimates	The modelling results are projected out to 2030	Same method applied to 2030
Scenarios	1. The EU and Canada trade where 98% of tariff lines have been eliminated; reduction in services and FDI regulatory barriers to trade. The UK continues to trade with Canada on similar terms to CETA after EU exit. 2. The EU and Canada trade where 98% of tariff lines have been eliminated, reduction in service and FDI regulatory barriers. After 2 years the UK reverts to trading with Canada under MFN terms. The rest of the EU and Canada continue to trade under CETA terms.	1. The EU and Canada trade where 98% of tariff lines have been eliminated; reduction in service regulatory barriers to trade; FDI regulatory barriers to trade are reduced.
Policy assumptions	• Elimination of 98% of tariff lines • varying percentage reductions in service regulatory barriers, which take into account reduction of uncertainty about future market access due to improved binding of existing market access, compared to WTO commitments under the GATS; • varying percentage reductions in regulatory barriers affecting FDI inflows, which take into account improved bindings compared to GATS commitments for services sectors investment;	• Same assumptions on tariffs; • a 3% symmetric AVE reduction across all services sector regulatory barriers is applied; • FDI impacts do not reflect improvements on bindings.
AVE estimates for service	Central estimates for AVEs by sector are based on Fontagné, et al (2016).	The level of AVE estimates are not taken into account in the 3%

Table 13: CGE Methodology Comparison		
regulatory barriers		symmetric reduction across all services sectors.
Modelling protocols	Different model closures are applied for the labour supply elasticity; the central estimate adopts estimates of the labour supply response such that the growth of labour productivity at the economy-wide level (i.e. real GDP per employed person) rises in line with real wages.	Model closure assumes fixed labour supply; investment responds to changes in expected rates of return based CETA changes by sector

Annex C: Methods of apportioning EU aggregated impacts

The table below shows the UK share of EU exports in goods and services is 19%. This share is used to apportion CETA impacts estimated by the European Commission.

Table 14: Export of goods and service from 2012 to 2016 (€, Millions)						
	2012	**2013**	**2014**	**2015**	**2016**	**Average**
UK Goods	5,315	4,638	4,728	5,257	5,586	
UK Services	5,181	4,586	4,007	4,457	4,199	
UK total	10,496	9,224	8,735	9,714	9,785	9,591
EU28 Goods	31,407	31,591	31,642	35,140	35,187	
EU28 Services	17,486	18,017	16,554	18,024	18,459	
EU28 total	48,893	49,609	48,196	53,164	53,646	50,702
UK share of EU28 exports						**19%**
Source: Eurostat						

Table 17 shows the UK share of GDP across the EU28 is 14% on average between 2012 and 2016. This share is used to apportion CETA impacts estimated by the European Commission.

Table 15: UK and EU28 Gross Domestic Product (GDP) from 2012 to 2016 ($, millions)						
Year	**2012**	**2013**	**2014**	**2015**	**2016**	**Average**
UK	2,387,348	2,502,076	2,630,350	2,720,256	2,796,734	2,607,353
EU	17,800,442	18,462,763	19,097,082	19,765,006	20,309,250	19,086,909
UK share of EU28 GDP	13%	14%	14%	14%	14%	14%
Source: Organisation for Economic Co-operation and Development (OECD) https://data.oecd.org/gdp/gross-domestic-product-gdp.htm						

Annex D: Method description: estimated one-off costs associated with CETA text familiarisation costs

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

1	UK businesses will need to read the following documents: • CETA detailed guidance (206 pages and 41,844 words)[1] • CETA in summary (4 pages, 1,515 words)[2] • Preferential trade deal between EU and Canada (6 pages, 2,139 words)[3] • EU CETA guidance for businesses (40 pages, 12,635 words)[4] • Form "To become registered exporter" (3 pages, 593 words)[5] We assume a business will read the documents stated above which collectively total 259 pages and 58,726 words.
2	Evidence shows the average reading time is 228 words per minute with a range of 30 words either side.[6]
3	Based on the information above, we estimate the following ranges of time it may take a firm to become familiar with the CETA text: a) High scenario: assuming an employee reads 198 words per minute, it will take 4.9 hours to read the collective documents above. b) Central scenario: assuming an employee reads 228 words per minute, it will take 4.3 hours read the collective documents above. c) Low scenario: assuming an employee reads 250 words per minute, it will take 3.8 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. [7]
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 + £2.63).
6	The cost for one business to read the CETA text and guidance is estimated at: a) High scenario: £77.24 (£15.63 x 4.9 reading hours) b) Central scenario: £67.08 (£15.63 x 4.3 reading hours) c) Low scenario: £59.28 (£15.63 x 3.8 reading hours)
7	Businesses may also seek advice from a specialist agent on interpreting the text and implications for their trade. 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 CETA. The same survey provides an average cost of using an agent of £265.[8]
8	Published data shows 11,306 UK businesses exporting to Canada and 8,399 importing from Canada in 2016.[9] From this we assume:

	• The upper bound of firms trading with Canada is 19,705, • 60% of these firms seek advice from specialist agents = £3.1 million (11,823 x £265)
	We assume that 100% of firms use the CETA preferences and therefore incur some familiarisation costs: a) High scenario: £4.7 million [(19,705 x £77.24 cost per firm) + £3.1 million] b) Central scenario: £4.5 million [(19,705 x £67.08 cost per firm)+ £3.1million] c) Low scenario: £4.3 million [(19,705 x £59.28 cost per firm) + £3.1 million]

Sources :

[1] http://data.consilium.europa.eu/doc/document/ST-10973-2016-ADD-6/en/pdf

[2] https://www.gov.uk/government/publications/eu-canada-comprehensive-economic-and-trade-agreement-guidance-for-uk-exporters/eu-canada-comprehensive-economic-and-trade-agreement-guidance-for-uk-exporters

[3] https://www.gov.uk/guidance/preferential-trade-deal-between-eu-and-canada-cip10

[4] http://trade.ec.europa.eu/doclib/docs/2017/september/tradoc_156062.pdf

[5]https ://ec.europa.eu/taxation_customs/sites/taxation/files/canada_application_to_become_registered_exporter.pdf

[6]http ://iovs.arvojournals.org/article.aspx ?articleid=2166061#90715174

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

[8] 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

[8] 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

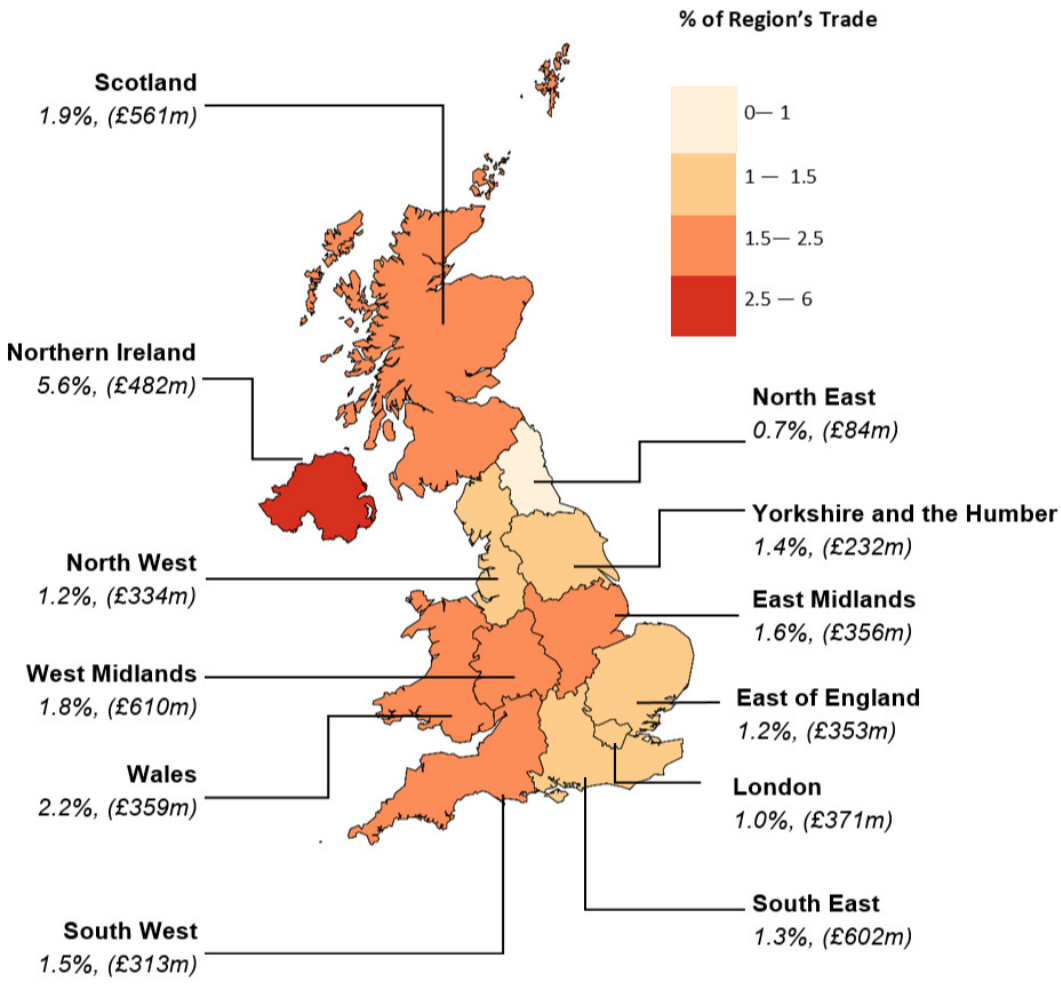
[9] IDBR overseas trade statistics country data tables 2016. https://www.gov.uk/government/statistics/uk-trade-in-goods-by-business-characteristics-2016.

Annex E: Distribution impacts

Section 7 set out an assessment of how CETA could increase UK exports to Canada by around 5.5% or £680 million p.a. in the long run and increase UK imports from Canada by around 5.9% or £1,100 million p.a. in the long run. Whilst the distribution of these impacts will depend on business responses to CETA opportunities, these might be expected to reflect, at least initially the regional variation of UK exports to, and imports from, Canada.

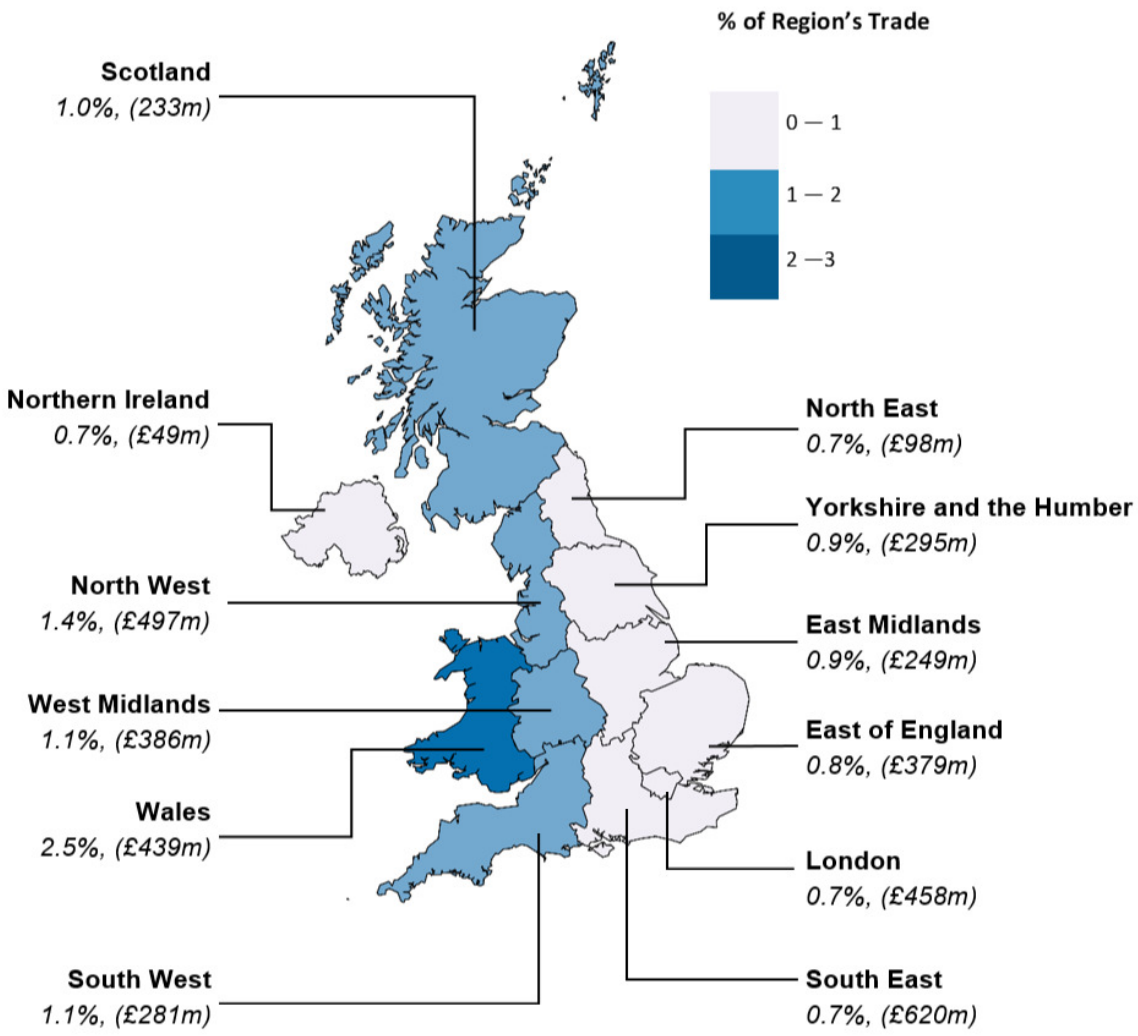
Graph 10 shows that the highest values of exports to Canada in 2017 were from the West Midlands (£610 million) and the South East (£602 million). However, the part of the UK with the highest concentration of goods exported to Canada relative to its exports to the rest of the world was Northern Ireland (5.6%) in 2017. In comparison, Graph 11 shows that the parts of the UK that imported the most from Canada were the South East (£620 million). However, imports from Canada were the most concentrated in Wales and accounted for 2.5% of all its imports.

Graph 10: UK exports of goods to Canada by area in 2017



Source: HMRC, Regional Trade Statistics
Note: The percentage shares represent the value of trade each area exports in goods to Canada compared to the value of trade each area exports to the world.

Graph 11: UK imports of goods from Canada by area in 2017



Source: HMRC, Regional Trade Statistics
Note: The percentage shares represent the value of trade each area imported in goods from Canada compared to the value of trade each area imported from the world.

Annex F: Competition Impact Test

Competition is a core part of the FTA. The chapter on competition recognises the importance of free and undistorted competition to trade relations, and ensures that competition laws in the EU and Canada will be applied so as to prevent the benefits of trade liberalisation being eliminated by anti-competitive business conduct or transactions.

Competition in the EU and Canada is likely to increase as a result of this agreement, as the FTA will remove barriers that currently prevent firms from each side accessing the other's market, hence the total number of firms will increase. This will result in numerous benefits, which include increased innovation, greater efficiency, lower prices and more choice for consumers and businesses within the respective economies. However as already mentioned in the analysis section, not all firms or sectors will benefit from this agreement. Even in sectors where the UK is competitive, weaker firms may suffer from stronger competition from Canada; but the overall impact will be beneficial.