

FOUR EU FREE TRADE AGREEMENTS

Opportunities and Impacts for Ireland

FINAL REPORT

PREPARED FOR THE DEPARTMENT OF ENTERPRISE, TRADE
AND EMPLOYMENT
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EXECUTIVE SUMMARY

The Department of Enterprise, Trade and Employment (DETE) has requested an analysis of the potential economic opportunities and other impacts on Ireland from recent EU Free Trade Agreements (FTAs). The analysis covers a total of four EU FTAs, of which one is already implemented (with South Korea) and three are concluded (with Canada, Japan and Mexico).

In this study, we assess the economic impacts of these FTAs on the Irish economy. Our assessment relies in part on detailed model simulations for the Irish economy using an acknowledged Computable General Equilibrium (CGE) model. We use the CGE model to quantify the expected macroeconomic and sectoral impacts of the FTAs on the Irish economy in 2030. We do so by comparing two future states of the Irish economy: One without the FTAs and one with all FTAs in place and fully implemented.

Aside from the model simulations, we have conducted interviews with a broad range of stakeholders and undertaken a survey of the actual impacts of the EU-South Korea FTA experienced by Irish firms. We combine insights from all sources to qualify our conclusions and to formulate policy recommendations.

It is important to note upfront that the study measures the impacts of the FTAs in terms of the macroeconomic and sectoral opportunities and challenges they provide by increasing market access to FTA partners. In other words, the impacts are to be interpreted in terms of ‘all other things being equal’ (i.e. on a ‘no policy change’ basis). They therefore do not account for strategies that the Enterprise Agencies or Business Representatives or firms may adapt to strategically target the markets opened up under the FTAs, for example, by connecting Irish exporters with local buyers, supporting companies with market research, funding product diversification and innovation, or helping companies to navigate administrative and regulatory requirements in local markets.

In addition, the impacts do not measure sub-sectoral or product shifts in a sector, which may not reveal, for example, moves to higher value-added products. It is also important to highlight that there are other FTA negotiations that the EU is engaged in or have recently completed, for example with Mercosur, Australia, New Zealand, Singapore, Vietnam, Chile, and Indonesia. As such, the study measures the impacts from a selection of EU FTAs and not the totality of opportunities provided by EU trade agreements.

The FTAs will have a positive impact on the Irish economy

Overall, the four EU FTAs will increase trade, firm productivity, GDP and national income in Ireland. Furthermore, real wages are expected to increase due to the FTAs, and the largest increases are found for low income workers. When trade frictions are removed, imports become cheaper to the benefit of consumers and Irish firms with global value chains. The increased market access benefits Irish exporters who can specialise in production, where they have a comparative advantage and

are productive relative to competitors. Labour and capital will tend to relocate towards highly productive sectors, which will have a positive impact on Ireland's productivity and therefore wages paid to Irish workers. As a small open economy with a limited home market, Irish producers will benefit more than producers in large countries who can gain scale in their home markets.

The impact of the FTAs on Irish overall trade depends on whether the increase in Irish trade with a given partner country is new trade (trade creation) or whether it is diverted from other markets (trade diversion). The reduction in trade barriers vis-a-vis the FTA partners make the FTA partners more attractive relative to other trading partners, and Irish exports may be redirected from other destinations to the FTA partners. Redirected exports may be sold at a higher price, which will have a positive impact on the value of trade and GDP but may also leave production largely unchanged. Similarly, the impact depends on the extent to which Irish imports from the FTA partners replace imports from other countries (at a lower price) or from local producers. Finally, the impact of the FTAs will depend on the actual utilisation of the agreements, for example, by companies availing of lower tariff rates.

Generally, we see a strong, positive long run growth trajectory in Irish exports to the four trading partners without the FTAs. We therefore apply quantitative methods to isolate the impact of the FTAs. Overall, we find that the FTAs will impact positively on the Irish economy. We estimate that Irish **GDP will be 2.3 per cent higher in 2030** than would have been the case without the four FTAs in place. The higher GDP is driven by an **increase in global total Irish exports of 3.3 per cent** and an increase in global imports of 3.3 per cent. The FTA with South Korea had already resulted in an increase of **EUR 273 million** in Irish exports to South Korea in 2015. Irish exports to Japan are expected to increase dramatically as a result of the FTA.

The EU Single Market and EU FTAs will cover 62 per cent of global Irish exports

In 2019, total Irish exports amounted to EUR 374 billion¹ of which EUR 118 billion were destined for the EU and EUR 38 billion to the UK. This study covers Irish exports of goods and services to South Korea, Canada, Japan, and Mexico (the four FTA partners), which equalled a total of EUR 20 billion, equivalent to 6 per cent of total Irish exports of goods and service in 2019.² In addition to the four FTA partners analysed in this study, the EU currently has in place 70 trade agreements with third countries.³ Irish exports of goods and services to these 70 countries amounted to an additional EUR 30 billion in 2019 and accounted for 9 per cent of total Irish exports.⁴ The remaining EUR 133 billion exports are destined to other third countries.

Including the four FTAs analysed in this study, EU FTAs and the EU Single Market cover around 62 per cent of current global Irish exports.⁵ Irish exports to the four FTA partners have increased by

¹ The EUR 374 billion includes EUR 21 billion services exports that are not allocated to specific countries, based on data from CSO.

² Excluding unallocated services exports

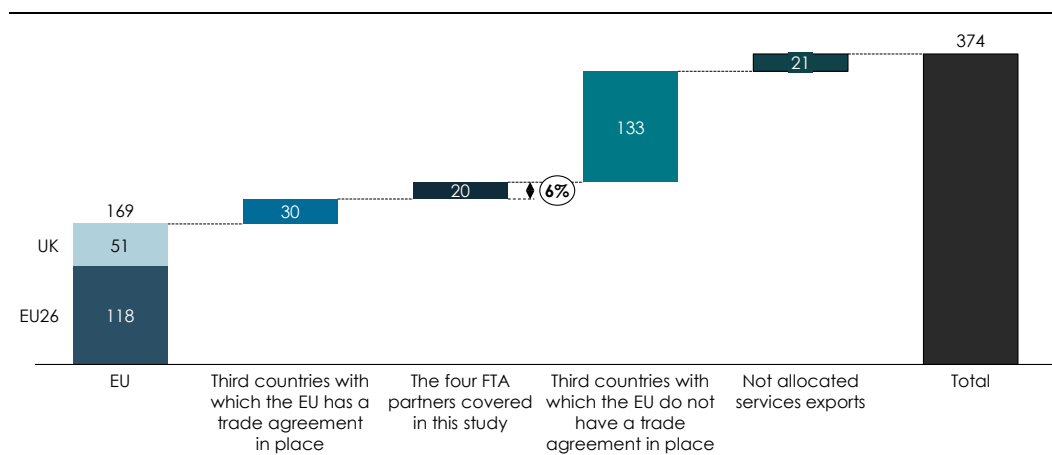
³ European Commission, DG Trade's website. This includes Customs Unions, Association Agreements, Stabilisation Agreements, (Deep and Comprehensive) Free Trade Agreements and Economic Partnership Agreements. These are all agreements that as a minimum remove or reduce tariffs on bilateral trade and includes many smaller states.

⁴ Excluding unallocated services exports

⁵ Based on CSO data from 2019. Excluding unallocated services exports

270 per cent over the period 2010-2019, which is more than total Irish exports which have increased 126 per cent in the same period. As exports tend to grow faster with third countries with whom the EU has an FTA than in general, Irish exports to the FTA countries should be expected to increase further once the four FTAs are fully implemented.

Figure 1
Composition of Ireland's exports of goods and services, 2019
EUR billion



Note: EU26 is EU28 less the UK and Ireland. The four FTA partners in focus in this study include South Korea, Canada, Japan. The third countries that the EU has an agreement with is based on agreements as of 2019.

Source: Copenhagen Economics based on data from the CSO

The US accounts for 61 per cent (EUR 81.8 billion) of Ireland's total exports to third countries with whom the EU currently does not have a trade agreement in place. Goods exports from Ireland to the US have grown by almost 150 per cent from 2013 to 2019, which is more than the general increase in Irish exports and also more than growth in Irish exports to the four FTA countries. An EU-US FTA would still be beneficial to the Irish economy and it is estimated could add up to 1.1 per cent to Ireland's GDP.⁶

Main sectors of opportunities for Ireland

Gains from the EU FTAs are expected to have positive impacts on 5 sectors in Ireland: *Business and ICT services, Chemicals (incl. pharmaceuticals), Electrical machinery, Wholesale and retail, and Other manufacturing*. These sectors account for 89 per cent of the total net increase in output from the FTAs. The sectors are also expected to have large increases in exports, thus showing that the FTAs are opening new market opportunities for Irish firms.

The FTAs reduce trade costs and the positive impact on these sectors not only suggests that Ireland has a comparative advantage in these sectors, but also that these Irish comparative advantages would be inhibited should the FTAs not be implemented. The FTAs enable a more efficient resource allocation that contributes to a higher level of output and income in Ireland, showing that Irish firms are globally competitive and that the opening up of **new business opportunities** is a boon

⁶ See Copenhagen Economics (2015), TTIP impact in Ireland.

to the Irish economy. This is not just true for exporting firms, but also for Irish firms who supply inputs to exporting firms, and for Irish firms who rely on foreign inputs for their production.

Furthermore, the reduction of tariffs, simplified customs procedures and more harmonisation of technical requirements, enhanced market access information will make it easier **for small and medium sized enterprises (SMEs)** to engage in international trade, either directly as traders or as suppliers to other firms. While the benefits of the FTAs accrue to both larger and smaller firms, the latter may see larger relative total cost reductions from the removal of trade barriers, which may enable them to move from supplying the domestic or neighbouring markets to also reach faraway markets to a greater extent than without FTAs.

Main sectors where Ireland should prepare for adjustments

The FTAs open up the EU (and Irish) markets to competition from FTA partners, which means that not every sector in Ireland will be impacted positively, thereby presenting a competitiveness challenge. Irish producers of dairy, financial services, insurance, motor vehicles and parts, other machinery, and other transport equipment may experience increased competition in Ireland and the EU. Taking this competitive challenge to avoid firm or job losses within these sectors could, for example, involve looking for new export markets, cost competitiveness measures or product innovation. Note that impacts are presented as net effects on sectors and do not take account of individual firm level responses.

Policy responses to meet challenges and maximise opportunities from the FTAs

Based on the analysis and engagement with stakeholders, 5 policy areas were identified as important in order to meet challenges and maximise opportunities from the FTAs. The 5 areas were: SME chapters, increased international cooperation by standardising bodies, protection and enforcement of intellectual property rights, protection of geographical indications, and distribution of EU tariff rate quotas (TRQs) for beef and sheep meat.

The policy responses focus on removing or minimising barriers to trade while still protecting intellectual property rights and geographical indicators.

The policy focus in Ireland should be to pursue the export opportunities arising from the FTAs. This can be achieved through policies to raise the awareness and understanding of FTAs, policies to help Irish firms access export markets in the FTA countries and policies to upgrade skills and promote R&D.

2021 update

The main research was undertaken in 2018–2019. In March 2021, we updated the Irish trade figures in the report from 2016 up to and including 2019 (2020 for goods trade). This gave us a chance to look back at the development since the original report. During this period, the Canada FTA (CETA) was provisionally applied in 2017, and the Japan FTA entered into force in 2019. Also, there has been continuous implementation of the EU and South Korea FTA after being provisionally applied in 2011 and formally ratified in 2015. The agreement with Mexico was agreed in principle in

2018 and is in the process of being implemented. None of the FTAs have been fully implemented yet, but the implementation of the FTAs may have affected Irish trade in the years following their respective applications.

Irish exports of goods and services to the FTA partners have increased since the start of their respective implementations, cf. [Figure 2](#). Exports to South Korea already started to increase after the provisional application of the South Korea FTA in 2011. Since the initial implementation of the South Korea FTA, Irish services exports have almost tripled from EUR 655 million in 2014 to EUR 1.8 billion in 2019 (22.8 percent increase p.a.). Goods exports have also increased but peaked in 2016.

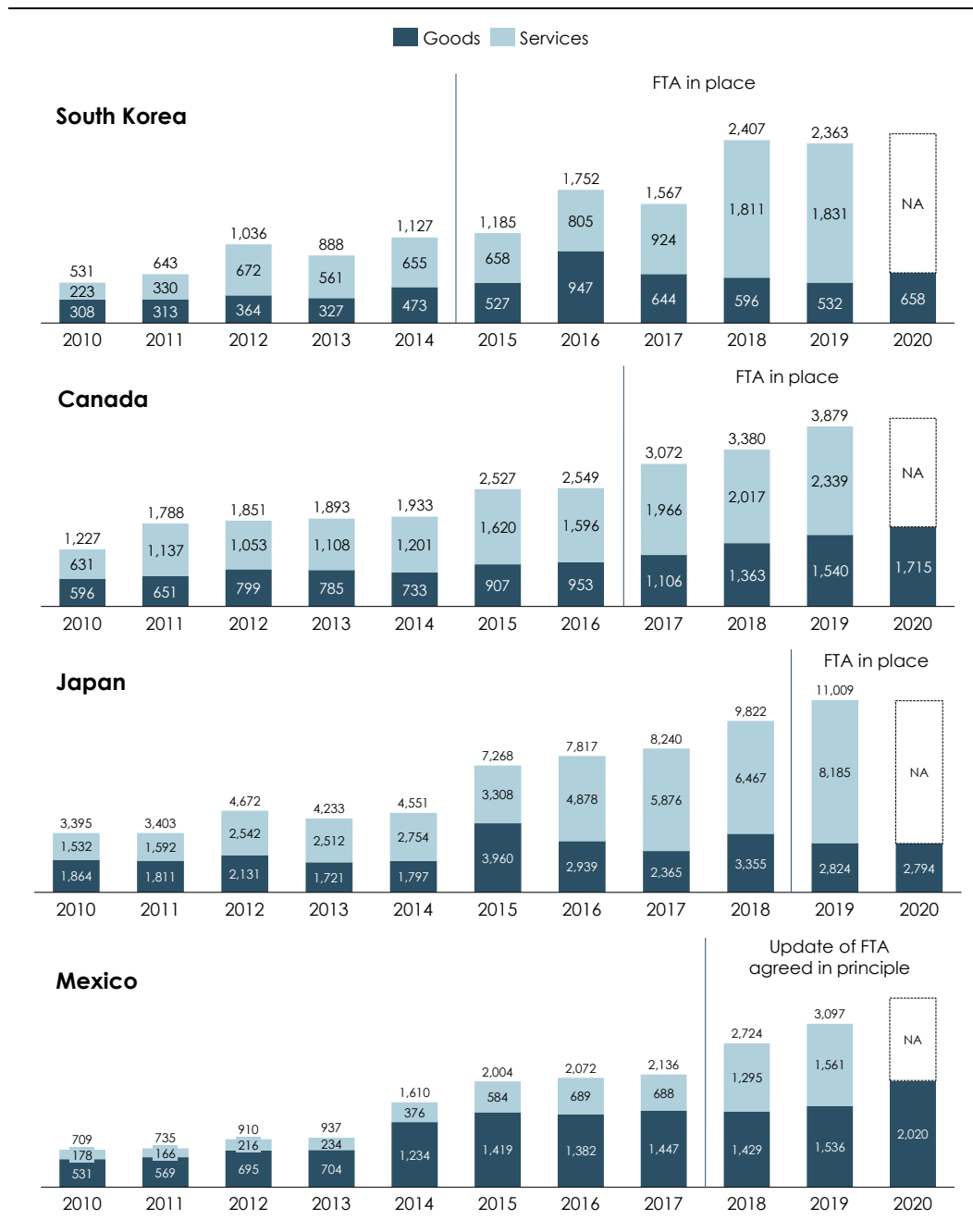
A similar trend is seen for Canada after the provisional application of CETA in 2017. Irish exports have increased for both goods and services: Goods increased from EUR 953 million in 2016 to more than EUR 1.7 billion in 2020 (15.8 per cent increase p.a.), mainly due to increased exports of chemicals.⁷ Services exports grew from EUR 1.6 billion in 2016 to more than EUR 2.3 billion in 2019 (13.6 per cent increase p.a.).

For Irish exports of goods and services to Japan and Mexico, there appears to be an increase in trade after respective implementations, especially for services exports to Mexico that grew from EUR 688 million in 2017 to almost EUR 1.6 billion in 2019 (50.6 per cent increase p.a.).

These export developments indicate that the impacts of the FTAs are starting to show, but Irish goods and services exports to the FTA partners were also increasing before the FTAs. However, a proportion of increased exports are due to the implementation of the FTAs, see for example the results for South Korea in [Figure 11](#) which estimates that Irish exports to South Korea was 31 per cent higher in 2015 than would have been the case without the FTA in place.

⁷ Based on data from Eurostat.

Figure 2 Irish exports to South Korea, Canada, Japan, and Mexico, 2010-2019
 EUR billion, 2019 prices

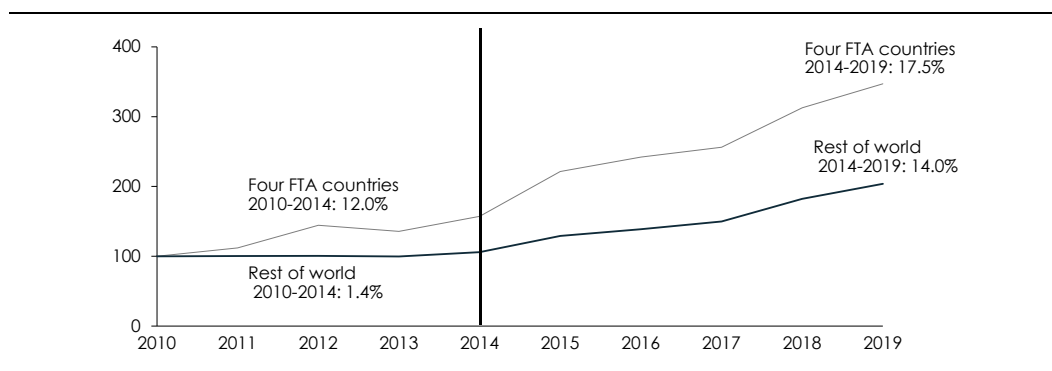


Note: Includes goods and services. Services exports are not available for 2020. There is a small difference in the 2016 numbers from the previous report since the numbers are measured in 2019-prices. The Canada FTA (CETA) was provisionally applied in 2017. The EU-Mexico FTA, was agreed in principle in April 2018 and the EU-Japan FTA was agreed in 2017 and entered into force on 1 February 2019.

Source: Copenhagen Economics based on data from CSO.

In recent years, Irish exports have in general grown, cf. [Figure 3](#). In the past 5 years during which the FTAs started to be implemented at various stages, Irish exports to Canada, Japan and Mexico have grown faster than exports to the rest of the world at around 17.5 per cent per year on average compared to 14.0 percent to the rest of the world. Exports to South Korea grew 19 per cent per year since 2015 and 22.8 per cent per year since 2017. The FTA with South Korea has already contributed to export growth (see [Figure 11](#)) and further opportunities are expected under the FTAs going forward. Although still at an early stage of application, there are indications that a similar development is arising with exports to Canada, with Irish exports increasing by 15 per cent per year since 2016. There are also early indications of export growth in in the case for the Japan FTA and the updated Mexico FTA, for example goods and services exports to Mexico have increased 20 per cent per year since 2017. Overall, export are expected to increase more going forward when the FTAs are fully implemented and the full benefits for exporters and consumers are utilised in the long-run (see Chapters 2 and 3 for further details).

Figure 3
Irish exports of goods and services since 2010
Index, 2010 = 100

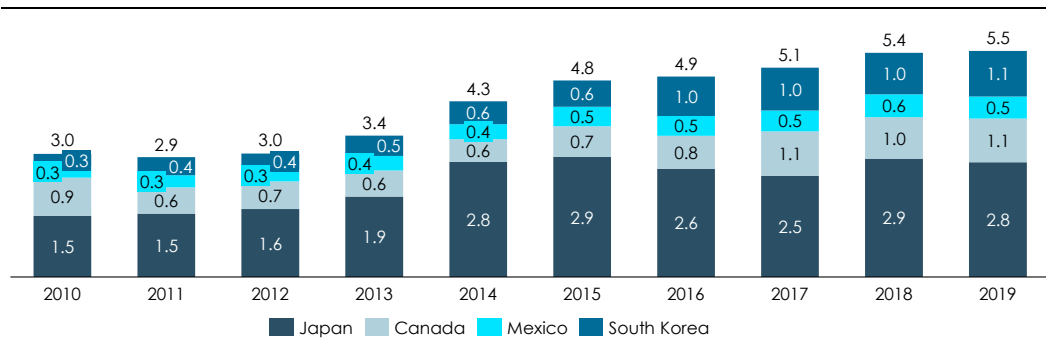


Note: The index is based on exports in 2019 prices. The percentages show the compound annual growth rate (CAGR). The cutoff is set before the implementation of the first FTA in 2015.

Source: Copenhagen Economics based on data from the CSO.

Since 2014, imports from the FTA partners have also increased, although at a lower rate, cf. [Figure 4](#). Imports have increased from EUR 0.6 billion in 2014 to EUR 1.1 billion in 2019 for both South Korea and Canada, whereas imports from Japan and Mexico have remained relatively stable. Similarly to the exports, there are also indications of increasing Irish imports, mainly from South Korea and Canada after the implementations of the respective FTAs.

Figure 4
Irish imports from Japan, Canada, Mexico, and South Korea, 2010-2019
EUR billion, 2019 prices



Note: Includes goods and services. There is a small difference in the 2016 numbers from the previous report since the numbers are measured in 2019-prices.

Source: Copenhagen Economics based on data from CSO.

ACRONYMS AND DEFINITIONS

CAGR	Compound Annual Growth Rate
CGE	Computable General Equilibrium (see Appendix B)
CSO	Central Statistics Office in Ireland
DETE	Department of Enterprise, Trade and Employment
EEA	European Economic Area: The EEA comprises the 28 EU member states, as well as three of the four member states of the EFTA (Iceland, Liechtenstein and Norway). Membership provides for the free movement of persons, goods, services and capital within the European Single Market
EU	European Union
FDI	Foreign Direct Investment (investments with a foreign ownership above 10 per cent)
FTA	Free Trade Agreement: An FTA is an agreement between two or more countries that establishes the free exchange of goods and services among parties. Each party to an FTA retains its own independent trade regime with respect to non-members (unlike the case of a customs union). FTAs are subject to the disciplines and oversight of the WTO
GDP	Gross Domestic Product: The market value of all goods and services produced in a country in a year
GI	Geographical indication (a name or sign used on products which corresponds to a specific geographical location or origin)
GTAP	Global Trade Analysis Project database: Global data base describing bilateral trade patterns, production, consumption and intermediate use of commodities and services
ICT	Information and Communication Technology
MFN	Most Favoured Nation: MFN is the cornerstone of non-discrimination among WTO members. Any favourable treatment provided by a WTO member to any other country must immediately and unconditionally be provided to all other WTO members
M&As	Merger & Acquisition (foreign takeover of a local firm)
NTB	Non-Tariff Barrier (import quotas, subsidies, customs delays, technical barriers or other obstacles to trade besides tariffs)
R&D	Research & Development
SME	Small and Medium-sized Enterprise (10-250 employees)
Tariff	A duty levied on goods entering a new customs area – sometimes referred to as a customs duty
TRQ	Tariff Rate Quota: A quota within which imports enter a market with a tariff advantage. A TRQ is a volume of imports whose tariff is lower than the tariff charged for imports above the quota
UK	United Kingdom
WTO	World Trade Organisation: The WTO is the international organisation dealing with the rules of trade between nations. Its goal is to ensure that trade flows as smoothly, predictably and freely as possible

CHAPTER 1

INTRODUCTION AND BACKGROUND

In this chapter, we provide the background to the study, its purpose and the scope of the impact assessment. We conclude by introducing the approach and method we use in the study.

1.1 PURPOSE AND SCOPE OF THE STUDY

EU trade agreements broaden market opportunities for EU exporters and give EU firms and consumers access to a wider range of products at lower prices. OECD (2018) finds that lower trade barriers are particularly beneficial for smaller economies, because “firms in these economies can better specialise in international production networks as they have access to larger and more differentiated markets and also benefit from enhanced market access on the products they already produce.”

The purpose of this study is to quantify the cumulative impact of EU FTAs on the Irish economy. The FTAs include the 1) EU-South Korea agreement, which is already in force and close to fully implemented, and 2) the EU-Canada, EU-Japan, and EU-Mexico agreements, which are concluded and are in the process of being implemented,⁸ cf. [Figure 5](#).

The EU-Canada FTA (CETA) has been provisionally applied since September 2017. The majority of the provisions in the agreement are therefore in force now, with the exception of a few provisions mainly related to investment.⁹ The EU-Japan FTA (EU-Japan Economic Partnership Agreement) entered into force in February 2019 and tariff reductions on sensitive products are subject to a phasing period of up to seven years.^{10 11} The EU and Mexico reached an agreement in principle on the trade part of a modernised EU-Mexico Global Agreement in April 2018. The new EU-Mexico FTA is in the process of being implemented and will replace a previous agreement between the EU and Mexico from 2000. While the three trade agreements have in principle been concluded, their impacts on Irish trade and GDP largely remain to be seen.





⁸ The EU-Canada FTA provisionally entered into force on the 21 September 2017. Most of the agreement now applies, with the exception of some provisions mainly related to investment (European Parliament website, 2018). The EU-Japan agreement entered into force on 1st February 2019 (European Commission website, 2019) with tariff reductions for sensitive products phased in over 7 years, and the EU-Mexico agreement has not yet entered into force. The EU-Mexico agreement will replace an existing, but less deep, trade agreement between the EU and Mexico from 2000 (European Commission, DG Trade's website).

⁹ European Parliament (2018).

¹⁰ European Commission (2019).

¹¹ European Commission (2019).

Figure 5
Overview of the four EU FTAs analysed in the study

Concluded agreements close to fully implemented	Provisionally applied	Negotiations concluded Agreement yet to be implemented
 EU-South Korea  EU-Japan	 EU-Canada	 EU-Mexico (agreed in principle)

Source: Copenhagen Economics

We quantify the expected combined impact of the four FTAs on:

- Irish trade with each of four FTA partners
- Irish global trade
- GDP and national income
- Real wages across skill groups
- Production and employment across sectors in the Irish economy

Based on the analysis, we identify key sectors that could be significantly impacted both positively and negatively by the FTAs. We then provide recommendations on domestic policies required to maximise gains and mitigate the challenges that can arise from the respective trade agreements.

As none of the FTAs have yet been fully implemented, we quantify impacts for 2030 when all FTAs are expected to be in force and fully implemented. In the case of the EU-South Korea FTA, which entered into force in 2011, we further assess impacts of the agreement since its introduction. In practice, the full benefits of the trade agreements only accrue if the agreements are fully implemented and if companies actually pursue the opportunities created. The European Commission (2017i) highlights that there is a need to increase awareness and transparency on how the Commission implements free trade agreements. In the policy recommendations, we therefore also emphasise the need to raise awareness and understanding of the FTAs within Ireland and the role Irish policy makers can play in the implementation of EU FTAs.

The OECD (2018) also highlights that “while trade integration boosts demand and lifts wages and factor returns, the required production adjustments also leads to reallocation of workers between sectors.” Therefore, the policy recommendations highlight some of the distributional implications of the four FTAs and discuss the need for labour force adjustment policies in Ireland to accompany these new trade openings.

1.2 APPROACH AND METHOD

To assess the combined impact of the four FTAs on the Irish economy, we utilise a Computable General Equilibrium (CGE) model of global trade (see below). The model has been employed in several impact assessments of prospective FTAs by the European Commission. Examples include an

assessment of the impact of a potential EU-US Transatlantic Trade and Investment Partnership (TTIP) and of Brexit on the Irish economy undertaken by Copenhagen Economics.¹²

A key input to the model is the expected reduction in trade costs between the EU and each partner country. This includes both tariffs and so-called non-tariff barriers (e.g. regulatory barriers to trade). With respect to tariffs, we use the actual tariff reductions agreed upon for the EU-South Korea FTA and for all concluded agreements.

The expected reduction in non-tariff barriers (NTBs) is more difficult to quantify due to their intrinsic nature. Trade costs from NTBs arise due to regulatory differences between markets that give rise to additional costs for exporters faced with, for example, different product standards or labelling requirements than on their home market, additional certification and compliance procedures, and so on. The extent to which a given FTA can reduce the costs of NTBs (e.g. by reducing regulatory divergence) is not as easily measurable, in contrast to tariffs, which are generally removed entirely on most products under an FTA. In order to avoid having to make subjective assumptions about the extent to which such barriers can be reduced under each of the FTAs, we instead rely on econometric modelling. By doing so, we can quantify the average magnitude of the NTB reductions obtained in the past under similarly ambitious FTAs across the world, and therefore assume that reductions of a similar size can be reached through new EU FTAs.¹³

In addition to the quantitative modelling of impacts, stakeholder involvement is a key part of the study. We met with numerous Government departments, agencies and business organisations (see Appendix A) to discuss the likely benefits and challenges from the various agreements on Irish businesses and possible domestic policy responses required. Inputs from these stakeholder meetings are invaluable opportunities from which to develop policy recommendations.

Finally, we also undertook a survey of Irish businesses on the impacts of the EU-South Korea FTA since its entry into force. The survey was sent out to Irish businesses across a range of sectors. In total 60 businesses responded to the survey and of these just over half trade with South Korea. We use insights from the survey to qualify and verify the conclusions from the quantitative assessment of the impacts of the agreement.

1.2.1 The Computable General Equilibrium (CGE) model used

We apply a CGE model to analyse both the expected cumulative impact of all four FTAs, as well as the the impacts of the EU-South Korea FTA on Irish trade with South Korea since its entry into force. For all FTAs, we analyse impacts of a decrease in trade costs related to tariffs, regulatory barriers to trade in goods, and barriers to trade in services. The model is a global CGE model, where production and demand are linked across all countries and between sectors, cf. Box 1.¹⁴ Thus, the study focuses on impacts on Ireland but takes underlying impacts on other Member States into consideration. Impacts on Ireland can, however, not be directly transferred to other Member States as the impacts will depend on existing production structures and trade patterns.

¹² Copenhagen Economics (2015) and Copenhagen Economics (2018).

¹³ See the Appendix B for an overview of the methodology used to assess NTB cost reductions.

¹⁴ See Bekkers and Francois (2015) and Bekkers et al. (2017).

Box 1 Non-technical description of the applied CGE model

In the CGE model used, the entire Irish economy is classified into production and consumption sections that are interlinked through local value chains. The Irish economy is also interlinked with other countries through global value chains. By taking all global trade flows into consideration, our CGE model captures the main channels through which EU FTAs may impact the Irish economy (illustrated by the EU-Canada FTA):



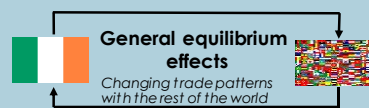
Ireland's bilateral trade with Canada increases as trade barriers are reduced.



EU firms that export to Canada may demand more input from Irish producers (increases exports to the EU), and Irish firms that export to Canada may demand more input from EU producers (increases imports from the EU). Increased Canadian exports to the EU may also compete with Irish exports to the EU (lower Irish exports to the EU).



Lower trade barriers make Canada more attractive relative to other trading partners, though Irish exports may be redirected from other destinations to Canada (at a higher price). Irish imports from Canada may replace imports from other countries (at a lower price).



Lower costs of imported input from Canada and economies of scale make Irish producers more competitive in their global markets (increases global exports), and consumers benefit from lower prices on imports. Higher income due to the FTA increases demand in Ireland (higher imports) and other Member States (higher exports to the EU).

The size of the trade barrier reduction and the responsiveness to changes in trade costs vary across sectors, and the FTAs will change the relative competitiveness and productivity of sectors within the Irish economy. In the short term, higher competitiveness and productivity increase wages. Over time, resources will tend to flow towards the sectors with the highest return, and employment will increase in highly-productive sectors at the expense of labour in less productive sectors. The same will happen with capital and other production factors.

Source: See Appendix B for more details on the applied CGE model

The model includes specificities for the Irish economy. This is, for example, reflected in the sector classifications used, where key Irish agricultural sectors, such as beef and dairy, are treated as separate sectors, cf. Figure 6. In total, the Irish economy is classified into 24 sectors. The sector classification is the same as in the impact assessments of Brexit in Copenhagen Economics (2017) and the Transatlantic Trade and Investment Treaty (TTIP) in Copenhagen Economics (2015), which makes it possible to make direct comparisons of the impacts.

Figure 6
Sector composition used in the study

Agri-food	Manufacturing	Services
<ul style="list-style-type: none"> • Primary production • Beef, sheep and other cattle meat • Dairy • Processed Food 	<ul style="list-style-type: none"> • Energy and petrochemicals • Chemicals (incl. pharma) • Electrical machinery • Other machinery • Motor vehicles and parts • Other transport equipment • Metals and metal products • Wood and paper products • Other manufacturing 	<ul style="list-style-type: none"> • Air transport • Water transport • Other transport • Finance • Insurance • Business and ICT services • Communications • Construction • Personal services • Wholesale and retail trade • Other services

Source: Copenhagen Economics

Below, we explain how the model is used to assess both the expected cumulative impact of all four FTAs, as well as the impact of the EU-South Korea FTA on Irish trade with South Korea.

The expected cumulative impact of all four FTAs

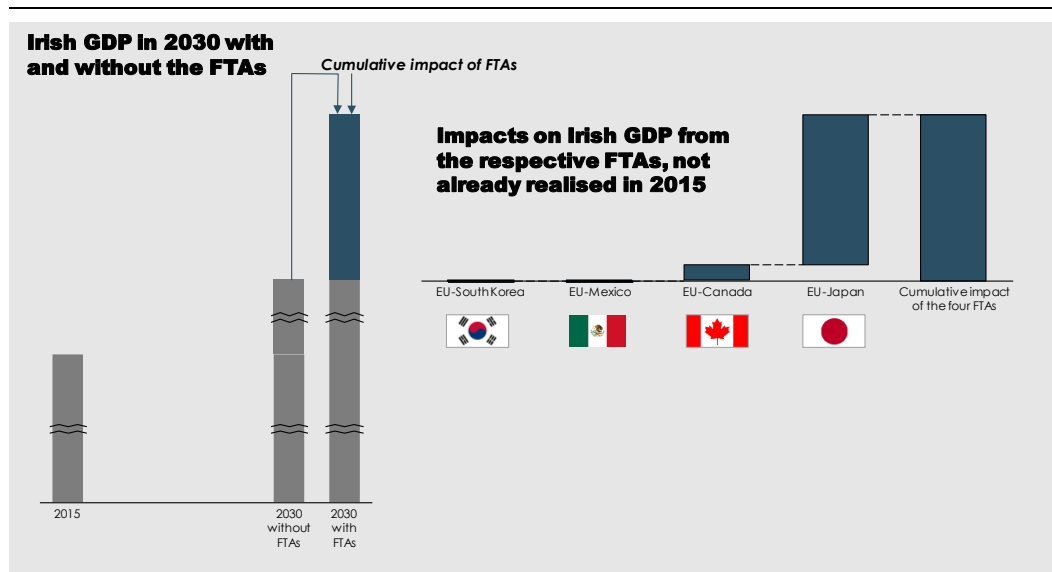
The impacts arising from the four FTAs are modelled as the cumulative impacts that arise when all four FTAs are in force simultaneously. This means that Irish exporters face new business opportunities in four markets at the same time and that they will therefore, all other things being equal, decide to export to the market that offers the highest return relative to other markets. As such, Irish exports will increase more to some markets (e.g. where the FTA offers large trade cost reductions relative to competitors and where demand is increasing) than to others (e.g. where NTBs remain high or markets are too small to deliver economies of scale). Irish exports to some markets may even fall for some products if other markets become much more attractive. Likewise, Irish importers will look for the best combination of price and quality, and so they will increase imports from partner countries where the FTA offers the largest reduction in trade costs relative to other import opportunities.

Exporters and importers throughout the EU will optimise their trade in a similar way, and the cumulative impacts therefore add up all changes in Irish, EU and global value chains once trade patterns have been optimised by all actors. This also implies that the cumulative impact will differ from the impacts that would accrue if we modelled all four FTAs individually and added up the impacts afterwards. This is not the reality facing Irish firms, and we therefore believe that the cumulative impacts give a more precise estimation of the long-term impacts on the Irish economy. In practice, the cumulative impacts are quantified first and decomposed into impacts from the individual agreements. This is shown in the top right-hand corner of [Figure 7](#), where we illustrate how to read the charts throughout this report.

The cumulative impacts of the four FTAs on the Irish economy should be interpreted relative to a baseline scenario for the Irish economy, which reflects the expected development in Irish GDP (and other key economic parameters in the CGE model) from 2015 towards 2030. Within this time period, the impacts of Brexit should also be taken into consideration when assessing the Irish economy in 2030. The anticipated interaction between FTAs and Brexit impacts have been provided for

the Department in separate modelling, therefore, for clarity in this report the modelling only focuses on the four selected FTAs in order to show their specific impacts.¹⁵ We therefore design the baseline for the Irish economy without the four FTAs and without Brexit, and assess the impacts of the FTAs against this baseline, as illustrated in the bottom left-hand corner of Figure 7.

Figure 7
How to read the charts (illustrative figure)



Note: The waves indicate that there is a cut off in the scale because the absolute impact of the four FTAs is small relative to total Irish GDP and would be difficult to read off the chart.

Source: Copenhagen Economics

The cumulative impact of the four FTAs is disaggregated across the individual FTAs. This means that we obtain the contribution from each FTA on the level of Irish GDP etc. conditional on all FTAs being implemented and fully effective by 2030, cf. Figure 7. It is, however, important to note that the impacts of the EU-Mexico and the EU-South Korea FTA in 2030 do not reflect the full impact of these FTAs. In the case of the EU-South Korea FTA, only the impact of trade cost reductions occurring after 2015 is included, i.e. the impacts of the trade cost reduction prior to 2015 are already accounted for in Ireland’s GDP in 2015. Similarly, in the case of the EU-Mexico FTA, which is a modernisation of an existing FTA between the EU and Mexico, only the impact of the additional trade cost reductions induced by the new FTA is included, i.e. the impacts of the trade cost reduction in the FTA are, again, already accounted for in Ireland’s GDP in 2015.

Impacts of the EU-South Korea FTA

The same type of interpretation also applies when we assess the impacts to date of the EU-South Korea FTA on bilateral trade between Ireland and South Korea. To do so we use data from 2015 and estimate the increase in the level of Irish exports and imports to and from South Korea in 2015, rel-

¹⁵ Copenhagen Economics (2019).

ative to a hypothetical situation where no agreement is in place. We then use information on the actual tariffs cuts that have occurred over the period 2011-2015 and the achieved reductions in NTB costs, which we obtain from an econometric model.¹⁶

¹⁶ See Appendix B for details on the NTB estimations.

CHAPTER 2

**THE IMPACT OF THE EU-SOUTH KOREA FTA
ON IRELAND'S TRADE WITH SOUTH KOREA**

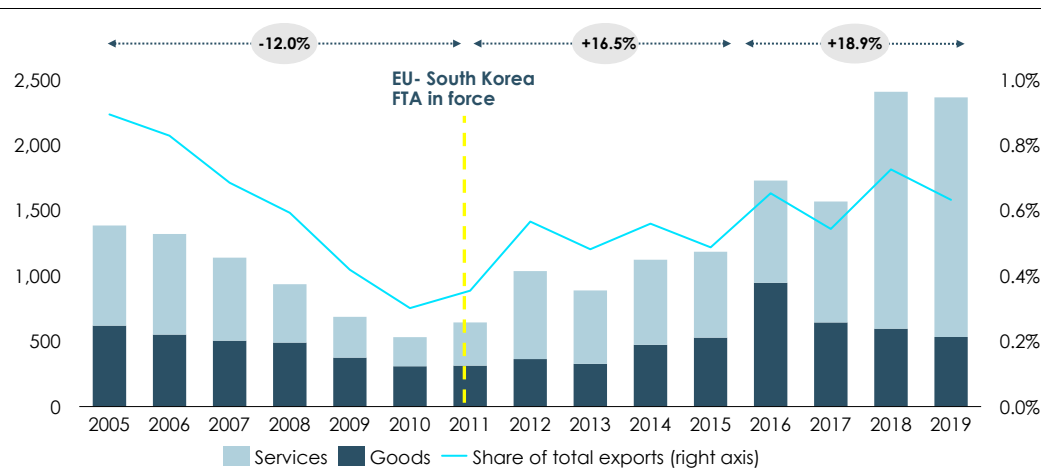
In this chapter, we describe the development in Irish exports and imports of goods and services to and from South Korea and quantify the impact of the EU-South Korea FTA on Irish trade with South Korea. As the EU-South Korea FTA has been in force since 2011, we can assess the impacts of the agreement already attained. We do so by using the latest available data, from 2015. However, as the agreement is not yet fully phased in, we also quantify the expected long-term impacts of the agreement on Irish trade with South Korea in 2030. Finally, we provide a descriptive analysis of the development in Foreign Direct Investment (FDI) between Ireland and South Korea.

2.1 IRELAND'S TRADE WITH SOUTH KOREA

Ireland exported close to EUR 2.4 billion worth of goods and services to South Korea in 2019, equivalent to 0.6 per cent of total exports, cf. [Figure 8](#).¹⁷ Goods exports to South Korea amounted to EUR 530 million in 2019 after a decline from 2016. The main export products are electrical machinery and chemicals & pharmaceuticals. Services exports to South Korea amounted to EUR 1.8 billion and the main exported services are business and ICT services. Furthermore, significant export value is generated in the Irish wholesale and retail sector (including e.g. e-commerce sales).

¹⁷ Based on 2019 data from the CSO.

Figure 8
Irish exports to South Korea, 2005-2019
 EUR million, 2019 prices



Note: Percentages in grey bubbles show the compound annual growth rate (CAGR) within the period indicated.

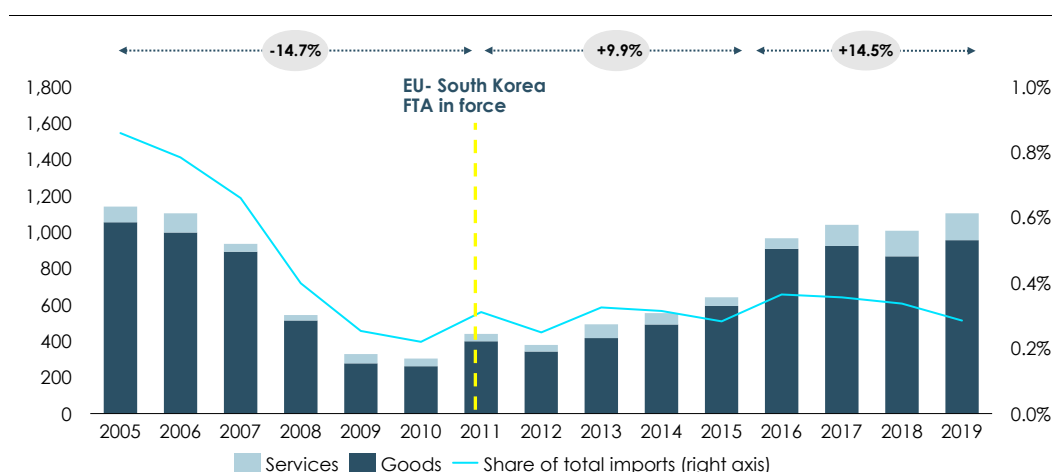
Source: Copenhagen Economics based on data from CSO

Prior to the implementation of the FTA in 2011, Irish exports to South Korea were on a downward trend, with an average annual growth rate of -12 per cent over the period 2005-2010. This negative trend was reversed just prior to the implementation of the agreement, and Irish exports to South Korea grew by an annual average growth rate of just over 16 per cent in the period 2011-2015. This was then followed by a steep increase between 2015 to 2016, and from 2017 to 2018.

Ireland imported close to EUR 1.1 billion worth of goods and services from South Korea in 2019, equivalent to 0.3 per cent of total imports.¹⁸ Around 87 per cent of the total imports from South Korea are goods, particularly, chemicals, transport equipment, and motor vehicles. The development in imports from South Korea follows the same pattern as exports with a downward trend until just prior to the implementation of the agreement but with a more modest increase after the agreement entered into force, cf. [Figure 9](#).

¹⁸ Based on 2019 data from the CSO.

Figure 9
Irish imports from South Korea, 2005-2019
EUR million, 2019 prices



Note: Percentages in grey bubbles indicate the compound annual growth rate (CAGR) within the periods indicated.

Source: Copenhagen Economics based on data from CSO

The development in trade between Ireland and South Korea could be driven by the EU-South Korea FTA, but a range of other factors besides the FTA also influence bilateral trade, e.g. increased demand in South Korea that increases imports. We therefore analyse below the isolated impact of the FTA on trade with South Korea.

2.2 OVERVIEW OF THE EU-SOUTH KOREA FTA

At the time of implementation, the EU-South Korea FTA was the most ambitious trade agreement ever negotiated by the EU and also the EU's only trade deal with an Asian country. The FTA was unprecedented both in terms of the scope as well as the speed with which trade barriers were removed.¹⁹

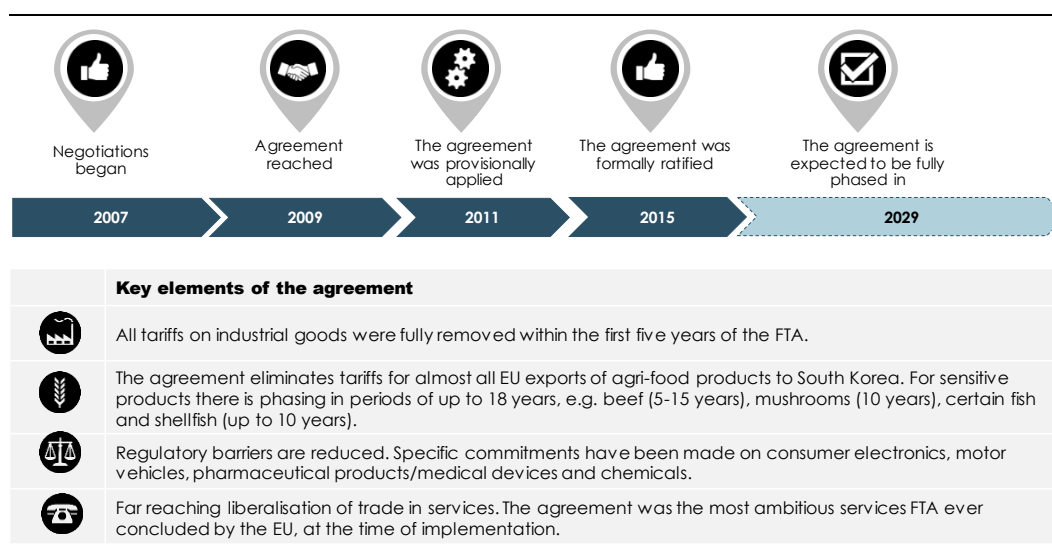
The agreement eliminates duties on almost all products, except for a small share of agri-food products, such as rice, of which the EU has very few exports from South Korea.²⁰ For the majority of products, tariffs were removed immediately when the agreement came into force, and all tariffs on industrial products were removed within five years of the FTA. Tariff cuts on sensitive agricultural products are being phased in over a period of up to 18 years, cf. Figure 10.²¹

¹⁹ European Commission (2011).

²⁰ European Commission (2011).

²¹ In the FTA negotiations, the two partner often agree to designate a set of self-selected tariff lines as 'sensitive'. Tariff on EU exports of ginger and sesame oil to South Korea are removed over 18 equal annual stages, starting in 2011. For other sensitive agricultural products, (e.g. beef) tariff cuts are phased in over a shorter period (European Union, 2011, Annex 2-a).

Figure 10
Key elements and timeline of the EU-South Korea FTA



Source: Copenhagen Economics based on DG Trade (<http://ec.europa.eu/trade/policy/countries-and-regions/countries/south-korea/>), European Commission (2011) and Copenhagen Economics (2016)

The agreement also targets regulatory barriers to trade and makes it easier for EU exporters of goods such as motor vehicles, pharmaceuticals, chemicals, medical devices, and electronics to export their goods to South Korea. For consumer electronics, South Korea will, for example, recognise many European standards and certificates. The latter means that EU exporters of consumer electronics avoid having to undertake duplicative and expensive testing and certification procedures in South Korea in order to sell their products there. The agreement also contains provisions to prevent the emergence of new non-tariff barriers in these sectors.²²

With respect to services, the agreement is ambitious and provides legal certainty that EU services suppliers and investors will not be discriminated against compared to their South Korean competitors. Furthermore, the agreement opens the South Korean services market for EU suppliers in a range of sectors including: Telecommunications, transport, construction, financial, postal and express delivery, professional services, and a large variety of other business services.²³

However, despite the ambitious agreement, trade barriers still exist. This includes the issue of market access for meat products. Currently, Ireland does not have blanket access to the South Korean market for beef and sheep meat, which means that these products cannot currently be exported from Ireland to South Korea. To obtain market access for these products, South Korea must first recognise the Irish system for food safety standards for these products, after which individual plants can apply for clearance to export.²⁴

²² European Commission (2011).

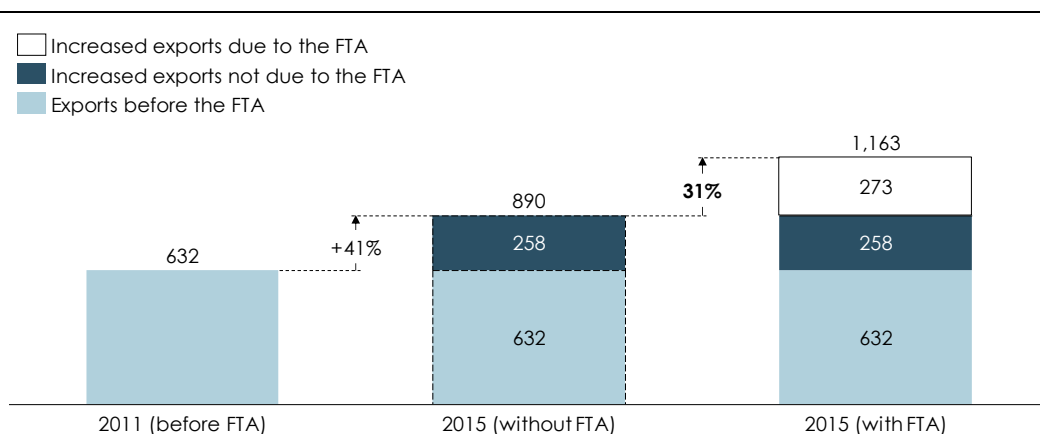
²³ European Commission (2011).

²⁴ See Irish Department of Agriculture, Food and the Marine (2020), page 26 and 56

2.3 REALISED IMPACTS OF THE FTA ON IRELAND-SOUTH KOREA TRADE

Based on our CGE model²⁵, we assess the impact of the EU-South Korea FTA on Irish trade with South Korea. We find that Irish exports to South Korea was 31 per cent higher in 2015 than would have been the case without the FTA in place, cf. [Figure 11](#). This means that a total of EUR 273 million worth of Irish exports to South Korea in 2015 can be attributed to the FTA. This also means that Irish exports to South Korea would only have grown by EUR 258 million over the period 2011 to 2015 in the absence of the FTA (an increase of 41 per cent). The sectors in Ireland that have seen the largest relative increase in exports to South Korea was primary production (e.g. agricultural products), dairy and processed foods.

Figure 11
Impact of the EU-South Korea FTA on Irish exports to South Korea
EUR million, 2015 prices



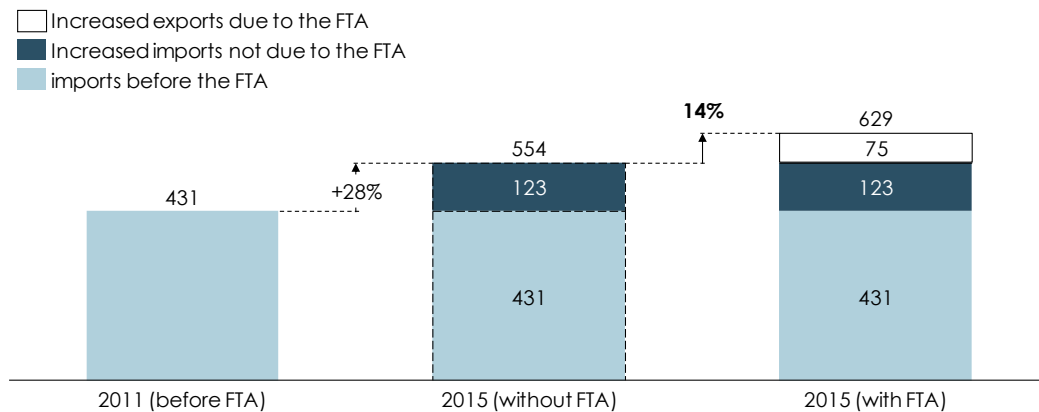
Note: The figure shows Irish exports of goods and services to South Korea in 2011 and 2015, with the share of exports in 2015 that is due to the FTA. There is a small difference in the export numbers relative to previous figures as the numbers in this figure is in 2015-prices.

Source: Copenhagen Economics in cooperation with J. Francois. Data on Irish exports of goods and services is from the CSO

The agreement has also had a positive impact on Irish imports from South Korea. We find that imports are 14 per cent higher in 2015 than they would have been in the absence of the agreement, cf. [Figure 12](#).

²⁵ See Appendix B for details on the methodology.

Figure 12
Impact of the EU-South Korea FTA on Irish imports from South Korea
 EUR million, 2015 prices



Note: The figure shows Irish imports of goods and services from South Korea in 2011 and 2015, with the share of exports in 2015 that is due to the FTA.

Source: Copenhagen Economics in cooperation with J. Francois. Data on Irish imports of goods and services is from the CSO

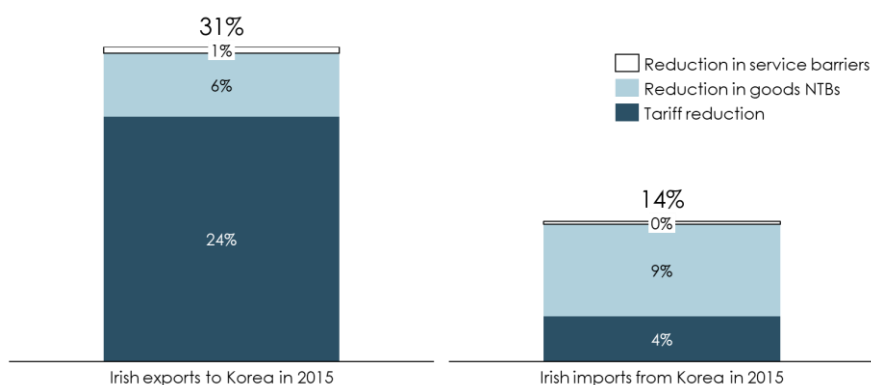
The main driver of the impact of the FTA on Irish exports to South Korea has been the reduction of tariffs, which accounts for over three quarters of the 31 per cent increase in exports in 2015, cf. [Figure 13](#). In contrast, reductions in non-tariff barriers (NTBs) for goods and general barriers for services have so far had a much smaller impact on Irish exports to South Korea. One explanation may be that NTBs are removed at a slower rate than tariff barriers as NTBs require far more regulatory cooperation between partners to achieve lasting effects (which is a key focus of FTA negotiations). It is therefore likely that NTBs will be of greater importance in the future if Irish firms begin to trade more with South Korea.

Contrary to exports, the main driver of increased imports seems, however, to have been the reduction in NTBs for goods, cf. [Figure 13](#).²⁶ The EU-South Korea FTA has specific annexes that tackle differing standards relating to automotive, electronics and pharmaceuticals, and these products account for more than 70 per cent of Irish goods imports from South Korea.²⁷

²⁶ The results are very similar to the equivalent impacts found in the European Commission's assessment of the agreement. They find that Irish exports to South Korea are 34 per cent higher in 2015 due to the agreement, while Irish imports from South Korea are 16 per cent higher in the same year due to the agreement (see Civic Consulting, 2017).

²⁷ See European Commission (2010).

Figure 13
Impact of the EU–South Korea FTA on bilateral trade by source of gain
 % change in the value of Irish exports and imports relative to a no agreement scenario in 2015



Note: The figures show the total change in exports and imports broken down by trade policy instruments. The base year is 2015.

Source: Copenhagen Economics in cooperation with J. Francois

The positive impacts of the FTA on Irish exports to South Korea are also echoed in the responses to the survey we conducted on the impact of the agreement among Irish businesses. In total, nine respondents, out of 48, have indicated that the agreement has had a positive impact on their exports to South Korea, while eight respondents find that the agreement has had a positive impact on the profitability of their company.²⁸ This is not surprising as it emerged several times during our engagement with stakeholders that South Korea is a high-value market. These insights illustrate the important role of FTAs, especially in light of Brexit. Better access to more markets gives exporters better opportunity to target the markets that are most profitable to them.

None of the respondents to the survey indicated that the agreement has had any impact on the level of their imports from South Korea, but six respondents did indicate that the FTA has led to a more level playing field between Irish and South Korean producers. While the sample size is relatively small, the survey provides some interesting qualitative insights from companies.

2.4 LONG-RUN IMPACTS ON IRELAND-SOUTH KOREA TRADE

While the agreement has been in place since 2011, several tariff cuts on sensitive agricultural products are still being phased in. We therefore assess the full impact of the EU-South Korea FTA on Irish trade with South Korea in 2030. As the other three FTAs with Canada, Japan and Mexico are also assumed to be fully implemented by 2030, we assess the impact of the EU-South Korea FTA on Irish trade with South Korea (in 2030) in a scenario where the three other FTAs are also in place.

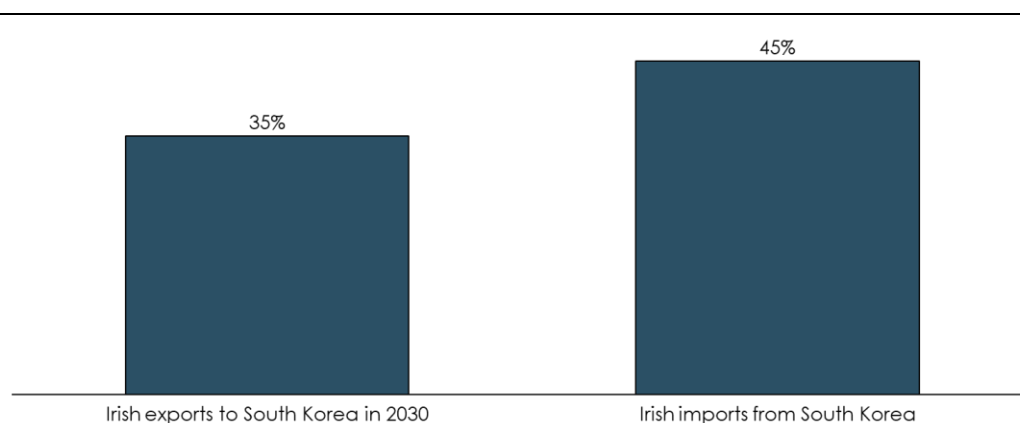
²⁸ Based on the available data, it has not been possible to assess to which extent the FTA has helped existing exporters increase their exports to South Korea or enabled new exporters to enter the market.

The results show that there are significant potential gains still to be reaped from the agreement. In 2030, Irish exports to South Korea are expected to be 35 per cent higher than in the absence of the FTA, while imports are expected to be 45 per cent higher, cf. Figure 14. The full impact includes the impact of trade costs reduced between 2011-2015, in Figure 9, as well as trade cost reductions taking place between 2015-2030.

Figure 14

Impact of the four FTAs on Irish trade with South Korea

% change in the value of Irish exports and imports relative to a no agreement scenario in 2030



Note: The figure shows the expected full impact of EU-South Korea FTA on Irish trade with South Korea in 2030, in a scenario where the other three FTAs are also in place.

Source: Copenhagen Economics based on CGE simulations in cooperation with J. Francois

The survey we conducted also indicates that there is still a potential for reaping further benefits from the EU-South Korea FTA, but that there is a need to increase the awareness of the FTA among Irish businesses. Close to half of the 32 respondents who trade with South Korea indicated that they were not aware of the agreement. The lack of awareness is also a point that emerged on several occasions during our stakeholder meetings. Lack of awareness could indicate that the FTA is not being utilised to its full potential, which points to policy implications around promotion of FTAs.

2.5 FDI BETWEEN IRELAND AND SOUTH KOREA

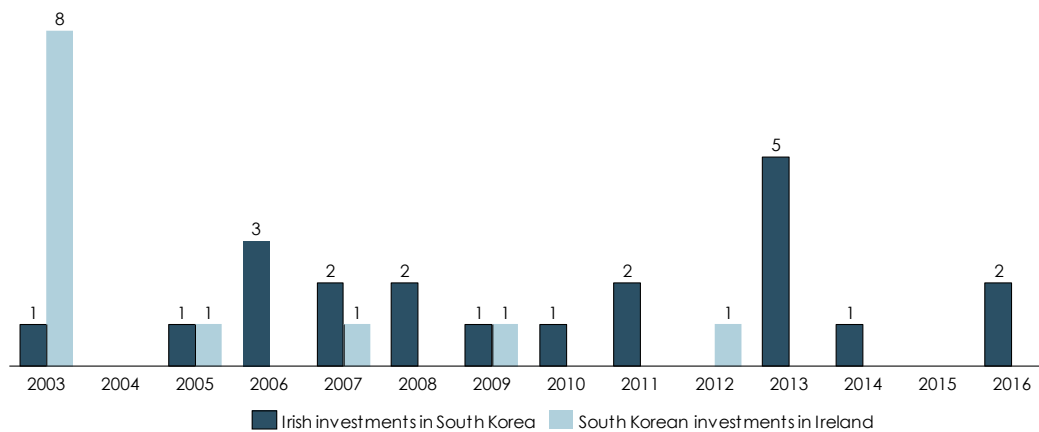
Foreign direct investment (FDI) between Ireland and South Korea is relatively rare. In 2018, the stock of South Korean FDI in Ireland amounted to EUR 570 million, equivalent to 0.06 per cent of the total stock of FDI in Ireland.²⁹

Over the period 2003-2016, 11 out of a total of 15 South Korean investments into Ireland occurred via greenfield investments, which occur when a foreign company starts a new facility abroad rather than acquiring an existing company. The remaining four took place via mergers and acquisitions (M&As), which occur when a foreign company purchases at least 10 per cent of the voting stock in a domestic company. This picture is in sharp contrast to Irish investments into South Korea, where 17 of 18 FDI projects undertaken over the same period were M&As.

²⁹ Based on data from Eurostat.

Over time, there has been little development in South Korean investments into Ireland, whether measured in terms of the number of projects or in terms of the average value of the projects, cf. [Figure 15](#). Over the period 2011-2016, Ireland only received one FDI project from South Korea with an estimated value of EUR 333 million.³⁰ In the years 2017-2018, Ireland received three FDI projects from South Korean firms.³¹ There are no clear indications that the EU-South Korea FTA has led to more investments from South Korea into Ireland – though investments may grow over time. While FTAs may help to open up markets, investment promotion activity still requires strategic targeting of the market, often requiring a physical presence in that market, and it also takes time to develop client relationships as well as tailor marketing and promotion activity to the specific market.

Figure 15
Number of FDI projects between Ireland and South Korea, 2003-2016
Number



Note: The figure shows the number of South Korean FDI projects in Ireland and vice versa over the period 2003-2016.

Source: Copenhagen Economics based on Copenhagen Economics' FDI database

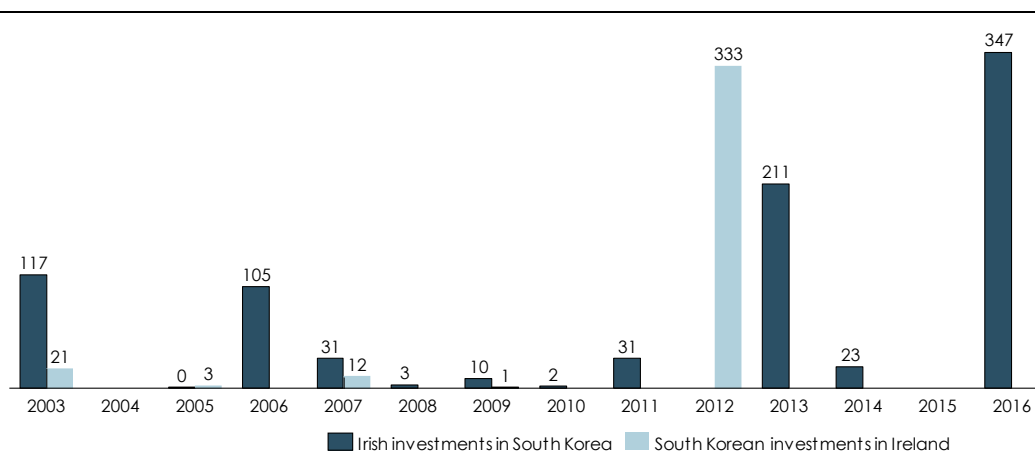
The picture is similar for Irish investments into South Korea. While the number of Irish FDI projects undertaken in South Korea spiked in 2013, the level is still very low, and the data does not indicate any change in the trend of the number of projects from Ireland to South Korea following the EU-South Korea FTA. The average value of Irish projects in South Korea peaked in both 2013 and 2016. In both cases, this is due to one major M&A investment.³²

³⁰ The investment was undertaken by Doosan Infracore Company Ltd.'s, which increased its ownership share of Doosan Holdings Europe from 57 per cent to 78 per cent in 2012.

³¹ The investments in 2017 and 2018 are based on investment data from Orbis Crossborder. Between 2016 and 2017 there is a change in the sources behind these investments, which is why the figure is not updated till 2018.

³² In 2013, Seagate Technology Plc acquired Samsung Electronic's HDD Division with a purchase value of EUR 1 billion. In 2016, the share majority (60 per cent) of Carver Korea Company Ltd was acquired by Bain Capital LLC with a value of EUR 347 million in an institutional buyout.

Figure 16
Average value of FDI projects between Ireland and South Korea, 2003-2016
 EUR million, 2015 prices



Note: The figure shows the average value of South Korean FDI projects in Ireland and vice versa over the period 2003-2016, measured in million EUR, 2015 prices. Hyundai Motors made 8 smaller investments in Ireland in 2003 placed in different cities.

Source: Copenhagen Economics based on Copenhagen Economics' FDI database

2.6 CONCLUDING REMARKS

While South Korea is still a relatively small export market for Irish goods and services, Irish exports to South Korea are 31 per cent higher in 2015 than would have been the case without the FTA in place. The impact is expected to increase further as the FTA becomes fully implemented. The same is true for Irish imports of goods and services from South Korea. Imports from South Korea are 14 per cent higher than would have been the case without the FTA. Whereas the main driver of increased exports seems to have been tariff reductions, whilst regulatory convergence (particularly in automotive, electronics and pharmaceuticals) has been the main driver of increased imports from South Korea. In 2030, Irish exports to South Korea are expected to be 35 per cent higher than in the absence of the FTA, while imports are expected to be 45 per cent higher.

Half of surveyed businesses are not aware of the FTA. Raising the awareness of the FTA among Irish businesses can further help to enhance the impact of the FTA on Irish trade with South Korea.

With respect to FDI, the number and value of South Korean investments in Ireland and vice versa remains very limited and there is no visible indication of the FTA having had an impact on these flows. Impacts on FDI are likely to take more time to materialise as investment promotion activities are required to develop the market and build relationships with new clients. There may also be higher cultural barriers than with other investment partners, for example, the US and Europe.

CHAPTER 3

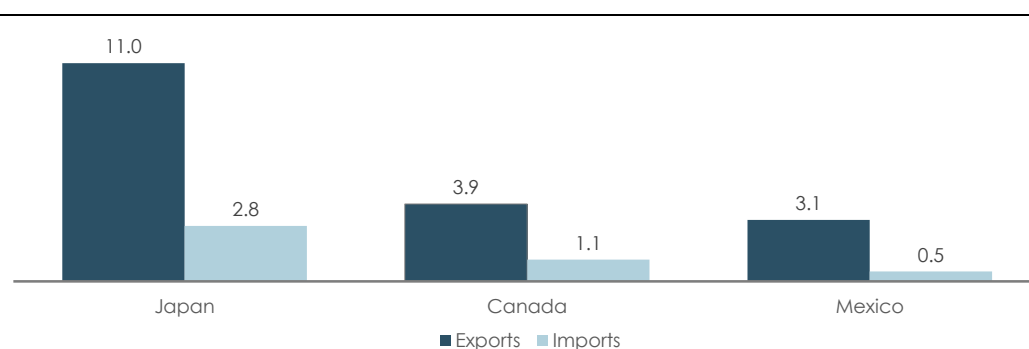
IMPACTS OF EU FTAs ON IRELAND'S TRADE WITH CANADA, JAPAN AND MEXICO

In this chapter, we describe the recently concluded EU FTAs with Canada, Japan and Mexico. We describe the development in Irish exports and imports of goods and services to and from Canada, Japan and Mexico from 2003-2019. We use econometric modelling to quantify the expected impacts of the FTAs on bilateral trade between Ireland and each of the three FTA partner countries in 2030.

3.1 IRELAND'S TRADE WITH CANADA, JAPAN AND MEXICO

In 2019, Ireland exported goods and services for EUR 18 billion to Canada, Japan and Mexico, while total imports from these countries reached EUR 4.2 billion. Japan is by far the largest export and import market, with Irish exports to Japan alone reaching EUR 11 billion in 2019, compared to EUR 3-4 billion for Canada and Mexico, cf. Figure 17.³³ When comparing the Irish exports relative to the GDP in the three countries, the exports to Mexico are larger than for Japan and Canada. The Irish export's share of GDP in Japan and Canada is close to the same.

Figure 17
Irish trade with Canada, Japan and Mexico, 2019
EUR billion



Note: The figure shows Irish exports and imports of goods and services to and from Canada, Japan and Mexico in 2019.

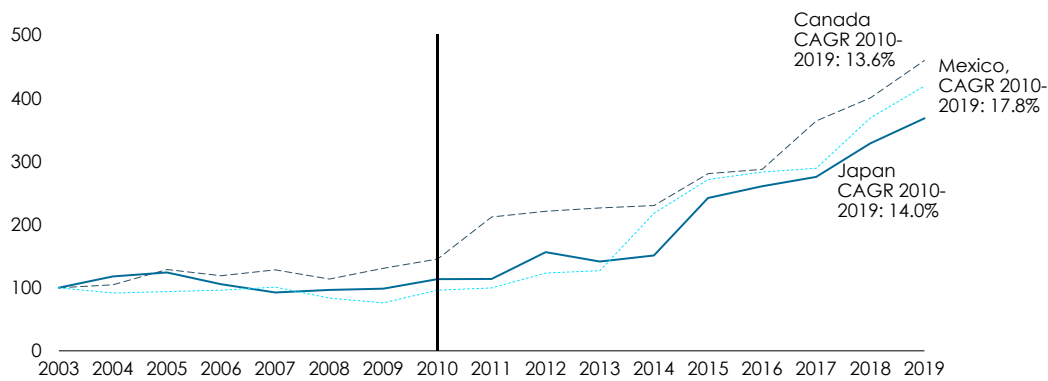
Source: Copenhagen Economics based on data from CSO

Generally, we see a strong, positive long run growth trajectory in Irish exports to the three trading partners regardless of the FTAs. The FTA markets have become increasingly important markets for Ireland, and Irish exports of goods and services to Canada, Mexico and Japan have had a real increase of 8.9 per cent per year since 2003. Irish exports to Canada grew by 5.6 per cent annually over the period 2003 – 2010 on average, and 13.6 per cent annually over the period 2010-2019, cf. Figure 18.

³³ Exports of services account for just over 60 per cent of total Irish exports to Japan and Canada and 34 per cent of total Irish exports to Mexico.

Irish exports to Japan were on an upward trend for most of the period 2003-2019, with a slight dip in 2007 and rapid growth since 2014. On average, the annual growth in Irish exports to Japan was 14.0 per cent over the period 2010-2019. Irish exports to Mexico fell by 0.3 per cent per year from 2003 – 2010, after which they increased by 17.8 per cent per year since 2010, with especially rapid growth since 2013. The Irish exports to Mexico grew 9.4 per cent per year over the period 2003-2019. Based on past developments, growth in the importance of these three markets for Irish exports thus seems likely to continue.

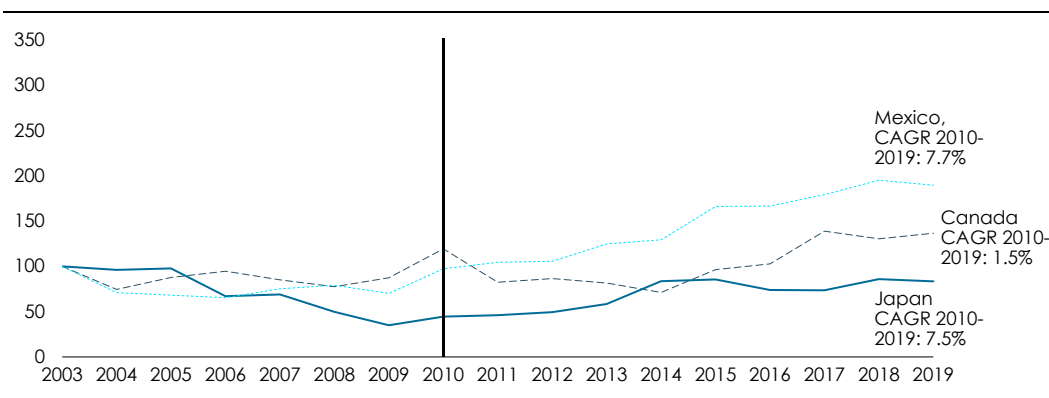
Figure 18
Irish exports of goods and services to Canada, Japan and Mexico, 2003-2019
Index, 2003 = 100



Note: The index is based on exports in 2019 prices. The gap in Irish exports to Mexico in 2005 is due to missing data on Irish service exports to Mexico in that year. CAGR is the Compound Annual Growth Rate.
Source: Copenhagen Economics based on data from the CSO

In terms of imports, the picture is somewhat different. Irish imports from Canada only grew by 2.0 per cent per year between 2003-2019, due to decreases in the period 2010-2014. Irish imports from Japan increased by 7.5 per cent per year over the period 2010-2019, after a decrease of 10.9 per cent per year between 2003-2010. Imports from Mexico however, grew steadily over most of the period, with a total growth on average of 4.1 per cent annually since 2003, and 7.7 per cent per year since 2010, cf. [Figure 19](#).

Figure 19
Irish imports of goods and services from Canada, Japan and Mexico, 2003-2019
 Index, 2003 = 100



Note: The index is based on exports in 2019 prices.

Source: Copenhagen Economics based on data from the CSO

3.2 EU FTAs WITH CANADA, JAPAN AND MEXICO

The EU FTAs with Canada, Japan and Mexico have all recently been concluded and are in varying stages of application and implementation. All three agreements contain ambitious provisions for the reduction in tariff and non-tariff barriers (NTBs). Tariffs on industrial goods and non-sensitive agricultural products will be removed under all three agreements, and NTBs limiting both goods and service trade will be reduced in line with realised NTB reductions achieved by existing deep and comprehensive EU FTAs already in place.³⁴

For sensitive agricultural products, tariffs will, in general, be reduced under all three agreements, and in some cases so-called tariff rate quotas (TRQs) will apply. A TRQ provides access for a limited volume of imports, either duty-free or at a reduced in-quota tariff rate, while additional imports are subject to the higher out-of-quota tariff rate. TRQs apply to several agricultural products, but of particular importance to Ireland is the treatment of beef, sheep and cattle meat.³⁵ We therefore explicitly model TRQs for these products.

Below, we briefly comment on the main aspects of each agreement.

3.2.1 The EU-Canada FTA

The **EU-Canada FTA** contains one of the most comprehensive tariff reduction packages ever achieved in an EU FTA.³⁶ Overall, tariffs will be removed on 98.6 per cent of all Canadian tariff lines

³⁴ Based on information on the depths of existing FTAs across the world, we use a gravity model to estimate the average NTB cost reductions achieved by an average deep FTA already in place. We use this as an estimate of expected NTB cost reductions for the concluded FTAs with Canada, Japan and Mexico. See Appendix B for more details.

³⁵ Agricultural products subject to TRQs vary across the FTAs. In the case of the EU-Canada FTA, this includes for example: Dairy, beef, pork, sweetcorn and common wheat (European Commission, 2016a). In the case of the EU-Japan FTA this includes for example fresh cheese such as Mozzarella, while for example skimmed milk powder and mature and fresh cheeses are subject to TRQs in the EU-Mexico FTA.

³⁶ Unless explicitly mentioned, this section draws on European Commission (2016a) detailing the provisions in the EU-Canada FTA.

and 98.7 per cent of all EU tariff lines.³⁷ While almost all tariffs are removed immediately upon entry into force of the agreement, there is a phase-in period for a limited number of products where tariffs will be eliminated over a period of up to seven years.

Agri-food

The agreement removed or reduced tariffs on almost all agricultural products, except for chicken and turkey meat, eggs and egg products. Canada will eliminate tariffs for 91.7 per cent of agricultural tariff lines, while the EU will eliminate 93.8 per cent of agricultural tariffs by 2024.

With respect to beef, the EU has granted Canada a duty-free TRQ of 45,840 tons (measured in carcass weight equivalent as provided for in Annex 2-A Tariff Elimination of CETA), of which 30,840 tons are fresh beef. In addition, the EU will reduce the in-quota tariff rate on the quota for high quality beef (the so-called Hilton quota), which Canada shares with the US. On the other side, Canada has granted the EU a new bilateral quota of 18,500 tonnes of cheese and eliminated all tariffs on milk proteins.

The FTA also targets NTBs limiting trade in agri-food, particularly those concerning wines and spirits. The FTA, for example, abolishes the Canadian requirement to blend imported bulk spirits with local spirits before bottling, which has been a requirement that has made it impossible for EU makers of products classified as Geographical Indications from labelling them as such.^{38, 39} We estimate that the cost of non-tariff barriers in agri-food, will on average be reduced by 27 per cent in Canada and by 28 per cent in the EU.⁴⁰

Industrial goods

All tariffs on industrial products will be removed by both sides by 2024, of which 99.6 per cent in the case of Canada and 99.4 per cent in the case of the EU were eliminated when the FTA was provisionally applied. The FTA also contains ambitious provisions regarding the reduction of NTBs. An example of this is the provision to improve the recognition of conformity assessment between the EU and Canada, which will help avoid double testing of products in both the EU and in Canada. We estimate that the cost of NTBs for industrial goods will on average be reduced by 8 per cent in Canada and by 1 per cent in the EU.⁴¹

Services

The agreement will also improve access for EU service providers to the Canadian market. Canada has, for example, removed a number of citizenship and residency conditions, that will make it easier for professionals from Ireland such as lawyers, accountants, architects and engineers to practice in Canada.⁴² In addition, the agreement also opens the Canadian market for EU service providers in financial services, postal and courier services, telecommunications, and transport.⁴³ We estimate

³⁷ A tariff line is the product level at which tariff rates are specified.

³⁸ European Commission (2017h).

³⁹ It should be noted that we do not take account of the Canadian supply management system.

⁴⁰ The average NTB cost reductions on the Canadian market (EU market) are weighted by EU exports to Canada (EU imports from Canada).

⁴¹ The average NTB cost reductions on the Canadian market (EU market), are weighted by EU exports to Canada (EU imports from Canada).

⁴² European Commission (2017d).

⁴³ European Commission (2017a).

that the cost of service barriers will on average be reduced by 10 per cent in Canada and by 4 per cent in the EU.⁴⁴

3.2.2 The EU-Japan FTA

The **EU-Japan FTA** was agreed in 2017 and entered into force on 1 February 2019.⁴⁵

Agri-food

Japan will remove tariffs on 85 per cent of tariff lines in the agri-food sector. The remaining tariff lines will be liberalised via tariff reductions or subject to TRQs. The Japanese tariff on import of beef from the EU will, for example, be reduced from the current rate of 38.5 per cent to 9 per cent with an initial cut bringing the tariff down to 27.5 per cent. Japan will, however, have a so-called safeguard option of increasing tariffs again, if imports exceed a given amount, which increases over time (43,500 metric tonnes in the first year).⁴⁶ This is designed to avoid sudden market disruption while liberalising over time.

The agreement will also reduce the cost of NTBs in this sector, including sanitary and phytosanitary measures to protect humans, animals, and plants from diseases, pests or contaminants. The FTA will, for example, create a more predictable regulatory environment for EU agri-food products exported to Japan, and the EU and Japan have agreed to simplify approval and clearance processes to ensure that import procedures can be completed without unnecessary delays. We estimate that the cost of non-tariff barriers in agri-food will on average be reduced by 26 per cent in Japan and by 22 per cent in the EU.⁴⁷

Industrial goods

Under the agreement, all tariffs on industrial goods will be eliminated. The agreement also contains a number of provisions to reduce the cost of non-tariff barriers for trade in goods. This includes the use of international standards to the greatest possible extent. We estimate that the cost of non-tariff barriers for manufactured goods will on average be reduced by 8 per cent in Japan and 7 per cent in the EU.⁴⁸

Services

Barriers to service trade will also be reduced and make it easier for Irish service firms to sell their services in Japan (especially business services, telecoms, and financial services among others).⁴⁹ We estimate that the cost of service barriers will on average be reduced by 4 per cent in Japan and 3 per cent in the EU.⁵⁰

⁴⁴ The average reductions in service barriers on the Canadian market (EU market), are weighted by EU exports to Canada (EU imports from Canada).

⁴⁵ Unless explicitly mentioned, this section draws on European Commission (2018a) detailing the provisions in the EU-Japan FTA.

⁴⁶ European Commission (2018c).

⁴⁷ The average NTB cost reductions on the Japanese market (EU market), are weighted by EU exports to Japan (EU imports from Japan).

⁴⁸ The average NTB cost reductions on the Japanese market (EU market), are weighted by EU exports to Japan (EU imports from Japan).

⁴⁹ European Commission (2018b).

⁵⁰ The average reductions in service barriers on the Japanese market (EU market) are weighted by EU exports to Japan (EU imports from Japan).

3.2.3 The EU-Mexico FTA

The **EU-Mexico FTA** was agreed in principle in April 2018 and will replace a previous agreement between the EU and Mexico originally agreed in 2000.⁵¹

Agri-food

The new agreement will target remaining tariffs in agriculture, and fully remove tariffs on more than 85 per cent of tariff lines in agriculture and fisheries not previously liberalised. Partial liberalisation via tariff reductions and TRQs apply to the remaining products with the only exception being the sugar sector, which is excluded from the agreement.

In relation to beef, the EU has granted Mexico a TRQ of 10,000 tons carcass weight equivalent and a beef offal TRQ of 10,000 tons carcass weight equivalent. For both TRQs, an in-quota tariff of 7.5 per cent will be phased-in over 5 years. We estimate that the cost of non-tariff barriers in agri-food, will on average be reduced by 21 per cent in Mexico and by 26 per cent in the EU.⁵²

Industrial goods

As all tariffs on industrial goods have already been eliminated by the previous agreement, the benefits from this agreement for trade in industrial goods lie in the reduction of NTBs, which under the previous agreement has been very limited. In contrast, the new agreement contains a number of sector specific commitments in, e.g., pharmaceuticals, where both parties will cooperate on the adoption of international standards. We estimate that the cost of NTBs for industrial goods will on average be reduced by 6 per cent in both Mexico and the EU.⁵³

Services

The agreement also targets barriers to service trade across different sectors (delivery services, telecommunications, maritime transport services etc.) and will make it easier for EU firms to provide services on the Mexican market. We estimate that the cost of service barriers will on average be reduced by 7 per cent in Mexico and 4 per cent in the EU.⁵⁴ [Figure 20](#) summarises the modelled elements in each agreement.




⁵¹ European Commission, DG Trade's webpage. Unless explicitly mentioned, this section draws on European Commission (2018) detailing the provisions in the modernised EU-Mexico FTA.

⁵² The average NTB cost reductions on the Mexican market (EU market), are weighted by EU exports to Mexico (EU imports from Mexico).

⁵³ The average NTB cost reductions on the Mexican market (EU market) are weighted by EU exports to Mexico (EU imports from Mexico).

⁵⁴ The average reductions in service barriers on the Mexican market (EU market) are weighted by EU exports to Mexico (EU imports from Mexico).

Figure 20
Overview of the elements in each FTA that have been modelled




 EU-CANADA	 EU-Japan	 EU-Mexico
<p>Agri-food Canada will eliminate tariffs for 91.7% of agricultural tariff lines and the EU will eliminate 93.8% of agricultural tariffs.</p> <p>EU will grant duty-free access for an additional 45,838 tons (carcass weight equivalent) of Canadian beef.</p> <p>The EU in-quota duty for existing Hilton beef quotas (shared between Canada and the US) will be brought to zero for Canada.</p> <p>No change in TRQs for EU beef into Canada.</p> <p>On average, the cost of NTBs will be reduced by 27% cent in Canada and by 28% in the EU.</p> <p>Industrial goods All tariffs on industrial goods will be fully removed.</p> <p>On average, the cost of NTBs will be reduced by 8% in Canada and by 1% in the EU.</p> <p>Services On average, the cost of service barriers will be reduced by 10% in Canada and by 4% in the EU.</p>	<p>Agri-food Japan will furthermore eliminate tariffs on 85% of agricultural tariff lines.</p> <p>Japanese tariffs on EU beef will be reduced from 38.5% to 9% with an initial cut bringing the tariff down to 27.5%, but with a safeguard option of increasing tariffs if imports exceed a given amount, which increases over time (43,500 metric tonnes in the first year).</p> <p>There will be no change in TRQs for Japanese beef into the EU.</p> <p>On average, the cost of NTBs will be reduced by 26% in Japan and by 22% in the EU.</p> <p>Industrial goods All tariffs on industrial goods will be fully removed.</p> <p>On average, the cost of NTBs will be reduced by 8% in Japan and by 7% in the EU.</p> <p>Services On average, the cost of service barriers will be reduced by 4% in Japan and by 3% in the EU.</p>	<p>Agri-food The new agreement will liberalise more than 85% of tariff lines in agriculture and fisheries, not previously liberalised.</p> <p>EU will grant Mexico a beef TRQ of 10,000 tons carcass weight equivalent and a beef offal TRQ of 10,000 tons carcass weight equivalent with 7.5% duty phased in over 5 years.</p> <p>There will be no change in TRQs for EU beef in Mexico.</p> <p>On average, the cost of NTBs will be reduced by 21% in Mexico and by 26% in the EU.</p> <p>Industrial goods All tariffs on industrial goods were eliminated by the previous agreement.</p> <p>On average, the cost of NTBs will be reduced by 6% in Mexico and in the EU.</p> <p>Services The cost of regulatory barriers and other non-tariff barriers will on average be reduced by 7% in Mexico and by 4% in the EU.</p>

Note: The average reductions in the cost of non-tariff barriers is based on econometric modelling by J. Francois and weighted by EU trade in each sector with each FTA partner.

Source: Copenhagen Economics based on the sources referred to in the text

In the absence of the FTAs, EU exports face tariffs according to these countries' tariff schedules towards third countries (so-called Most Favoured Nation or MFN tariffs). Historically, tariffs have been high on the Japanese market, especially for agri-food products. Average tariffs on Irish exports of primary products to Japan are thus close to 53 per cent, while average tariffs on beef, sheep and cattle meat are 32 per cent, cf. [Table 1](#). Irish exporters of agri-food products also face high tariffs on the Mexican market. This is especially so for dairy products, which face average tariffs of close to 20 per cent and beef, sheep and cattle meat, where tariffs are close to 14 per cent. The future tariff reductions under each of these agreements are thus expected to provide Irish exporters of agri-food products with a relatively large competitive advantage vis-à-vis exporters from third countries that are not eligible for preferential access to these markets. In comparison, average MFN tariffs on the Canadian market are much smaller and the gains of tariff reductions for Irish exporters are therefore expected to be smaller than in the case of the EU-Japan and EU-Mexico FTAs.

Table 1
Tariffs on Irish exports to Canada, Japan and Mexico – six sectors with the highest tariffs before the FTAs

 CANADA		 JAPAN		 MEXICO	
Sector	Average tariffs	Sector	Average tariffs	Sector	Average tariffs
Other transport equipment	4.8%	Primary production	52.5%	Dairy	19.4%
Dairy	3.0%	Beef, sheep and other cattle meat	31.9%	Beef, sheep and cattle meat	13.8%
Motor vehicles and parts	2.5%	Dairy	30.5%	Processed foods	5.0%
Processed foods	1.4%	Processed foods	6.4%	Primary production	2.0%
Metals and metal products	0.7%	Chemicals (incl. pharma)	1.7%		
Wood and paper products	0.4%	Energy and petrochemicals	1.5%		
All 13 goods sectors	0.3%	All 13 goods sectors	1.4%	All 13 goods sectors	0.30%

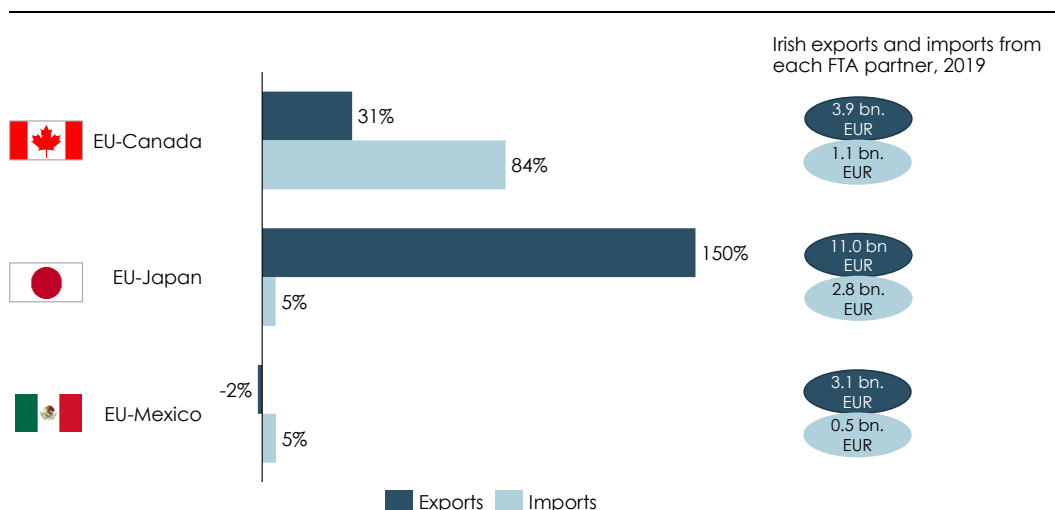
Note: The table shows Canada's and Japan's average weighted MFN tariff rates in each sector. Average tariffs are weighted by Irish exports. In the case of Mexico, the tariffs shown are those that currently apply to EU exports (under the previous EU-Mexico FTA) weighted by Irish exports. Tariffs on EU exports of industrial goods to Mexico has already been eliminated by the previous EU-Mexico FTA and are therefore not shown in the figure.

Source: Copenhagen Economics in cooperation with J. Francois based on data from GTAP, Eurostat, UNCTAD and WTO

3.3 IMPACTS OF THE FTAs ON IRISH TRADE WITH CANADA, JAPAN AND MEXICO

The FTAs are expected to increase Irish trade with both Canada and Japan, cf. [Figure 21](#). Irish exports to **Canada** are expected to be 31 per cent higher than the baseline level in 2030 as a result of the FTAs, while Irish imports from Canada are expected to be 84 per cent higher relative to a low current import level of EUR 1.1 billion. The EU-Japan FTA promises large gains to Ireland, and Irish exports to **Japan** are expected to increase by 150 per cent, while imports are expected to increase by 5 per cent. The modernised FTA with **Mexico** is expected to have a minor positive impact on Ireland's imports from Mexico and a small negative impact on exports. The negative impact is driven by a redirection of exports away from Mexico, as concluded FTAs open markets that are more attractive than the Mexican, such as the Japanese (see [Box 1](#) for a more detailed explanation of the trade diversion mechanism in the applied CGE model).

Figure 21
Expected impacts of the FTAs on Irish trade with Canada, Japan and Mexico
 Per cent change from baseline in 2030



Note: The figure shows the expected impact of the FTAs on Irish exports and imports of goods and services to and from Canada, Japan and Mexico in 2030. Irish exports and imports of goods and services from each of three FTA partners in 2019 are shown in the dark and light blue ovals on the right-hand side of the figure.

Source: Copenhagen Economics based on CGE simulations in cooperation with J. Francois

In the case of **Canada**, the underlying results show that exports are expected to increase across all sectors. The main driver of the overall impact is, however, increases in Irish exports to Canada of products and services in the following sectors, in order of importance:

- *Chemicals (incl. pharmaceuticals)*, which accounts for 30 per cent of current Irish exports to Canada.⁵⁵ Under the FTA Irish exports in this sector to Canada are expected to increase by just over 20 per cent, relative to the 2030 baseline level.
- *Business and ICT services*, which currently accounts for almost half of Irish exports to Canada. The FTA is expected to increase exports by just over 7 per cent, relative to the 2030 baseline level, which translates into a large absolute impact due to the size of exports to Canada in this sector.
- *Processed food*, which also includes alcohol and spirits. While tariffs will be almost eliminated for products in this sector, current weighted average tariffs facing Irish exports of products in the sector to Canada are relatively low at 1.5 per cent. The cost of NTBs are however estimated to be equivalent to a tariff rate of over 100 per cent but are expected to be reduced by approximately 18 percentage points under the FTA. The changes in trade costs are expected to increase exports by 56 per cent, relative to the 2030 baseline level.
- *Other manufacturing*, which includes exports of products such as textiles, apparel, leather products, furniture, manufacturing of certain technical and laboratory equipment, and recycling and processing of certain products (metals, plastics and chemicals) into raw mate-

⁵⁵ Based on GTAP data from 2015.

rial. Currently Irish exports of products from this sector accounts for 4 per cent of Irish exports to Canada.⁵⁶ Irish exports to Canada within this sector consists mainly of woven fabrics, glass, alloys and knitted apparel.⁵⁷ Current weighted average tariffs facing Irish exports of products in the sector to Canada are very low at 0.25 per cent. The cost of NTBs are estimated to be equivalent to a 20 per cent tariff and are expected to be reduced by approximately 5 percentage points under the FTA. The changes in trade costs are expected to increase exports by more than 300 per cent, relative to the 2030 baseline level.

- *Other machinery*, which includes manufacturing of, e.g., medical, precision and optical instruments. Current Irish exports to Canada within this sector consists mainly of medical instruments and appliances, cranes and syringes amongst others.⁵⁸ While the sector currently accounts for 1 per cent of Irish exports to Canada⁵⁹, the FTA is expected to increase exports by more than 400 per cent, relative to the 2030 baseline level.

In combination, increases in exports in these five sectors account for 86 per cent of the total increase in Irish exports to Canada resulting from the FTA.

Irish imports from Canada are also expected to increase in all sectors, except for business and ICT services and wholesale and retail trade, where imports are expected to fall by 3.4 and 0.6 per cent respectively. The positive impact on Irish trade with Canada is also in line with the expectations voiced in our stakeholder meetings, where the English language and a relatively large Irish diaspora in Canada were pointed to as important factors promoting Irish firms' ability to enter the Canadian market and take advantage of the FTA. There was also a general belief that Irish firms have a relatively high awareness of the EU-Canada FTA and that Irish firms have increased their interest in the Canadian market as a result of the FTA.

In the case of **Japan**, Irish exports are expected to be 150 per cent higher in 2030 due to the FTA, while imports are expected to increase only by 5 per cent. The underlying results show that Irish exports to Japan are expected to increase in all sectors. Two-thirds of the increase is found in exports of products in the sector *other manufacturing*, which currently accounts for 9 per cent⁶⁰ of Irish exports to Japan. Irish exports to Japan within this sector currently include exports of apparel and textiles, dental equipment and equipment for chemical and technical use⁶¹ (the sector also includes technical and laboratory equipment as well as medical and dental instruments and equipment). With the FTA in place, exports are expected to increase by more than 1,500 per cent to Japan, relative to the 2030 baseline level. However, the large relative increase must be seen in the light of it being from a small base export (approximately EUR 26 million in Irish exports to Japan in 2016). The sector is relatively small as it accounts for 2.4 per cent of total output in the Irish economy. While an FTA will eliminate tariffs on Irish exports of products from this sector to Japan, current tariffs are already very low (weighted average of 0.13 per cent). The cost of NTBs are however estimated to be equivalent to a tariff of 21 per cent and are expected to be reduced by almost 15 percentage points. The main reduction in trade costs will thus arise from reduced NTBs.

⁵⁶ Based on GTAP data from 2015.

⁵⁷ Based on Eurostat data from 2016.

⁵⁸ Based on Eurostat data from 2016.

⁵⁹ Based on GTAP data from 2015.

⁶⁰ Based on GTAP data for 2015.

⁶¹ Based on Eurostat data for 2016.

Other sectors that account for a sizeable share of the overall impact includes:

- *Chemicals (incl. pharmaceuticals)*, which currently accounts for the single largest share of Irish exports to Japan (31 per cent).⁶² The FTA is expected to increase Irish exports to Japan in this sector by close to 37 per cent, relative to the 2030 baseline level.
- *Business and ICT services*, which currently accounts for 23 per cent of Irish exports to Japan and which are expected to increase by just over 20 per cent, relative to the 2030 baseline level.
- *Agriculture, forestry, and fishing*, which currently accounts for only 1 per cent of Irish exports to Japan. The sector, however, faces very high average tariffs of 52.5 per cent on the Japanese market, which under the FTA is expected to fall to just under 8 per cent. Irish exports to Japan in this sector are expected to be almost 20 times larger, relative to the 2030 baseline level, which is the largest per cent increase across sectors.

Combined, the increase of Irish exports in these four sectors account for 93 per cent of the total increase in Irish exports to Japan.

Irish exports to **Mexico** are expected to be slightly lower (-2 per cent) with the FTAs in place in 2030, than without the FTAs in place. This is because the impact is modelled as the cumulative impact that arise when all four FTAs are in place simultaneously. All things being equal, Irish producers will direct their resources towards selling in the markets, where they can find the largest value. Overall, there is a small redirection of exports from Mexico to other markets where Irish producers can find larger value. As mentioned, the EU-Mexico FTA is a modernization of an existing agreement from 2000, and the additional trade cost reductions in the new FTA are therefore limited compared to the more recently applied FTAs.

The underlying results mainly show that the negative impact on Irish exports to Mexico is driven by a reduction in exports of manufactured goods and services and especially of *chemicals (incl. pharmaceuticals)* and *business and ICT services*, whereby exports are expected to increase to both Japan and Canada. Irish exports from these sectors are highly concentrated and changes in a few firms' export decisions may therefore lead to large overall impacts.

The underlying results also show that the FTA is expected to increase Irish exports of both processed foods and dairy to Mexico.⁶³ Exports of processed foods are expected to increase by 24 per cent due to the FTA, while dairy exports are expected to increase by 8 per cent. The FTA will lower the cost of NTBs in both sectors and will reduce tariffs.

3.4 CONCLUDING REMARKS

Irish exports of goods and services to Canada, Japan and Mexico have been on a positive long run growth trajectory, and Irish exporters therefore seem to be in a good position to benefit from improved access to these markets once the three concluded FTAs are fully implemented.

The FTAs are expected to increase Irish trade with Canada and Japan. The largest impact arises from the EU-Japan Economic Partnership Agreement, as a result of which Irish exports to Japan are expected to increase by 150 per cent relative to the 2030 baseline level. Most of this impact is

⁶² Based on GTAP data for 2015.

⁶³ See Chapter 7 for dairy.

due to increased exports in a few sectors and trade cost reductions are driven primarily by reductions in NTB costs. Irish exports to Canada are also expected to increase as a result of the FTA, due primarily to increases of Irish exports in a few manufacturing sectors, *business and ICT services* and the *processed food sector*. Finally, the EU FTAs are expected to reduce Irish exports to Mexico, relative to the 2030 baseline level, as Irish exports will be diverted towards the other FTA markets. Irish exports of dairy and processed foods to Mexico are however expected to increase.

CHAPTER 4

MACROECONOMIC IMPACTS OF THE FTAs

In this chapter, we present the macroeconomic impact of the four FTAs on the Irish economy. We present impacts on Irish global exports and imports, GDP, national income, real wages, consumer prices and welfare.

4.1 IMPACTS OF THE FTAs ON IRELAND'S GLOBAL TRADE

Aside from the impact that the FTAs have on Irish trade with the partner countries, FTAs can also impact Irish trade with third countries, both positively and negatively. It is therefore important to examine the impact of the FTAs on Ireland's overall export and import levels.

The impact of the FTAs on Irish overall trade depends on whether the increase in Irish trade with a given partner country is new trade (trade creation) or whether it is diverted from other markets (trade diversion). Part of the increase in Irish exports to the partner countries, may be redirected from third countries if the reduction in trade barriers makes exports to the FTA partner countries relatively more profitable and accessible than to other markets. There may also be trade diversion between the FTA markets. Irish exports may divert from some FTA markets, towards other FTA markets, where Irish exporters have a relatively large competitive advantage and where demand is highest (see methodology description in Box 1).

Trade diversion is therefore particularly likely to take place in markets that are highly protected by trade barriers because high prices are likely to make the market more attractive for Irish exporters than other destinations. In this case, trade diversion will tend to increase the earnings of Irish exporters even without an increase in production. Similarly, trade diversion may be particularly relevant in the case of agricultural products where production capacity can be constrained, e.g. by the availability of arable land or live stocks.⁶⁴

Similarly, the increase in imports into Ireland from the FTA partner countries may also result in decreased imports from other sources as the price of imports from the FTA partners falls due to lower trade costs.

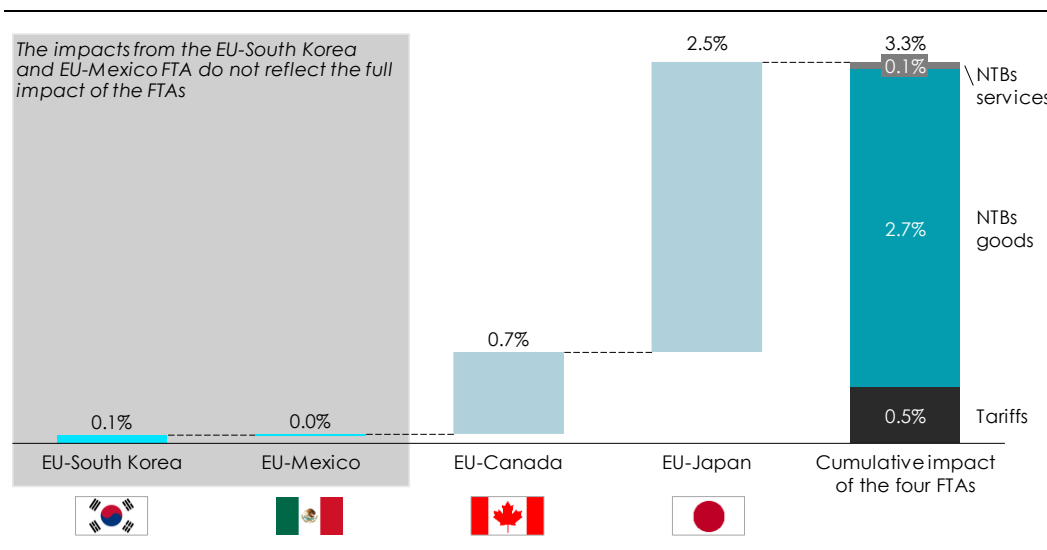
Furthermore, Irish trade with the FTA partners may also have a positive impact on Irish trade with third countries. This can occur, for example, if increased reliance on economies of scale or access to lower priced inputs from the FTA partners make Irish exporters more competitive globally. Finally, Irish exports to the FTA partners may also pave the way for Irish exports to other countries, e.g. via complementarities in production, logistics or transportation systems.⁶⁵ As Irish exports to third countries increase, Irish imports from third countries will likely also increase due to global supply chains.

⁶⁴ Copenhagen Economics (2016).

⁶⁵ Studies in the academic trade literature have also found that if a given exporter already exports to one market, the likelihood of exporting to a market nearby increases significantly (Lawless, 2011). This means that if EU exporters start exporting to a partner country as a result of the trade agreement, they may also be more likely to start exporting to nearby markets.

Overall, we find that the four FTAs lead to an increase in Irish global exports by 3.3 per cent in 2030 than would have been the case without the four FTAs in place. It is however, important to notice that the impact from the EU-South Korea and the EU-Mexico FTA does not reflect the full impacts of the FTAs. In the case of the EU-South Korea FTA, only the impact of the trade cost reductions occurring after 2015 are included. In the case of the EU-Mexico FTA, impacts only include additional trade cost reductions occurring as a result of the new FTA.

Figure 22
Expected impacts of the four FTAs on Irish global exports, 2030
 Per cent change from baseline in 2030



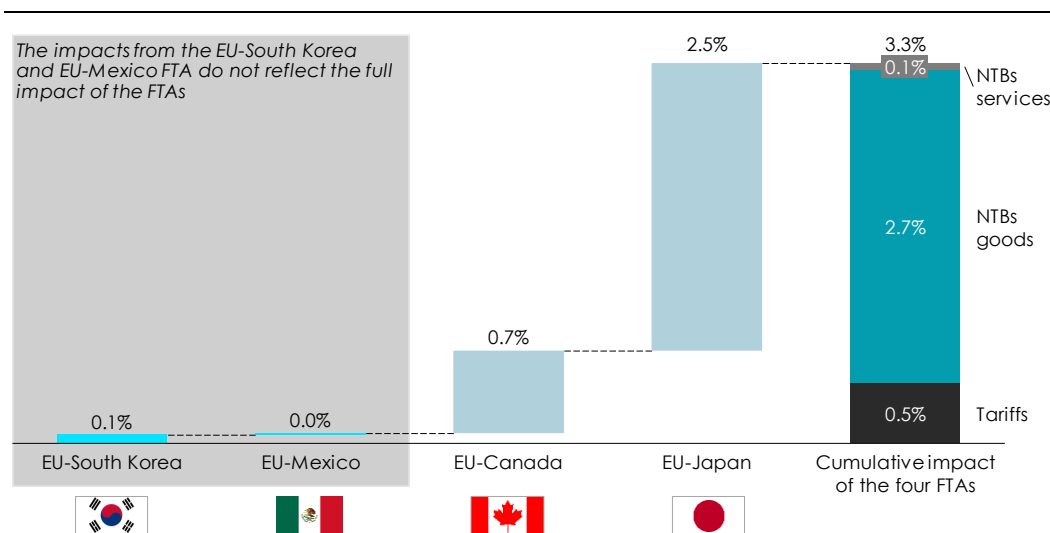
Note: The figure shows the expected impact of the four FTAs on Irish global exports in 2030. In the case of the EU-South Korea FTA, the impact arising from the trade cost reductions that took place between 2011 and 2015 is in the baseline. The impact of the EU-South Korea FTA in 2030 is therefore quantified based only on the additional trade cost reductions occurring after 2015.

Source: Copenhagen Economics based on CGE simulations in cooperation with J. Francois

The largest impact arises from the EU-Japan agreement, which is expected to drive three-quarters of the combined impact. The large impact of the EU-Japan FTA relative to the other FTAs indicate that this FTA opens up trade opportunities with a partner that is very attractive from an Irish perspective, and that the FTA secures a preferential access relative to competitors in third countries. When all FTAs are implemented simultaneously, this means that Irish exports will tend to divert towards Japan. Other EU Member States may find other markets more attractive for their composition of exports and imports.

The four FTAs are also expected to increase Irish global imports by almost the same relative change in 2030 (3.3 per cent; the numbers are slightly different on a two-decimal level). As in the case of exports, the EU-Japan agreement is the main driver of the impact, while the EU FTAs with South Korea and Mexico contribute very little to the overall impact. The percentage increase on Irish global imports for each FTA is similar to the increase in exports for the four FTAs. However, the impacts on exports and imports differ across sectors.

Figure 23
Expected impacts of the four FTAs on Irish global imports, 2030
 Per cent change from baseline in 2030



Note: The figure shows the expected impact of the four FTAs on Irish global imports in 2030. In the case of the EU-South Korea FTA, the impacts arising from the trade cost reductions that took place between 2011 and 2015 are in the baseline. The impact of the EU-South Korea FTA in 2030 is therefore quantified based only on the additional trade cost reductions occurring after 2015.

Source: Copenhagen Economics based on CGE simulations in cooperation with J. Francois

4.2 IMPACTS OF THE FTAs ON IRISH GDP AND NATIONAL INCOME

Overall, the four FTAs will increase trade, GDP and national income. When trade frictions are removed, trade becomes cheaper. The increased market access means that the countries can specialise in production, where they have a comparative advantage, i.e. specialise in products which the country produces relatively more productively. Labour and capital resources will gradually shift towards producing these products. Thus, when countries specialise overall production will increase with the same amount of inputs, leading to an increase in GDP and national income.

The impacts from the FTAs do not only affect the bilateral trade, i.e. the trade between Ireland and the FTA partners. The impact is measured on trade with all countries and trade within the EU. There might be positive or negative impacts on the Irish trade balance with the FTA partners, but not necessarily the same impact on the Irish trade balance with the world.

The impacts of the FTAs on Irish global trade will in turn impact Irish production and ultimately GDP. Overall, we find that the four FTAs are expected to increase Irish GDP by 2.3 per cent in 2030, compared to a scenario where the four FTAs are not present.⁶⁶ The EU-Japan agreement alone is

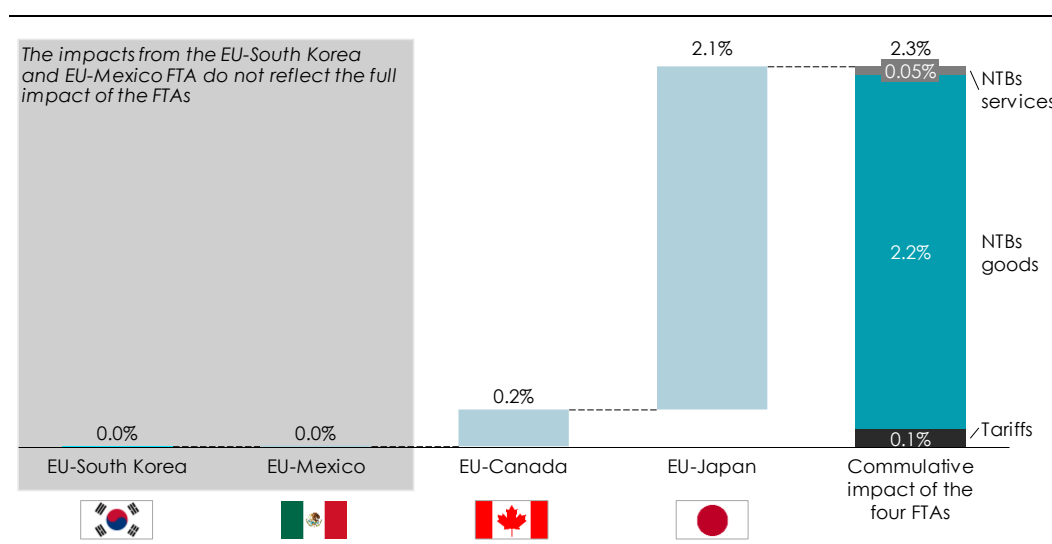
⁶⁶ The OECD currently projects that Irish GDP in 2030 will be €420.9 bn (30 per cent higher than in 2020), though the projection does take into account current and prospective FTAs. Hence, one cannot simply apply our estimated GDP increase of 2.3 per cent to the OECD figures without carefully assessing the underlying assumptions and estimations for the OECD projection. See OECD Long-term baseline projections, No. 103, available at: https://www.oecd-ilibrary.org/economics/data/oecd-economic-outlook-statistics-and-projections/long-term-baseline-projections-no-103_68465614-en.

expected to increase Irish GDP by 2.1 per cent and thus accounts for the majority of the combined impact, cf. Figure 24. This reflects the scale of existing trade with Japan, the attractiveness of the Japanese market and the scope of the FTA.

Looking across the different elements in the FTAs, we see that the increase in Irish GDP is due mainly to the reductions of NTBs on goods relative to reductions in tariffs and NTBs on services. This finding reflects the depth of the new deep and comprehensive EU FTAs in terms of reducing regulatory trade barriers.

Figure 24
Expected impacts of the four FTAs on Irish GDP, 2030

Per cent change from baseline in 2030



Note: The figure shows the expected impact of the four FTAs on Irish GDP in 2030. In the case of the EU-South Korea FTA, the impacts arising from the trade cost reductions that took place between 2011 and 2015 are in the baseline. The impact of the EU-South Korea FTA in 2030 is therefore quantified based only on the additional trade cost reductions occurring after 2015.

Source: Copenhagen Economics based on CGE simulations in cooperation with J. Francois

4.3 IMPACTS OF THE FTAS ON IRISH WAGES, CONSUMER PRICES AND WELFARE

FTAs do not generally influence the level of employment in the economy in the long term. The level of employment is determined by the labour supply and underlying structural factors in the Irish economy and the labour market. While the model therefore predicts equilibrium in jobs, FTAs do influence real wages through their impact on both nominal wages and consumer prices. In this way, FTAs support new, higher paid jobs in more sustainable firms with high productivity and global competitiveness compared to other firms.

At the sector-level, employment effects occur due to the reallocation of labour away from contracting sectors towards expanding sectors. The change in labour demand across sectors will give rise to initial wage differences, which will incentivise workers to reallocate across sectors until labour is efficiently reallocated. The skill composition of the labour force is assumed to be fixed.

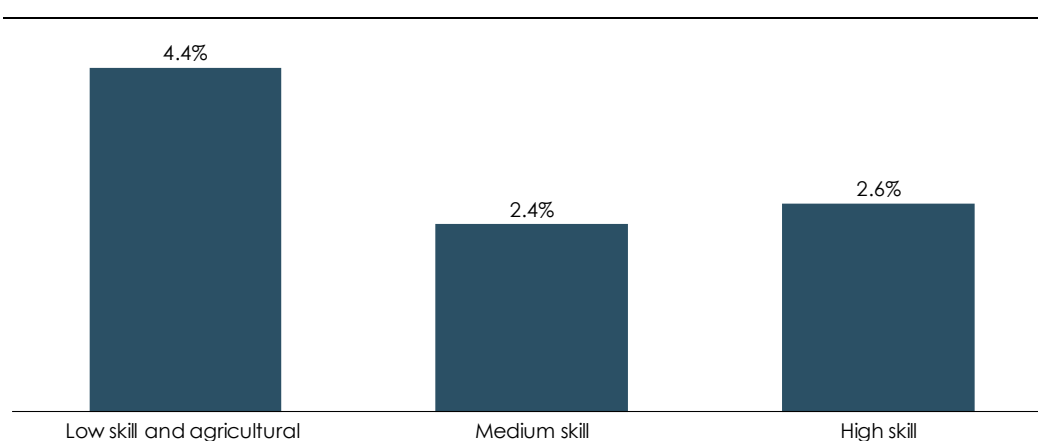
At the aggregate level, we assume a fixed long-run labour supply. Under this assumption, any changes in aggregate labour demand will be captured through wage changes instead of changes to employment levels, which only occur at the sector-level due to reallocation effects. Similarly, as wages will equalise across sectors in equilibrium, wage effects only occur at the aggregate level in the model. Immediately below, we discuss the latter effects and present employment effects at the sector-level in subsequent chapters.

Real wages are also affected by changes in consumer prices. The reduction in trade barriers will cause the price of imported final goods and services to fall. The degree to which this will lead to a fall in consumer prices depends however on the degree of competition in the market, as the full cost savings may not be passed to the consumer if competition is limited. The impact on consumer prices may also be reversed if the FTAs cause a change in the composition of imports towards higher quality products.

Overall, we find that the FTAs have a small impact on consumer prices in Ireland, which are expected to increase by 0.4 per cent, which is likely caused by a shift towards higher quality products. The impact is small and less than the increase in nominal wages, causing real wages to increase and leaving consumers better off than without the FTAs.

Our simulations show that real wages will increase for all skill groups in the economy, with a higher relative increase for low skilled labour than for medium and high skilled labour, cf. [Figure 25](#). A key driver for this result is the large increase in exports of agri-food products where production to a large extent uses low skilled labour.

Figure 25
Expected impact on real wages by skill groups
Per cent change from baseline in 2030



Note: The figure shows the expected impact of the four FTAs on real wages across skill groups in 2030.
Source: Copenhagen Economics based on CGE simulations in cooperation with J. Francois

4.3.1 Welfare changes

The best way to measure impacts on welfare is through changes in real national income. Real national income is a different measure than GDP and is a measure of the actual purchasing power available for final consumption, given changes in both output and prices.

Real national income better captures shifts in the economy towards a more efficient basket of goods and services, as well as changes in final consumption prices. According to our simulations of the four FTAs, real national income in Ireland is predicted to increase by 2.8 per cent in 2030. Thus, the FTAs will increase welfare for Irish citizens. The impact is larger than the effect on GDP of 2.3 per cent. The reasons for this is that the FTAs will lead to an overall shift to higher-quality products in Ireland from increased competition from imports (the fact that real national income increases more than GDP, and the fact that the absolute price level increases by 0.4 per cent as presented previously, indicates an overall quality increase). Furthermore, the export prices that Irish exporters can get for its products on the world markets will increase (which is why exports are redirected towards to the new FTA markets). Therefore, the Irish purchasing power increases.

4.4 CONCLUDING REMARKS

The four FTAs are expected to bring substantial benefits to the Irish economy. Global Irish exports and imports of goods and services are expected to increase by 3.3 per cent, respectively. Changes in Irish trade will in turn impact Irish production and ultimately Irish GDP, which is expected to increase by up to 2.3 per cent. The FTAs are also expected to increase Irish real wages across all skill groups and lead to welfare improvements.

CHAPTER 5

SECTORAL IMPACTS OF THE FTAs

In this chapter, we present the sectoral impact of the four FTAs on the Irish economy. We present impacts on production and employment across key sectors. We also assess impacts on productivity, where an increase in production without no (or a smaller) increase in employment is interpreted as a productivity gain.

5.1 IMPACTS OF THE FTAs ON PRODUCTION ACROSS SECTORS

When taking all impacts of the new trade agreements with the four FTA partners into account, the change in output is the measure that best captures all the underlying dynamics.

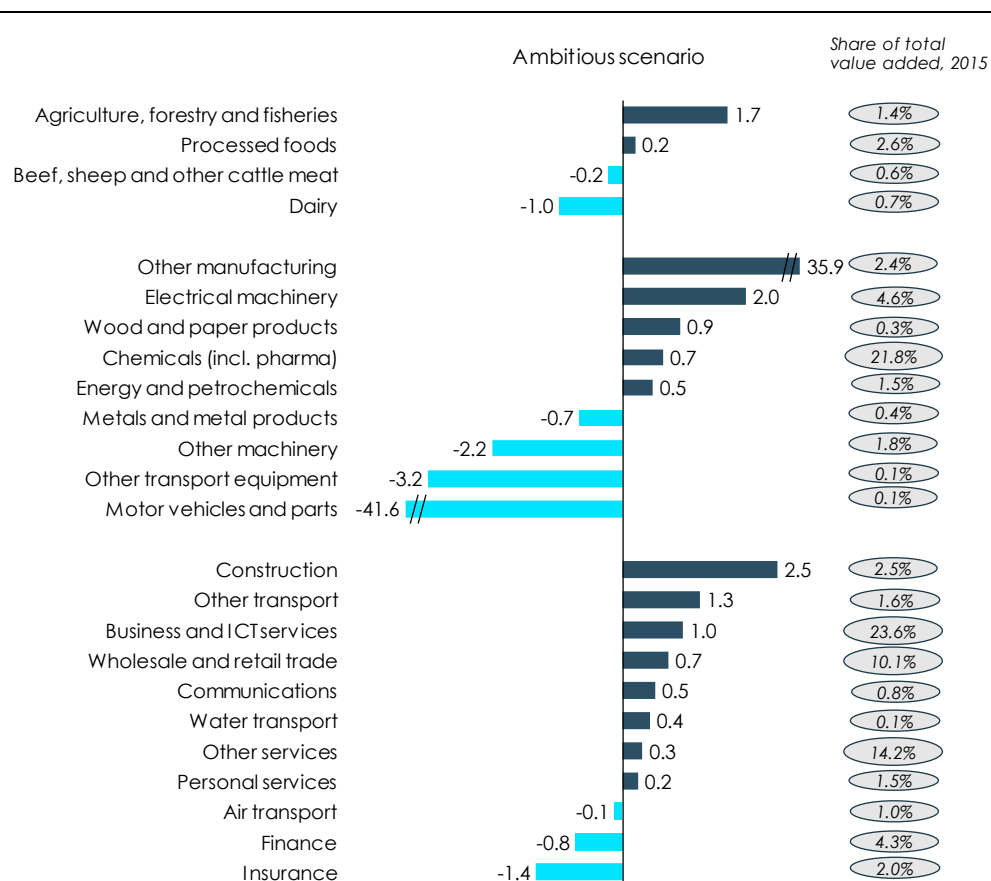
Lower costs of trading with the four FTA partners will have a direct impact on Irish exports to the FTA partners across sectors and the amount of production needed in Ireland. As the FTAs apply to the EU as a whole, Irish exports to the EU may also be affected if EU exporters demand more input from Irish producers (increases exports to the EU). Similarly, Irish firms that export to the FTA partners may demand more input from EU producers (increases imports from the EU). Finally, increased exports from the FTA partners to the EU may also compete with Irish exports to the EU (lower Irish exports to the EU).

The reduction in trade barriers vis-a-vis the FTA partners may also make the FTA partners more attractive relative to other trading partners, and so Irish exports may be redirected from other destinations to the FTA partners (at a higher price). Irish imports from the FTA partners may similarly replace imports from other countries (at a lower price).

Lower costs of imported input from the FTA partners and economies of scale will further help make Irish producers more competitive in their global markets (increases global exports). Higher income due to the FTA increases demand in Ireland and other EU Member States, which again will have an impact on Irish production. Our estimates of changes in production in each sector takes all these interactions into account.

We find that production is expected to increase in more than half of the sectors in the Irish economy as a result of the four FTAs, cf. [Figure 26](#). In percentage terms, the sector that is expected to enjoy the largest increase in production due to the FTAs is the *other manufacturing* sector, in which production is expected to increase by 36 per cent, from the 2030 baseline. This is followed by the *construction* sector, in which production is expected to increase by 2.5 per cent, from the 2030 baseline.

Figure 26
Expected impacts of the four FTAs on output by sector
 Per cent change from baseline in 2030



Note: The figure shows the expected impact of the four FTAs on output across sectors in 2030.

Source: Copenhagen Economics based on CGE simulations in cooperation with J. Francois

The labour demand will change across sectors will adjust wages. This leads to a redistribution of workers between sectors. Wages adjust for each skills group accordingly. We have assumed a fixed long run labour supply in Ireland to assess the isolated impact of the FTAs. Thus, we do not model changes in labour market participation rates due to migration or other factors (e.g. demographics). This assumption means that changes in labour demand will be transferred into wage changes and not total employment changes.

However, it should be noted that it is possible that that the increase in exports will lead to increases in the Irish employment rate. According to the European Commission, Irish exports to non-EU countries supported more than 1 million jobs in Ireland in 2017.⁶⁷ This is an increase with 37 per cent compared to 2011 when the EU-Korea FTA entered into force, when Irish extra-EU exports supported approximately 760,000 jobs.

⁶⁷ European Commission, 2018, *EU exports to the world: effects on employment*, page 22. Available at: https://trade.ec.europa.eu/doclib/docs/2018/november/tradoc_157516.pdf.

5.2 MAIN SECTORS TO BENEFIT FROM THE FTAS

Five sectors account for just over 89 per cent of the expected increase in output from the four FTAs.⁶⁸ This includes, in order of absolute increase, *other manufacturing, business and ICT services, Chemicals (incl. pharmaceuticals), electrical machinery, and wholesale and retail*. Each of these sectors is discussed in turn below.

5.2.1 Other manufacturing

This sector includes manufacturing of products such as apparel, leather products, mineral products (e.g. tiles, bricks and ceramics), technical and laboratory equipment, recycling/processing of materials and music instruments. The estimated impact of the FTAs on the sector is a rise in global exports of 57 per cent. Irish global imports of products in the sector are expected to increase by 13 per cent. The sector is amongst the smaller sectors in Ireland and accounted for 2.4 per cent of output in 2015. Therefore, the large relative changes should be seen in that light.⁶⁹

The increase in output is estimated at 36 per cent. Over half of the total increase in output in Ireland is due to the increased output in this sector. The EU-Japan FTA is the main driver of this impact and accounts for 95 per cent of the expected increase in output in the sector. This happens as a result of increased exports from lower tariffs and NTBs which increase Ireland's competitiveness in this sector. It is important to note that this increase may stem from both an increase in exports of already exported products (the so-called intensive margin of trade), as well as from the opportunity to export products that are currently not exported (the so-called extensive margin of trade). The CGE model does not allow for a detailed separation of these two impacts. Currently, Irish exports to Japan consist of apparel and textiles, dental equipment and equipment for chemical and technical use.

As the sector expands, employment in the sector is also expected to increase due to reallocation effects. Our simulations predict that the FTAs will increase employment by 30 per cent across all skill groups in the industry, cf. [Table 2](#).

⁶⁸ This is measured relative to value added in 2015 across sectors with increasing output, based on GTAP data.

⁶⁹ Based on GTAP data.

Table 2
Impacts of the four FTAs in the other manufacturing sector (percentage change relative to 2030 baseline)

Output and trade effects	OUTPUT (VOLUME)	EXPORTS (VALUE)	IMPORTS (VALUE)
	+36%	+57%	+13%
Employment effects	LOW SKILLED	MEDIUM SKILLED	HIGH SKILLED
	+29%	+31%	+31%

Note: The upper part of the table shows the estimated impact of the FTAs on Irish output volume and Irish global exports and import value of products in the sector, relative to the 2030 baseline. The lower part of the table shows the equivalent impact on employment in the sector across skill groups.

Source: Copenhagen Economics based on CGE simulations in cooperation with J. Francois

Based on the distribution of employment across skill groups in the sector in 2015, we estimate that employment in the sector will increase by approximately 30 per cent relative to the 2030 baseline, although from a relatively small employment base.⁷⁰ As the expected increase in output exceeds the expected increase in employment in the sector, this implies that productivity is also expected to increase.

5.2.2 Business and ICT services

This is by far the largest service sector in Ireland, accounting for close to a quarter of total value added.⁷¹ The FTAs are expected to result in Irish global exports and imports of products in this sector to increase by approximately 2 per cent, relative to the 2030 baseline.

Output in the sector is expected to increase by approximately 1 per cent. However, due to the size of the sector, this translates into a large absolute impact and accounts for 15 per cent of the total expected increase in output as a result of the FTAs.

While output is expected to increase, our simulations predict that the FTAs will reallocate employment away from the sector across all skill groups to other sectors in the economy, relative to the 2030 baseline. The largest impact is expected for low skilled with a reduction of 3 per cent, relative to the 2030 baseline. The underlying driver of this results is enhanced labour productivity in the sector as a result of the FTAs from better utilisation of the production, with the increased market access and lower import prices on inputs.

⁷⁰ The overall employment effect is a weighted average of the employment impact across skill groups, weighted by the number of employees in the sector in each skill group in 2015, based on employment data from Eurostat, distributed across skill groups based on wage distribution from GTAP.

⁷¹ Based on 2015 GTAP data.

Table 3
Impacts of the four FTAs in the business and ICT sector (percentage change relative to 2030 baseline)

Output and trade effects	OUTPUT (VOLUME)	EXPORTS (VALUE)	IMPORTS (VALUE)
	+1%	+2%	+2%
Employment effects	LOW SKILLED	MEDIUM SKILLED	HIGH SKILLED
	-3%	-1%	-1%

Note: The upper part of the table shows the estimated impact of the FTAs on Irish output volume and Irish global exports and import value of products in the sector, relative to the 2030 baseline. The lower part of the table shows the equivalent impact on employment in the sector across skill groups.

Source: Copenhagen Economics based on CGE simulations in cooperation with J. Francois

Based on the distribution of employment across skill groups in the sector in 2015, we estimate that 2 per cent of the employment in the sector will be reallocated to other sectors in the economy, relative to the 2030 baseline. Combined with a 1 per cent expected increase of output in the sector, this means that labour productivity in the sector is expected to increase.

5.2.3 Chemicals (incl. pharmaceuticals)

This is by far the largest manufacturing sector in Ireland, accounting for just over a fifth of total value added in 2015.⁷²

The FTAs are expected to increase exports by approximately 1 per cent and imports by 2 per cent relative to the 2030 baseline. Output is expected to be approximately 1 per cent higher than the baseline level in 2030 due to the FTAs. Due to the size of the sector, the small percentage impact, however, translates into a large absolute impact and increases in output in this sector alone accounts for 9 per cent of the expected increase in output.

As in the case of business and ICT services, the FTAs are expected to lead to increases in productivity in the sector. Despite expected increases in output, some of the employment in the sector is expected to be reallocated to other sectors relative to the 2030 baseline level across all skill groups, with the largest impact on low skilled workers. The increased productivity in the sector means that fewer people are needed in the sector, while other, more labour-intensive, sectors in Ireland increase their demand for workers, which will result in the reallocation of workers to other sectors.

⁷² Based on GTAP 2015 data.

Table 4
Impacts of the four FTAs in the chemicals (incl. pharmaceutical) sector (percentage change relative to 2030 baseline)

Output and trade effects	OUTPUT (VOLUME)	EXPORTS (VALUE)	IMPORTS (VALUE)
	+1%	+1%	+2%
Employment effects	LOW SKILLED	MEDIUM SKILLED	HIGH SKILLED
	-4%	-2%	-2%

Note: The upper part of the table shows the estimated impact of the FTAs on Irish output volume and Irish global exports and import value of products in the sector, relative to the 2030 baseline. The lower part of the table shows the equivalent impact on employment in the sector across skill groups.

Source: Copenhagen Economics based on CGE simulations in cooperation with J. Francois

5.2.4 Electrical machinery

Following the chemical and pharmaceutical sector, *electrical machinery* is the second largest manufacturing sector in Ireland, accounting for just under 5 per cent of total value added.⁷³ The sector includes manufacturing of, e.g., office machines, automatic data processing machines, radio, television, and communication equipment and apparatus.

The FTAs are expected to increase Irish global exports in this sector by approximately 2 per cent, relative to the 2030 baseline. Irish global imports are expected to increase by 3 per cent, relative to the 2030 baseline level.

Output in the sector is expected to increase by approximately 2 per cent, accounting for approximately 6 per cent of the total expected increase in output as a result of the FTAs.

While output is expected to increase, our simulations predict that the FTAs will reallocate employment away from this sector for low skilled workers to other sectors, relative to the 2030 baseline. However, the FTAs are not expected to impact employment of medium and high skilled workers in the sector.

Based on the distribution of employment across skill groups in the sector in 2015, we expect overall employment in the sector to be approximately 1 per cent lower than the baseline level in 2030 due to the FTAs. Coupled with increases in output, this implies that labour productivity enhancements are expected in the sector. Again, the increased productivity in the sector and increased demand for workers in other sectors result in this reallocation of employment.

⁷³ Based on value added data from 2015.

Table 5
Impacts of the four FTAs in the electrical machinery sector (percentage change relative to 2030 baseline)

Output and trade effects	OUTPUT (VOLUME)	EXPORTS (VALUE)	IMPORTS (VALUE)
	+2%	+2%	+3%
Employment effects	LOW SKILLED	MEDIUM SKILLED	HIGH SKILLED
	-2%	0%	0%

Note: The upper part of the table shows the estimated impact of the FTAs on Irish output volume and Irish global exports and import value of products in the sector, relative to the 2030 baseline. The lower part of the table shows the equivalent impact on employment in the sector across skill groups.

Source: Copenhagen Economics based on CGE simulations in cooperation with J. Francois

5.2.5 Wholesale and retail

The wholesale and retail sector is one of the largest service sectors in Ireland, accounting for more than 10 per cent of total value added.⁷⁴

The output in the sector is expected to increase by almost 1 per cent as a result of the FTAs. The sector accounts for 5 per cent of the total expected increase in the output as a result of the FTAs. However, exports are expected to decrease by 1 per cent, implying that the increase in output will primarily originate from the Irish market rather than overseas sales. Imports are expected to increase by 3 per cent, relative to the 2030 baseline. Since the FTAs will have a positive impact on Irish overall GDP, overall demand for products and services will increase in Ireland, leading to increased output (and sales) for Irish wholesalers and retailers.

Our simulations predict that the FTAs will decrease overall employment in the sector, relative to the 2030 baseline level, with all skill groups having decreasing employment. The employment of low skilled workers is expected to decrease the most with around 3 per cent decrease relative to the 2030 baseline.

The increase in output and decrease in employment imply an increased productivity in the sector as a result of the FTAs, as output increases while the demand for labour increases more strongly in other sectors of the economy.

⁷⁴ Based on value added data from 2015.

Table 6
Impacts of the four FTAs in the wholesale and retail sector

Output and trade effects	OUTPUT (VOLUME)	EXPORTS (VALUE)	IMPORTS (VALUE)
	+1%	-1%	+3%
Employment effects	LOW SKILLED	MEDIUM SKILLED	HIGH SKILLED
	-3%	-1%	-1%

Note: The upper part of the table shows the estimated impact of the FTAs on Irish output volume and Irish global exports and import value of products in the sector, relative to the 2030 baseline. The lower part of the table shows the equivalent impact on employment in the sector across skill groups.

Source: Copenhagen Economics based on CGE simulations in cooperation with J. Francois

5.3 SECTORS THAT SHOULD PREPARE TO ADJUST

The FTAs will require adjustments and timely preparation in all sectors and for all types of firms being exposed to international competition for Ireland to take full advantage of the new export opportunities offered by the FTAs. Some sectors will be especially exposed to competition or especially likely to face challenges as other sectors grow and draw resources away from them. This includes *dairy, other transport equipment, motor vehicles and parts, finance and insurance*.

Throughout this report, it should be kept in mind that the impacts are to be interpreted in terms of ‘all other things being equal’ (i.e. on a ‘no policy change’ basis).

5.3.1 Finance

Finance is a relatively large sector in Ireland, accounting for just over 4 per cent of total value added.⁷⁵ The FTAs are expected to increase exports in this sector by approximately 1 per cent. Imports are also expected to increase by approximately 2 per cent. Overall, the impact on imports outweigh the impact on exports, resulting in an expected reduction in output of approximately 1 per cent, relative to the 2030 baseline level.

The negative impact on output translates into a reallocation of employment away from the finance sector across all skill groups. We therefore expect employment of low skilled workers to be approximately 4 per cent lower in the sector, relative to the 2030 baseline. Employment of medium and high skilled workers in the sector is expected to be approximately 2 and 3 per cent lower than the 2030 baseline level, respectively. Since employment is expected to decrease by more than output, the productivity increases in the sector, implying that fewer people are needed for the production. The output decreases due to increased competition from abroad, which is another factor that causes employment reallocation away from this sector to other sectors.

5.3.2 Insurance

The insurance sector is about half the size of the financial service sector, accounting for 2 per cent of total value added.⁷⁶

⁷⁵ Based on 2015 GTAP data.

⁷⁶ Based on 2015 GTAP data.

The FTAs are expected to lower exports, in this sector by approximately 1 per cent, relative to the 2030 baseline level. At the same time while imports are expected to increase by approximately 1 per cent, relative to the 2030 baseline level.

The positive impact on imports, combined with the negative impact on exports, results in an overall negative impact on output, which is expected to be approximately 1 per cent below the 2030 baseline as a result of the FTAs.

The negative impact on output translates into negative employment effects across all skill groups. Thus, we expect overall employment of low skilled workers to be approximately 5 per cent lower in the sector than the 2030 baseline. The employment of both medium and high skilled workers in the sector is expected to decrease by approximately 3 per cent, relative to the 2030 baseline level.

Finance and insurance are among the sectors that are expected to grow because of Brexit. The FTAs are expected to slow this growth, with the overall impact being dependent on the specific impacts of the agreement reached between the EU and the UK. As with finance, this is due to increased competition from the FTA countries and increased productivity in the sector. The employment will allocate to other sectors in the economy.

5.3.3 Other machinery

Manufacturing of other machinery includes manufacturing of e.g. medical, precision and optical instruments. The sector accounts for almost 2 per cent of value added.⁷⁷

The FTAs are expected to result in increasing Irish global exports in this sector by approximately 4 per cent, relative to the 2030 baseline. Irish global imports are expected to increase by 5 per cent, relative to the 2030 baseline level. Output in the sector is expected to decrease by approximately 2 per cent as imports increase more than exports.

Our simulations predict that the FTAs will decrease overall employment in the sector, relative to the 2030 baseline level, across all skill groups. We estimate a negative impact on employment for low skilled workers of 5 per cent in the sector, while employment of medium and high skill groups will decrease 3 and 4 per cent, respectively. The same effects apply for this sector as with finance and insurance. The FTAs increase the competition in the sector, and foreign competitors take over some of the market. Furthermore, with increased productivity fewer people are needed in the sector.

5.4 CONCLUDING REMARKS

Output in most sectors of the Irish economy is expected to increase, relative to the 2030 baseline level as a result of the FTAs. A small number of sectors account for 89 per cent of the expected increase in output: *Other manufacturing, business and ICT services, chemicals (incl. pharmaceuticals), electrical machinery, and wholesale and retail*. The FTAs are expected to impact productivity in all these sectors positively and output is therefore expected to increase more than employment in these sectors. The FTAs will also lead to challenges in some sectors, including finance, insurance, and other machinery if there is no active mitigation. In these sectors increased import competition is expected to lower output by approximately 1-2 per cent, relative to the 2030 baseline level.

⁷⁷ Based on 2015 GTAP data.

CHAPTER 6

**POLICY CONCLUSIONS AND
RECOMMENDATIONS**

In this chapter, we describe main conclusions and policy options for Ireland to ensure that the maximum benefit is gained from the EU FTAs and how the challenges that the FTAs present for certain sectors are best met. Recommendations focus on both domestic enterprise policies as well as the EU trade policies required to negotiate the best possible outcome for Ireland of future FTAs.

6.1 MAIN POLICY CONCLUSIONS

The report demonstrates that FTAs have the potential to increase Ireland's economic growth. Implementation of the selected FTAs analysed in this study indicates higher economic growth than would be the case relative to a baseline scenario without the FTAs. The FTAs therefore provide an opportunity to accelerate Ireland's economic growth beyond its expected trajectory.

Notwithstanding the positive impact of FTAs on trade, it is also evident that growth is not uniformly distributed across sectors. As a relatively small, advanced, and open economy, Ireland's sectoral mix is constantly evolving, for example through the transition to higher value-added manufacturing activities or in the increasing role of services in Ireland's export base. The challenges for the policy system are to highlight new and emerging opportunities and to identify and implement appropriate policy responses where sectors face increased competition.

This requires guidance and supports that will assist firms to diversify their product and market mix. It is also important to help manage sectors that are negatively impacted through increased market access brought about through FTAs. This has long been a feature of Ireland's open and export-oriented economy. At the same time, it is important to be cognisant that not all sectors benefit equally through FTAs such that a varied set of tailored policy responses for different sectors and/or sub-sectors is most appropriate, including innovation, internationalisation, and labour market supports.

The analysis presented in the report is based on a 'no-policy change' scenario, accounting for the estimated macroeconomic and sectoral impacts of removing tariff and non-tariff barriers through FTAs. To fully capitalise on their potential, it requires continued development of overseas markets by companies assisted by their sectoral bodies as well as the enterprise development agencies who can provide in-market support for exporting and FDI firms. This chimes with the objectives set out in Ireland's national enterprise strategy *Enterprise 2025 Renewed*, which supports the Enterprise Agencies to seek greater resilience and market diversification in the client bases and should assist the Agencies in further evaluating their global footprint. It also underlines the importance of the Enterprise Agencies, along with Science Foundation Ireland and other research agencies, in continuing to develop the innovation capacity of the enterprise base to deliver new and improved products and services that enable firms to compete globally and maximise the new or enhanced market opportunities that FTAs bring.

The growth potential offered by FTAs also serves as a reminder for continued domestic focus on competitiveness in areas such as costs, skills, infrastructure, tax, regulation and macroeconomic stability as advocated, for example, by the National Competitiveness Council. It is critical to ensure that Ireland does not lose focus on the importance of competitiveness in supporting an export-led growth strategy and that Irish goods and services remain competitively priced for international markets.

The analysis also demonstrates that tariffs and quotas are still important in certain sectors such as agriculture. However, the analysis further shows that non-tariff barriers are the most critical and impactful barriers to address in generating growth. The FTAs therefore have the potential to change Ireland's terms of trade with existing trading partners, and potentially increase or divert demand for exports to markets which are more advantageous through the removal of trade barriers. This provides both challenges and opportunities for Irish firms and depends on capacity to respond flexibly to new opportunities. It also highlights the continuing need for the Enterprise Agencies to assist clients when breaking into new markets, overcoming cultural and regulatory burdens and connecting them with buyers/investors.

Finally, this report shows that the highest level of economic impact, at a macro level, is in a scenario where there is full implementation of an FTA. However, it is also clear that there are challenges in fully implementing FTAs. The survey data indicates a general lack of awareness among firms of the existence of FTAs and associated opportunities, suggesting a significant need for promotion of FTAs within the enterprise base. Internationally, there is also evidence to suggest that preferential tariff rates achieved by FTAs are not being fully utilised by the FTA trading partners.⁷⁸ This indicates that firms may face knowledge gaps and/or administrative burdens in securing preferential rates, and suggests more could be done to help translate the benefits of FTAs to impact at firm level.

The recommendations below are aimed at maximising the benefits of FTAs for Ireland while also supporting and mitigating any impacts that may arise through increasing market access and competition. Policy recommendations are based on findings in the previous chapters and our engagement with stakeholders.⁷⁹

6.2 NEGOTIATING THE BEST POSSIBLE OUTCOME FOR IRELAND

During our engagement with stakeholders, a number of specific elements in EU FTAs were stressed as being of particular importance to Ireland. These are all elements which can help ensure the best possible outcome of ongoing and future trade negotiations for Ireland and include:

- General Principles for Ireland's FTA priorities
- SME chapters
- Increased international cooperation by standardising bodies
- Protection and enforcement of intellectual property rights
- Protection of geographical indications
- Distribution of EU TRQs for beef and sheep meat

⁷⁸ Swedish National Board of Trade (2018), *The Use of the EU's Free Trade Agreements - Exporter and Importer Utilisation of Preferential Tariffs*.

⁷⁹ See list of stakeholders in Appendix A.

Each of these elements are discussed in turn below.

6.2.1 General Principles

Ireland should review actions to best prepare for achieving the benefits of newly concluded FTAs. The Irish government has identified the main opportunities (offensive interests) and threats (defensive interests) for Ireland in each of these negotiations and has communicated these considerations in the preparation of these negotiations. Policy measures to support this include:

- Capitalising on opportunities and mitigating adverse impacts through developing greater synergies between FTA negotiations and areas of enterprise development such as innovation, trade policy, inward investment and the strong performance of enterprise agencies at home and overseas.
- Ensuring strong and continuous stakeholder engagement with industry bodies and Government Departments to ensure Ireland's interests are clearly advocated at EU level.
- Communicating and collaborating effectively with Ireland's like-minded EU Member States at EU level and bilaterally to build coalitions around Ireland's offensive and defensive trade interests.
- Continuous monitoring of trade and investment trends, nationally and globally to help inform where trade opportunities are arising across Ireland's key sectors.
- Proactively engaging with relevant actors when new FTAs have been concluded and entering into force to raise awareness and promote the new opportunities which are presented through the FTA process.

6.2.2 SME chapters

The cost of entering new export markets can be disproportionately high for small and medium sized enterprises (SMEs), who have less resources available to do so. The cost of overcoming NTBs, such as e.g. conformity assessments, possible product adaptation, and other costs related to divergences in regulation, can thus place a heavier burden on SMEs than on larger firms, which can afford legal and other professional advice on regulatory requirements.⁸⁰

FTAs that reduce these types of barriers are therefore expected to particularly benefit SMEs. The European Commission recognises this and is committed to focusing attention on small businesses in trade negotiations. This includes 'dedicated SME provisions in all negotiations, including dedicated web portals to facilitate access to information on product requirements in foreign markets, opportunities provided by FTAs, and available support'.⁸¹ This also echoes the input we received from the stakeholder meetings, where difficulties entering new export markets and establishing distribution networks abroad, were identified as issues of particular relevance to SMEs.

The specific challenges identified faced by SMEs in translating the benefits of FTAs point to the need for improved communication, guides, events and outreach initiatives in Ireland to better connect what the EU is negotiating for SMEs with how SMEs can then translate those advantages into new export sales and bottom line impacts. It also points to the need for improving communication and coordination across the system to ensure that there is a clear line of sight from the negotiation outcomes at an EU level to relevant national enterprise agencies and representatives. In addition, while dedicated SME chapters will help make it easier for SMEs to take advantage of new FTAs, it is

⁸⁰ European Commission (2015).

⁸¹ European Commission (2015, p. 16).

important to note that many SMEs may also benefit indirectly from FTAs by being suppliers to larger firms, that export directly to the given FTA partner countries. In order to ensure that SMEs gain the most from new FTAs, it may therefore also be important to strengthen the role of SMEs in domestic value chains with, for example, large multinational firms based in Ireland.

6.2.3 Increased international cooperation by standardising bodies

Non-tariff barriers include technical barriers to trade, which arise due to divergences in product regulation and standards. Reducing these barriers is also an issue of priority for the European Commission, which is committed to “address regulatory issues as a priority in negotiations and steer greater cooperation in international regulatory fora, while maintaining high European standard”⁸² and to “continue its efforts to eliminate non-tariff barriers through the enforcement of agreements and regulatory cooperation”.⁸³

During the stakeholder engagements, this issue arose especially in connection with the EU-South Korea FTA, where the perception was that progress in this area has so far been limited and that reinforcement of the cooperation between standardising bodies is needed. In this context, it would be beneficial for the relevant Government Departments to conduct enhanced industry consultations on this issue with regulatory bodies and with industry in order to identify a set of priority actions that can help achieve better cooperation and reduce technical barriers to trade in product regulation and standards.

6.2.4 Protection and enforcement of intellectual property rights

Protecting and enforcing intellectual property rights (IPR) is an important part of EU free trade agreements and the European Commission is committed to pursuing the issue further in FTAs as well as in the WTO.⁸⁴

This was for example seen in the EU-Canada FTA, which led to reinforced IP rights for European pharmaceutical companies in Canada.⁸⁵ It is important that the Department of Enterprise, Trade and Employment continues to regularly engage with industry in this regard. Where IPR or technology transfer concerns in FTA markets are identified, it is important for the relevant Departments and Agencies, including regulatory bodies, to ensure companies can communicate them and that they are articulated at EU level to ensure IP developed in Ireland is most appropriately protected.

6.2.5 Protection of geographical indications

A Geographical Indication (GI) is a sign that a product comes from a particular region which gives it a specific quality, reputation or other characteristics (e.g. Irish Whiskey or Parma Ham etc.).⁸⁶ During the stakeholder meetings this issue was raised in relation to Irish Whiskey and Irish Cream liqueurs, which are both covered by a GI. The protection of these GI's under the EU-Canada FTA, for example, has proven to be especially important in terms of the current effort to crack-down on numerous cases of counterfeit Irish cream liqueurs on sale in Canada. This example highlights that in addition to increasing market access, FTAs can have an enhanced safeguarding impact for Irish GIs. There may be opportunities from FTAs for certain Irish producers to consider application for GI status, which can help protect product identity in the markets where FTAs are in force.

⁸² European Commission (2015, p. 13).

⁸³ European Commission (2015 p. 13).

⁸⁴ European Commission (2015, p. 14).

⁸⁵ European Commission (2013).

⁸⁶ Irish Revenue, webpage.

6.2.6 Distribution of EU TRQs for beef and sheep meat

An important issue for Irish beef and sheep farmers is the issue of EU TRQs. During the stakeholder meetings this issue was raised several times. It is therefore considered essential that the terms of any TRQ concessions in an FTA are carefully calibrated in terms of quantum, standards and quota management. A TRQ must have regard to the capacity of partner countries to access the Quota on the one hand and the demand for the product on the other. Often suitable phasing-in of Quotas best allows the sensitive domestic market to adjust to the new competition, while also seeking new export market opportunities to offset inward market access.

In such sensitive sectors, the Irish Authorities should intensify collaboration with affected industries to prepare for increased levels of competition and adjust value offerings accordingly.

6.3 DOMESTIC POLICIES TO PURSUE THE OPPORTUNITIES FROM EU FTAs AND MITIGATE CHALLENGES

For Ireland to gain the most from the FTAs it is important that the export opportunities that arise from the agreements are pursued to the maximum. During our engagement with stakeholders, a few domestic policies to help ensure this was identified. Overall, these fall in to three categories:

- Policies to raise the awareness and understanding of FTAs
- Policies to help Irish firms access export markets in the FTA countries
- Policies to upgrade skills and promote R&D

6.3.1 Policies to raise awareness and understanding of FTAs

One of the key insights from the survey we conducted among Irish firms on impacts of the EU-South Korea FTA is that the awareness of the FTA is relatively low among Irish firms. This conclusion was further supported by engagement with stakeholders, where it also emerged that the issue is not limited to the EU-South Korea FTA.

The need to improve awareness and understanding is not unique to Ireland. Analysis undertaken by the Swedish National Trade Board in conjunction with UNCTAD shows that about two-thirds of EU exports to partner countries use EU FTA preferential tariff rates.⁸⁷ This is based on the value of exports and, therefore, while most trade in terms of value takes advantage of the tariff reductions of FTAs, the report concludes that there may be a large number of smaller companies that do not take full advantage of FTAs. Similarly, research undertaken by Ecorys for the Netherlands' Ministry of Foreign Affairs shows the main barriers to making full use of FTAs are factors such lack of awareness and understanding of FTAs, in addition to administrative burdens such as rules of origin requirements and additional customs formalities. Companies also commented on the need to improve the accessibility of information with more practical and targeted information oriented towards company needs.

For Ireland, it will be important for relevant Government Departments and Agencies to systematically engage with enterprises and their representative bodies with a view to maximising preferential

⁸⁷ UNCTAD and the National Board of Trade Sweden (2018), *The Use of the EU's Free Trade Agreements*.

utilisation rates (PURs) of FTAs by Irish based exporters and importers and also better understanding the information and administrative barriers companies face in capitalising on their benefits. In this context, the recently established Trade and Investment Implementation Unit in the Department of Enterprise, Trade and Employment will play a key role in the promotion and implementation of FTAs in Ireland.

One of the ways in which awareness of the FTAs can be raised is by engaging local chambers of commerce across the country. *The Chamber Trade Connections* by County Carlow Chamber of Commerce, Industry and Tourism is an example of how this can be done, cf. Box 2. Similar events are also undertaken by the Irish Exporters Association. Another suggestion that arose during the stakeholder meetings, was to establish a common platform with information about EU FTAs and the phasing out of tariffs.

Box 2 Chamber Trade Connections

In 2018, County Carlow Chamber of Commerce, Industry and Tourism launched a new series of events entitled *Chamber Trade Connections*, in order to support local firms to expand in new or existing export markets. Each event in the series introduces local firms to a specific export market of current or potential importance to Ireland.

The first event in the series took place on the 19th April 2018, and focused on the Netherlands, which is one of Ireland's largest export markets. As part of the event, the Dutch ambassador came to Carlow to meet and visit local businesses, and to talk about trade connections between Ireland and the Netherlands. Members that already trade with the Netherlands were also invited to talk about their experiences on the Dutch market. The event was open to all 185 members of the Chamber, which range from sole traders to multinational enterprises, as well as non-members wishing to attend.

A further event was held on 11th of October 2019 with a focus on Mexico. The format was the same as for the previous event and included a visit by the Mexican ambassador and a discussion of new export opportunities arising from the EU-Mexican FTA.

Source: Interview with Brian Farrell, CEO of County Carlow Chamber and County Carlow Chamber's website

A second issue raised by stakeholders related to the use of FTAs and rules of origin, which Irish exporters must comply with in order to take advantage of the tariff reductions provided under the FTAs. These rules specify how much of a given product (e.g. in terms of value added) must originate from within each party of the agreement for the product to be eligible for preferential status. These rules help avoid goods from third countries simply being “shipped” at preferential rates through one FTA partner into the other.

The concern that arose during the stakeholder meetings is mainly related to Brexit and how this is going to influence the ability of Irish firms to take advantage of EU FTAs, as value chains in many sectors cross into the UK and may therefore influence the degree to which the product is seen as originating from within the EU. Ensuring that these rules are understood by Irish firms therefore becomes a more pressing issue due to Brexit. In most cases, the real challenges here can be best met by a process of information sharing and “demystifying” the Rules of Origin systems.

6.3.2 Policies to help Irish firms access export markets in the FTA countries

In terms of enterprise policies two issues were raised, both of which concern market access. The first of these relate to policies that can alleviate the costs for Irish exporters to gain access to far-away markets. The types of policies identified to help Irish firms access export markets in the FTA countries include policies that can help alleviate the financial cost of entering into new markets, including increased trade finance, market access guides, training in customs procedures and finance of innovation projects to back market research in a partner country. Specific recommendations mentioned include:

- Ensuring that all Irish firms have easy access to export promotion services, including firms that are not members of state agencies, such as for example Enterprise Ireland, or Bord Bia. Therefore, training via government agencies may not be sufficient and it was suggested that the use of private-public partnerships could have an important role to play here.
- Ensuring additional funding for training in customs procedures. While this was a general issue raised, the cost of customs procedures was identified as being disproportionate to SMEs, as these types of firms often do not have specialised customs departments. Ensuring that there is sufficient funding available for training in customs proceedings, may thus be especially important for the ability of SMEs to take advantage of the new FTAs.
- Ensuring funding for training in market diversification skills, including training on how to do business in the FTA countries.
- Ensuring that sufficient funding is available for trade promotion policies, such as trade missions, were identified as being very important. This was, for example, pointed to as being a central factor to the success of Irish exports of spirits to Canada.
- Trade promotion activities (e.g. to promote Irish products in new markets).
- Trade facilitation initiatives to reduce costs of border procedures.
- Continued expansion of the pool of indigenous exporters.
- Transport and logistics investments to help export sectors.

Enterprise Ireland has developed a package of supports to assist companies grow and diversify international sales. These include a dedicated Exporter Development Department which works with companies considering exporting as a platform for scaling. It offers an online 'Export Scorecard' to help companies assess their export readiness. Through its business planning services, it also assists companies diagnose their capability and capacity for exporting across 6 Export Development Pillars: Planning; People and Management; Sales and Marketing; Innovation; Operations and Finance. This business planning process helps companies assess their strengths and weaknesses and determine where a company needs to enhance its capabilities to compete in Enterprise Ireland and, therefore, enables Enterprise Ireland to target supports accordingly.

Other services include the Enterprise Ireland Market Research Centre which provides companies access to business intelligence and research reports across regions and sectors, and market access guides for companies. In addition, each year the Department of Enterprise, Trade and Employment and Enterprise Ireland co-ordinates a comprehensive programme of trade missions, trade fairs and knowledge events designed to give clients the opportunity to connect with existing and new customers, access decision makers, increase sales in international markets and exchange ideas.

Enterprise Ireland also offers a number of capability building supports targeted specifically at enhancing export sales including the International Selling Programme, Excel at Export Selling, the Internet Marketing Unit, Business Accelerators (industry experts to support company development in-market); Mentoring and the Graduate 4 Growth Programme. Finally, Enterprise Ireland has an international network of over 40 international offices that support companies directly in established and growth markets through providing brokerage and introduction services, market information, signposting services to help companies access supports in market and raising Ireland's profile in-country.

For Enterprise Ireland, there should be a continuing focus on developing the pipeline of potential exporters and High Potential Start Ups (HPSUs) in order to grow the pool of companies with the requisite capacity and capabilities to internationalise in line with Enterprise Ireland's corporate strategy objectives, particularly those relating to scaling.

With respect to the food sector two specific issues were furthermore raised. The first of these relate to policies that can alleviate the costs for Irish food exporters to gain access to far-away markets, where transportation cost can be high due to cooling requirements and so forth.

The second issue relates to the issue of ensuring actual market access for Irish meat exports to the FTA countries. Currently, Ireland does not have access to Canada, Japan, Mexico and South Korea for all meat products, cf. Table 7. While the FTAs set the framework, market access for meat products requires the recognition of the Irish system for meat production by the FTA partners. The negotiations for market access can take place bilaterally as in the case of the EU-South Korea FTA or can be led by the European Commission as in the case of e.g. the EU-Mexico FTA.

Table 7
Market access for Irish exports of meat products to Canada, Japan, Mexico, and South Korea

Country	Beef	Pigmeat	Sheep meat	Poultry meat
Canada	Yes	Yes	Yes	No
Japan	Yes	Yes	No	No
Mexico	No	No	No	No
South Korea	No	Yes	No	No

Note: The table shows whether or not Ireland currently has access to Canada, Japan, Mexico and South Korea for beef, pigmeat, sheep meat and poultry meat.

Source: Copenhagen Economics based on information from the Department of Agriculture, Food and the Marine

6.3.3 Policies to upgrade skills and promote R&D

OECD research modelling the effects of multilateral and regional trade agreements on growth and employment shows positive effects for firms from FTAs, especially in smaller economies.⁸⁸ The report concludes that firms in these economies can better specialise in international production networks through access to larger and more differentiated markets, while also benefiting from in-

⁸⁸ OECD (2018), "Market Opening, Growth and Employment" OECD Trade Policy Papers No. 214.

creased sales of the products they already produce. While trade integration boosts demand for production and lifts wages, the production adjustment can also lead to reallocation of workers between sectors. The report recommends that appropriate labour market and education policies are needed to reduce adjustment costs for affected workers. Policies include effective activation frameworks, anticipation of skills needs, and labour market inclusion programmes.

In Ireland, the work of the Expert Group on Future Skills Needs and upskilling/reskilling initiatives will continue to be important for addressing changing skills needs that arise through evolving sectoral demands arising from international trade. Skills policies could also aim to invest in skills which help to raise a company's international ambitions such as international leadership and selling programmes, therefore targeting greater diversification of the export base.

During the stakeholder meetings, the need for policies to upgrade language skills were also pointed to as being of importance, especially in terms of seizing the opportunities offered by the FTAs with countries in the far East. In the long run, this may be done via introducing new languages to the college curriculum such as e.g. Korean. In the shorter run, language obstacles may however also be alleviated by focusing on attracting foreign talent to Ireland.

In terms of R&D, efforts that may help extend the shelf life of agri-food products and develop Ireland as a brand to help Irish exporters distinguish their products on the export market, were requested. This includes, in particular, research into the benefits of 'grass fed' beef and dairy, where no global standard currently exists. More generally, innovation policy and supports will remain central to Ireland's international competitiveness and ability to develop new and improved products and services for both existing and growth markets. In this regard, it is important that research funding by agencies such as Science Foundation Ireland and Enterprise Ireland will continue to target investment at strategically important areas of commercial opportunity for enterprise.

6.4 CONCLUDING REMARKS

During the stakeholder meetings, a number of policy recommendations that would help ensure that the maximum benefit for Ireland from the FTAs were identified. These included elements of special importance to Ireland in EU trade policies, as well as domestic policies, including policies to raise the awareness of FTAs, help Irish firms access export markets in new FTA countries and policies to upgrade skills and promote R&D in Ireland.

APPENDIX A

LIST OF STAKEHOLDER CONSULTATIONS

Alcohol Beverage Federation of Ireland
American Chambers of Commerce
Biopharmachem (IBEC)
Bord Bia
Bord Iascaigh Mhara
Chartered Institute of Logistics and Transport
Chambers Ireland
Dairy Industry Ireland (IBEC)
Dept. of Agriculture Food and Marine
Department of Finance
Enterprise Ireland
Financial Services Ireland (IBEC)
Irish Cattle Sheep Farmers' Association
IDA Ireland
Irish Exporters Association
Irish Farmers Association
Irish SME Association (ISME)
Irish Whiskey Association and the Irish Spirits Association
Meat Industry Ireland (IBEC)
Medtech Ireland (IBEC)
Ornua (Irish Dairy Board)

APPENDIX B

TECHNICAL APPENDIX

In order to quantify the impacts of the four EU FTAs on the Irish economy, we use a Computable General Equilibrium (CGE) model (see below). A key input to the model is the expected reduction in trade costs between the EU and each partner country. This includes both tariffs, TRQs and non-tariff barriers. Below we describe the methodology used to estimate expected reductions in NTB costs. Changes in tariffs and TRQs are explained in the text for the concluded FTAs.

Estimates of non-tariff barriers

We use the same type of econometric model to estimate already realized NTB reductions under EU-South Korea FTA and the future expected NTB reductions under the concluded FTAs.

The model we use is a so-called gravity model, which is among the most used and tested empirical models in international trade due to its high explanatory power. In an analogy to Newton's law of gravitation, the model predicts that trade between any two countries will be positively related to the product of their economic size and inversely related to the geographical distance between them.

The basic idea of the model is to predict bilateral trade flows based on distance, GDP of each partner, and standard "gravity variables" found to affect the volume of bilateral trade. These include, among others, indicators for a common language, common border, and historical factors, such as, for example a shared colonial history. Below we explain how we apply the model to estimate both realised and future reductions in NTB costs.

Realised reductions in NTB costs under the EU-South Korea FTA

In order to estimate the impact of the EU-South Korea FTA on the reduction of NTB costs, we run the gravity model at the sectoral level and include information on tariffs as well as a dummy variable equal to one after the FTA went into force and equal to zero before the FTA went into force. The model captures the total impact of the FTA on bilateral trade flows across sectors. Combined with information on trade elasticities across sectors⁸⁹, obtained from the coefficient on the tariff variable, we can deduct the overall reduction in trade costs required for the change in trade flows to have occurred. As we know the reduction in tariffs from the tariff schedule of the agreement, we can furthermore deduct the share of the overall reduction in trade costs due to NTB cost reductions.⁹⁰

Expected future reductions in NTB costs under the concluded FTAs and for the EU-South Korea FTA in 2030

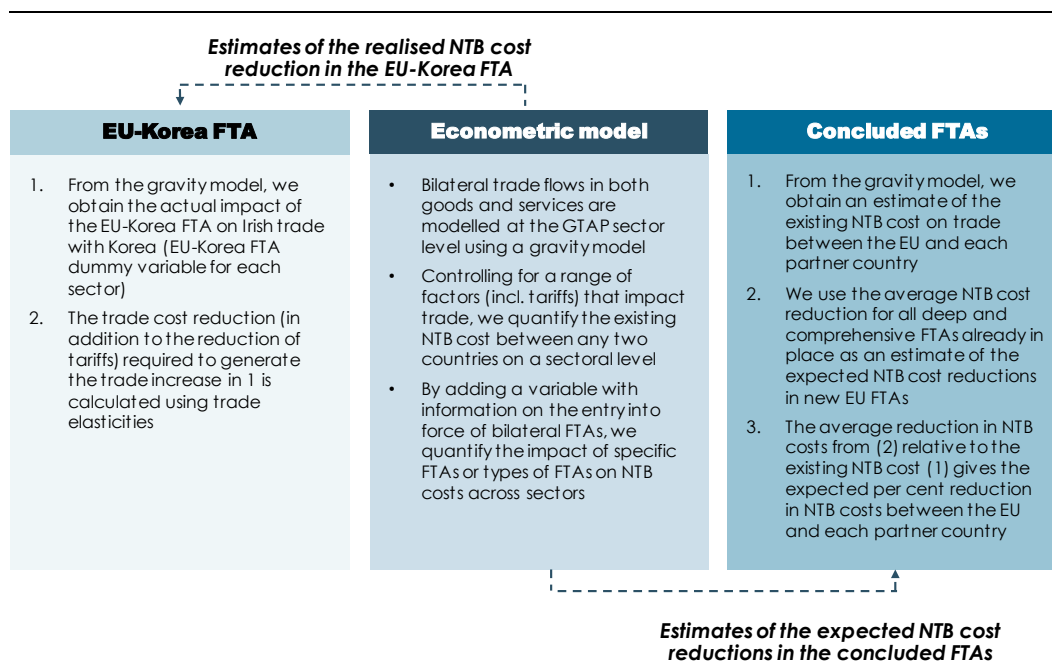
In order to estimate the future likely NTB reductions under the concluded agreements, we augment the gravity model with information on the entry into force of different existing bilateral FTAs across the world. Based on information on the depths of these FTAs, we estimate the average NTB reductions obtained under current deep FTAs, which we use as our estimate of expected NTB cost reductions for the concluded FTAs.

Figure 27 contains an overview of the methodologies used.

⁸⁹ This tells us how sensitive trade flows are to changes in trade costs.

⁹⁰ The European Commission use the same type of methodology in their assessment of current impacts of the EU-South Korea FTA (see Civic Consulting, 2017).

Figure 27
Overview of methodology used to assess expected reductions in NTB costs



Source: Copenhagen Economics in cooperation with J. Francois

6.4.1 Computable General Equilibrium (CGE)

In the CGE model the entire economy is classified into production and consumption sectors. These sectors are then modelled collectively. Production sectors are explicitly linked together in value-added chains from primary goods, through higher stages of processing, to the final assembly of consumption goods for households and governments. These links span borders as well as industries.

The link between sectors is both direct, such as with the input of steel into the production of transport equipment, and indirect, as with the link between chemicals and agriculture through the production of fertilizers and pesticides. Sectors are also linked through their competition for resources (the primary factors of capital, labour, and land).

The model uses new trade data from the GTAP10 database, which among others includes global trade flows on a sectoral level for goods and services.

Note that Irish CSO trade statistics deviate in several ways from GTAP data. For example, the CSO data report services exports based on ownership and include exports from Irish affiliates based outside of Ireland. As GTAP data provides a better picture of the economic activity in Ireland, we use this data to model the impact of the FTAs.

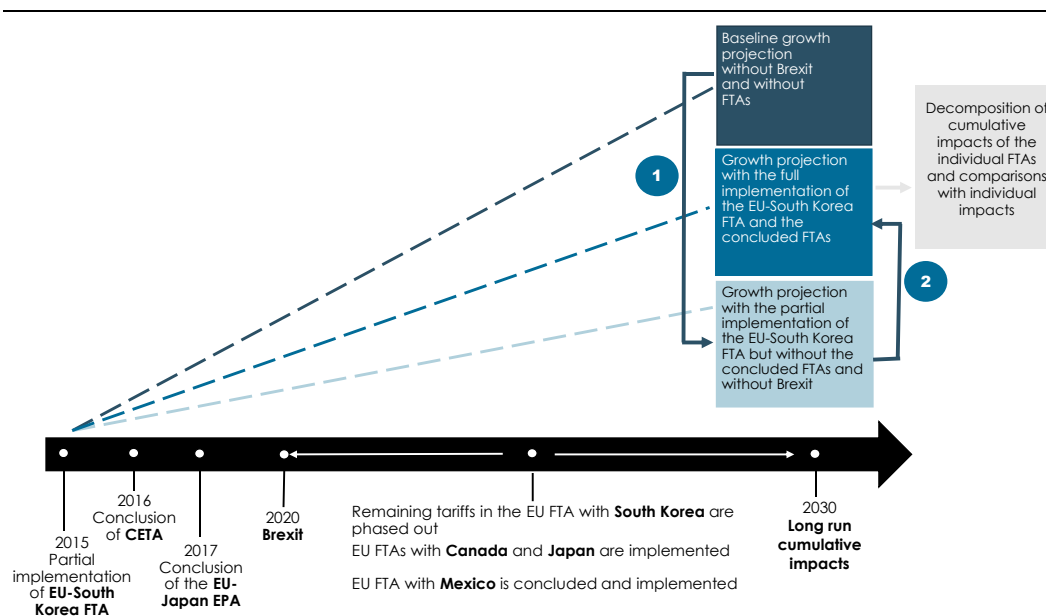
The Irish economy adjusts to changes in market access due to the entry into force of new EU trade agreements in two steps:

1. The partial implementation of the EU-South Korea FTA
2. EU FTAs with Canada, Japan, Mexico, and the full implementation of the EU-South Korea FTA

The model does not take into account any future unknown changes that may occur, for example unknown exchange rate fluctuations etc.

The modelled cumulative impact from all FTAs is subsequently decomposed into the contribution from each individual FTA, cf. [Figure 28](#).

Figure 28
Cumulative impacts of EU FTAs are incorporated into the CGE model in two steps



Source: Copenhagen Economics in cooperation with J. Francois

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