Trade Sustainability Impact Assessment in support of FTA negotiations between the European Union and New Zealand

Draft Final Report

Prepared by consortium led by BKP Economic Advisors
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ABSTRACT

This report examines the potential economic, social, human rights and environmental impact of the EU-New Zealand FTA. We employ a multi-pronged methodological approach, combining the economic modelling results provided by DG Trade with qualitative analysis based on literature review, discussions with experts and extensive consultations with key stakeholders.

The EU-New Zealand trade and investment relationship is characterised by relatively low tariff and non-tariff barriers on average, but with peaks for certain products and regulations.

The analysis of the potential economic impacts shows overall positive macro-economic effects for the EU and New Zealand, based on an analysis also incorporating an FTA between the EU and Australia. In the EU, bilateral exports in 2030 are expected to be 31.7 percent higher compared to a situation without the FTA, and real GDP to increase marginally (all in the ambitious scenario). For New Zealand, bilateral exports are expected to expand by 23.4 percent, welfare by €567 million, and real GDP by 0.5 percent. There is, however, sectoral variation with beverages and tobacco, vegetables & fruits and dairy gaining most in New Zealand and motor vehicles and machinery in the EU. SMEs in the EU and New Zealand as well as consumers in both countries are also expected to benefit. The trade diversion effect for third countries will be very limited, while value chain analysis shows that connected third country economies could benefit. Wages are expected to remain equal (for the EU) or increase (for New Zealand) for both unskilled and skilled workers. The human rights effects are expected to be marginal, except for some potential effects in sectors that are negatively impacted. Environmental effects are expected to be marginally negative.

ACRONYMS

AAAQ	Availability, Accessibility, Acceptability and Quality
AANZFTA	ASEAN Australia New Zealand Free Trade Area
ACCSR	Australian Centre for Corporate Social Responsibility
ACP	African, Caribbean and Pacific
AHS	Effectively Applied Tariff
ANZCERTA	Australia-New Zealand Closer Economic Relations Trade Agreement
APEC	Asia-Pacific Economic Cooperation
API	ASEAN Prosperity Initiative
ASEAN	Association of Southeast Asian Nations
AUS	Australia
AVE	Ad Valorem Equivalents
BEUC	Bureau Européen des Unions de Consommateurs
BIT	Bilateral Investment Treaty
BND	Bound Tariff
BSE	Bovine Spongiform Encephalopathy
B&L NZ	Beef and Lamb New Zealand
CBD	Convention on Biological Diversity
CEACR	Committee of Experts on the Application of Conventions and Recommendations
CEDAW	Committee on the Elimination of Discrimination against Women
CERD	Convention on the Elimination of All Forms of Racial Discrimination
CESCR	Committee on Economic, Social and Cultural Rights
CETA	Comprehensive Economic and Trade Agreement
CFR	Charter of Fundamental Rights
CGE	Computable General Equilibrium
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CPI	Consumer Price Index
CPTPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership
CRC	Convention on the Rights of the Child
CRPD	Convention on the Rights of Persons with Disabilities
CSD	Civil Society Dialogue
CSR	Corporate Social Responsibility
CV	Curriculum Vitae
DG	Directorate-General
DHB	District Health Board
DIRA	New Zealand Dairy Restructuring Act
DRIVES	Development and Research on Innovative Vocational Education Skills
EAHP	European Association of Hospital Pharmacists
EC	European Commission
ECHR	European Convention on Human Rights
EDA	European Dairy Association
EDF	European Development Fund
EDGAR	Emissions Database for Global Atmospheric Research
EEAS	European External Action Service
EESS	Electrical Equipment Safety System
EPHA	European Public Health Alliance
ER	Equal Rights
ESMO	European Society for Medical Oncology
EU	European Union
FDI	Foreign Direct Investment
FRA	Fundamental Rights Agency
FSANZ	Food Standards Australia New Zealand
FSMS	Farm Safety Management System
FTA	Free Trade Agreement
FTAAP	Free Trade Area of the Asia-Pacific
GDP	Gross Domestic Product
GE	General Equilibrium
GGFC	Gross Government Final Consumption
GHG	Greenhouse Gas
GI	Geographical Indication
GMO	Genetically Modified Organism
GNI	Gross National Income
GSIM	Global Simulation Model

GSP	Generalised Scheme of Preferences
GTAP	Global Trade Analysis Project
GVA	Gross Value Added
GVC	Global Value Chain
HAP	Hazardous Air Pollutant
HDI	Human Development Index
HHI	Herfindahl-Hirschman Index
HQB	High-Quality Beef
HR	Human Rights
HRW	Human Rights Watch
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICIO	Inter-Country Input Output
ICH	International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use
ICPED	International Convention for the Protection of All Persons from Enforced Disappearance
ICRMW	International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families
IDDCR	Intellectual Disability, Compulsory Care and Rehabilitation
IHC	Import Health Standards
ILO	International Labour Organisation
IP	Intellectual Property
IPPC	International Plant Protection Convention
IPR	Intellectual Property Rights
ISDS	Investor-State-Dispute-Settlement
ISG	Inter-Service Steering Group
IT	Information Technology
LCA	Life Cycle Assessment
LDC	Least Developed Country
LGBTI	Lesbian, Gay, Bisexual, Transgender and Intersex
LSE	London School of Economics Enterprise
LULUCF	Land Use, Land Use Change and Forestry
MBIE	Ministry of Business, Innovation and Employment
MCI	Macroinvertebrate Community Index
MFAT	Ministry of Foreign Affairs and Trade
MFN	Most Favoured Nation
MIA	Meat Industry Association
MPI	Ministry of Primary Industries
MRA	Mutual Recognition Agreement
NDC	Nationally Determined Contribution
NES	National Environmental Standards
NESCS	National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health
NGO	Non-Governmental Organisation
NIA	National Interest Analysis
NPS	National Policy Statement
NTB	Non-Tariff Barrier
NTM	Non-Tariff Measure
NZ	New Zealand
NZFSA	New Zealand Food Safety Authority
NZHEA	New Zealand Horticulture Export Authority
NZIER	New Zealand Institute for Economic Research
OBS	Other Business Services
OCT	Overseas Country and Territory
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
OIE	World Organisation for Animal Health
OIO	Oversees Investment Act
OP-CRC-CI	Optional Protocol to the Convention on the Rights of the Child on a Communications Procedure
OP-ICESCR	Optional Protocol to the International Covenant on Economic, Social and Cultural Rights
OR	Outermost Regions
PACER	Pacific Agreement on Closer Economic Relations

PARC	Partnership Agreement for Relations and Cooperation
PE	Profit Elasticity
PE	Partial Equilibrium
PIC/S	Pharmaceutical Inspection Cooperation Scheme
PPML	Poisson Pseudo-Maximum Likelihood
PTE	Patent Term Extension
RBC	Responsible Business Conduct
RDP	Regulatory Data Protection
RMA	Resource Management Act
RoO	Rules of Origin
ROW	Rest of World
RTA	Regional Trade Agreement
R&D	Research and Development
SDG	Sustainable Development Goal
SIA	Sustainability Impact Assessment
SME	Small and Medium Sized Enterprise
SPC	Supplementary Protection Certificate
SPI	Submerged Plant Index
SPS	Sanitary and Phytosanitary
STRI	Service Trade Restrictiveness Index
TBT	Technical Barriers to Trade
TCE	Trade Cost Equivalents
TEU	Treaty of the European Union
TFEU	Treaty on the Functioning of the European Union
TiVA	Trade in Value Added
ToR	Terms of Reference
TPP	Trans-Pacific Partnership
TPRM	Trade Policy Review Mechanism
TRIPS	Trade Related Aspects on Intellectual Property Rights
TRQ	Tariff-Rate Quota
TSD	Trade and Sustainable Development
TSIA	Trade Sustainability Impact Assessment
TTIP	Transatlantic Trade and Investment Partnership
UK	United Kingdom
UN	United Nations
UN ESCAP	United Nations Economic and Social Commission for Asia
UNCTAD	United Nations Conference on Development and Trade
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNICEF	United Nations International Children's Emergency Fund
US	United States
USDA	United States Department of Agriculture
VFN	Vegetables, Fruits and Nuts
WEEE	Waste Electric and Electronic Equipment
WEgate	Women's Entrepreneurship Gate
WHO	World Health Organisation
WIOD	World Input Output Database
WIR	World Investment Report
WITS	World Integrated Trade Solution
WPC	Whey Protein Concentrate
WPI	Whey Protein Isolate
WTO	World Trade Organisation

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1. INTRODUCTION

1.1. Objectives and key features of SIAs

1.1.1. Objectives

The European Commission, DG Trade, under Multiple Framework Contract TRADE2017/A5/01 issued a Request for Services TRADE 2018/C2/C07 to provide "Sustainability Impact Assessments (SIA) in support of the free trade agreement (FTA) negotiations between the European Union and New Zealand, and between the European Union and Australia". This study concerns the SIA for the EU-New Zealand FTA (EU-NZ FTA). SIAs consist of two equally important and complementary components:

- A robust analysis of the potential economic, social, human rights and environmental impacts that the trade agreement under negotiation could have, in the EU, in the partner country(ies) and in other relevant countries;
- A continuous and wide-ranging consultation process, which ensures a high degree of transparency and the engagement of all relevant stakeholders in the conduct of the SIA inside and outside the EU.

Three relevant framework sources for doing a SIA are the Handbook for Trade Sustainability Impact Assessments (2nd Edition), the Better Regulation Package, and the Guidelines on the analysis of Human Rights impacts in impact assessments for trade-related policy initiatives. All three sources are used as frameworks in this study.

1.1.2. Key features

In line with the Handbook for Trade Sustainability Impact Assessments, the key features of this study are:

- An integrated approach to assessing the impact of the EU-NZ FTA based on the four sustainability pillars: economic, social, human rights and environmental;
- Engagement in the EU and New Zealand with key stakeholders, including civil society, providing important inputs into the study;
- A multi-pronged approach – combining quantitative analysis, gravity regression work, with qualitative approaches like literature reviews, expert and stakeholder interviews, and survey work;
- Apart from an overall analysis, providing deep sectoral dives (of five prioritised sectors) and in-depth analyses in the form of case studies;
- Develop useful policy recommendations, including flanking measures, for the negotiations and potential EU-NZ FTA.

1.2. List of key issues for the EU-New Zealand negotiations

Based on outreach to stakeholders and based on work on baselines for the sustainability pillars, we present the following non-exhaustive list of important issues:

- From an **economic perspective** the analysis of the sectors of ruminant meats and dairy are interesting to focus on because according to the quantitative analysis the impact of the FTA on them is relatively high.
- The **social baseline** analysis suggests that despite progress, gender gaps remain on the labour market in both the EU and New Zealand, in terms of employment rate, pay, occupied positions, and the number of hours worked. Moreover, men and women tend to have different sectoral preferences in choosing jobs and setting up enterprises, which means that the EU-NZ FTA may affect them differently in their roles of workers and entrepreneurs. Accordingly, the analysis will pay attention to the impact of the FTA on women and gender equality. Preliminary findings also suggested that job quality is an issue in some sectors which are likely to be affected by the EU-NZ FTA, including ruminant meat, dairy products, fruits and vegetables, and utilities, including construction. These rank high as regards the number of

accidents at work and are characterised by low to medium wages, low presence of trade unions (notably in agriculture) and identified cases of exploitation of migrant workers and work in conditions akin to modern slavery.

- Based on the **human rights baseline analysis**, the FTA's impact on the rights of indigenous populations (in particular land and property rights that refer to the compliance with the principle of free prior and informed consent) needs to be studied, also in the context of the topic of business and human rights as this matter may be directly related to companies' activities on the territories owned or traditionally used by indigenous populations.
- Initial findings on the possible impact of the EU-NZ FTA on **environment** suggested that right to clean environment, right to water and right to health may potentially be affected and should therefore be analysed in more detail. Methane (CH_4) and nitrous-oxide (N_2O) emissions contribute significantly to New Zealand's overall greenhouse gas (GHG) emissions (43 percent and 12 percent of all GHG emissions in New Zealand respectively). The sectors that are majorly responsible for these emissions (mainly agriculture) are likely to be strongly affected by the FTA (based on the ex-ante study) and therefore warrant a closer analysis. Changes in the pressure on biodiversity, particularly on endemic species present in New Zealand should be investigated in a post EU-NZ FTA world, amongst others via the changes expected in land use, land use change and forestry (LULUCF).

1.3. Structure of the report

This report is structured as follows, as also shown in Figure 1.1.

In the introductory Chapter 1, we provide the objectives, key features and structure of the project as well as overviews of the EU-NZ trade relationship at the moment and a summary of the impact assesment research work done on a potential EU-NZ FTA to date.

Chapter 2 presents a summary of the methodological approach for each of the components of the study: our overall methodology and the consultations approach. The more extensive methodological approach can be found in Annex II.

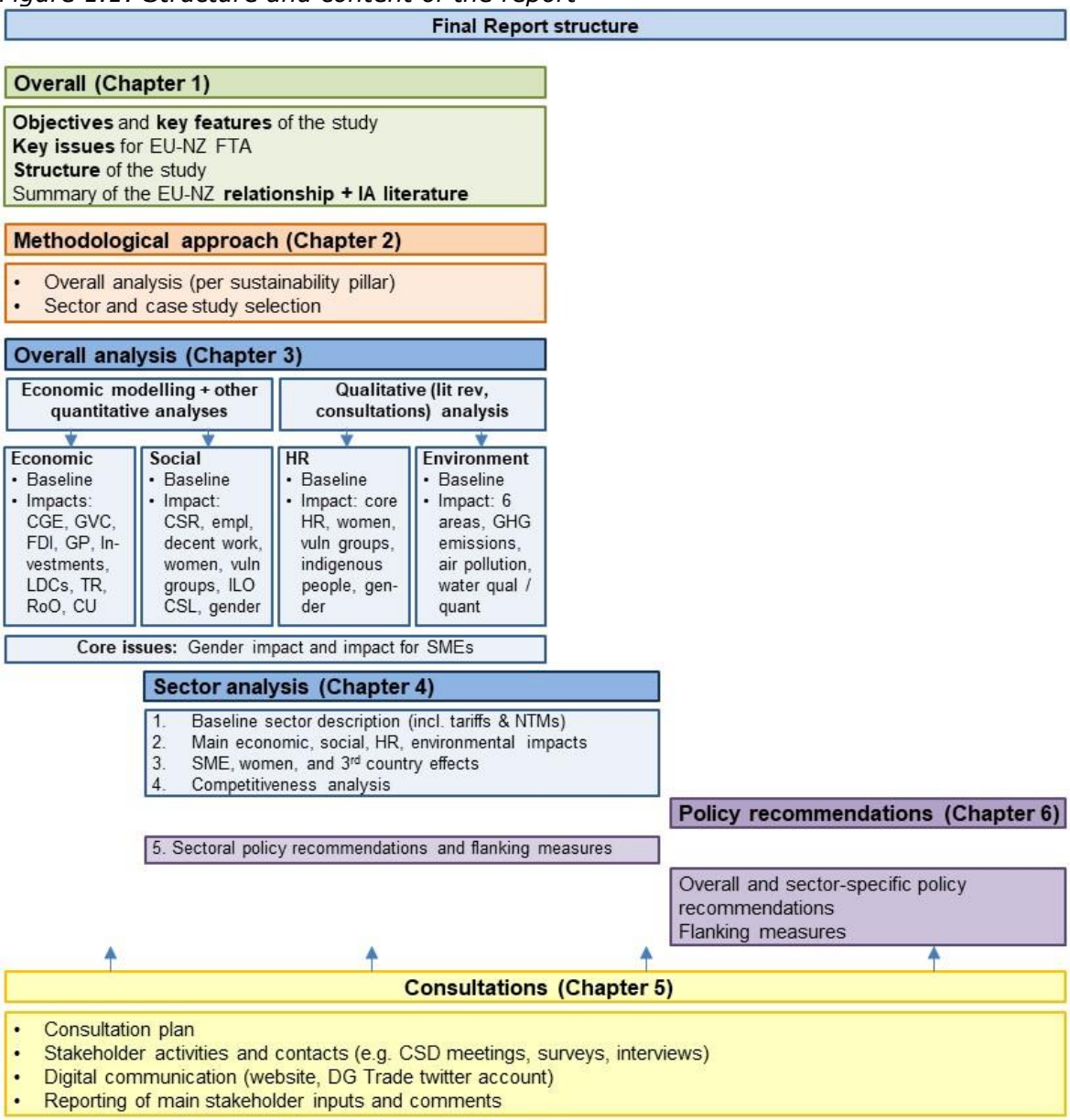
Chapter 3 covers the overall analysis. Starting from economic, social, human rights and environmental baselines we look at the expected impact of the EU-NZ FTA on each of these four pillars overall. Particular attention is paid to the effect of the FTA on women and SMEs (separate sections).

In Chapter 4 we turn to the sectoral effects. For five selected sectors we cover a baseline analysis, followed by expected sustainability effects (economic, social, human rights, environmental) stemming from the EU-NZ FTA. We also look at the sectoral effects on SMEs, women, and for third countries. Finally we analyse for each sector how the EU-NZ FTA affects (relative) competitiveness.

Chapter 5 summarises the consultation approach and findings. Throughout the report (i.e. in Chapters 3 and 4) we illustrate and underpin findings with inputs from key stakeholders, but the core findings and approach are presented in this Chapter. Core results and outcomes of the consultation process are covered in particular.

Finally, Chapter 6 presents the policy recommendations and flanking measures we propose. These measures are intended to be suggestions on how to shape elements of the FTA in order to enhance the positive effects and mitigate the potential negative effects.

Figure 1.1: Structure and content of the report



In Annex I we present the sources used in writing this report (bibliography); Annex II shows our methodological approach, both the overall one and the detailed additional quantitative work (summarised in Chapter 3). Annex III provides the Current situation for each of the sustainability pillars in detail and Annex IV shows the quantitative results (both the CGE economic model and the gravity results). In Annex V we present the final sector and case study selections, while Annex VI focuses on the detailed inputs received during the stakeholder consultations. Finally, Annex VII presents the detailed (online) questionnaires that were sent out and filled in as part of the civil society consultations.

1.4. The EU-New Zealand trade and investment relationship

In this section, we present a concise overview of the EU-New Zealand trade and investment relationship. A more detailed description for each section can be found in Annex III to this report.

1.4.1. Merchandise trade

According to European Commission data, total EU-NZ trade in goods amounted to nearly €9.2 billion in 2018, making the EU New Zealand's third largest trading partner after China

and Australia. EU imports from New Zealand (€3.5 billion in total) are largely dominated by agricultural products while EU exports to New Zealand (€ 5.7 billion in total) mainly comprise manufactured goods. Primary products account for almost three quarters (74.8 percent) of EU imports from New Zealand, followed by manufactures (23.4 percent) and relatively few other products (1.9 percent); meat and fruit represent by far the most important sub-categories, followed by beverages, spirits and vinegar. EU exports to New Zealand mainly comprise manufactured goods (85.8 percent), followed by primary products (11.6 percent). More than half of the EU's exports to New Zealand are machinery and transport equipment (56.4 percent), with chemical products, scientific instruments and plastics representing other significant product categories.

1.4.2. Agricultural products

Trade in agricultural products is important in the EU-NZ trading relationship. Agricultural products comprised 10.8 percent of the EU's total exports to New Zealand in 2018 (€ 616 million) and 70.0 percent of the EU's total imports from New Zealand (€ 2.43 billion). The EU in particular imported meat, edible fruits, beverages, spirits and vinegar from New Zealand in 2018. The EU's large trade deficit with New Zealand in agricultural products comes despite the relatively high EU import tariffs in this sector. While EU-NZ agricultural trade faces relatively high tariffs on many products, and some key exports of New Zealand are subject to WTO tariff rate quotas (TRQs), NTMs are often even more important (as elaborated in Annex III.1 and in the detailed sector studies below). These include human and animal health protection measures, lack of GI protection, biodiversity and biosecurity measures, and strict and lengthy import certification procedures on both sides.

1.4.3. Services trade

Total EU-New Zealand services trade in 2017 amounted to € 4.7 billion. The EU is the third largest export destination for New Zealand's services (after Australia and the US) and the second largest source of New Zealand's services imports (after Australia). The EU's largest services imports from New Zealand in 2017 were travel services, which accounted for 58.5 percent of the EU's total services imports from New Zealand. The EU's largest service export sectors to New Zealand in 2017 were transport and travel services which together accounted for nearly three-fourths of EU service exports to New Zealand.

1.4.4. Investment

The EU is the second largest source of FDI in New Zealand (after Australia) and it is also New Zealand's third largest destination for direct investment abroad (after Australia and the US). The stock of EU inward FDI in New Zealand amounted to € 6.6 billion in 2017, while the stock of New Zealand's investment in the EU was € 1.9 billion. The sectoral composition of FDI suggests that the bulk of the flows are concentrated in the finance and wholesale and retail trade sectors. The UK is the biggest EU investor in New Zealand. New Zealand has no bilateral investment treaties (BITs) concluded with EU Member States. Consequently, EU investors face several restrictive or less favourable investment measures compared to other countries, in particular CPTPP members.

1.4.5. Tariffs and Non-Tariff Measures (NTMs)

According to UNCTAD TRAINS data, New Zealand has the highest bound tariffs on textiles and clothing (23 percent), agricultural products (6.2 percent on average), and machinery and transport equipment (16.3 percent). Its applied MFN tariffs are, however, much lower, the highest ones being in textile and clothing, which are close to 10 percent. The EU's highest tariffs on imports from New Zealand are on agricultural products (7.7 percent on average) and textiles and clothing (9 percent). See Table III.1.3 in Annex III.1 for further details.

With respect to NTMs, it is important to note that the EU and New Zealand have a bilateral agreement for mutual recognition of certain technical certificates, covering medicinal products and devices, telecommunication equipment, low voltage equipment, machinery and pressure equipment. They also concluded a veterinary agreement in 2003 (and updated it in 2015) to simplify trade in live animals and animal products.

According to the World Bank's Services Trade Restrictiveness Index (STRI, 2017), on average, the EU is slightly more restrictive in its services trade policy than New Zealand, with an average overall STRI of 0.22 relative to 0.21 for New Zealand. The EU's services trade policy is particularly restrictive in air transport and legal services, while New Zealand is most restrictive in air transport services.

Regarding investments, EU investors face several restrictive or less favourable investment measures compared to investors from Australia and other countries with which New Zealand has concluded FTAs and Bilateral Investment Treaties (BITs), in particular most recently compared to CPTPP member states.[1] New Zealand has a pre-investment screening mechanism (Overseas Investment Act 2005)[2] in place, which enables it to screen foreign investments in certain areas, namely, acquisition of sensitive land, 25 percent or more shareholding in businesses and fisheries and since recently also residential land.[3] New Zealand also imposes high tariffs on agricultural products, dairy and cars (see above), which affects investments in those sectors.

1.5. Literature review

This section provides an overview of previous impact studies conducted that are relevant for the EU-NZ FTA context. The literature review looks first at a range of studies that analyse the effects of current and anticipated FTAs of New Zealand and the EU. Second, as New Zealand and the EU are both active in promoting closer trade relations in the Asia-Pacific region, we also present some of the findings of the most important impact assessment studies that are relevant for New Zealand and the EU respectively in the Asian region. The analysis is summarised in Table 1.1.

1.5.1. Impact assessment literature review of a potential EU-NZ FTA

In 2009, Ecorys (2009) conducted a study on the impact of FTAs in the OECD, specifically focussing on an EU-NZ and EU-AUS FTA, an EU-US FTA, and an EU-Japan FTA. The results of a possible EU-NZ FTA showed that it would entail an estimated increase of 4.3 percent in exports for New Zealand and an increase of 0.2 percent in exports for the EU. According to the study, the welfare effects would be positive for both parties, with increases of €1.6 billion and €3.5 billion respectively. LSE Enterprise Ltd. (2017) extended the analysis on the EU-NZ and EU-AUS FTAs and found that an EU-NZ FTA would entail positive results for both parties: The GDP of the EU and NZ would increase by 0.02 percent and 0.5 percent respectively, and exports of both the EU and NZ would increase by 0.1 percent and 0.4 percent respectively.

1.5.2.Impact assessment literature review of relevant NZ FTAs

One of the most important FTAs for NZ is the AUS-NZ Closer Economic Relations Trade Agreement (ANZCERTA). As it came into effect in 1983, the impact of the comprehensive agreement can be easily observed. The Parliament of the Commonwealth of Australia (2006) states under a qualitative report that through ANZCERTA, both New Zealand and Australia experienced an annual bilateral trade increase of 9 percent and a GDP increase of 3.1 percent and 3.8 percent respectively. Petri and Plummer (2016) focus on the Trans-Pacific Partnership (TPP) and expect increases of 2.2 percent and 0.2 percent in NZ's and EU's GDP respectively. Exports of NZ and the EU are also expected to increase by 10.2 percent and 0.5 percent respectively. Kawasaki (2014) and Lee and Itakura (2014) also estimate annual GDP increases for all TPP members. Walmsley et al. (2018) extend the analysis and explore the impact of the Comprehensive and Progressive Agreement for

[1] Commission Staff Working Document Impact Assessment - Accompanying the document Recommendation for a Council Decision authorising the opening of negotiations for a Free Trade Agreement with New Zealand {COM(2017) 469 final} {SWD(2017) 290 final} Brussels, 13.9.2017, p. 7, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017SC0289&from=EN

[2] http://www.legislation.govt.nz/act/public/2005/0082/latest/DLM356881.html?search=ts_act_overseas+investment&sr=1

[3] See for details the website of the Overseas Investment Office (OIO): https://oio.linz.govt.nz/

Trans-Pacific Partnership (CPTPP), the successor to the TPP after US withdrawal in early 2017, on NZ's and other CPTPP member countries' economies. They estimate a maximum GDP increase of 1.0 percent and a maximum export increase of 3.2 percent for NZ, whilst the maximum average increase in GDP for the other CPTPP members is approximately 0.4 percent.

The Asia-Pacific Economic Cooperation (APEC) (2009) analysed the economic impact of a Free Trade Area of the Asia-Pacific (FTAAP). Even if the EU is not the focus of this analysis, the findings are relevant for the present study as the agreement would have significant economic implications for NZ, the EU and the rest of world. The results imply that NZ's and EU's GDP would increase by 6.4 percent and 0.2 percent respectively. APEC also estimates trade growth of 10.4 percent for NZ, whereas the EU's exports would decrease by 0.3 percent. Kim et al. (2013) estimate that NZ's GDP would increase by 0.2 percent to 1.8 percent, whilst the EU's GDP could decrease by up to 0.1 percent.

The New Zealand Government (2009) conducted a qualitative impact analysis of the economic, social, cultural and environmental implications under the ASEAN Australia New Zealand Free Trade Area (AANZFTA). The study states strongly that the AANZFTA is in the national interest as it entails large potential for all signatories. Ando and Urata (2006) analyse different frameworks for ASEAN FTAs and project that NZ's economic activity would increase under these arrangements. Further studies focus on the effects of exclusive FTAs in Asia and the ASEAN region. New Zealand's Ministry of Foreign Affairs and Trade (2004) conducted a study on the economic effects of an FTA with China and estimates an overall increase in GDP, welfare, and trade for both countries. NZ and China are likely to face modest increases in GDP of 0.3 percent and 0.1 percent respectively. Tan and Cai (2009) predict similar outcomes under their first scenario. The NZ Institute for Economic Research (2007) researched the Korea-NZ FTA and estimates GDP increases of 0.1 percent for Korea and 0.3 percent for NZ.

1.5.3.Impact assessment literature review of relevant EU FTAs

As the EU has completed negotiations and entered into a few FTA negotiations in Asia, one is able to find a vast amount of studies assessing the impact of these FTAs. LSE Enterprise Ltd. (2015) conducted an impact assessment of the EU-Japan FTA and estimated a GDP increase of 0.8 percent for the EU and 0.3 percent for Japan. Bilateral trade flows were also expected to increase by 34 percent and 29 percent respectively.

The ASEAN Prosperity Initiative (API) (2018) studied the economic effects of an EU-ASEAN FTA and highlighted the long-run expected potential gains for all members. The agreement would cause a 0.2 percent increase in EU's GDP, whilst largely increasing the GDPs of the ASEAN countries, e.g. Indonesia (3.4 percent), Vietnam (14 percent), and Singapore (12.3 percent). In addition, a few studies focus on the effects of exclusive FTAs with ASEAN members. Grumiller et al. (2018) analyse the economic and social effects of the EU-Vietnam FTA and expect a marginal real GDP increase for the EU and an increase of 0.5 percent for Vietnam. The DG for External Policies (2018) analysed the FTA between the EU and Singapore and projected a 10 percent increase in bilateral trade volumes, entailed by a 0.1 percent and 0.4 percent increase in GDP for the EU and Singapore, respectively.

For the Transatlantic Trade and Investment Partnership (TTIP), Ecorys (2017) estimates that GDP will increase between 0.3 percent and 0.5 percent for the EU and between 0.2 percent and 0.4 percent for the US. EU and US exports are also expected to increase by 4.6 percent and 7.2 percent respectively.

Table 1.1: Overview of selected economic studies on FTAs

Study	Metho-dology	Time-frame	1. Affected Countries 2 Issues	Results: GDP (% change)	Welfare (million EUR)	Trade (Export)	Wages/ Employment	Sectors EU and if indicated others (most important)
Ecorys (2009)	GTAP 7	2020	1. EU, NZ 2. Tariffs, NTMs, Investment	n.a.	EU: +3.454 NZ: +1.557	EU: +0.2% NZ: 4.4%	EU wages: no changes NZ wages: +0.2% (sk) & +0.4% (unsk)	Agriculture – Machinery +
LSE Enterprise Ltd. (2017)	GTAP 9	2030	1. EU, NZ 2. Tariffs, NTMs, Investment	EU: +0.1% NZ: +0.5%	EU: +2.600 to +4.800 NZ: +400 to +600	EU: +0.1% NZ: +0.4%	EU wages: +0.1% (sk and unsk); NZ wages: +0.1% (sk and unsk)	Machinery + Motor Vehicles/ Transport Equipment Agriculture
Petri and Plummer (2016)	GTAP 9.0 (dynamic, firm het)	2030	1. TPP (+EU) 2. WTO+	EU: 0.2% NZ: +2.2%	n.a.	EU: +0.5% NZ: +10.2%	n.a.	n.a.
Walmsley, Strutt, Minor and Rae (2018)	GTAP 9.2	2040	1. CPTPP (NZ) 2. Tariffs, quotas NTMs, Investment	NZ: 0.30% (Sc 1); 0.54% (Sc 2); 1.0% (Sc 3); -0.1% (Sc 4)	n.a.	NZ: +0.7% (Sc; 1); +1.4% (Sc 2); +3.2% (Sc 3); -0.1% (Sc 4)	CPTPP wages: rise for all signatories; (especially low-sk); CPTPP employment: workers shift to agricultural and low-sk occupations	NZ: processed food+ Manufactures –
Ecorys (2017)	GTAP 8	2030	1. TTIP, EU, US 2. Tariffs, quotas, NTMs, Investment	EU: +0.3% to 0.5% US: +0.2% to +0.4%	Increased welfare in TTIP countries	EU: +4.6% US: +7.2%	EU wages: +0.5% (sk and unsk) US wages: +0.3% (sk), +0.4% (unsk)	Motor vehicles + Electrical Machinery – US: Non-ferrous metals + Motor vehicles -
LSE Enterprise Ltd. (2015)	GTAP 8	2030	1. EU, Japan 2. Tariffs, NTMs, Investment	EU: +0.8% Japan: +0.3%	n.a.	n.a.	EU wages: +0.7% (sk and unsk) Japan wages: +0.5% (sk and unsk) Employment: electrical machinery: +6.7% (sk and unsk)	Food and feed + Manufactures +

2. METHODOLOGICAL APPROACH

2.1. Overall methodological approach

2.1.1. Economic approach

The economic approach is based on a combination of quantitative and qualitative assessment techniques. The economic modelling (Box 2.1) as a starting point, the Global Simulation Model for case studies, and gravity analyses for FDI and public procurement constitute the quantitative techniques we employ, while the qualitative techniques involve statistical analysis, literature and desk research, and interpretation of survey results with key stakeholders that have engaged in our survey work. We end the economic analysis by providing policy recommendations and flanking measures.

Box 2.1: Brief summary of the economic model used

The starting point for the SIA analysis are the simulations of the FTA's economic effects undertaken by the European Commission DG Trade using a Computable General Equilibrium (CGE) model. The model, which is based on the Global Trade Analysis Project (GTAP), simulates the combined effects of the EU-AUS FTA and the EU-NZ FTA for 32 economic sectors[4] and 15 regions in the world. The simulations are done for two negotiation outcomes with different degrees of liberalisation:

- Conservative scenario: Here, tariffs only on non-agricultural products are assumed to be reduced to zero, while for agricultural products they are not reduced. Also the tariff equivalents of barriers to services trade are reduced by 3%;
- Increased liberalisation (or ambitious scenario): In this scenario, in addition to the liberalisation in the conservative scenario, agricultural tariffs and rate quotas (TRQs) and the EU's entry price system for fruits and vegetables are abolished, and NTBs on non-agricultural goods in Australia and New Zealand (but not the EU) are reduced (assuming a 10% drop in their tariff equivalent).

Source: European Commission (2017g)

We consistently report the impact of the EU-NZ FTA on the EU as modelled by DG Trade in March 2019, which treats the EU27 (without the UK) and the UK separately (see Box 2.2).

We look at the following economic variables in the analysis in a quantitative way: trade flows (bilateral exports and imports; exports and imports to the rest of the world); investment; output; prices; welfare and GDP; as well as fiscal revenues. In addition, we cover FDI and government procurement effects quantitatively as well as conduct a Global Value Chain (GVC) analysis. Qualitatively, we look at main non-tariff measures (NTMs) of relevance to the EU-NZ FTA, as well as rules of origin. We also do a literature review on earlier relevant impact assessment work. The analysis also includes a discussion on the limitations of the CGE results. We pay special attention to SMEs in a separate section, in particular to the 'SME test' (the 'think small first' principle) and how the FTA could ease NTMs for SMEs and increase legal certainty. Geographically, we not only look at the effects of the EU-NZ FTA on the EU and New Zealand, but also – separately – at Turkey, the EU's Outermost Regions, Overseas Countries and Territories, and Least Developed Countries (LDCs).

Box 2.2: Treatment of the United Kingdom's potential withdrawal from the EU in this study

On 29 March 2017, the UK invoked Article 50 of the Treaty on European Union, meaning that the UK would withdraw from the EU on 29 March 2019. The date of the UK's exit has meanwhile been postponed and at the time of writing (08 November 2019) is foreseen to take place no later than 31 January 2020. This raises obvious issues for the datasets to be used in this study.

[4] The 32 sectors distinguished in the model were determined by the Commission by aggregating the 57 GTAP sectors. As is common for CGE models, due to data availability constraints, services sectors are more aggregated that goods sectors. Thus, the Commission's model distinguishes only six non-goods sectors, some of which comprise fairly heterogeneous sectors; for example, business services are combined with communication services. For more detail, see European Commission (2017d).

At the time of preparing the ex-ante study (LSE 2017) and the Impact Assessment (European Commission 2017), the economic modelling estimated the FTA effects on the EU28. Considering the impending withdrawal of the UK from the EU, the Commission re-simulated the FTA effects for the EU27 (i.e. the EU without the UK) in early 2019, and these new simulations constitute the basis for the present SIA. Specifically, the anticipated impacts reported in this study on the European side refer to the EU27. However, in reporting the current state of play or current situation, we refer to the EU28 because the current situations are by definition about the current 28 EU Member States.

For methodological reasons – i.e. to isolate the effects of the EU-NZ FTA[5] – the EU27 simulation assumes no change in the UK's trade policy after withdrawal from the EU.[6] Accordingly, the differences between the two CGE simulations are marginal in relative terms (percentage changes), as the table below illustrates for bilateral trade at the sector level. In absolute terms (i.e. changes in euros), the EU27 values are smaller than the EU28 ones because the UK is no longer calculated as part of the EU.

	Change in EU exports to NZ*				**Change in NZ exports to EU***			
Scenario	Conservative		Ambitious (Increased Liberalisation)		Conservative		Ambitious (Increased Liberalisation)	
Simulation / Sector	Impact assess. (EU28)	New sim. (EU27)	Impact assess. (EU28)	New sim. (EU27)	Impact assess. (EU28)	New sim. (EU27)	Impact assess. (EU28)	New sim. (EU27)
rice	0%	0%	0%	0%	0%	0%	35%	34%
cereals	0%	1%	4%	3%	0%	0%	5%	5%
veg_fruit	2%	2%	3%	2%	39%	38%	38%	37%
oil_seeds	1%	1%	1%	1%	21%	21%	20%	20%
sugar	0%	0%	0%	0%	0%	1%	425%	418%
fiber_crop	2%	2%	5%	3%	8%	7%	6%	6%
ruminant_meat	1%	2%	5%	4%	0%	0%	25%	25%
other animal	0%	1%	1%	1%	11%	11%	10%	10%
other_meat	40%	30%	42%	30%	6%	6%	5%	5%
dairy	27%	28%	29%	29%	0%	0%	134%	133%
wood_paper	5%	5%	4%	4%	1%	1%	1%	1%
fishing	1%	1%	1%	1%	20%	19%	20%	19%
coal	-1%	0%	96%	96%	0%	0%	0%	0%
oil	0%	0%	14%	14%	-1%	-1%	-1%	-1%
gas	0%	2%	2057%	2612%	-1%	-1%	-1%	-2%
minerals	1%	1%	10%	10%	-1%	-2%	-2%	-5%
other_food	12%	12%	13%	13%	54%	53%	54%	53%
bev_tob	6%	6%	6%	6%	15%	15%	14%	14%
textile	47%	48%	101%	101%	19%	18%	18%	18%
chemicals	9%	9%	27%	27%	29%	29%	29%	29%
oil_pcts	4%	4%	8%	8%	3%	2%	3%	2%
metal_pcts	21%	21%	52%	52%	16%	16%	16%	16%
no_metal_pct	18%	17%	54%	53%	5%	4%	3%	3%
motor_equip	22%	22%	44%	43%	13%	12%	14%	14%
machinery	20%	20%	63%	62%	9%	9%	9%	9%
ele_other	12%	12%	53%	53%	8%	7%	7%	7%
electricity	0%	0%	0%	0%	0%	0%	0%	0%
utility	8%	8%	9%	9%	9%	9%	9%	8%
transport	7%	7%	7%	7%	9%	9%	8%	8%
communication	7%	7%	7%	8%	9%	8%	8%	8%
financial	7%	8%	7%	8%	8%	8%	8%	8%
other_serv	8%	8%	8%	8%	8%	8%	8%	8%
TOTAL	14%	14%	32%	33%	11%	11%	22%	25%

* Compared to baseline.

2.1.2. Social approach

The social analysis seeks to respond to the question of how a reduction of tariffs and NTMs between the Parties via signing the EU-NZ FTA may affect a range of social aspects in the EU and New Zealand. We also seek to determine potential direct and indirect social impacts of other provisions of the future FTA, e.g. on Trade and Sustainable Development (TSD).

[5] Only one combined simulation for the EU-NZ FTA and the EU-Australia FTA was undertaken; in other words, the modelling assumes that both FTAs are concluded.

[6] Any such change would likely to have a larger impact on the EU than the FTA with New Zealand and would therefore render it impossible to assess the effects of the latter.

For each of the following social aspects we analyse first the current situation, then analyse the expected impacts and conclude by suggesting policy recommendations and flanking measures related to: employment levels, women (as workers, entrepreneurs, traders and consumers), consumer welfare (including inequality and vulnerable groups), job quality, rights at work, corporate social responsibility (CSR), and public policies (e.g. social protection, healthcare). Gender equality issues will be presented in a separate section.

2.1.3. Human rights approach

The human rights approach looks at how the EU-NZ FTA could affect the enjoyment of and state's responsibilities regarding human rights. Conceptually, we use an approach that is based on De Schutter (2011) and the European Commission Guidelines for the analysis of human rights impacts in impact assessments for trade-related policy initiatives (European Commission, 2015). First, we provide a concise overview of the *human rights legal framework*. Second, we carry out a screening and scoping exercise to identify specific *key human rights/issues* that are most likely affected. Third, we focus on a limited number of selected human rights/issues and carry out a *detailed assessment* (quantitative and qualitative) of these rights, substantiating on the extent to which particular measures foreseen in the proposed Agreement may affect the enjoyment of the relevant rights. Finally, we propose policy recommendations and relevant flanking measures.

2.1.4. Environmental approach

In the environmental impact assessment, we assess the most significant potential environmental impacts resulting from the EU-NZ FTA on both the EU and New Zealand. The environmental analysis results in a clear and concisely written report detailing, both in a quantitative and qualitative manner, which environmental impacts are likely to occur. We start by looking at the different FTA elements that could have environmental impact, followed by an analysis of the impact channels (i.e. the mechanisms through which the FTA elements can result in environmental impacts). This helps us to define the different specific environmental areas which can be affected by the FTA elements, the so-called impact areas (e.g. air quality, biodiversity). For each of these impact areas, we carry out a quantitative and qualitative impact assessment and draw policy recommendations and propose flanking measures if necessary.

2.1.5. Sector and case study selection and methodology

Sector selection and methodology

We use four criteria to prioritise a maximum of five sectors (CGE based) to look at in more detail. First, importance of the sector for the economy (sector's size in employment, output/value added). Second, the magnitude of the FTA's expected economic impact on a sector (based on economic impact). Third, magnitude of FTAs expected social, human rights and/or environmental impact. Fourth, importance of a sector as indicated by key stakeholders and issues of relevance for the negotiations. We also factor in a gender equality and SME perspective and we also aim for broad economic coverage (by trying to include at least one agricultural, one industrial and one service sector). Based on these criteria, we selected *ruminant meats, dairy, machinery, motor vehicles and transport equipment, and communication and business services*. For each of these sectors we first look at the current situation, then cover the economic expected effects followed by the three sustainability pillar effects (social, human rights, environmental). In addition, we look at the effects for SMEs and third countries as well as how competitiveness of a sector is affected, as well as draft policy recommendations and flanking measures.

Case study selection and methodology

In addition to the sector selection, an important feature of the SIA is that we include case studies. These allow us to go beyond the modelling results and delve into specific relevant issues important for stakeholders. The selection of case studies was based on four selection criteria to prioritise: First, key stakeholder suggestions for case study topics. Second, relevance for one/more sustainability pillars. Third, specific/narrow economic effects. Fourth, relevance for the negotiations. Based on these criteria, the selected case studies are *biodiversity, children's rights and poverty, vegetables, fruits & nuts,* and *aluminium*.

2.2. Consultation approach

The details of the approach to consultations – the second core element of the SIA – are presented in Chapter 5, alongside summarised feedback that we received throughout the study.

3. OVERALL IMPACT ANALYSIS

3.1. Economic impact analysis

3.1.1. Overall macro-economic effects

The economic analysis suggests that the EU-NZ FTA is likely to have positive impacts on both the EU (which is defined as EU27, excluding the UK) and New Zealand economies (see Table 3.1) in both the ambitious and conservative scenarios. By 2030, compared to the baseline, real GDP is not expected to change in the EU in relative terms in either scenario, though still sizeable in euros, by €1.8 billion in the conservative scenario and €3.9 billion in the ambitious one. For New Zealand real GDP is expected to increase by €1.3 billion in the ambitious and €0.7 billion in the conservative scenario. The absolute gains are larger for the EU compared to New Zealand given the comparative sizes of the two economies. The effects of the EU-NZ FTA on welfare (i.e. on producers, consumers, government) in the EU and New Zealand are €2.2 billion for the EU and to €381 million for New Zealand in the conservative scenario and € 4.1 billion and €567 million respectively in the ambitious scenario.

The economic gains are driven mainly by EU exports to New Zealand, though changes in New Zealand's exports to the EU also are expected to be positive. EU bilateral exports to New Zealand increase by 13.5 percent while New Zealand exports to the EU rise by 10.2 percent in the conservative scenario and by 31.7 and 23.4 percent respectively in the ambitious scenario. EU total exports do not change in the conservative scenario and rise marginally by 0.1 percent in the ambitious one. New Zealand's export gains are relatively larger, with 0.7 and 0.4 percent increases in the ambitious and conservative scenarios respectively.

Table 3.1: Summary of overall macro-economic effects[7]

	EU27		New Zealand	
	Conserva-tive	Ambitious	Conserva-tive	Ambitious
Macro-economic indicators				
Welfare (€ million)	2,176	4,086	381	567
Real GDP (€ million)	1,755	3,917	680	1,333
Consumer prices – CPI (% change)	+0.0	0.1	+0.0	0.1
Trade effects (% change)				
Bilateral exports	13.5	31.7	10.2	23.4
Total exports	+0.0	0.1	0.4	0.7
Total imports	0.1	0.1	0.9	2.0
Factor markets (% change)				
Real wages unskilled labour	+0.0	+0.0	0.3	0.7
Real wages skilled labour	+0.0	+0.0	0.2	0.5
CO2 emissions (% change)	+0.0	0.1	0.3	0.6

Source: Authors' calculations based on CGE results provided by DG Trade (2019)

The model predicts marginal consumer price effects (measured by the Consumer Price Index – CPI), of between 0.0 and 0.1 percent for the EU and the same for New Zealand (depending on the scenario). Real wages are almost unchanged in the EU (see footnote 6), and in New Zealand real wages are expected to increase by 0.7 percent for unskilled workers and 0.5 percent for skilled workers in the ambitious scenario (and 0.3 percent and

[7] We round off the expected economic effects to one decimal behind the comma because presenting more detailed results would give a false sense of accuracy due to the error margins of the model. In case the rounded off effects are 0.0, we do add a "+" or "–" to show if the rounded off effect was marginally positive or negative.

0.2 percent for the two skill categories in the conservative scenario). This shows the economic benefit of the EU-NZ FTA.

3.1.2. Sectoral effects

In this section, we look at the overall sectoral effect expected to result from an EU-NZ FTA. We focus our reporting on exports from EU to New Zealand and from New Zealand to the EU as well as changes in output at sectoral level for the most impacted sectors in the EU and New Zealand. Table 3.2 reports this sectoral impact, and Table 3.3 ranks the top 15 sectors by the expected changes in bilateral export value. We believe this is the right measure to use because a very large relative change is meaningless if the base export values to which that relative change related is almost zero. For example, the 2,612 percent increase in gas exports from the EU to New Zealand may look impressive, but currently EU gas exports to New Zealand are €3,375 – essentially zero – so an increase in 2,612 percent means EU gas exports to New Zealand increase from €3,375 to €88,165. This is 0.007 percent of the increase in machinery exports from the EU to New Zealand.

Sectoral export effects

The top sectors for the EU likely to be impacted in terms of increase in export values to New Zealand are machinery (€1.3bn in the ambitious scenario), motor vehicles and transport equipment, chemicals, metal product, electronic equipment, and textiles. The industrial sector gains are mainly driven by the reduction of NTMs facing goods trade with New Zealand. The gains are nearly twice as large in the ambitious scenario, reflecting the assumption that NTM reductions are more ambitious than in the conservative scenario, coupled with knock-on effects from services liberalisation which drives additional income gains. The leading services sector effects are in communication and other services. It is important to note, however, that services sector liberalisation has an impact beyond the services sectors, because there is a significant service component in each of the manufacturing final products that are exported.

In the ambitious scenario, the largest gains for New Zealand's exports to the EU are seen in agriculture (dairy - €466 million, beef and sheep meat - €356 million, vegetables, fruits & nuts and other food) followed by industrial products (chemicals; textiles; and metal products) and services (other services, transport services and communication services). The potential gains for dairy and beef and sheep meat do not feature in the top-15 most impacted sectors in the conservative scenario (see Table 3.3) because in the conservative scenario these two sectors are not part of the liberalisation scenario.

Sectoral output effects

The FTA impact on production at the sectoral level reflects the combined effects of changes in bilateral exports, changes in bilateral imports (which take up some market share in the domestic economy), the effects of trade diversion, inter-sectoral demand impacts through input/output relationships, and the impact of overall income changes due to the FTA. The expected changes in sectoral output for the EU and New Zealand from the EU-NZ FTA are also reported in Table 3.2.

Table 3.2: EU sectoral exports (EU-NZ and NZ-EU) and sectoral production (% change compared to baseline)

	Exports EU-New Zealand		Exports New Zealand – EU		EU production		New Zealand production	
Sector	**Conservative**	**Ambitious**	**Conservative**	**Ambitious**	**Conservative**	**Ambitious**	**Conservative**	**Ambitious**
Rice	0.0	0.1	0.3	33.7	0.0	-0.1	-0.1	-0.2
Cereals	0.2	2.8	-0.1	4.5	0.0	-0.1	-0.9	-1.7
Vegetables/fruits	1.7	2.4	37.9	36.6	-0.2	-0.2	2.6	2.2
Oil seeds	1.1	1.2	21.0	19.8	-0.1	-0.1	-0.2	-0.9
Sugar	-0.1	-0.1	0.7	418.5	0.0	-0.2	-0.3	-0.7
Fibre crops	2.1	3.3	7.3	5.7	0.0	-0.1	0,1	-0.8
Beef and sheep meat	0.6	4.2	0.3	25.3	0.2	-1.4	-0.1	4.1
Other animal products	0.5	0.6	10.8	10.0	0.0	0.0	1.0	0.4
Other meat	29.4	30.4	6.0	4.6	0.0	0.0	-0.4	-1.1
Dairy	27.2	29.4	0.4	133.3	0.1	-0.1	-0.8	0.5
Wood and paper	5.0	4.1	1.6	0.9	0.0	0.0	-0.1	-0.3
Fishing	1.2	1.2	19.2	19.3	0.0	0.0	0.0	0.0
Coal	-0.4	96.2	0.2	-0.1	0.0	-0.1	0.1	0.2
Oil	0.2	14.0	-0.4	-0.9	0.0	-0.1	0.0	-0.1
Gas	1.2	2611.8	-0.9	-1.6	-0.1	0.3	0.3	0.3
Minerals	1.0	9.8	-2.2	-5.0	0.0	0.0	0.1	0.2
Other food	12.1	12.5	53.7	52.9	0.0	0.0	0.3	0.2
Beverages & tobacco	5.8	6.0	14.8	14.5	0.0	0.0	0.7	0.7
Textiles	47.3	101.1	18.6	17.6	0.0	0.0	0.8	-0.2
Chemicals	9.1	26.5	29.5	28.7	0.0	0.0	0.6	-0.2
Oil products	3.6	8.2	2.3	2.3	0.0	0.0	0.3	0.5
Metal products	21.2	52.0	16.5	15.9	0.0	0.0	-0.1	-1.0
Non-metal products	17.3	53.4	4.4	3.2	0.0	0.1	0.3	0.3
Motor vehicles	22.2	43.0	12.3	13.7	0.2	0.3	-1.3	-2.7
Machinery	19.5	62.4	9.4	9.2	0.0	0.1	-0.6	-2.8
Elect. machinery	12.2	53.0	7.4	7.0	-0.1	-0.1	0.2	0.1
Electricity	0.0	0.3	0.1	-0.2	0.0	0.0	0.2	0.4
Utilities	7.9	9.1	9.1	8.5	0.0	0.1	0.7	1.7
Transport services	7.2	7.5	8.7	8.4	0.0	0.0	0.2	0.2
Comm. services	7.2	7.6	8.7	8.3	0.0	0.0	0.2	0.5
Financial services	7.8	8.3	8.6	8.1	0.0	0.0	0.2	0.3
Other services	7.8	8.3	8.5	7.9	0.0	0.0	0.2	0.3
Total	**8.7**	**32.0**	**9.9**	**28.5**				

Source: Authors' calculations based on CGE results provided by DG Trade (2019)
NOTE: In red, we highlight the more significant negative export and output effects and in green the more significant positive effects.

Table 3.3: Bilateral export increases (€ million) between EU and New Zealand for conservative and ambitious scenarios (top-15 sectors)

Conservative scenario				Ambitious scenario			
EU-NZ exports		**NZ-EU exports**		**EU-NZ exports**		**NZ-EU exports**	
Top-15 sectors	Export value increase (€mln)	Top-15 sectors	Export value increase (€mln)	Top-15 sectors	Export value increase (€mln)	Top-15 sectors	Export value increase (€mln)
Machinery	402	Vegetables, fruits & nuts	201	Machinery	1,289	Dairy	466
Motor vehicles and transport equipment	307	Other food	87	Motor vehicles and transport equipment	596	Beef and sheep meat	356
Chemicals	82	Chemicals	73	Chemicals	239	Vegetables, fruits & nuts	194
Communication service	72	Other services	70	Metal products	137	Other food	85
Transport services	59	Transport services	56	Electronic equipment	105	Chemicals	70
Metal products	56	Communication services	39	Textiles	99	Other services	65
Other services	50	Textiles	24	Communication services	76	Transport services	53
Textiles	47	Metal products	23	Transport services	61	Communication services	37
Other food	32	Machinery	22	Other services	53	Textiles	22
Dairy	25	Other animal products	18	Non-metal products	49	Metal products	22
Electronic equipment	24	Beverages & tobacco	12	Other food	33	Machinery	21
Other meat	19	Motor vehicles and transport equipment	9	Dairy	27	Other animal products	16
Non-metal products	16	Fibres and crops	9	Other meat	20	Beverages & tobacco	12
Wood and paper	13	Financial services	8	Financial services	11	Motor vehicles and transport equipment	10
Financial services	11	Other meat	8	Utilities	11	Financial services	8

Source: Authors' calculations based on CGE results provided by DG Trade (2019)
NOTE: In red, we highlight the sectors that have been selected for sector-specific analysis and in blue the case studies.

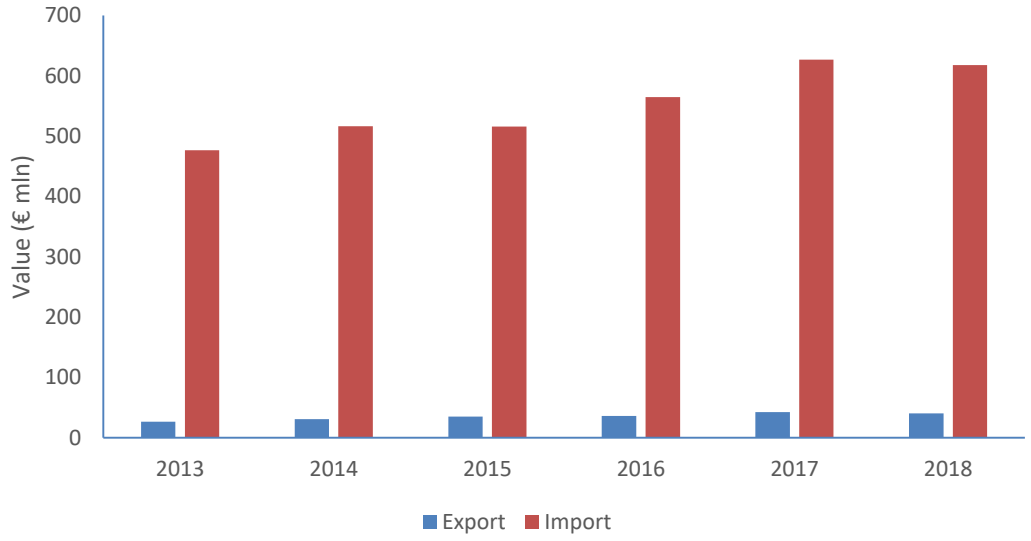
The EU experiences losses in sectoral output in several of the 32 sectors in both the conservative and ambitious scenarios, although the output effects are very small. The production declines are relatively larger in beef and sheep meat (0.2 percent and -1.4 percent in the two respective scenarios) and fruits and vegetables (-0.2 percent). In contrast, motor equipment registers a 0.2 percent and 0.3 percent rise in sectoral output in the conservative and ambitious scenarios. New Zealand experiences losses in sectoral output in 13 sectors each in the conservative and ambitious scenarios, respectively, especially in motor equipment (-1.3 percent and -2.7 percent), cereals (-0.9 percent and -1.7 percent), machinery (-0.6 percent and -2.8 percent) and other meat (-0.4 percent and -1.1 percent). At the same time, gains in sectoral output occur in all remaining sectors, and these are especially large in the case of fruits and vegetables (2.6 percent and 2.2 percent), beef and sheep meat (-0.1 percent and 4.6 percent), and beverages and tobacco (0.7 percent and 0.7 percent). Services sectors in New Zealand benefit across the board, ranging from a 0.2 percent increase in output in transport services and 0.7 percent in utilities in the conservative scenario to 1.7 percent in utilities in the ambitious scenario. EU gains in services are much smaller in relative terms (due to the larger sizes of these sectors when compared to New Zealand). The gains for New Zealand also reflect the greater liberalisation of New Zealand's services imports, especially in the ambitious scenario, which puts a downward pressure on prices in these sectors, increasing the competitiveness of these sectors resulting in output increases.

Case Study 3.1: Vegetables, fruits and nuts (VFN)

Introduction

The importance of the horticultural sector is particularly high for New Zealand (Figure CS3.1-1).

Figure CS3.1-1: Bilateral trade EU and New Zealand in VFN (2013-2018)



VFN are the second largest sector in terms of EU imports from New Zealand, after ruminant meat and followed by beverages and tobacco. New Zealand's major fruit and vegetable commodities exported to the EU are apples, pears and quinces, including kiwi fruits, the most important export (€188 million), onions, shallots & garlic (€41.2 million) and other fresh fruit products (€296 million). EU exports of fruits and vegetable products are comparatively small and mainly comprise of coffee (€3.4 million), other fruit products (€1.9 million) and vegetables (€1.5 million).

Current situation

While New Zealand's tariffs are zero for most VFN categories, the EU imposes relatively high tariffs on VFN products imported from New Zealand. The EU applied tariffs are 9.6 percent for onions, 12.3 percent for dried vegetables, 7.2 percent for apples, pears and quinces, and 8 percent for other fresh fruit products. In addition, products such as kiwi fruit are subject to seasonal tariffs. According to *Horticulture New Zealand*, duties on kiwifruit make up 80 percent

of the duties applied by the EU in this sector. For New Zealand, the relatively high EU tariffs on horticultural exports are a challenge because many third country competitors benefit from substantially lower tariffs due to FTAs they have with the EU. Tariff differences become even more significant when the EU grants zero duties to third countries with comparable harvesting cycles. For example, the EU applies a 9.6 percent tariff for New Zealand onions, while competitors from Chile, Peru and South Africa now enjoy a 0 percent tariff. At the same time, the *New Zealand Horticulture Export Authority* (NZHEA) appreciates the "special status for apples, pears and kiwifruit whereby conformity checking against the EU marketing standards are performed in New Zealand and thereby negating the need for compliance inspection on arrival" (NZHEA, 2016).

With respect to the EU's *Entry Price System*, its present impact on New Zealand's effective market access is difficult to evaluate. In New Zealand, the Government introduced a *commodity levy for onions* in 2013, supplemented by a *voluntary exporter levy*, with a participation rate of 90 percent of production. These levies seem to be effective. The EU does not have trade defence actions such as safeguards or anti-dumping / anti-subsidy measures in place against New Zealand. Nonetheless, New Zealand still applies anti-dumping measures against canned peaches from Greece (with foreseen expiry date of 14.7.2020). In terms of *private production and shipping standards*, NZHEA notes that *"New Zealand is the only country in the world with a 100 percent GLOBAL G.A.P. certification rate for apples and kiwifruit, and for post-harvest the BRC Global Standards."* The absence of binding, multilateral phytosanitary standards for plant health, including biosecurity surveillance, may complicate the adoption of a bilateral *Mutual Recognition Agreement* – especially where Parties have undertaken commitments in other agreements (e.g. CPTPP, CETA, ASEAN-AUS-NZ FTA).

Horticulture provides 60,000 jobs in New Zealand. It is estimated that tasks related to harvest and pruning require around 30,000 workers,[8] one third of whom come to New Zealand under the Recognised Seasonal Employer scheme, which enables recruitment of seasonal workers mainly from Pacific islands, with an increasing annual cap, currently at 12,850 persons, set in 2018.[9] The sector hires also other groups of short-term migrant workers, including students with right to work. In 2018, sector representatives welcomed the Government's intention to review the immigration policy, including rules related to temporary work visas to provide more certainty for migrant workers and farmers and to help attract skilled migrant workers to regions where New Zealand's residents with the right skills set are not available.[10] Stringer (2016) revealed examples of exploitation of short-term migrant workers, including in the sector of horticulture, relating to working excessive hours and severe underpayment. To address the problem of exploitation of migrant workers, the Government has taken diverse measures, including preparation of information materials for migrant workers about their rights[11] and introducing regulations banning employers breaching employment standards from hiring migrant workers (US Department of State, 2018).[12] The Government agency WorkSafe has published a guide on health and safety at work in horticulture.[13] There are also private sector initiatives aiming at improved working conditions. The New Zealand's Health and Safety at Work Strategy 2018-2028 is also meant to improve workers' protection. It assumes focus on

[8] Horticulture NZ, Increase in Pacific worker numbers good for horticulture: http://www.hortnz.co.nz/news-events-and-media/media-releases/increase-in-pacific-worker-numbers-good-for-horticulture/

[9] New Zealand Immigration, Recognised Seasonal Employer scheme: https://www.immigration.govt.nz/about-us/research-and-statistics/research-reports/recognised-seasonal-employer-rse-scheme

[10] NZ Herald: Farmers, growers welcome immigration proposals (of 18 December 2018): https://www.nzherald.co.nz/the-country/news/article.cfm?c_id=16&objectid=12178976 [accessed on 15 May 2019] and Horticulture NZ, Proposed temporary visa changes welcomed by horticulture: http://www.hortnz.co.nz/news-events-and-media/media-releases/proposed-temporary-visa-changes-welcomed-by-horticulture/

[11] Information materials for migrant workers explaining their rights have been prepared and published in Chinese, Korean, Hindi, Vietnamese and other languages spoken by the largest groups of migrants: https://www.immigration.govt.nz/about-us/policy-and-law/integrity-of-the-immigration-system/migrant-exploitation [accessed on 3 June 2019]

[12] Labour inspection in New Zealand publishes lists with the names of employers (companies) who have breached employment standards with regard to migrant workers and have been banned from recruiting migrant workers. Such lists are regularly updated (at the time of writing this Report, the latest version was of 29 May 2019). In the first four months of 2019, 46 employers were banned from employing migrant workers. There are also financial penalties imposed: https://www.employment.govt.nz/assets/Uploads/3abebaac61/published-stand-down-report-2019-05-29.pdf [accessed on 3 June 2019]

[13] WorkSafe NZ, Keep safe, keep growing: How to be healthy and safe in horticulture: https://worksafe.govt.nz/topic-and-industry/horticulture/keep-safe-keep-growing-how-to-be-healthy-and-safe-in-horticulture/ [accessed on 15 June 2019]

areas with the potential of the greatest impact of action, i.e. groups of workers being most in need, including migrant and seasonal workers, and enterprises needing support (MBIE, 2018c). In the EU, the VFN sector provided 9 percent of all full-time equivalent jobs in agriculture in 2016 with high shares of seasonal workers and non-family members (compared to other sub-sectors in agriculture) due to the labour-intensive nature of work in the sector. In 2013, seasonal and non-family workers (including domestic workers, citizens of other EU Member States and third country citizens) in horticulture represented one third of all workers of this category employed in EU agriculture (with higher shares for the Netherlands, Spain and Poland, among others)[14] (European Parliament, 2019). There have been reports about tough working conditions and cases of exploitation of seasonal migrant workers in the sector in some EU Member States. This included long working hours, low pay, exposure to chemicals and inadequate accommodation in cases when workers lived on or close to farms.[15]

Despite the importance of fruits and vegetables in New Zealand's exports, fruit and vegetable growing constitutes a minor share of total agricultural land use in New Zealand. A comparison of all environmental impacts of different agricultural commodities also revealed that fruits and vegetables have one of the lowest environmental impacts across various impact categories[16]. Still, a meta-review of LCA studies in the fruits and vegetables sectors globally[17] finds that material inputs used such as fertilizers, pesticides, fuel (for machinery) and electricity are the dominant contributors to most of the environmental impact created by the sector. Emissions of ammonia, methane, nitrous oxide and embodied CO_2 emissions in the fertilizers are found to create particular impact on climate change, water quality (through eutrophication) and acidification of soils and waters (leading to loss of biodiversity). Next to these, impacts due to irrigation were also reported to be substantial, driven by the need to extract water and operating pumps based on fossil fuels for it. The type of production (open-field or greenhouse) can give rise to differences in overall environmental impact (greenhouses typically worse for climate change, but better for impact on soil and water and vice versa). In New Zealand, the predominant production mode is open field. A study in Britain also found that environmental impacts associated with transport can make a significant difference for its overall climate change footprint, with locally produced apples to be found 87% less harmful in terms of GHG emissions compared with imported apples[18]. A life-cycle assessment around the production of apples in New Zealand (its second largest export product after kiwifruit)[19], finds that the environmental impact of apple production locally is dominated by the impact it creates on soil, which in turn is fully explained by the use of pesticides for pest control, which can in turn affect biodiversity depending on soil. Secondly, the negative impact of fertilizer use on water quality is found most significant, since excess fertilizer run-off can create eutrophication and acidification of water bodies. It should also be mentioned though that the extent of environmental impacts differed strongly from site to site depending on their agricultural management practices.

Impact assessment

Table CS3.1-1 shows the economic modelling results for the VFN sector. EU production decreases by 0.2 percent while production of VFN in New Zealand grows between 2.2 percent and 2.6 percent, compared to the baseline. EU exports do not change while New Zealand's exports to the EU increase significantly.

[14] The numbers may be underestimated as statistical methods, including surveys may not be able to capture all workers, e.g. employed in small producing units or carrying out short-term undeclared work.

[15] Open Society. European Policy Institute (2018), Is Italian agriculture a „pull factor" for irregular migration, and if so, why?: https://www.opensocietyfoundations.org/uploads/ba12312d-31f1-4e29-82bf-7d8c41df48ad/is-italian-agriculture-a-pull-factor-for-irregular-migration-20181205.pdf and Farmers Weekly (2018), Shocking extent of modern slavery in agriculture revealed: https://www.fwi.co.uk/news/shocking-extent-of-modern-slavery-in-agriculture-revealed.

[16] Poore, J., Nemeck, T., 2019, Reducing food's environmental impacts through producers and consumers, available at: https://josephpoore.com/Science%20360%206392%20987%20-%20Accepted%20Manuscript.pdf

[17] Parajuli, R., Thoma, G., Matlock, M., 2019, Environmental sustainability of fruit and vegetable production supply chains in the face of climate change: a review, Science of the Total Environment 650 (2019) 2863-2879

[18] Jones, A., 2002. An environmental assessment of food supply chains: a case study on dessert apples. Environ. Manag. 30, 560–576.

[19] Milà i Canals, L., Burnip, G. M., & Cowell, S. J. (2006). Evaluation of the environmental impacts of apple production using Life Cycle Assessment (LCA): Case study in New Zealand. Agriculture, Ecosystems & Environment, 114(2-4), 226–238

Exports of VFN products to the EU are important for New Zealand, while exports to New Zealand are less important but not insignificant for the EU (mainly kiwifruit from Italy). For the EU and New Zealand, the estimated percentage changes in aggregate consumer prices are below the perception threshold for both liberalisation scenarios.

These results suggest that the EU-NZ FTA may bring about increases in employment in the VFN sector in New Zealand by 2.9 percent for skilled and unskilled workers under the conservative scenario and by 2.4 percent for unskilled workers and 2.5 percent for skilled ones under the ambitious scenario, and it is expected to positively impact the *right to work and right to an adequate standard of living*, especially because overall wages in New Zealand also go up. This effect is related to the expected increase in New Zealand's exports to the EU. In the EU, we expect a limited employment reduction of -0.2 percent for both, skilled and unskilled workers and under both scenarios, marginally negatively impacting the *right to work* in the VFN sector. However, because real wages go up marginally, this is mainly due to other sectors pulling workers away from VFN in the EU. In New Zealand, as outlined in the preceding section, there are initiatives aiming at ensuring safe working environment in the sector, which could help avoid increase in the number of accidents at work related to employment growth in the sector. The EU-NZ FTA may also contribute to an increased demand for seasonal workers in New Zealand, incl. short-term migrants, given the expected growth in output and exports. In this context, the *right to just and favourable conditions of work* needs to be monitored to ensure that working conditions for these workers are decent and meet established standards, and that cases of workers' exploitation are prevented and when they happen, are investigated and addressed.

Table CS3.1-1: Economic modelling results for VFN sector

Fruits, Vegetables and Nuts	Conservative Scenario	Ambitious Scenario
Output		
EU change in output (%)	-0.2	-0.2
NZ change in output (%)	2.6	2.2
Exports		
EU change in exports (€ million)	0.1	0.1
EU change in exports (%)	1.7	2.4
NZ change in exports (€ million)	201	194
NZ change in exports (%)	37.9	36.6
Consumer prices		
EU change in prices (%)	+0.0	0.1
NZ change in prices (%)	-0.0	0.1

Source: Authors' calculations based on CGE results provided by DG Trade (2019)

The overall environmental analysis (see Section 3.6) shows that in terms of climate change impacts, the FTA will result in an increase in N_2O emissions in the agri-vegetal sector (from fertilizer use) in New Zealand and a decrease in N_2O emissions for the EU in this sector due to the projected change in production volumes as a result of the FTA. The overall impact of the FTA on climate change is still expected be negative due to the increase in exports of fruits and vegetables between New Zealand and the EU and the impact of transportation on the climate footprint of a typical product in the sector (90% as explained above). There will be some substitution of imports from other third countries in favour of New Zealand, but since New Zealand in terms of distance is likely to be further than the average distance of imports of VFN in the EU currently, the emissions effect related to imports of VFN into the EU is expected to be positive. Impact on air quality in either the EU or New Zealand of the FTA will be negligible due to the absence of significant emissions of other than GHG air pollutants. Other local environmental impacts related to VFN production will similarly increase in New Zealand and decrease in the EU. Particularly emissions of ammonia, methane and nitrous oxide from the use of fertilizers can create negative impacts on water quality (through eutrophication) and acidification of soils and waters if not adequately managed. However, due to the overall scale of these impacts in the sector (modest compared to other produce) and the relatively limited increase in output expected (between 1.9% and 1.4% in New Zealand), the overall environmental impacts are expected to be limited.

Policy recommendations

Of mutual benefit for both parties would be a binding commitment to a process that resolves technical trade issues within agreed timeframes. This commitment could also allow for the recognition, based on the equivalence of the phytosanitary status in each party, of export consignments based on approved operators and independent third-party verification agencies. While the EU's phytosanitary system imposes few restrictions on the importation of horticultural products from New Zealand, import approval procedures for each of the EU member states are considered as additional trade barriers, unnecessary in view of the Single Market common standards, and cumbersome especially when deviating without justification from relevant Codex and IPPC rules.

Given that the EU-NZ FTA is likely to trigger an increase in demand for seasonal and migrant workers in the VFN sector in New Zealand, it will be important to ensure that working conditions for these groups are decent, protecting their *right to work*. While this will be a primary obligation of employers, the situation should be monitored by trade unions and labour inspection and cases of breaching the standards identified and addressed. In this context, New Zealand should continue applying measures helping to prevent exploitation of migrant workers, e.g. promotion of information materials in their own languages, and publication of names of employers banned from employing migrant workers for breaches in their rights.

Value chain dimension

Global value chains (GVCs) play a much greater role in global trade in the 21st Century than they did in the previous one. The fragmentation of production of goods and services across entities and borders is a new phase in the evolution of the global economy. According to Kowalski (2015), FTAs "have a higher impact on trade flows of intermediate goods in manufacturing sectors than on aggregate trade flows. […] the impact is greater when the agreement is regional in character". In addition, the WTO (2011) has provided evidence suggesting that FTAs increase trade in parts and components by 35 percent among the parties and each additional legally enforceable provision increases trade in parts and components by almost 2 percentage points. For both Australia and New Zealand, it is important to keep in mind that their geographical location relatively far away from main global trade routes, has an impact on their baseline GVC engagement.

In this sub-section we focus on the goods and services sectors that are important from the perspective of value-added trade between the EU and New Zealand. Essentially, these are the sectors in which the EU imports significant intermediate inputs from New Zealand, which are then used in domestic production in the EU that caters to both domestic consumption in the EU and EU exports, both within the EU and the rest of the world, including New Zealand. Any tariffs and/or NTMs on the products in these sectors thus lead to a two-fold escalation of costs between the partners – once when the products are imported as intermediate inputs and then when they are exported as final products. The data for these sectors, converted to Euro million, are sourced from the WTO-OECD TiVA ("Trade in Value Added") database and are reported for the year 2015.

Table 3.4 reports New Zealand's value added in EU final demand for the year 2015, according to the WTO-OECD TiVA's sectoral classification. New Zealand's value added embodied in EU final demand captures the value added that New Zealand's industries export both directly, through exports of final goods or services and, indirectly via exports of intermediates that reach EU final consumers.

The measure reflects how domestic industries (upstream in a value-chain) are connected to consumers in other countries, even where no direct trade relationship exists. The indicator illustrates therefore the full upstream impact of final demand in foreign markets to domestic output. It can be interpreted as 'exports of value added'.

These data suggest that the EU's final demand has driven New Zealand's value added the most in wholesale and retail trade; agriculture, forestry and fishing; and food products, beverages and tobacco. Wholesale and retail trade alone contributed 16.1 percent of New Zealand's value added in EU final demand in 2015.

Table 3.4: New Zealand's value added in EU final demand (€ mln, 2015, top-10 sectors)

Sector	Value added (€ million)	Share (%)
Wholesale and retail trade; repair of motor vehicles	626.9	16.1
Agriculture, forestry and fishing	500.2	12.9
Food products, beverages and tobacco	478.6	12.3
Transportation and storage	283.1	7.3
Accommodation and food services	210.4	5.4
Real estate activities	209.9	5.4
Financial and insurance activities	202.1	5.2
Human health and social work	81.2	2.1
Electricity, gas, water supply, sewerage, waste and remediation services	76.4	2.0
Arts, entertainment, recreation and other service activities	76.2	2.0
TOTAL (for all sectors)	**3,884**	**100**

Source: WTO-OECD TiVA database; authors calculations

The role of EU value added in New Zealand's final demand is more important (total value of €6.7 billion) as reported in Table 3.5. EU value added embodied in New Zealand's final demand reveals the amount of EU value added present in final goods or services purchased by final consumers in New Zealand. The measure can show how industries abroad (upstream in a value-chain) are connected to consumers at home, even where no direct trade relationship exists. It can be interpreted as 'imports of value-added'.

These data show that two of the top four sectors contributing to New Zealand's value added in the EU - wholesale and retail trade (14.0 percent share in total); and transportation and storage (9.9 percent share) - are also major ingredients in the value added trade story from the EU side. In addition, motor vehicles and machinery and equipment contributed 6.0 and 5.8 percent, respectively, of total EU value added in New Zealand's final demand in 2015.

Table 3.5: EU value added in New Zealand final demand (€ million, 2015, top-10 sectors)

Sector	Value added (€ million)	Share (%)
Wholesale and retail trade; repair of motor vehicles	942.9	14.0
Transportation and storage	668.3	9.9
Motor vehicles, trailers and semi-trailers	405.9	6.0
Machinery and equipment, nec	388.4	5.8
Financial and insurance activities	354.0	5.3
Chemicals and pharmaceutical products	325.7	4.8
IT and other information services	308.3	4.6
Other transport equipment	267.2	4.0
Fabricated metal products	201.1	3.0
Real estate activities	176.8	2.6
TOTAL	**6,736**	**100**

Source: WTO-OECD TiVA database; authors calculations

3.1.3. Potential effects for Turkey

Results from the economic analysis suggest that the EU-NZ FTA is not likely to have a significant impact on Turkey (Table 3.6). By 2030, compared to the baseline, real GDP is not expected to change in either scenario. Turkey's welfare is expected to fall by €1.9 million under the conservative scenario and increase by €6.7 million in the ambitious scenario. We do not find any evidence of price effects or total trade effects and also real wages and CO_2 emissions are not expected to change for Turkey.

Table 3.6: Potential effects for Turkey

Major Economic Indicators	Conservative	Ambitious
Welfare (€ million)	-1.9	6.7
CPI (% change)	0.0	0.0
Trade effects (% change)		
Total imports	0.0	0.0
Total exports	0.0	0.0
Factor markets (% change)		
Real wages unskilled labour	0.0	0.0
Real wages skilled labour	0.0	0.0
CO2 emissions (% change)	0.0	0.0

Source: Authors' calculations based on CGE results provided by DG Trade (2019)

At sectoral level, only for motor vehicles (0.1 percent) and oil seeds (-0.1 percent), there are marginal changes in output to be expected for the Turkish economy. This is shown in Table 3.7. In terms of exports, EU exports to Turkey are expected to decrease (e.g. gas -5.1 percent; electrical goods -0.5 percent), while New Zealand exports increase significantly for some manufacturing sectors in relative terms (e.g. 22.8 percent increase in New Zealand exports of motor vehicles to Turkey; chemicals 14.3 percent; and machinery 13.3 percent), due to Turkey's reduction in tariffs (under the customs union with the EU, covering industrial products) even though in absolute values these changes are modest. These motor vehicles, chemicals and machinery exports do not, however, replace EU exports.

Table 3.7: Changes in EU and NZ exports to Turkey, most affected sectors (% change)

Sector changes (% change)	Conservative	Ambitious
Changes in TR output (% change)		
Motor vehicles	0.1	0.1
Oil seeds	0.0	-0.1
Changes in EU–Turkey exports		
Gas	-0.4	-5.1
Electrical goods	-0.2	-0.5
Coal	-0.2	-0.5
Textiles and clothing	-0.2	-0.4
Machinery	-0.2	-0.4
Rice	-0.2	-0.4
Changes in NZ-Turkey exports		
Motor vehicles	23.5	22.8
Chemicals	15.2	14.3
Machinery	13.7	13.3
Electrical goods	10.7	9.6
Minerals		-5.2
Textiles	5.5	

Source: Authors' calculations based on CGE results provided by DG Trade (2019)

3.1.4. Potential effects for Least Developed Countries

LDCs represent the world's poorest states, which account for less than 2 percent of the global economy, for 1 percent of global trade in goods, and for less than 1 percent of global trade in services (European Commission, 2016). Trade between the EU and African, Caribbean and Pacific (ACP) countries accounts for more than 5 percent of EU imports and exports, approximately €23.5 billion, making the EU a major trade partner for the majority of LDCs. LDCs export mostly agricultural goods, commodities, and

transformed goods to the EU. In 2017, the total value of exports of LDCs to New Zealand amounted to €123.6 million, making New Zealand a rather small market for LDCs. However, over the course of the past years New Zealand's imports from LDCs have increased mainly due to higher imports of textile-related and oil.

Results from the economic analysis suggest that the EU-NZ FTA is not expected to have an effect on LDCs (Table 3.8). By 2030, compared to the baseline, real GDP is not expected to change. In absolute terms, the changes are larger for LDCs than, for example, for Turkey because of the comparative sizes of the group of LDCs compared to Turkey. The welfare of all LDCs combined is expected to fall by €26 million in the conservative scenario and by €47 million in the ambitious scenario. Also overall trade, consumer prices, and CO_2 emissions are not impacted in LDCs.

Table 3.8: Potential effects for Least Developed Countries (LDCs)

Major Economic Indicators	Conservative	Ambitious
Welfare (€ million)	-26.0	-46.7
CPI (% change)	0.0	0.0
Trade effects (% change)		
Total imports	0.0	0.0
Total exports	0.0	0.0
Factor markets (% change)		
Real wages unskilled labour	0.0	0.0
Real wages skilled labour	0.0	0.0
CO2 emissions (% change)	0.0	0.0

Source: Authors' calculations based on CGE results provided by DG Trade (2019)

Apart from the effects on welfare, the only impact that is slightly more significant relates to sectoral effects on output and trade, as presented in Table 3.9. Three sectors are affected marginally in terms of production: only in the ambitious scenario, dairy output is expected to increase by 0.1 percent, while gas and coal production are each expected to decrease by 0.1 percent. With regards to exports, in the ambitious scenario, dairy (0.3 percent) increases marginally while gas (-0.3 percent) declines a bit.

Table 3.9: Changes in LDC sectoral output and exports, most affected sectors (% change)

Sector changes (% change)	Conservative	Ambitious
Changes in LDC sectoral output		
Dairy	0.0	0.1
Gas	0.0	-0.1
Coal	0.0	-0.1
Changes in LDC sectoral exports		
Dairy	0.1	0.3
Gas	0.0	-0.3
Coal	-0.1	0.1

Source: Authors' calculations based on CGE results provided by DG Trade (2019)

3.1.5. Potential effects for EU ORs and OCTs

Current situation

The EU currently has nine Outermost Regions (ORs) located in the Atlantic Ocean, the Caribbean basin, the Amazonian forest and the Indian Ocean. In total, they are home to 4.8 million citizens. Despite the thousands of kilometres separating them from the European continent, these regions are an integral part of the EU. Therefore, EU law and the rights and duties associated with EU membership apply to the ORs. These EU ORs are primarily active in traditional sectors, as agriculture, fishing and livestock farming. Typical products produced in these regions include exotic fruits and vegetables (e.g.

bananas, melons, sugar cane, tomatoes and potatoes), fish through fishing or fish farming, and meat through livestock farming. The Azores for example produce approximately 30 percent of Portugal's total milk production (European Commission, 2017). Several ORs, such as Canary Islands, Martinique and French Guiana, have diversified their economies towards small industries in the construction and public works sector, the wood sector, and the mining industry. The majority of these regions also largely depend on their hospitality, tourism and cruise sectors.

Similar to the ORs, the EU's 25 OCTs remain largely active in the agriculture, fishing and livestock farming sectors. There are a few exceptions in the EU's OCTs, as the Cayman Islands, which thrive as banking and finance centres, or have developed to petroleum and bunkering hubs, as Curaçao and Aruba (CIA, 2019). For the majority of OCTs, as for the ORs, tourism plays a vital role in their economies.

Potential impact of the EU-NZ FTA

Overall, the trade volumes between the ORs/OCTs and the EU/New Zealand are relatively small. Table 3.10 depicts the trade values between the specified regions, the EU and New Zealand. Overall, the imports of ORs from the EU are much larger than the exports to the EU. The largest trade volume with the EU is Canary Islands with a total of €246.2 million in exports and €2.3 billion in imports, which is followed by Réunion and French Guiana. Trade between the EU's ORs and New Zealand is negligible, with exports amounting to less than €1.0 million and somewhat larger imports worth approximately €16.1 million.

Table 3.10: Trade values (exports and imports) between the EU, New Zealand and the EU's ORs millions, 2017)

ORs	Export value to the EU*	Export value to NZ**	Import value from the EU*	Import value from NZ***
Guadeloupe	31.0	0.0	233.3	5.2
Guiana	13.0	0.0	425.4	0.0
Martinique	6.0	0.0	214.4	4.1
Mayotte	0.0	0.0	53.9	1.7
Réunion	80.7	0.0	587.9	5.2
Canary Islands	246.2	0.0	2,294.9	0.0
Azores	54.0	0.0	134.6	0.0
Madeira	40.8	0.0	122.9	0.0

Source: BKP Development Research Consulting (2019)*, StatsNZ (2018)**, WITS (2019)***

In the economic model used for the calculations of the economic effects under this study, the EU's ORs and OCTs are not defined as a separate region. In order to identify and analyse the potential impacts for these special regions under the EU-NZ FTA, a matching analysis through sectoral impacts is applied. The rationale behind this approach is that the exports of the ORs to the EU will face more competition with New Zealand's exports to the EU due to the relative loss of preferences.

Table 3.11: Major sectors (exports and imports) active between the EU, New Zealand and the EU's ORs (2017)

ORs	Major export sectors to the EU	Major export sectors to NZ	Major import sectors from the EU	Major import sectors from NZ
Guadeloupe	Food products, beverages, industrial waste, special purpose machines, ships and boats	-	Automotive manufacturing products, beverages, building materials and mineral products, meat and meat products, plastic products	Pharmaceutical products (medicaments), automobiles and equipment
Guiana	Automotive manufacturing products, non-ferrous materials, basic chemicals and plastics, industrial waste, aeronautical and space construction products	-	Aeronautical and space construction products, chemicals, automotive manufacturing products, beverages, special purpose machines	-
Martinique	Ships and boats, industrial waste, beverages, aeronautical and space construction products, basic chemicals and plastic	-	Automotive manufacturing products, general-purpose machinery, natural hydrocarbons, meat and meat products, beverages	Sailboats, pharmaceutical products (medicaments), automobiles, petroleum oils
Mayotte	Jewellery and bijouterie, musical instruments, general-purpose machinery, cycles and motorcycles, electrical equipment, cutlery, tools, hardware and articles of hardware	-	Meat and meat products, beverages, fruit and vegetable products, automotive manufacturing products, dairy and ice cream	Ships and boats, petroleum oils, photosensitive semiconductor devices
Réunion	Food products, electrical equipment, general-purpose machinery and equipment, automotive manufacturing products and beverages	-	Automotive manufacturing products, general-purpose machinery, meat and meat products, electrical equipment, building materials and minerals	Pharmaceutical products (medicaments), automobiles, trucks and equipment
Canary Islands	Equipment goods, food, beverages and tobacco, semi-manufactures, automotive sector, raw materials	-	Energy products, equipment goods, food, beverages and tobacco, automotive sector, semi-manufactures	-
Azores	Live animals, fish and crustaceans, milk and dairy products, preparations of meat and fish	-	Transport equipment, aircraft and spacecraft, live animals, fish and crustaceans, vegetable products	-
Madeira	Live animals, fish and crustaceans, food and beverages, spirits and vinegar, products of chemical and allied industry	-	Live animals, food and beverages, electrical machinery, nuclear machinery and mechanical appliances, milk and dairy products	-

Source: BKP Development Research Consulting (2019) and WITS (2019)

As mentioned above, the ORs are active exporters in a specific set of industries. Table 3.11 shows the major trading sectors between the ORs and the EU and New Zealand. Through matching these identified top sectors with the modelling results of the ambitious scenario of the EU-NZ FTA, we are able to identify the potential shocks and changes in the respective sectors. Several export sectors of the ORs are projected to face some negative competitive shocks. These sectors include the various vegetables and fruits sectors, the dairy sector, the beverages and tobacco sector, the fishing sector, the chemicals sector, the metal products sector. The exports from New Zealand to the EU in these sectors will increase by 36.6 percent, 133.3 percent, 14.5 percent, 19.3 percent, 28.7 percent and 15.9 percent respectively. Furthermore, the export of sugar from New Zealand to Europe is projected to increase by up to 418.5 percent in the ambitious scenario (albeit from a low initial export value). As all of these industries play an important role in the economies and export structure of the ORs, especially in Guadeloupe, French Guiana, Réunion, Canary Islands, the Azores and Madeira, which export primarily these goods to the EU, the increase in New Zealand's exports in these respective sectors could imply negative effects for the ORs. However, to which extent these potential negative effects will actually result in a serious deterioration of the economic situation in these regions is not quite clear, as specific exports from New Zealand might not be direct competitors of OR exports. An example would be the beverages sector, in which New Zealand is a major wine exporter as well as Madeira. However, as the wine types that are exported differ largely, wine imports originating from New Zealand might not affect the wine exports of Madeira, as the demand for that specific wine type will remain after the introduction of the EU-NZ FTA.

Nevertheless, taking into account that the ORs' economies depend very heavily on the sectors in question, during the negotiations the EU and New Zealand should endeavour to agree on specific measures, such as safeguard clauses or quotas, to ensure that the ORs are not negatively affected.

These findings can be applied to the EU's OCTs as well, as both regions are similar in level of economic development and trade structures.

3.1.6. Potential effects for investments and procurement

According to the 2018 UNCTAD World Investment Report (WIR), New Zealand received €3.2 billion in FDI inflows in 2017, which was a 22.8 percent increase from the 2016 levels. According to the New Zealand Institute for Economic Research (NZIER), top sources of FDI inflows into NZ include Canada, Australia, Hong Kong, Japan and Cayman Islands as well as the US, with investments centring on the service sector and manufacturing.

The stock of inward FDI in New Zealand was estimated at €67.6 billion in 2017 by UNCTAD in its 2018 WIR, more than half of which comes from Australia, followed by the US, Hong Kong, UK, Singapore, Japan, Canada, the Netherlands and China[20]. Finance and insurance; manufacturing; agriculture, forestry and fishing; distribution services and utilities were the top recipients of FDI stock as can be seen from Figure 3.1.

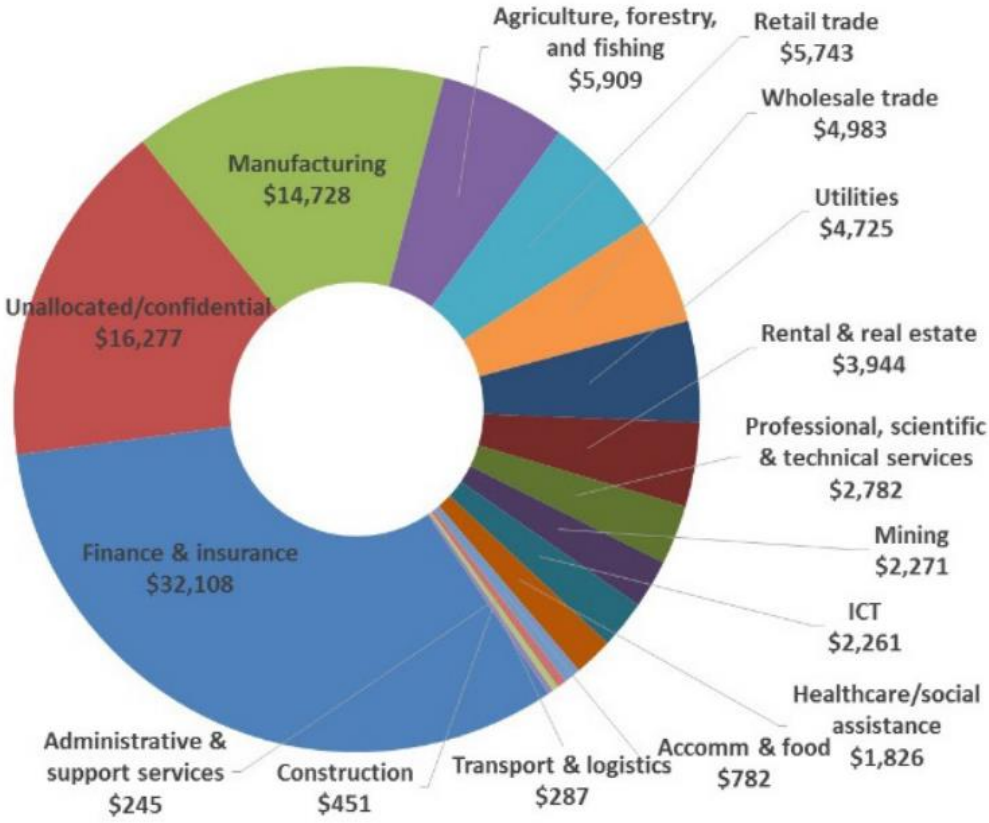
The EU is the second largest source of FDI in New Zealand (after Australia) and it is also New Zealand's third largest destination for direct investment abroad (after Australia and the US). The stock of EU inward FDI in New Zealand amounted to €6.6 billion in 2017, while the stock of New Zealand's investment in the EU was €1.9 billion. The UK is the biggest EU investor in New Zealand.

Despite this deep investment relationship, New Zealand has no bilateral investment treaties (BITs) concluded with EU Member States. Consequently, EU investors face

[20] Foreign Direct Investment in New Zealand - A brief review of the pros and cons, NZIER report to Export New Zealand, March 2016, https://nzier.org.nz/static/media/filer_public/17/06/1706e6f6-16fa-4c3f-ba40-2ba4e75df2fd/foreign_direct_investment_in_nz.pdf

several less favourable investment measures compared to investors from other countries with which NZ has concluded FTAs and BITs, in particular most recently compared to the Transpacific Partnership (CPTPP) member states. The main investment barrier EU investors face in NZ are stricter screening thresholds for buying sensitive land and shareholdings in companies than investors from other countries (e.g. the US, China, Japan and Korea) that have already concluded FTAs with New Zealand.[21]

Figure 3.1: New Zealand's FDI stock by sector (% of total FDI, NZ$ millions, 2015)



Source: NZIER (2016)

Against this background, the envisaged EU-NZ FTA could help eliminate or at least significantly reduce the currently existing restrictions for EU investors. Similarly, New Zealand investors could benefit from such FTA if it establishes one harmonized level playing field for EU and New Zealand investors. Besides, the non-application of the pre-screening mechanism for EU investments (what New Zealand currently still does vis-à-vis European investors) would likely to result in equal treatment of EU investments with investments coming from countries with which New Zealand has already concluded FTAs. This should result in significantly more EU FDI into New Zealand. To quantify the FDI impact, we use the approach outlined in Annex II. The estimates are reported in Table 3.12 and suggest that preferential investment liberalisation is associated with a 87.2 percent increase in inward FDI flows (from the FTA partner) and a 20.8 percent rise in inward FDI stock (from the FTA partner). This number is the average effect of the gains from investment liberalisation based on all investment agreements of the 36 countries in the analysis (see Annex II for methodological details). As such this effect is also applicable in the case of the EU-NZ FTA. On average this would translate into average EU-NZ FDI flows in 2017 increasing from € 3.9 million to € 7.2 million and average EU-NZ FDI stock in the same year rising from € 303.7 million to € 366.9 million. As everywhere else in the impact parts of the report, EU refers to EU27 (whereas the review of the status quo refers to the EU28).

[21] Commission Staff Working Document: Impact Assessment regarding the Recommendation for a Council Decision authorising the opening of negotiations for a Free Trade Agreement with Australia, {COM(2017) 472} {SWD(2017) 292}, Brussels, 13.9.2017 SWD(2017) 293 final, p. 7, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017SC0293&from=EN

Table 3.12: Estimations on effect of investment liberalisation on FDI

Variable	FDI^{F}_{ijt} (FDI flows)	FDI^{S}_{ijt} (FDI Stocks)
PIA_{ijt}	0.627*** (0.286)	0.189*** (0.051)
BIT_{ijt}	-0.546 (0.431)	0.000 (0.080)
# of observations	7,144	10,102
Pseudo-R^2	0.91	0.99
Fixed effects	it, jt, ij	it, jt, ij

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Procurement

We provide estimates of bilateral EU-NZ procurement using the OECD's Inter Country Input Output (ICIO) database for the year 2015. These data suggest that the total value of New Zealand Gross Government Final Consumption (GGFC) from EU28 was €445.2 million compared to the total value of EU28 GGFC from New Zealand of €101.45 million. We call the GGFC 'public imports' as they relate to imports of public procurement from the respective countries. The share of New Zealand in total EU28 public imports in 2015 was 0.2 percent while the EU's share in total New Zealand public imports was a much higher 40.5 percent.

Table 3.13 presents a disaggregated analysis of EU public imports from New Zealand and vice-versa, using OECD ICIO data for the year 2015. These data suggest that the EU's GGFC from New Zealand was concentrated in food products, beverages and tobacco (24 percent), wholesale and retail trade; repair of motor vehicles (21.9 percent), transportation and storage (21.8 percent) and chemicals and pharmaceutical products (10.6 percent). The bulk of New Zealand's GGFC from the EU was in chemicals and pharmaceutical products (40 percent), transportation and storage (20 percent), wholesale and retail trade (12 percent), other transport equipment (6 percent) and motor vehicles, trailers and semi-trailers (5 percent). These sectors are likely to gain the most from preferential procurement liberalisation under the EU-NZ FTA.

Table 3.13: EU28-NZ bilateral public imports (2015, value in € mln, selected sectors)

Sectors	NZ public imports from EU (€mln)	Share (%)	EU public imports from NZ (€ mln)	Share (%)
Agriculture, forestry and fishing	1.21	0.27	2.07	2.04
Food products, beverages and tobacco	5.64	1.27	24.43	24.08
Chemicals and pharmaceutical products	179.15	40.24	10.76	10.61
Rubber and plastic products	1.35	0.30	1.13	1.12
Computer, electronic and optical products	7.54	1.69	0.51	0.50
Machinery and equipment, nec	6.91	1.55	0.31	0.31
Motor vehicles, trailers and semi-trailers	22.80	5.12	0.00	0.00
Other transport equipment	30.81	6.92	0.80	0.79
Wholesale and retail trade; repair motor vehicles	55.17	12.39	22.29	21.97
Transportation and storage	91.20	20.49	22.14	21.83
IT and other information services	6.99	1.57	0.32	0.32
Financial and insurance activities	4.37	0.98	0.44	0.44
Real estate activities	0.77	0.17	1.17	1.15
Other business sector services	8.22	1.85	4.56	4.50
Education	0.31	0.07	1.91	1.89
Arts, entertainment, recreation other service activities	8.06	1.81	4.75	4.68
Total	**445.20**	**100**	**101.45**	**100**

Source: OECD ICIO; own calculations

We estimate the effect of preferential procurement liberalisation in the EU-NZ FTA on bilateral procurement by estimating a structural gravity model using data on public imports from the World Input Output Database (WIOD; Timmer et al., 2015) over 2000-2014 for the following partners: Australia, Austria, Belgium, Bulgaria, Brazil, Canada, Switzerland, China, Cyprus, Czech Republic, Germany, Denmark, Spain, Estonia, Finland, France, United Kingdom, Greece, Croatia, Hungary, Indonesia, India, Ireland, Italy, Japan, Korea, Lithuania, Luxembourg, Latvia, Mexico, Malta, Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovak Republic, Slovenia, Sweden, Turkey, Taiwan and USA.

The results of the gravity work (with approach outlined in Annex II) are reported in Table 3.14 and suggest that preferential procurement liberalisation is associated with a 50.4 percent increase in public imports. This is the average effect of preferential procurement liberalisation for the sample countries covered in the analysis. Since these effects are average effects, they are also expected to be applicable to the EU-NZ FTA, given that New Zealand is also an OECD economy like most EU Member States. On average, the estimated effects would translate into average EU-NZ public imports in 2015 increasing from € 273.3 million to € 410 million. EU in this analysis – as everywhere else in the impact parts of the report – refers to EU27.

Table 3.14: Estimations on effect of investment liberalisation on public procurement

Variable	Coefficient
PPA_{ijt} (membership FTAs with gov't proc)	0.408*** (0.036)
GPA_{ijt} (membership of WTO GPA)	0.268*** (0.054)
# of observations	27570
Pseudo-R^2	0.9998
Fixed effects	it, jt, ij

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

3.1.7. Policy recommendations and flanking measures

- Ambitious liberalisations should be introduced gradually (e.g. tariff liberalisation in ruminant meat or motor vehicles) over time in order to minimise negative effects and give workers the time to adjust, since tariff and NTM liberalisation in the ambitious scenario show some sectoral effects.
- The EU and New Zealand should discuss how to open their economies for two-way investments – especially given the potential gains for the EU and New Zealand from investment liberalisation. EU negotiators should ask for the removal of thresholds for investments in New Zealand, so that no investments (or only very large ones) will be pre-screened. The EU should ask New Zealand at the minimum for EU investors to be treated similar to other foreign investors with which New Zealand has an FTA (e.g. CPTPP).
- Because the EU accounts for more than 40 percent of New Zealand public procurement, a comprehensive coverage of government procurement would have 2-way positive economic effects which could be stimulated by the EU-NZ FTA. We therefore recommend both EU and New Zealand negotiators to include a comprehensive public procurement offer.

3.2. SME impact analysis

3.2.1. Current situation regarding SMEs in the EU and New Zealand

The EC defines SMEs as follows: "The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million" (EC, 2016). An SME is thus categorised based

on three factors: level of employment, level of turnover, and size of the balance sheet. The official size class definition of SMEs in the EU differs from that applied in New Zealand. In New Zealand, there is no official definition of a SME business. However, New Zealand has traditionally used the following definition for statistical purposes: SMEs are generally defined as businesses with 50 or fewer employees.[22]

SMEs are the backbone of the EU economy. Based on the definition, there were 24.5 million SMEs active in the non-financial business sector across in 2017, which represents 99.8 percent of all non-financial businesses. SMEs employ approximately 66.4 percent of the total EU-28 workforce, which amounts to up to 95 million employees (European Commission, 2018). SMEs also create 56.8 percent of the value added generated by the non-financial sector. In contrast, large enterprises in the EU-28 accounted for 46,547 enterprises, 47.9 million employees and 43.2 percent of the value added. SMEs can be divided into five main business sectors: accommodation and food services, business services, construction, manufacturing, and wholesale and retail trade. The majority of SMEs are working in retail (26.3 percent) or the service sectors (27.2 percent). About 8.8 percent are working in manufacturing, with a slightly larger proportion in the industry sector (14.3 percent) (EC, 2018). In 2017, SMEs continued to grow at a moderate rate. SMEs generated an average increase of 3.5 percent in the value added and an average increase of 2.0 percent in employment. In contrast, in 2016 these figures were at 1.5 percent and 2.3 percent respectively. For 2019, SMEs are forecasted to continue to grow. The SMEs value added is estimated to increase by 4.3 percent. SME-induced employment in is also expected to grow by 1.3 percent in 2019. On the member country basis, all Member States expect their SME value added and employment to grow.

SMEs are also the backbone of New Zealand's economy. Based on the national definition there were 522,654 SMEs in 2018, which represents approximately 97 percent of all businesses. SMEs employ approximately 29 percent of the total workforce, which amounts to 631,200 employees, and SMEs generate 28 percent of New Zealand's GDP (Government of New Zealand, Ministry of Business, Innovation and Employment, 2018). 97 percent of the businesses in New Zealand have less than 20 employees. This large number of small SMEs can be explained by the fact that many SMEs – firms with 1–19 employees – were established in the last 5 years. Additionally, SMEs in New Zealand have a survival rate of approximately 51.4 percent. The majority of SMEs are active in the following business sectors: construction (12.8 percent), accommodation and food services (11.7 percent), primary industries (10.8 percent), and retail trade (9.9 percent). The number of SMEs in the non-financial sector increased by 5.5 percent per year on average in the period 2012-2015.

3.2.2. EU-NZ FTA impact for SMEs in the EU and New Zealand

Results of the economic analysis suggest that the EU-NZ FTA is likely to have positive impacts on SMEs. The EU-NZ FTA would improve the ability of SMEs to enter new markets through trade and investment liberalisation, global supply chains, and the overall reduction of administrative costs via lower entry and operating expenses. By 2030, compared to the baseline, the main business sectors of SMEs in the EU and New Zealand are expected to increase as a result of the FTA.

Under the EU-NZ FTA, SMEs in the EU will see rather high increases in bilateral sectoral exports but overall rather small sectoral output changes under both the conservative and ambitious scenarios. Under the conservative scenario, motor equipment, beef and sheep meat and dairy sector output is expected to grow by 0.2 percent, 0.2 percent and 0.1 percent respectively. Under the ambitious scenario, the sectors to benefit the strongest include motor equipment and gas (0.3 percent), whilst the largest losers are

[22] https://www.mbie.govt.nz/assets/30e852cf56/small-business-factsheet-2017.pdf
https://www.mbie.govt.nz/assets/2d8f65ee1f/small-business-survey-results.pdf

beef and sheep meat (1.4 percent), vegetables and fruits (0.2 percent), and sugar (0.2 percent).

Significant bilateral sectoral export increases can be expected under the EU-NZ FTA in various sectors in which SMEs in the EU represent major exporters. Under the conservative scenario, EU SMEs active in textiles (47.3 percent increase in EU exports to New Zealand), other meat (29.4 percent), dairy (27.2 percent), motor equipment (22.2 percent), and metal products (21.2 percent) will benefit most. Similar as in the conservative simulation, the largest winners under the ambitious scenario include SMEs active in the manufacturing, construction, and energy sectors. For example, manufacturing and industry exports from the EU to New Zealand are projected to increase by around 50 to 60 percent. The reduction of tariffs and regulatory differences among the EU and New Zealand will increase the exports and competitiveness of SMEs. Thus, as the majority of SMEs in the EU are active in the retail, manufacturing and industry sector, these companies are likely to benefit from the FTA and increase their exports as a result of the agreement.

Similar to SMEs in the EU, SMEs in New Zealand are expected to see rather high increases in bilateral sectoral exports and higher sectoral outputs under the EU-NZ FTA. Under the conservative scenario, the vegetables and fruit, other animal meat, textile and utility sector output is expected to grow by 2.6 percent, 1.0 percent, 0.8 percent and 0.7 percent respectively. Under the ambitious scenario, the sectors to benefit the strongest include beef and sheep meat (4.1 percent), vegetables and fruits (2.2 percent), and utility (1.7 percent). Conversely, the industry and manufacturing sector reduces its output by 1 to 3 percent under both scenarios.

Significant bilateral sectoral export increases can be expected under the EU-NZ FTA in the majority of sectors in which SMEs in New Zealand represent major exporters. Under the conservative scenario, SMEs active in the food sector will benefit from increased exports (vegetables and fruits 37.9 percent, oil seeds 21 percent, and fishing 19.2 percent), as well as SMEs active in the manufacturing and chemicals industry (chemicals 29.5 percent, metal products 16.5 percent and motor equipment 12.3 percent). Similar as in the conservative scenario, the largest winners under the ambitious scenario include SMEs active in the food, manufacturing and chemicals sectors. Sugar exports are expected to increase by 418.5 percent and dairy exports are also projected to grow by 133.3 percent. Exports of the manufacturing and chemicals industry do not change much under the ambitious scenario. The reduction of tariffs and regulatory differences among the EU and New Zealand will increase the exports and competitiveness of SMEs. Thus, as the majority of SMEs in New Zealand are active in the food sector, construction and manufacturing, these companies are likely to benefit largely from the FTA and increase their exports as a result of the agreement.

3.2.3. Policy recommendations and flanking measures

The overall recommendations for the economics section also apply for the SMEs, but in addition, we recommend:

- Establish a one-stop-shop for SMEs in the EU Member States and New Zealand as a flanking measure to the FTA to go to with any questions they have on the EU-NZ FTA and how to make use of it. Much of the feedback received from SMEs points to the fact that the EU-NZ FTA is seen as very abstract and distant from their every-day concerns, and SMEs do not have the resources to investigate deeply.
- We propose for the EU and New Zealand to establish a public-private cooperation 'SME task force' in both Parties, linking the Chambers of Commerce and SME representatives up with the relevant ministry departments to develop and execute a 3-year action plan to explain to SMEs the potential of the EU-NZ FTA and to work with SMEs to reap benefits and become themselves ambassadors to other SMEs. However, this is a flanking measure for the FTA as awareness raising is a responsibility of the EU Member States and business organisations.

3.3. Social impact analysis

3.3.1. Social state of play

A detailed review of the current situation in the EU and New Zealand regarding social aspects is provided in Annex III. Below, we outline only the core elements of the current situations in the EU and New Zealand from a social perspective.

Employment Levels: In the EU in 2018 the employment rate increased to 73.2 percent. The unemployment rate decreased to 6.9 percent. In 2017, around 3.2 million jobs were created, mostly in services (2.8 million). Across skills groups, highly qualified workers enjoy the highest employment rate (85.3 percent), while the rate for middle skilled is of 75.7 percent and for low-skilled, 55.6 percent. (European Commission, 2017; 2018a). In New Zealand in 2018, employment increased to 68.3 percent and unemployment declined to 3.8 percent. The Pacific People and Māori faced an unemployment rate of 6.2-8.5 percent and an employment rate of 61.1-63.3 percent (MBIE, 2018 and 2018a). In 2018, job creation was driven mainly by health care and social assistance, retail trade and accommodation. In 2015, highly skilled workers enjoyed employment rate of 87.5 percent, middle-skilled: 81.3 percent, and low-skilled: 69.1 percent (OECD, 2017b).

Consumers, welfare, levels of inequality and impacts on vulnerable groups: In the EU, favourable economic conditions, minimum wage increase, and social benefit reforms contributed to increase in disposable household income. The share of the population at risk of poverty or social exclusion decreased in 2017 to 113 million people, i.e. 22.5 percent. Groups most exposed to this risk include young people, children, unemployed, unskilled, third country nationals, elderly people and people with disabilities (European Commission, 2017, 2018a). In 2016, in New Zealand, 15 percent of the population lived in poverty[23] (40 percent of Pacific People and 32 percent of Māori). The groups being at risk of poverty included beneficiaries of social security payments, children, and single parents' households (Council of Christian Social Services, 2017). In 2018, wages in New Zealand continued to increase (Trading Economics, 2019 and 2019a).

Job quality, rights at work: Regarding non-discrimination at work, the EU adopted a Strategy on Disability (2010-2020) outlining actions to support people with disabilities, including in access to the labour market. In 2011, the employment rate of people with basic difficulty in activity was 47.3 percent (Eurostat, 2014). Regarding social dialogue and defence of workers' rights, EU Member States developed different models of social partners' engagement in the design and implementation of relevant policies. They have been involved in the reform of wage setting mechanisms, vocational education and training reforms, assistance for long-term unemployed, and labour law reform (European Commission, 2017). In 2015-2016, rates of trade union membership varied in the EU from 8 percent in France to 66.8 percent in Sweden.[24] Regarding job quality and working conditions, notably health and safety at work, construction, transport and storage, manufacturing, and agriculture, forestry and fishing sectors together accounted for 67.2 percent of all fatal accidents at work and 44.9 percent of all non-fatal accidents in 2014 (Eurostat, 2016).

Regarding non-discrimination at work, New Zealand adopted the Disability Strategy 2016-2026 (Office for Disability Issues, 2016). In 2018, the employment rate of disabled men was 23.5 percent (21.3 percent for women) (Stats NZ, 2018a). According to the

[23] While there is no official definition of the poverty line in New Zealand, often it is understood as income level below 60% of median household disposable income after housing costs. In 2016, the poverty line after deducting housing costs for a household with two adults and two children lied at NZ$600 per week or NZ$31,200 annually. For a sole parent with one child it was NZ$385 per week or NZ$20,200 annually. (according to the New Zealand Council of Christian Social Services)

[24] https://stats.oecd.org/Index.aspx?DataSetCode=TUD

OECD, immigration (notably long-term) contributes to rising level of skills in New Zealand. On the other end of the scale, there are short-term migrant workers who often take low-skill jobs (OECD, 2017b). A study carried out in 2016 revealed cases of migrant worker exploitation in construction, the dairy sector, horticulture, hospitality, cosmetic and massage services (Stringer, 2016 and University of Auckland, 2016). Regarding rights at work and the ILO fundamental conventions, New Zealand is among only 16 ILO members (out of 187) that have not yet ratified the Minimum Age Convention No. 138. Regarding social dialogue, in 2016, the rate of trade union membership in New Zealand was 17.7 percent.[25] The country has ratified the ILO fundamental Convention on Freedom of Association and the Right to Collective Bargaining No. 98. Ratification of Convention No. 87 is pending. Regarding job quality and health and safety at work, the highest numbers of fatal accidents at work have been recorded in agriculture, construction and forestry (WorkSafe NZ, 2019a). The highest number of non-fatal accidents occurs in construction, followed by manufacturing and transport, with lower numbers in agriculture and mining (WorkSafe NZ, 2019a).

3.3.2. Overall sectoral effects

Employment effects

This part of the analysis is guided by the results of economic modelling which demonstrate how the reduction of tariff and non-tariff barriers in trade between the EU and New Zealand may influence trade flows between the Parties and what impact this is likely to have on operation (output) of individual sectors and employment, i.e. job creation and job reduction across sectors. The model shows outcomes which may be expected in a longer-term (in 2030) compared to a situation in the same year without the trade agreement in place.

The use of an economic model in the social analysis implies making certain assumptions and simplifications compared to the real-life situation, e.g. about fixed total employment in the economy, which means that unemployment does not exist, and workers move flexibly from declining sectors to growing ones. In reality, limitations in people's mobility (e.g. between regions of a country), mismatches between skills offered by workers and those sought by employers, time needed for training (e.g. upskilling) and other factors may prolong transition between jobs and contribute to short- or long-term unemployment.

Table 3.15 outlines the estimated percentage changes in employment across sectors in the EU and New Zealand under the two liberalisation scenarios (ambitious and conservative), and for two groups of workers: unskilled and skilled ones. Accordingly, for most of the sectors in the EU there will be no noticeable changes or limited ones, in the region of 0.1 percent. Slightly higher job reductions (up to 0.2 percent for both groups of workers under the ambitious scenario) may be expected in sectors covering rice, sugar, vegetables, fruits and nuts and – outside agriculture – in the coal sector. A more pronounced job reduction (up to 1.5 percent for both groups of workers under the ambitious scenario) is estimated for the ruminant meat sector. While these changes at the EU level are likely to be relatively limited, there will be a need to monitor situation in some Member States or regions which, due to a higher share of non-dairy cattle farming in economic activity and employment (e.g. in Ireland, where it has a 2.7 percent share in total employment), may potentially be more affected (in particular if effects of a few FTAs, including - for example – with Australia and Mercosur, cumulate).

Sectors in the EU recording job creation going beyond 0.1 percent include motor vehicles and transport equipment and gas (up to 0.3 percent and 0.4 percent, respectively, for both groups of workers under the ambitious scenario). While these changes are limited, locally they may bring about some relief against expected job reductions to be caused by technological changes, e.g. automation. However, new jobs may require new skills, which in turn may create a need for provision of training for existing and new workers.

[25] https://stats.oecd.org/Index.aspx?DataSetCode=TUD

Positive changes may become more pronounced if similar effects of several FTAs cumulate and if ambitious scenario is followed, which may not be beneficial for other sectors (see above comments regarding ruminant meat sector).

Table 3.15: Sectoral changes in employment levels in the EU and NZ (% change)

Sector	Percentage changes							
	European Union				New Zealand			
	Conservative scenario		Ambitious scenario		Conservative scenario		Ambitious scenario	
	Unsk workers	Skilled workers	Unsk workers	Skilled workers	Unsk workers	Skilled workers	Unsk workers	Skilled workers
Rice	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.2	-0.2
Cereals	0.0	0.0	-0.1	-0.1	-1.0	-1.0	-1.8	-1.7
Vegetables, fruits, nuts	-0.2	-0.2	-0.2	-0.2	2.8	2.8	2.4	2.5
Oilseeds, fats and oils	-0.1	-0.1	-0.2	-0.2	-0.4	-0.4	-1.0	-0.9
Sugar	0.0	0.0	-0.2	-0.2	-0.7	-0.7	-1.5	-1.2
Plant -& animal fibres	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.8	-0.8
Ruminant meats	0.2	0.2	**-1.5**	**-1.5**	1.2	1.3	4.1	4.2
Other animal	0.0	0.0	0.0	0.0	0.9	1.0	0.4	0.5
Other meats (poultry, pork)	0.0	0.0	0.0	0.0	-0.8	-0.7	-1.5	-1.3
Dairy products	0.1	0.1	-0.1	-0.1	-0.9	-0.9	0.5	0.6
Wood & paper products	0.0	0.0	0.0	0.0	-0.5	-0.4	-0.8	-0.6
Fishing	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Coal	-0.1	-0.1	-0.2	-0.2	-1.5	-1.2	-3.0	-2.2
Oil	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.4	-0.3
Gas	-0.1	-0.1	**0.4**	**0.4**	0.1	0.2	-0.1	0.0
Minerals	0.0	0.0	0.0	0.0	0.3	0.4	0.7	0.7
Other food products	0.0	0.0	0.0	0.0	0.0	0.1	-0.3	-0.1
Beverages & tobacco	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.2
Textiles	0.0	0.0	0.0	0.0	0.3	0.4	-0.7	-0.5
Chemicals	-0.1	0.0	0.0	0.0	0.2	0.3	-0.8	-0.6
Petroleum/coal products	0.0	0.0	-0.1	-0.1	-0.2	-0.1	-0.5	-0.3
Metal products	0.0	0.0	0.0	0.0	-0.6	-0.5	-1.8	-1.5
Non-metallic minerals	0.0	0.0	0.0	0.0	-0.1	0.0	-0.4	-0.1
Motor vehicles and transport equipment	0.2	0.2	**0.3**	**0.3**	-1.7	-1.6	-3.2	-2.9
Machinery	0.0	0.0	0.1	0.1	-1.0	-0.9	-3.4	-3.1
Electronic equipment	-0.1	-0.1	-0.1	-0.1	0.0	0.0	-0.5	-0.2
Electricity	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.4
Utilities	0.0	0.0	0.0	0.0	0.4	0.5	0.9	1.2
Transport	0.0	0.0	-0.1	-0.1	-0.4	-0.2	-0.9	-0.6
Communication and business services	0.0	0.0	0.0	0.0	-0.1	0.0	-0.3	0.0
Financial services	0.0	0.0	0.0	0.0	-0.2	-0.1	-0.4	-0.2
Other Services	0.0	0.0	0.0	0.0	-0.1	0.0	-0.4	-0.1

Source: Authors' calculations based on CGE results provided by DG Trade (2019)

Changes estimated for New Zealand are expected to be larger and affect, both positively and negatively, more sectors. The most significant job reduction is likely to take place in the machinery sector (3.4 percent for unskilled workers and 3.1 percent for skilled ones under the ambitious scenario), motor vehicles and transport equipment (3.2 percent and 3.0 percent respectively), coal (3.0 percent and 2.2 percent), cereals (1.8 percent and 1.7 percent), metal products (1.8 percent and 1.5 percent), other meats (1.5 percent and 1.3 percent), sugar (1.5 percent and 1.2 percent), with a few more sectors likely to record job reductions in the region of 0.4-1.0 percent. In this context, it should be noted that a trend of job loss has been observed in New Zealand's machinery

sector until 2017. If it continues, the estimated job reductions resulting from the EU-NZ FTA may add to it, strengthening the negative effect on the workforce. Job reductions in both the machinery and motor vehicles sectors in New Zealand may be related to increased imports from the EU. In the case of motor vehicles, imports from the EU will rise by 22.2 percent under the conservative scenario and by 43.0 percent under the ambitious one, while in the machinery sector by respectively 19.5 percent and 62.4 percent. In motor vehicles, more pronounced job reductions compared to the decline in output resulting from the EU-NZ FTA may also be related with technological changes in the sector, e.g. automation, and shift from low-skilled jobs to the more advanced ones.

The biggest job creation in New Zealand is expected in the ruminant meat sector (up 4.1 percent for unskilled workers and 4.2 for skilled ones under the ambitious scenario) followed by vegetables, fruits and nuts (2.8 percent for both groups of workers under the conservative scenario), other animal products (1.1 percent for both under the conservative scenario), utility, including water supply and construction (0.9 percent for unskilled workers and 1.2 percent for skilled ones under the ambitious scenario), minerals (0.7 percent for both groups of workers under the ambitious scenario), textiles, apparel and leather (0.6 percent for both groups of workers under the conservative scenario), and dairy products (0.5 and 0.6 percent, whereas under the conservative scenario the same sector may experience job reduction of 0.8 percent for both groups of workers). In cases where job creation or reduction in a given sector is expected to differ for the groups of workers, in general slightly more favourable estimations are made for skilled workers, with the expected more pronounced job growth and more limited job reductions.

The EU-NZ FTA (under the ambitious scenario) may also contribute to an increase in employment opportunities for migrant workers in New Zealand, if recently identified staff shortages in the ruminant meat and dairy sectors are not met by local workers and if immigration and visa policy facilitate recruitment overseas. Otherwise, the potential for new jobs and increased sectoral output related to the EU-NZ FTA may not materialise. On the other hand, it is difficult to predict the impact of the EU-NZ FTA on the situation of migrant workers in sectors such as machinery or manufacturing more generally, where due to skills shortages among local workers overseas recruitment increased over the last few years. Job reduction which is likely to result from the EU-NZ FTA under both scenarios, may affect them or not depending on the importance of their skills for a sector's competitiveness.

Consumers, welfare, levels of inequality and impacts on vulnerable groups

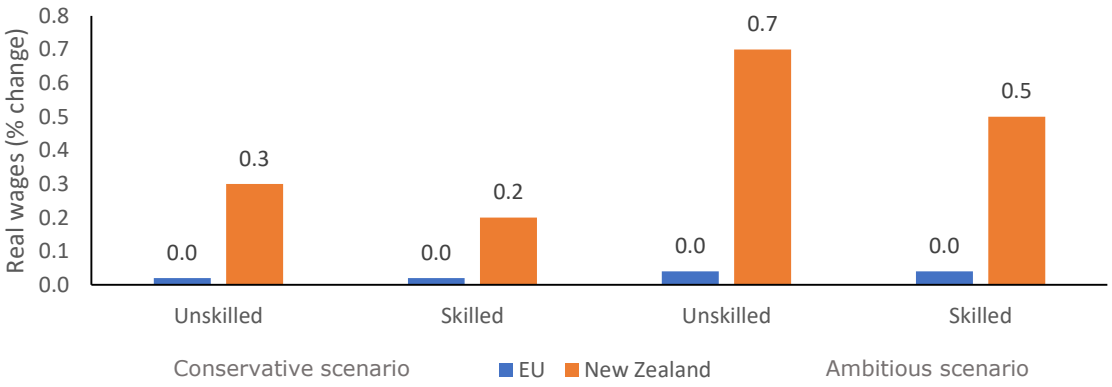
According to the literature, consumers may benefit from global trade and preferential trade agreements thanks to lower prices of purchased goods and services (resulting from reduction of tariffs and non-tariff barriers), a wider variety and higher quality of traded goods and services and the related satisfaction of diversified needs and preferences. Concurrently, the agreement may have an impact on the accessibility of goods and services available on the market to local consumers through its effects on the purchasing power, i.e. the relation between changes in price and income levels triggered by the agreement.

The European Consumer Organisation (BEUC) and the Consumer New Zealand have outlined in their position paper elements of a future EU-New Zealand trade agreement important from the consumer rights point of view. Accordingly, consumer protection should become one of the FTA objectives and the right to regulate in public interest should be included into exception clauses in order not to be considered as a violation of other FTA provisions. Moreover, Parties should consider negotiation of a dedicated chapter focusing on consumers' protection and benefits in the context of an FTA. The Parties could also agree to monitor impacts of tariff reduction on consumer prices (Cernat et all, 2018) and reduce barriers related to telecom services, e.g. roaming fees, geo-blocking (leading to a possibility to purchase and download content from companies located abroad, inform consumers about their rights and provide online dispute

settlement related to online purchases). BEUC and Consumer New Zealand advocate upholding high levels of consumer protection, including food, product, health and safety standards, and provisions related e.g. to cosmetics, financial services or access to medicines. The EU should also be able to maintain and apply the precautionary principle, as well as hazard-based approach (the latter related to e.g. to cosmetics and chemicals). Moreover, in BEUC's view, provisions related to data flow and data protection should follow the EU and not the CPTPP approach.[26] Regarding investment, BEUC considers that ISDS should be excluded from the FTA. A dialogue between regulators from the EU and New Zealand is also suggested, provided it does not impede work of any Party on preparing and adopting regulations. Finally, transparency of the negotiation process should be warranted. (BEUC, Consumer NZ 2018)

The future FTA is expected to have a limited positive impact on real wages in New Zealand (increase of 0.3 percent for unskilled workers and 0.2 percent for skilled ones under the conservative scenario and 0.7 percent and 0.5 percent respectively under the ambitious one) (see Figure 3.2). Even if wages for unskilled workers may rise minimally more than for skilled ones under both scenarios, the estimated differences are too small to bring about a reduction in inequality.

Figure 3.2: Changes in real wages in the EU and New Zealand, long-term (%)



Source: Authors' calculations based on CGE results provided by DG Trade (2019)

Changes in wage levels estimated for the EU marginally positive.

Changes in price levels in the EU under the conservative scenario are likely to be negligible, with two exceptions: they may increase for ruminant meat by 0.1 percent and decline for fruits, nuts and vegetables by 0.1 percent. Under the ambitious scenario, prices in the EU may rise by 0.1 percent for electricity, gas, utilities (incl. water supply), communication and business services, financial services, other services, and wood and paper products, and decline for fruits, nuts and vegetables by 0.1 percent, as well as ruminant meat by 0.2 percent.

The overall price increase is estimated to be marginal and expected to occur in the long-term only. Changes in wage levels are reported in real terms (so corrected for price changes) and because they are marginally positive, the EU-NZ FTA has a marginally positive effect, which is important especially in the context of different expenditure baskets for different groups of the population in the society (for more details on those groups and wages in the EU, see Annex III.2).

Under the conservative scenario, prices in New Zealand, including food products, are likely to record a limited increase, e.g. rice (0.1 percent), vegetables, fruits and nuts (0.7 percent), beef and sheep meat (0.1 percent), and fish products (0.6 percent). There

[26] BEUC is of the view that EU and New Zealand have determined in their adequacy agreement the rules related to data protection, therefore, there is no need to address data flow in the FTA.

will be a few products and services with a likely price decline, including motor vehicles (-0.7 percent), machinery (-0.3 percent), transport (-0.3 percent), other meat products (-0.4 percent), and textiles (-0.2 percent) indicating improved accessibility of products imported from the EU. In this context, while wages in New Zealand are predicted to increase in the coming years (for reasons other than FTA with the EU), the recipients of social benefits may continue to struggle due to rising housing costs and loss of certain allowances (St John, 2018). In such cases, the price increase (even if very limited) caused by an FTA and concentrated in categories, such as food products, which are an important element of expenditure basket of less affluent groups in the society, may contribute to the cumulative effect and further reduce their purchasing power (for details on those groups, see Annex III.2).

Under the ambitious scenario, prices of food products will grow even further, e.g. rice (by 0.4 percent), cereals (0.2 percent), vegetables, fruits and nuts (1.0 percent), beef and sheep meat (0.5 percent), and fish products (0.5 percent). A price decline is expected for only a few groups of products and services, including motor vehicles (-1.3 percent) and machinery (-0.9 percent), as well as textiles (-0.5 percent), chemicals (-0.3 percent) and transport (-0.2 percent). Prices for other services are likely to increase by 0.1 percent (electricity and utilities, including water supply) or 0.2 percent (financial and other services). Given the predicted wage increase for both groups of workers in New Zealand (slightly higher than under the conservative scenario), this means that impacts on the accessibility of goods and services to wage-earning consumers will be similar as under the conservative scenario or slightly improve, with a limited improvement of accessibility (due to lower prices) of imported goods, e.g. motor vehicles. For other consumers, including less affluent recipients of social security benefits, the accessibility of basic goods may slightly decrease (compared to the conservative scenario and the current situation) if there are no changes in the amounts of benefits they receive. (see also comments in the preceding paragraph)

Overall, it is estimated that the EU-New Zealand FTA will have a positive impact on welfare in the EU (increase by €2.2 billion under the conservative scenario and €4.1 billion under the ambitious one). For New Zealand, the estimated increase in welfare is likely to reach €0.4 billion under the conservative scenario and €0.6 billion under the ambitious one, in both cases the results are for the long-term, i.e. by 2030.

Job quality

The starting point for the analysis of job quality impacts is provided by the results of the economic modelling which indicates the scale of expected social (employment and wages) impacts across sectors, as discussed in the sections above. In the next step, evidence related to job quality indicators, their changes over time and factors influencing them in a selection of sectors, including the most affected ones, is discussed in the sectoral part of the analysis (Chapter 4 of this report). Based on these elements, this section provides conclusions concerning the scale and direction of the estimated impacts on job quality.

Given that social impacts of the new Agreement for the EU are expected to be very limited to negligible (the only exception being the ruminant meat sector), it is likely that impacts on job quality indicators at the EU level will also be negligible. Job quality in the EU will probably continue to be shaped by global and technological trends (e.g. related to digital economy and increasing role of services, including new organisation of work and demand for new skills), domestic legislation, its implementation and enforcement, and trade and investment relations with main partners – more than by the EU-NZ FTA. Indeed, this observation has been confirmed by the sectoral part of the analysis e.g. in relation to motor vehicles sector, where the EU and employers have taken steps to address demand for new skills and a need to offer quality jobs and working environment to attract and retain skilled workers (for details, see Chapter 4 of this report).

In New Zealand, the expected job creation in some agricultural sectors (e.g. ruminant meat or dairy) should not contribute to an increase in the number of accidents at work. Statistical data from the last decade suggests that there is no visible correlation between employment levels in agriculture in New Zealand and the number of accidents at work (e.g. peaks in the number of fatal accidents in 2012-2013 were accompanied by low employment levels and the increasing employment in the following years witnessed a continuous decline in the number of non-fatal accidents) (WorkSafe NZ, 2019 and 2019a). Moreover, in the last few years, there have been a number of initiatives taken by farmer associations e.g. Beef and Lamb New Zealand, Dairy NZ and Federated Farmers, as well as representatives of the meat processing industry aiming at improved levels of health and safety at work in the meat and dairy sectors (for details, see Chapter 4 of this report). If these initiatives are continued, then the expected employment growth resulting from the EU-NZ FTA should not contribute to a higher number of accidents at work in agriculture. It will also be important that all new workers, whether skilled migrants or short-term local workers, get an appropriate training in health and safety at work at the beginning of their contract. It can also be expected that implementation of the new Health and Safety at Work Strategy 2018-2028 will contribute to improved levels of workers' protection (for details, see Annex III.2).

Furthermore, if agreed in negotiations, the EU-NZ FTA provisions on health and safety at work under the TSD chapter may encourage the Parties to take further unilateral actions and pursue bilateral cooperation and dialogue in this area improving working conditions and supporting increased protection of workers. In this context, it would be important that the TSD chapter provides a space for workshops, joint projects and other opportunities for exchange of information and best practice or search for solutions to address common challenges, and that these activities can engage sector representatives from both Parties.

Regarding other job quality indicators, such as types of contracts, it is fair to assume that impacts of the EU-NZ FTA will probably be too limited, both in the EU and in New Zealand, to be able to influence types of contracts (e.g. increase pressure on sectors and encourage a move towards temporary contracts on the expense of permanent ones) even in the affected sectors. However, it may contribute to increase in the number of temporary (seasonal, casual or day-hire) contracts in sectors where these types have a relatively high share in the total employment and where the EU-NZ FTA is likely to trigger job creation (e.g. in the ruminant meat and fruits, vegetables and nuts sectors). In this context, it will be important to ensure that working conditions for these groups of workers are decent and meet the established standards, and that cases of workers' exploitation documented in some studies (e.g. regarding migrant workers) are prevented and, when they happen, are investigated and addressed (for details regarding casual and migrant workers in New Zealand, cases of their exploitation and recent initiatives to address shortcomings in working conditions see Chapter 4 and Annex III.2).

Rights at work

Non-discrimination at work

Given that the situation of women on the labour market has been discussed separately, this section focuses on other groups of workers which may face challenges or discrimination on the labour market. These include e.g. disabled persons and migrant workers. In this context, effects of the future FTA are analysed mainly through its impacts on sectors of the economy employing large groups of disabled persons or migrant workers respectively, and the prospects they may have for getting, maintaining or losing a job. Moreover, in both, general and sectoral part of the analysis, we seek to determine if there are other factors, which may either improve or worsen their current situation and future employability.

Given the very limited overall impacts for the EU and lack of more detailed data at the EU level regarding sectoral shares in employment of disabled persons and migrants, it

is not possible to estimate precisely impacts of the future FTA on migrant workers or disabled persons in the EU, though they will probably be very limited.

In New Zealand, in 2018, the highest share of disabled people worked in services sectors[27] followed by manufacturing (10.5 percent), agriculture, forestry and fishing (9.9 percent), construction (8.1 percent), and education and training (7.6 percent). Other sectors had shares ranging from 2.5 percent to 5.4 percent (Stats NZ, 2018a; for further details, see Annex III.2). Estimating impacts of the future FTA on people with disabilities for each services sector separately is not possible because services sectors employing a large part of them are not modelled separately but are included into aggregated sectors (business and communication services and other services). Services sectors employing disabled persons are expected to record job reductions ranging from 0.1 to 0.4 percent, with larger losses (from, 0.3 to 0.4 percent) estimated for unskilled workers under the ambitious scenario. In manufacturing, most of the sectors are likely to experience job losses for both groups of workers and under both scenarios, with the most significant ones expected in motor vehicles and machinery (being of around 3.0 percent under the ambitious scenario). Manufacturing sectors estimated to increase employment (under the conservative scenario) are beverages and tobacco, textiles, leather and apparel, and chemicals, rubber and plastics. The utilities sector, including construction, is expected to create jobs while the results for agriculture are mixed across sub-sectors, with significant job gains (up to around 4.0 percent for ruminant meat) and losses (close to 2.0 percent for cereals). Therefore, one can conclude that effects of the EU-NZ FTA on disabled workers are likely to be mixed, depending on sectors and sub-sectors where they will work in the period up to 2030. While over 40 percent of them (i.e. those employed in services sectors) are likely not to experience noticeable changes (the exception being unskilled workers under the ambitious scenario), a large part of 20 percent of working disabled (i.e. employed in manufacturing and agriculture) may face job reductions of a different scale and at least 8 percent (construction) may work in sectors creating jobs. However, lack of more detailed data concerning dispersion (or employment shares) of disabled workers across sub-sectors (in manufacturing and agriculture) and skills groups makes it impossible to draw more precise conclusions.

According to OECD data, the majority of foreign-born migrants being of working age and living in New Zealand worked in services sectors, while 4.1 percent were employed in agriculture and fishing, and 14.4 percent in manufacturing (for details, see Annex III.2). As indicated in the preceding paragraph, while in services sectors both groups of workers under the conservative scenario and skilled ones under both scenarios may expect very limited job reductions of up to 0.1 to 0.2 percent, unskilled workers are likely to face more pronounced job reductions under the ambitious scenario (0.3 to 0.4 percent). In manufacturing, most of the sectors are likely to experience job losses for both groups of workers under both scenarios, while results in agriculture and fishing will be mixed, and in the utilities sector jobs may be created. However, more precise conclusions related to the approximate number of migrant workers likely to face job reduction or benefit from job creation may be provided only if more detailed data concerning their employment shares across skills groups and sub-sectors (in manufacturing and agriculture) is available. In this context, some data has been provided in the sectoral part of the analysis in Chapter 4 and in Annex III.2.

Freedom of association and the right to collective bargaining

As already indicated in the social description of the current situation in New Zealand (see Annex III.2), in 2016, the rate of trade union membership in the country was at 17.7 percent[28] with variations across the sectors ranging from over 40 percent of workers in health care and social assistance, education and training being a trade union member, to around 3 percent in agriculture, forestry and fishing (Stats NZ, 2016). Since 1985, the overall number of trade union members decreased by half, with the largest

[27] Health care and social assistance (13 percent), professional, scientific, technical, administrative and support services (11.8 percent), retail trade and accommodation and food services (10.9 percent).

[28] See: https://stats.oecd.org/Index.aspx?DataSetCode=TUD

loss being recorded by the sector of agriculture, forestry and fishing. Factors contributing to it included legislative changes, rise in short-term and casual jobs, as well as economic restructuring of sectors traditionally having high rates of trade union membership (Parliament of New Zealand, 2000). The future FTA may add to this trend given the estimated job reductions in the majority of manufacturing sectors. These are not likely to be balanced by job creation in utilities (due to its limited scale) or agriculture (due to a very low trade union membership rate in the sector).

On the other hand, New Zealand has not yet ratified the ILO fundamental convention No. 87 (freedom of association and protection of the right to organise). According to the available information, the Government of New Zealand is of the view (shared by Business NZ) that domestic legislation provides for a more limited right to strike than the interpretation of the ILO Committee of Experts. Therefore, New Zealand would be potentially in breach of the convention if it moves to ratify it. At the same time, the Government takes a position that domestic policies, legislation and practice need to be aligned with the convention before the latter is ratified.[29]

Following the 2017/2018 debate on implementation of TSD chapters and commitments to improve it, the European Commission highlighted to New Zealand a need to ratify that convention.[30] Hence, the EU-NZ FTA may facilitate process leading to ratification of the convention No. 87 by New Zealand and thus contribute to a better protection of trade unions' rights (European Commission, 2019). This would provide a response to the request of New Zealand's and international trade unions calling upon the Government to ratify this convention. Moreover, negotiation of a trade agreement has the potential to encourage activity of New Zealand's trade unions, e.g. New Zealand Council of Trade Unions in a position on the New Zealand-Korea FTA (submitted to the Parliament) expressed disappointment that the agreement does not refer to the ILO fundamental conventions, has no mechanism to submit complaints in case of violation of labour rights and does not prevent the Parties to lower the standards to attract trade or investment.[31] The currently ongoing negotiations between the EU and New Zealand provide an opportunity for trade unions to express their views and suggestions regarding the future provisions and protection of workers' rights.

Regarding EU, the EU-NZ FTA (due to its limited social impacts) is not expected to affect the conditions for trade union operation nor the number of the affiliated members.

Subject to the outcome of the negotiations, the EU-NZ FTA may provide a framework for a dialogue between Parties and civil society on any matter covered by the agreement, including freedom of association and the right to collective bargaining. As the experience in implementing TSD Chapters in EU FTAs demonstrates, workers' rights are of particular interest for civil society representatives (from the EU and partner countries). They are discussed at annual meetings, also with the European Commission and Government representatives, and may become subject of cooperation activities, e.g. joint projects or seminars. Moreover, in the 2017/2018 EU debate about implementation of TSD Chapters, participants emphasised a need of taking steps, in cooperation with the partner country, to ensure alignment of the law and practice with the ILO fundamental

[29] New Zealand (2000-2017), Country baseline under the ILO Declaration Annual Review. Freedom of association and the effective recognition of the right to collective bargaining: https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---normes/documents/publication/wcms_629822.pdf

[30] The issue has been mentioned in the Commission's presentation to civil society regarding implementation of the 15-point Action Plan, as well as in the reports from negotiation rounds with New Zealand. See e.g. the report from the fourth round (May 2019): https://trade.ec.europa.eu/doclib/docs/2019/june/tradoc_157918.pdf and Civil Society Dialogue on Trade and Sustainable Development (April 2019): https://trade.ec.europa.eu/doclib/docs/2019/may/tradoc_157881.pdf

[31] New Zealand Council of Trade Unions (2015), Submission to the Foreign Affairs, Defence and Trade Select Committee on the Free Trade Agreement between New Zealand and the Republic of Korea: https://www.union.org.nz/wp-content/uploads/2017/10/150424-NZ-Korea-FTA.pdf [accessed on 12 May 2019]

conventions (European Commission 2017e, 2018). This has been reiterated by European employers[32] and trade unions[33] requesting also an effective enforcement mechanism for labour provisions. Implementation of future trade and labour provisions may also provide an opportunity to consider lessons learned from practical application of approaches adopted by New Zealand in its FTAs (labour-related provisions have been included e.g. into an MoU with Philippines accompanying an FTA, as well as FTAs with the Republic of Korea, Hong Kong, China; Taiwan, Province of China; Malaysia, Thailand, China and CPTPP with a different scope and enforcement mechanisms). At least under four New Zealand's FTAs, the Parties undertook labour-related cooperation activities, including workshops/ seminars, capability building projects, dialogues and studies (UN ESCAP, 2017).

Child labour

New Zealand is among the 16 ILO members (out of 187) that have not yet ratified the fundamental ILO Minimum Age Convention No. 138. According to available information, the New Zealand's Government takes a position that domestic policies, legislation and practice need to be aligned with the convention before the latter is ratified. Given that in the country, there is no formal minimum age of admission to work for people below 16 years of age, the Government assumes, this would put New Zealand in breach of the Convention No. 138. Hence, domestic legislation would need to be amended beforehand and legislative steps would need to be preceded by analysis of existing legislation and data related to child labour in the country. However, the Government maintains also that the existing legislation provides enough protection for youth under 16 years of age through provisions on health and safety at work and working hours, among others. On the other hand, some (e.g. Business NZ) argue that there is a general social approval for work of older children and teenagers as a way to gain experience.[34] Trade unions have called for ratification of the Convention No. 138, as well as additional protections for working youth, such as definition of light work and setting of minimum wage.[35] In this context, it is to note that, following the 2017/2018 debate on implementation of TSD chapters and commitments to improve it, the European Commission highlighted to New Zealand a need to ratify that Convention.[36] Hence, negotiation and implementation of the EU-NZ FTA may facilitate the process leading to ratification of Convention No. 138 by New Zealand and contribute to a better protection of children's rights in that country (European Commission, 2019).

According to a study commissioned in 2010 by New Zealand's Department of Labour, the main motivation (for 76 percent) for children and teenagers to engage into a paid activity was to earn money to cover their own expenditures (for other motivations see case study 3.2 box below). It was also determined that youth from socio-economic high deprivation areas are slightly less likely to work than their peers from more affluent groups (35 percent compared with 40 percent of the group), while youth from urban and rural areas had comparable shares of those engaged in part-time paid work (Department of Labour, 2010; for further details regarding engagement of children and teenagers into paid work, see Annex III.2).

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[32] BusinessEurope (position paper), Trade and Sustainable Development chapters in EU FTAs: https://www.businesseurope.eu/sites/buseur/files/media/position_papers/rex/2017-11-06_sustainability_and_ftas.pdf

[33] "ETUC Resolution for an EU progressive trade and investment policy," ETUC, 16 June 2017, https://www.etuc.org/en/document/etuc-resolution-eu-progressive-trade-and-investment-policy [accessed 31 December 2018].

[34] New Zealand (2000-2017), Country baseline under the ILO Declaration Annual Review. The effective abolition of child labour: https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---normes/documents/publication/wcms_629818.pdf

[35] Joint Submission from the New Zealand Council of Trade Unions on the Universal Periodic Review (2014)

[36] The issue has been mentioned in the Commission's presentation to civil society regarding implementation of the 15-point Action Plan, as well as in the reports from negotiation rounds with New Zealand. See e.g. the report from the fourth round (May 2019): https://trade.ec.europa.eu/doclib/docs/2019/june/tradoc_157918.pdf and Civil Society Dialogue on Trade and Sustainable Development (April 2019): https://trade.ec.europa.eu/doclib/docs/2019/may/tradoc_157881.pdf

Given types of working activities and motivations, it is rather unlikely that the EU-NZ FTA has a direct impact on the number of jobs available to young persons or shares of working youth. It may have, however, an indirect impact on their economic welfare through impacts on jobs available to their parents or other household's members. In this context, it will be important that rules related to work of young persons are observed, i.e. prohibition of hazardous work for people under 18 years of age, restrictions in work at night, as well as restrictions in the number of working hours to ensure that work does not have a negative impact on education, rest and physical and mental development and wellbeing of working youth. The Convention No. 138 sets out framework conditions for work of young persons and requires that domestic legislation and practice are aligned with them. Therefore, its ratification and alignment of national legislation and practice with its provisions would ensure necessary protection of working young persons.[37] Moreover, employers[38] will need to respect health and safety at work standards and e.g. provide appropriate training for young employees (this question may be, at least partly, be addressed by the new Health and Safety at Work Strategy 2018-2028, which focuses on vulnerable groups of workers, including youth).

Case Study 3.2: Children's rights and poverty

Current situation

In the EU, the share of people at risk of poverty or social exclusion[39] continues to decrease and in 2017 dropped to 113 million people, i.e. 22.5 percent (5 million below the pre-crisis level and 11 million less than at the peak in 2012). Groups of the population most exposed to this risk include young people (aged 18-24), children (notably children of low-skilled parents, non-EU born parents and those brought up by single parents), the unemployed, unskilled persons with at most the lower secondary education, third country nationals, elderly people and people with disabilities. The number of people living in absolute poverty decreased in 2016 to 7.5 percent (37.8 million) (European Commission, 2017 and 2018a). EU Member States are modernising their education and training systems, whereas the focus needs to be on continued learning and skills upgrading, a better alignment of education programmes and obtained skills with the labour market needs, coordination between business and education providers, and the use of apprenticeships (European Commission, 2017).

In 2016, in New Zealand, 682,500 persons (15 percent of the population) lived in poverty, including 220,000 children. In 2018, poverty rate among children was between 16 percent and 23 percent, i.e. between 183,000 and 254,000 depending on whether it was measured before or after deducting housing costs).[40]. Over the last decade, groups being at risk of poverty

[37] The convention No. 138 sets as the minimum age of admission to work the age which ends compulsory schooling in the respective country (as a general rule, not less than 15 years and in specific circumstances 14 years of age) to enable children and youth to complete education before taking on work (no one under the minimum age should be admitted to work). It allows limited work (including the so-called light work) for youth from 13 years of age and certain limited work from 15 years of age, provided this is done in limited hours and does not jeopardise access to education. It also states that types of work permitted for young persons should be adequate to their physical and mental development and establishes (jointly with the Convention No. 182) that hazardous types of work which may have a negative impact on health, safety or morals of young persons should be prohibited for persons under the age of 18 years (and in certain circumstances they may be permitted for persons between 16 and 18 years of age, provided their full protection has been ensured).

[38] According to the report of the ILO Committee of Experts, only 50 percent of employers employing children or teenagers in New Zealand provided information about health and safety at work (CEACR 2018).

[39] Definition provided in the European Commission and EU Council Draft Joint Employment Report 2019: "People at risk of poverty or social exclusion are people who are at risk of poverty and/or experiencing severe material deprivation and/or living in households with very low work intensity. People at risk of poverty are people living in a household whose equivalised disposable income is below 60% of the national equivalised median income (this indicator is therefore an income poverty indicator). People are severely materially deprived if they live in a household unable to afford at least four of the following items: 1) pay rent/mortgage/ utility bills on time; 2) keep home adequately warm; 3) meet unexpected expenses; 4) eat meat, fish or a protein equivalent every second day; 5) one week annual holiday away from home; 6) have access to a car for private use; 7) have a washing machine; 8) have a colour TV; and 9) have a telephone. People living in households with very low work intensity (i.e. (quasi-)jobless households) are people aged 0-59 living in a household where working-age adults (18-59) worked less than 20 percent of their total work potential during the past year."

[40] Stats NZ, Child poverty statistics: Year ended June 2018: https://www.stats.govt.nz/information-releases/child-poverty-statistics-year-ended-june-2018. See also: https://www.victoria.ac.nz/news/

included beneficiaries of social security payments, children, Pasifika People, Māori, single parent households and single adults (Council of Christian Social Services, 2017). While relevant child poverty-related indicators are dropping, concerns remain about persistently high levels of child poverty. Recent data show that 27 percent of all children and young people in the country live in households with low incomes, and 7 percent of children live in severe poverty, in households with incomes below the relative income poverty line (Duncanson et al., 2018). Māori and Pasifika children, as well as children with disabilities, are reported to be disproportionately affected by child poverty and severe housing deprivation. Regular challenges in access to safe drinking water increase the risk at water-borne disease outbreaks (United Nations, 2018b). Children with disabilities are overrepresented in statistics on child poverty and are more likely to be living in one-parent households (United Nations, 2014; 2016b). Some children with disabilities, especially Māori children, have difficulty in accessing government services, including health and education services (United Nations, 2014). The 2018 UNICEF report states that the well-being of children in New Zealand is 34th out of 41 developed countries. The report notes that specific measures are necessary on such goals as reducing child poverty, inequality and improving education and health for children due to the high rates of teen pregnancy, neonatal mortality, and high teen suicide rate (UNICEF, 2017; 2018). According to the Ministry of Health's 2017/2018 Health Survey, around 101,000 (i.e. 12.4 percent) were obese (an increase from 8.4 percent in 2006/2007). Children from socio-economically deprived areas were 2.1 times more likely to be obese than their peers from other backgrounds.[41] Around 3.0 percent of children (down from 6.6 percent in 2011/2012) did not collect a prescription for a medicine due to related cost. Pacific People's children and Māori children are twice as likely not to collect the prescription.

In 2013 (the latest available data), 15.9 percent of children in New Zealand lived in crowded houses (i.e. in families needing additionally one or more bedrooms) and 5.2 percent in severely crowded households (i.e. in families needing in addition two or more bedrooms). In the same year, 43 percent of Pacific People's children and 25 percent of Māori children lived in crowded houses.[42]

The 2018 OECD report suggests policy responses to reduce child poverty. These include support for parents' access or return to the labour market, training and skills development for low-skilled adults, availability of childcare facilities, and social transfers (OCED, 2018c). The New Zealand's Government supports incomes of poor families by increasing Accommodation Supplement or minimum wage. However, these have been balanced or outweighed in some cases by rent increase combined with loss of hardship payments or in the case of families with both parents earning minimum wage, by reaching income threshold beyond which social security benefits are reduced (St John, 2018).

New Zealand has set up dedicated institutions, such as Office of Children's Commissioner for whom poverty reduction among children and better ways of addressing their needs remain a priority. The Office cooperates with partner organisations in project delivery, e.g. it has developed a set of ideas (giving2kids) meant to inspire business, charities, individuals and other partners on how to address basic needs of poor children to support their development and improve prospects for the future. It has also developed annual Child Poverty Monitor with data covering access to education, health care, housing and food insecurity[43]. There are also expert groups[44], charities and other organisations collecting evidence, providing advice and working on projects related to children's rights and poverty.

In 2018, New Zealand adopted the Child Poverty Reduction Act and the Children's Amendment Act. The former sets targets to reduce, in two steps (over three-year and ten-year period), the number of children living in families experiencing low income poverty and material hardship. It also commits the Government to report annually about the progress achieved. Another measure, the Families Package, should help to reduce the number of children living in poverty through an increase in Working for Families tax credits and Accommodation Supplement.

2019/05/new-zealands-dismal-record-on-child-poverty-and-the-governments-challenge-to-turn-it-around

41 Ministry of Health NZ, Annual Update of Key Results 2017/18: New Zealand Health Survey: https://www.health.govt.nz/publication/annual-update-key-results-2017-18-new-zealand-health-survey

42 Massey University, NZ, Household crowding: http://www.ehinz.ac.nz/indicators/indoor-environment/household-crowding/

43 Child Poverty Monitor 2018: https://www.childpoverty.org.nz/!/#/

44 These include e.g. the Welfare Expert Advisory Group established by the Government to advise on the future of New Zealand's social security system: http://www.weag.govt.nz/ or a charity Child Poverty Action Group NZ: https://www.cpag.org.nz/

However, because poverty is mostly measured before deducting housing costs (the latter grew on average by 5.2 percent in 2018), this deduction leaves a large group of the population with a disposable income below the poverty line).[45] The Children's Amendment Act requests the Government to design and implement a wellbeing strategy for children and young people.[46] The strategy will be published later in 2019 and its development includes broad consultations with social workers, local government, NGOs, young people, children and indigenous communities. The initial outline covers 16 areas and includes e.g. physical and emotional safety, quality housing, poverty reduction, healthy lifestyle, non-discrimination, cultural diversity, improved opportunities for disabled children and young people, mental wellbeing and the right to comprehensive development in early childhood and in access to education.[47]

Regarding child labour, New Zealand is among the 16 ILO members (out of 187) who have not ratified yet the fundamental Minimum Age Convention No. 138. According to a study commissioned in 2010 by the Department of Labour, the main types of work carried out by children and teenagers in New Zealand included babysitting (23 percent), work in a shop, petrol station or supermarket (22 percent), outdoor work, e.g. in a garden (21 percent), cleaning (17 percent) and work in a restaurant or takeaway food outlet (16 percent). The majority of surveyed young persons worked either after or before school, with their main motivation (for 76 percent) for work being to earn money to cover their own expenditures. 5 percent worked to save money for studying and 1.5 percent to support their family. The survey also indicates that around half of 13-14-year olds were engaged in any form of paid activity and this share was increasing with the age. It was also determined that youth from socio-economic high deprivation areas are slightly less likely to work than their peers from more affluent groups (35 percent compared to 40 percent of the group), while youth from urban and rural areas had comparable shares of those engaged in part-time paid work (Department of Labour, 2010). In the 2018 report, the ILO Committee of Experts noted information provided by the New Zealand's Government about intended reform of legislation related to health and safety at work and work of young persons to increase the age from which the hazardous types of work are permitted and to ensure adequate protection for working youth. The reform would bring the New Zealand's legislation in line with the ILO Worst Forms of Child Labour Recommendation 1999 setting minimum age for work in hazardous conditions and necessary protection (CEACR, 2018). Indeed, young workers belong to focus groups of the Health and Safety at Work Strategy 2018-2028 (MBIE, 2018c).

Regarding education, it has been noticed that the socio-economic background of students in New Zealand has a large impact on their performance (more than the OECD average). In response, the New Zealand's Government developed support programmes (education strategies) to help improve the performance of students from indigenous communities (Pacific People and Māori), and has taken measures to reduce the rates of early school dropouts (OECD, 2013a). In 2017, public expenditures for education in New Zealand equalled NZD13.3 billion (around 5 percent of GDP) and were projected to grow up to NZD14.4 billion by 2021.[48]

The minimum age for criminal responsibility in New Zealand is set at 10 years (cf. recommendation of the Human Rights Committee is 12 years). Next to that, overcrowded juvenile justice facilities lead to children being held in police custody cells which is not in line with international standards (Human Rights Foundation, 2019).

Child abuse is reported to be disproportionately affecting vulnerable children. There still exist traditional harmful practices (forced marriage and genital mutilation) that negatively affect the well-being of the children. Indigenous children are reported to be more likely to be put into childcare than non-indigenous children (United Nations, 2016b).

[45] Victoria University of Wellington, New Zealand's dismal record on child poverty and the government's challenge to turn it around: https://www.victoria.ac.nz/news/2019/05/new-zealands-dismal-record-on-child-poverty-and-the-governments-challenge-to-turn-it-around

[46] Department of the Prime Minister and Cabinet: Child poverty reduction and wellbeing legislation: https://dpmc.govt.nz/our-programmes/reducing-child-poverty/child-poverty-reduction-and-wellbeing-legislation

[47] Child Wellbeing Strategy, proposed outcomes framework: https://dpmc.govt.nz/sites/default/files/2018-11/appendix-b-proposed-outcomes-framework.pdf

[48] Stuff: "NZ government spending on education continues to grow" (January 2018): https://www.stuff.co.nz/business/industries/100991279/nz-government-spending-on-education-continues-to-grow [accessed on 4 June 2019]

Potential FTA effects

The EU-NZ FTA is expected to have a mixed impact on employment in New Zealand across sectors and a limited positive impact on real wages (increase of 0.3 percent for unskilled workers and 0.2 percent for skilled ones under the conservative scenario and 0.7 percent and 0.5 percent respectively under the ambitious one). This means a limited positive effect for income of those households who live on wages. It is to note, however, that even if wages for unskilled workers may rise minimally more than for skilled ones under both scenarios, the estimated differences are too small to bring about a reduction in inequality.

Prices in New Zealand are expected to rise to a similar extend as wages, however, prices of imported products, such as cars are likely to decline. In this context, it is to note that while wages in New Zealand (also for reasons other than FTA with the EU) are predicted to increase in the coming years, the recipients of social benefits may continue to struggle due to rising housing costs and loss of certain allowances (St John, 2018), which may be only partly balanced by Families Package. In such cases, price increase (even if very limited) caused by an FTA and concentrated in categories, such as food products, which are an important element of expenditure basket of less affluent groups in the society, may contribute to the cumulative effect and further reduce their purchasing power.

Regarding ratification by New Zealand of the fundamental ILO Minimum Age Convention No. 138, it is to note that the European Commission following results of the 2017/2018 debate on implementation of TSD chapters and commitments to improve it, highlighted to New Zealand a need to ratify that convention. Hence, negotiation and implementation of the EU-NZ FTA may facilitate the process leading to ratification of Convention No. 138 by New Zealand and contribute to a better protection of children's rights in that country (European Commission, 2019).

Concerning types of working activities and motivations of working youth, outlined above, it is rather unlikely that the EU-NZ FTA has a direct impact on the number of jobs available to young persons or shares of working youth. It may have, however, an indirect impact on their economic welfare through impacts on jobs available to their parents or other households' members. In this context, it will be important that rules related to work of young persons are observed, i.e. prohibition of hazardous work for people under 18 years of age, restrictions in work at night, as well as restrictions in the number of working hours to ensure that work doesn't have a negative impact on education, rest and physical and mental development and wellbeing of working youth. The Convention No. 138 sets out framework conditions for work of young persons and requires that domestic legislation and practice are aligned with them. Therefore, its ratification and alignment of national legislation and practice with its provisions would ensure the necessary protection of working young persons[49]. Moreover, employers[50] will need to respect health and safety at work standards and e.g. provide appropriate training for young employees.

Revenue foregone due to a possible tariff reduction will be quite limited compared to New Zealand's expenditures for health care, social protection or education, therefore liberalisation of trade in this aspect should not have noticeable (negative) impacts on the ability of the state to provide public policies and public services in these areas.

Economic modelling suggests an increase in production and exports of ruminant meat from New Zealand to the EU. In case practices from the past continue, it may happen that cheaper and fatty parts of meat (such as mutton flaps) either remain on New Zealand's market or are exported to Pacific islands, in both cases contributing to increasing obesity among less affluent groups of people, including children.

[49] The convention No. 138 sets as the minimum age of admission to work the age which ends compulsory schooling in the respective country (as a general rule, not less than 15 years and in specific circumstances 14 years of age) to enable children and youth to complete education before taking on work (no one under the minimum age should be admitted to work). It allows limited work (including the so-called light work) for youth from 13 years of age and certain limited work from 15 years of age, provided this is done in limited hours and does not jeopardise access to education. It also states that types of work permitted for young persons should be adequate to their physical and mental development and establishes (jointly with the Convention No. 182) that hazardous types of work which may have a negative impact on health, safety or morals of young persons should be prohibited for persons under the age of 18 years (and in certain circumstances they may be permitted for persons between 16 and 18 years of age, provided their full protection has been ensured).

[50] According to the report of the ILO Committee of Experts, only 50 percent of employers employing children or teenagers in New Zealand provided information about health and safety at work (CEACR 2018)

Policy recommendations

- We recommend that the EU and New Zealand continue during FTA negotiations dialogue regarding ILO Convention No. 138, including agreed steps to take by New Zealand to ratify this convention. This will help to strengthen legislative framework and enforcement guaranteeing respect for children's rights.
- Given that the ambitious negotiation scenario may bring about job gains, but also job loses across several sectors in New Zealand affecting welfare of workers and their families, the EU and New Zealand should consider if they wish to pursue that scenario.

Forced labour

As outlined in a description of the current situation (see Annex III.2 under job quality, non-discrimination at work and forced labour), both in the EU and New Zealand there are cases of people living in conditions of slavery, and cases of migrant workers' exploitation. In New Zealand, the latter occurred in the construction, agriculture, dairy sector, viticulture, food and hospitality services, domestic work, and aboard foreign-flagged vessels fishing in New Zealand waters (Stringer, 2016 and The University of Auckland, 2016, US Department of State, 2018). Every year, cases are reported in the media and investigated by Immigration NZ and labour inspection. Since 2017, 366 businesses were banned from employing migrant workers for breaching employment laws, and in 2018, over half of 676 labour inspection's investigations involved cases of migrant worker exploitation.[51] In this context, FIRST Union, a trade union representing migrant workers across several sectors, called for granting migrant workers the same protections as other workers in New Zealand.[52] In the EU, the latest report of the Fundamental Rights Agency (FRA) provided evidence of migrant workers' exploitation (regarding EU nationals working in another EU Member State, and third country nationals) including excessive working hours, low pay (or lack of pay), bad accommodation conditions, lack of respect for health and safety at work rules, and – in extreme cases – excessive control, including limited social contacts and threats of reporting workers with irregular status to authorities.[53]

While considering the potential impacts of the EU-NZ FTA on the incidence of worker exploitation in New Zealand, in particular in such sectors as agriculture, dairy products or construction, where the demand for labour is likely to increase, it shall be noted that both the Government and the sector representatives have taken steps to address the problem of trafficking in persons and exploitation. These, in addition to training for enforcement agencies' staff, assistance to victims and information materials for migrant workers, includes a review of the situation with a commissioned independent research with expected recommendations, and setting up a group representing business, trade unions, migrant workers and students who will evaluate proposed recommendations.[54] In March 2019, the Government launched public consultations inquiring whether New Zealand should ratify the 2014 Protocol to the ILO Forced Labour Convention No 29[55] and in May 2019, the Minister for Workplace Relations and Safety recommended to the

[51] Stuff (June 2019), Shameful exploitation of vulnerable migrant workers: https://www.stuff.co.nz/business/113639803/shameful-exploitation-of-vulnerable-migrant-workers [accessed on 15 July 2019]

[52] The Spinoff (December 2018), The Bulletin: Migrant workers' exploitation cases pile up: https://thespinoff.co.nz/the-bulletin/18-12-2018/the-bulletin-migrant-worker-exploitation-cases-pile-up/ [accessed on 15 July 2019]

[53] EU Agency for Fundamental Rights (2019), Protecting migrant workers from exploitation in the EU, workers' perspectives: https://fra.europa.eu/sites/default/files/fra_uploads/fra-2019-severe-labour-exploitation-workers-perspectives_en.pdf

[54] Ministry of Business, Innovation and Employment, Temporary migrant worker exploitation review: https://www.mbie.govt.nz/immigration-and-tourism/immigration/temporary-migrant-worker-exploitation-review/ [accessed on 15 July 2019]

[55] Ministry of Business, Innovation and Employment, Should New Zealand ratify the Forced Labour Protocol?: https://www.mbie.govt.nz/have-your-say/should-new-zealand-ratify-the-forced-labour-protocol/ [accessed on 15 July 2019]

Cabinet ratification of the Protocol, subject to outcomes of the parliamentary treaty examination procedure.[56] (for details, see also Chapter 4 and Annex III.2).

While economic modelling suggests potential increase in employment (as a result of an FTA) in sectors where there have been cases of migrant worker exploitation (e.g. in construction, dairy products or fruits and vegetables), one cannot conclude that this will directly lead to increase in the number of such cases, nor can it be excluded that such cases will continue to take place. However, there is also an increasing number and a variety of mechanisms to reduce their occurrence and to address them if they happen, as well as an increasing awareness of this problem.

Corporate Social Responsibility (CSR) / Responsible Business Conduct (RBC)
As outlined in a description of the current situation provided in Annex III.2, in the EU and New Zealand, there are diverse frameworks and initiatives encouraging application of CSR/RBC practices in the everyday operation of enterprises. These include legislative acts, international instruments (e.g. OECD Guidelines for Multinational Enterprises), national strategies and action plans on CSR and Business and Human Rights, reporting and quality standards (e.g. Global Reporting Initiative or ISO 26000), approaches taken by international customers and competitors, engagement with key stakeholders, and others, such as local (e.g. Māori) concepts of business assuming sustainability of people and the planet as a profit driver.[57]

The EU-NZ FTA could support this trend. Through increased investment, it may open further opportunities for branches of EU companies to pursue their CSR/RBC activities in New Zealand (and vice versa), as it has already been the case. Moreover, the textual proposal tabled by the EU in negotiations provides a new framework for the Parties for the exchange of information, best practices and outreach initiatives, as well as their cooperation in this context with businesses and other relevant stakeholders. It also includes an element on Business and Human Rights, supporting the adherence to the UN Guiding Principles, their implementation, follow-up and dissemination which may be a good proposition for New Zealand's partners to further their practice.

Furthermore, based on the experience in implementation of recent EU trade agreements with a TSD chapter, it is to note that business and civil society representatives from the EU and partner countries have very much appreciated an opportunity to exchange information and best practice on CSR/RBC practices in the framework provided by TSD chapters. Similar cooperation forms could be considered in the EU-NZ FTA.

Public policies (education, health care and social protection)
Effects of the EU-NZ FTA for the EU budget related to foregone revenue resulting from tariff reduction are estimated to be limited: €100 million under the conservative scenario and €208 million under the ambitious one (European Commission, 2017c).

Given the structure of the EU budget and its separation from budgets of individual Member States, it is expected that the reduction of revenues from tariffs resulting from the EU-NZ FTA will have a limited indirect impact on Member States' budgets and their ability to finance public policies and services. For example, in a long-term perspective, Member States may need to increase contributions to the EU budget from other sources, if traditional own resources of its funding, including revenues from tariffs, decrease. Otherwise, the EU budget would have more limited space for funding, including for programmes and projects in areas related to research, health and education.

[56] Proposed ratification of the Forced labour Protocol, 2014: https://www.mbie.govt.nz/dmsdocument/5892-proposed-ratification-of-the-forced-labour-protocol-2014-proactiverelease-pdf

[57] Jackson, Stone and Partners: Who are the leaders in corporate social responsibility in NZ?: https://www.jacksonstone.co.nz/professional/who-are-the-leaders-in-corporate-social-responsibility-in-nz/ [accessed on 2 June 2019]

In New Zealand, given the current level of tariffs imposed on products imported from the EU and the relatively limited amount of revenues from this source compared to the overall spending on public policies (see Annex III.2), one can expect that tariffs reduction would mean only limited impacts for the budget and the ability to finance public policies.

Outside budgetary considerations, the EU-NZ FTA may have positive effects on public policies, e.g. health care through specific provisions. For example, if the TBT Chapter or an Annex on medical devices include provisions reducing administrative burden and facilitating trade, then health-care providers may have an easier access to modern equipment supporting diagnostic and medical treatment.

3.3.3. Policy recommendations and flanking measures

- While the expected employment reductions at the EU level in the ruminant meat sector are likely to be relatively limited, in case the ambitious scenario is followed, some EU Member States or regions having a higher share of non-dairy cattle farming in economic activity and employment (e.g. in Ireland), may potentially be more (negatively) affected (in particular if effects of several FTAs cumulate). Decisions to be taken either at the EU level of by individual EU Member States about the appropriate support measures should be based on a sound market analysis and trends in demand, supply and prices. Such analysis could be provided e.g. by the EU Meat Market Observatory, with a particular focus on changes following entry into force of new FTAs. Additional evidence related to effects of market changes on farmers and meat processors could be collected by their organisations, e.g. the Irish Farmers' Association, and reported at the national and EU level. Moreover, to avoid or mitigate potential negative effects, the governments of EU Member States and farmer associations in the EU should continue or step up efforts supporting competitiveness of the EU ruminant meat sector, including focus on high product quality, complemented by search for potential additional destination markets for products of this sector.
- Trends in the motor vehicles sector, both in the EU and New Zealand suggest that new jobs may require new skills e.g. software and electronics engineering skills, advanced data analytics, and new types of jobs in cooperating sectors and enabling services, e.g. research on advanced materials and battery cell chemistry, renewables and alternative fuels or 5G network. Therefore, for the expected job growth (in the EU) to materialise, the EU institutions and Member States should work with industry and training providers to create training offers, which would equip workers with the right skills set and enable them to continue or to start working in the sector and to maintain or improve its competitiveness. One example of such an initiative is the DRIVES project with a budget of €3.9 million over four years implemented through a network of partner organisations from 11 countries. Components of the project include monitoring of skills needed in the automotive sector, design of job profiles and a pilot certification and training offer[58].
- The situation in sectors of New Zealand's economy that are likely to be negatively affected by the EU-NZ FTA, e.g. motor vehicles and machinery, may require the New Zealand Government to take measures to support workers in transition to new jobs in case employment reductions occur in these sectors. Support measures may include training, career advice, support to set up own business, job fairs to facilitate matching workers with potential employers, as well as support for SMEs in the supply chains to diversify into other sectors. However, given potential negative employment consequences (in particular for New Zealand, but also for the EU in the ruminant meat sector) related to pursuing ambitious negotiation scenario, the Parties should reflect on its costs and benefits for both sides.
- As indicated in the analysis, the future EU-NZ FTA is not likely to increase the number of accidents at work, provided the recent trends in sectors generating most accidents continue. For this to happen, initiatives taken for example by New Zealand's farmers

[58] DRIVES: https://www.project-drives.eu/en/home

associations and industry aiming at improved levels of health and safety at work in the meat and dairy sectors will need to be implemented and complemented by new ones, if needed. It can also be expected that implementation of the new Health and Safety at Work Strategy 2018-2028 will contribute to improved levels of workers' protection.

- If agreed in negotiations, the EU-NZ FTA provisions on health and safety at work under the TSD chapter may encourage the Parties to take further unilateral actions and pursue bilateral cooperation and dialogue in the area of health and safety at work. In this context, it would be important that the TSD chapter provides space for workshops, joint projects and other opportunities for exchange of information and best practice, on the EU side based on Member States' experience and expertise developed by the European Agency for Safety and Health at Work. In the past, such cooperation with partner countries, e.g. Chile (under the Association Agreement) included study visits, also in the Agency, and discussion about legislative solutions and their practical application in risk-related sectors, such as mining. Dialogue involved also employers' and workers' representatives. The EU and New Zealand would need to choose the most relevant set of sectors for their relations and ensure that cooperation activities engage sector representatives from both Parties.
- Considering the predicted employment growth in some agricultural sectors in New Zealand, it seems likely that at least part of the additional jobs may be filled in by seasonal workers (e.g. short-term migrants) or casual workers. In this context, it will be for the labour inspection to monitor if employers ensure that working conditions for these groups of workers are decent and meet the established standards. It will be also for the labour inspection and other relevant institutions to ensure that cases of migrant workers' exploitation documented in some studies are prevented and, when they happen, are investigated and addressed. While observance of laws regarding working conditions will be the employers' obligation, labour inspection and Immigration NZ (supported by information from workers, trade unions, NGOs and others) should identify and address cases of workers' rights violations. Moreover, measures helping to prevent exploitation of workers, such as information for migrant workers about their rights and banning employers exploiting migrants from employing them should be continued. The Government should also consider granting migrant workers the same or similar protection as enjoyed by other workers in New Zealand, as well as continue taking steps towards ratification of the 2014 Protocol to the Forced Labour Convention No. 29.
- While quantitative impacts of the EU-NZ FTA on the respect of rights at work are likely to be limited (e.g. employment of disabled persons) or difficult to establish (e.g. regarding work of young persons or cases of exploitation of migrant workers), there may be a qualitative positive impact related to encouragement for New Zealand to ratify two outstanding ILO fundamental conventions No. 87 and 138, as explained above, including in Case Study 3.2. The Parties should continue their dialogue in this area during negotiations, with a view to identifying steps to take by New Zealand towards ratification and effective implementation of these conventions.
- Given positive past examples of cooperation of CSR/RBC practices, New Zealand and the EU should agree to include into the future FTA provisions on trade and responsible supply chain management, including CSR/RBC practices. These should encourage the Parties to take further unilateral actions and pursue bilateral cooperation and dialogue in these areas, as well as contribution to multilateral initiatives. In this context, it would be important that future provisions on CSR/RBC (e.g. in the TSD chapter) provide space for workshops, joint projects and other opportunities for exchange of information and best practice or search for solutions to address common challenges and that these activities can engage also businesses and other relevant stakeholders from both Parties.
- Cooperation and dialogue under the TSD chapter could also include seminars to be attended by representatives of National Contact Points (NCP) under OECD Guidelines for Multinational Enterprises to share information and best practice related to their operation and handling of specific instances. Such seminars and an opportunity for

a discussion with NCP representatives were highly appreciated by civil society representatives from the EU and the Republic of Korea under the EU-Korea FTA.

3.4. Gender impact analysis

3.4.1. Introduction

In this section, the analysis focuses on effects which the EU-NZ FTA may have on women in their roles of workers, entrepreneurs, traders and consumers. It follows in three steps. In the first one, an overview of the current situation (see Annex III.2) describes how women in the EU and New Zealand are treated and act on the labour market as workers, and what are the areas of their economic activity as entrepreneurs and participation in international trade, across sectors. It compares data for men and women in these areas to determine patterns of their activity and the level of gender equality across a range of indicators. In the second step, based on results of the economic modelling, we estimate the likely changes in employment levels across sectors and how they will impact employment of women compared to men (given that each gender has its own pattern of shares in employment across sectors). In a similar way, we examine changes in output of individual sectors to be induced by the FTA and how this may influence operation of women-led enterprises active there. Finally, based on the estimated changes in trade performance of the individual sectors, we analyse what effects this may have on women as traders, knowing sectors in which they operate and types of traded products or services. In the final step, we provide recommendations with proposals supporting gender equality in trade and addressing challenges faced by women in their roles in the context of the EU-NZ FTA.

3.4.2. Gender effects

Women as workers

As outlined in the description of the current situation, women in the EU tend to work more frequently than men in services sectors, such as health care and social services, education, public administration, financial, professional and administrative services, wholesale and retail trade and food and accommodation services (Eurostat, 2018). The economic model does not envisage any changes in employment levels in the EU in these sectors, therefore for around 80 percent of female workers in the EU, there will be no effects related to the EU-NZ FTA. The only two sectors for which the model foresees slightly higher, but still limited employment increase in the EU are gas extraction sector (0.4 percent for skilled and unskilled workers under the ambitious scenario) and motor vehicles (0.3 percent respectively). Both have a higher share in employment of men than women (gas: 1.1 percent of total employment for men and 0.4 percent for women, and manufacturing covering motor vehicles, 23 percent for men and 11 percent for women), therefore it is to be expected that while workers of both genders employed or interested in work in these sectors may benefit from a potential job creation induced by the EU-NZ FTA, in general, given the job profiles and trends in both sectors (also presented in the sectoral part of the analysis), it may be men who will benefit more. Nevertheless, the situation may be more nuanced in the motor vehicles sector across Member States; e.g. in the manufacturing of motor vehicles, the share of women in the workforce ranged in 2012 from 13 percent in the UK and 19 percent in Germany, over 21 percent in Spain and France, 24 percent in Italy and 33 percent in Poland to 64 percent in Bulgaria (European Sector Skills Council 2013).

In agriculture, the economic modelling envisages limited job reductions in the EU: ruminant meats (-1.4 percent for skilled and unskilled workers under the ambitious scenario), rice, sugar, vegetables, fruits and nuts (-0.2 percent) and cereals, vegetable oils and fats, plant and animal fibres and other crops (-0.1 percent). In these sectors men are also more represented than women (2.2 and 0.9 percent share respectively in total employment) (Eurostat, 2018), with shares of women in the total number of people working in agriculture ranging in 2016 from 45 percent in Austria to 12 percent in

Ireland.[59] Hence, men may be more affected; however, there may be differences across Member States and sub-sectors, depending on shares in the total employment and job profiles of each gender.

In New Zealand, the picture is much more diversified. However, in general, sectors having a higher share in employment of men than of women are likely to be more affected by the EU-NZ FTA, both positively and negatively. For example, utilities, including construction, is to generate new employment with a likely increase by 0.9 percent for unskilled workers and 1.2 percent for skilled ones under the ambitious scenario, whereas the sector has a 15.4 percent share in total employment for men and 2.7 percent for women (Stats NZ, 2018). On the other end of the scale, there are motor vehicles and machinery sectors, both likely to experience job reductions of around 3 percent for skilled and unskilled workers under the ambitious scenario. In 2015, in NZ motor vehicles sector, men constituted the vast majority of workers (86 percent in manufacturing and 92 percent in repair and maintenance) (MITO, 2016).

The services sectors, which employ over 80 percent of women in New Zealand, are likely not to experience any or only very limited changes in employment under the conservative scenario and job reductions in the region of 0.3 to 0.4 percent for unskilled workers under the ambitious scenario. However, the services sector has been growing and generating employment in New Zealand over the last decade. Between 2007 and 2017, it created 156,000 new jobs, and public administration, health care and education provided jointly additional 80,000 jobs (MBIE, 2018d). This continued in 2018, with job creation driven mainly by health care and social assistance, retail trade and accommodation. The available forecast indicates some slowdown in the employment growth in 2019-2020, with the best results expected for health care and education, business services and utilities and construction. Jobs will be created mainly for high skilled workers, with lower numbers expected for middle-skilled and unskilled ones (MBIE, 2018a). If these generally positive trends are maintained in the coming years, then potential negative impacts of the EU-NZ FTA should be interpreted as more limited employment growth rather than a net job reduction. Regarding agriculture, impacts resulting from the EU-NZ FTA for New Zealand, will vary across sub-sectors, scenarios and between skilled and unskilled workers. Given the lack of existing or identified data concerning shares of women in the total employment in each sub-sector and among skilled and unskilled workers, it is not possible to quantify the expected changes in employment for women in agriculture more in detail.

Women as entrepreneurs and traders

As outlined in the description of the current situation[60], in the EU, women-led enterprises have the highest shares in the total number of companies in the services sectors (the first seven sectors having shares from 65 percent for other services and 60 percent for health care and social services, to 33 percent for wholesale and retail trade). Agriculture ranks eighth, with women making 30 percent of EU farmers, whereas the share for manufacturing is of 20 percent (European Commission, 2014). The economic modelling suggests that there will be no noticeable changes in output of the EU companies in the services sectors under both the conservative and ambitious scenarios, which means no changes either for women-led enterprises. In agriculture, a limited decrease in output is predicted for the sector of fruits, vegetables and nuts (-0.2 percent), and oilseeds, vegetable oils and fats (-0.1 percent), and a growth of 0.2 percent for beef and sheep meat under the conservative scenario. Under the ambitious one, for most of sub-sectors, a limited decrease in output of -0.1 to -0.2 percent is forecasted, while for the ruminant meat sector it is -1.4 percent. Therefore, while the expected changes (positive or negative) will be limited, also for women-led enterprises, the expected drop in output

[59] "More than one third EU farmers are female", Eurostat, 18 December 2017 [accessed 30 August 2018], https://ec.europa.eu/eurostat/web/products-eurostat-news/-/WDN-20171218-1?inheritRedirect=true

[60] It is to note that for the EU, the data has been provided based on a one-off study carried out for the European Commission in 2014. It seems that there is no regular collection of this type of data for the whole EU (previously, some data was collected in 2008).

in the ruminant meat sector may require more attention. In manufacturing, there will be no noticeable changes in output, with the exception of motor vehicles and machinery sectors. The former expects an increase in output of 0.2 percent under the conservative scenario and 0.3 under the ambitious one. The machinery sector is likely to grow by 0.1 percent under the ambitious scenario. This suggests that only those enterprises led by women which are active in these two sectors or cooperate with them, may record an increase in output as a result of the EU-NZ FTA.

Regarding women's participation in trade, the latest European Commission's and International Trade Centre's (ITC) study[61] reveals that compared to the composition of surveyed EU enterprises, women-led companies producing goods are well represented in exports of clothing, fresh and processed food and agro-based products, and electronic components. Their top export destinations include the US, China, Russian Federation, and Switzerland, while imports originate from China, the US and Japan[62]. Outcomes of the economic modelling suggest increase in EU exports to New Zealand under the conservative scenario for textiles (by 47.3 percent), most of the food and agro-based products (ranging from 0.2 percent for cereals to 27.2 percent for dairy products and 29.4 percent for other meat) and electronic equipment by 11.9 percent, i.e. the main product groups engaging female exporters. Exports increase is also expected in other sectors, e.g. wood products, transport equipment and machinery where women-led companies operate while being less numerous. Under the ambitious scenario, these sectors will also benefit from increase in exports to New Zealand and for some of them the growth is expected to be higher, e.g. by 101 percent for textiles, by 53 percent for electronic equipment, and by 29 percent for dairy products. This suggests that while there may be differences in the extent to which certain types of companies will benefit from additional export opportunities (e.g. large companies compared to SMEs), women-led enterprises in the EU are also likely to increase their export activity to New Zealand under the future EU-NZ FTA.

However, it is noted that women-led exporting enterprises face also a number of challenges which relate to sector of their operation, size of companies and other factors, e.g. those in in clothing, electronic components, and fresh and processed food and agro-based products, and metal manufacturing, face frequent NTMs related to strict labelling requirements, rules of origin and product certification. Due to small size, only 4 percent of those participating in a survey engaged in public procurement activities (compared to 9 percent of men-led companies) and 19 percent were required to comply with private standards for goods (81 percent of men-led companies did so). These findings suggest that EU and New Zealand should consider in ongoing negotiations how provisions related e.g. to technical regulations and conformity assessment procedures, public procurement or rules of origin may affect (positively or negatively) small enterprises as these will be likely to have an effect for women-led businesses.

In 2018 in New Zealand, women constituted 33 percent of all entrepreneurs (Mastercard, 2018). Regarding sectors of their operation, the only data identified so far, is quite old and based on one study. According to this study, over the last decade, women-led enterprises have been operating in sectors including property and business services, retail trade, and personal and other services (Ministry of Women's Affairs, 2008). The economic modelling suggests for these sectors an increase in output of 0.2 percent under the conservative scenario and 0.3 to 0.5 percent under the ambitious one, which means that women-led enterprises will also have an opportunity to benefit from it. Exports under both conservative and ambitious scenarios are likely to increase by 8 percent in the services sectors, which may also create an opportunity for women entrepreneurs to start or expand their activities in international trade. In this context,

[61] European Commission, International Trade Centre (2019), From Europe to the world. Understanding challenges of European businesswomen: http://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/From%20Europe%20to%20World%20Women%20EU_final_web.pdf

[62] New Zealand does not rank among the top 10 export destination or markets of imports origin.

the Government of New Zealand is going to present in 2019 proposals within the Trade for All agenda, including support for women in the context of trade policy and trade agreements.

Women as consumers
As outlined in the overall economic analysis, the EU-NZ FTA is likely to have a negligible effect for EU consumers in terms of changes in wage and price levels (i.e. their purchasing power), as well as limited effects for workers. However, it should bring about a positive impact as far as availability of goods and services and the overall welfare are concerned.

In New Zealand, it may have a limited, but positive impact on consumers by increasing the range of available goods and services (with a reduction of prices for imported goods) and contributing to a limited welfare and wage growth. It is also likely to bring about a price increase, but a very limited one, and one being below the wage growth. The same findings will be true for women as consumers, notably those for whom wages constitute the source of income. However, there are groups in the New Zealand's population, including single adults, sole parent households, Pacific People, Māori and beneficiaries of social security payments, who are more exposed to the risk of poverty and may potentially benefit less from a trade agreement than other groups (e.g. if social benefits being a source of income do not rise to the same extent as wages). These groups include women, which suggests that impacts on women as consumers in New Zealand may vary depending on the source of income and sector of employment or economic activity, individual situation (e.g. composition of household), etc.

3.4.3. Policy recommendations and flanking measures

- To enable estimation and monitoring of impacts of the EU-NZ FTA on women, the Parties should further collect and analyse data disaggregated by gender. This applies in particular to the EU level data related to women entrepreneurs and traders (e.g. sectors of their economic activity, as well as internationally traded services, given that the recent European Commission's study with ITC provides insights for women's entrepreneurial activity as international traders in goods), and to women entrepreneurs and traders in New Zealand, as well as challenges faced by female traders and entrepreneurs, e.g. regarding NTMs, participation in e-commerce, access to public procurement contracts, etc. Exchange of best practice related to methods of data collection and analysis could follow in the regular dialogue under the TSD chapter of the EU-NZ FTA or other relevant chapters, e.g. on SMEs, TBT, public procurement, and within other bilateral or multilateral initiatives, e.g. follow-up to the Buenos Aires Declaration on Trade and Women's Economic Empowerment as well as seminars organised within the WTO Public Forum.
- The Parties should consider launch and/or continuation of tools and initiatives (discussed in detail in Annex III.2 to this Report) supporting women's economic activity, i.e. setting up and operation of enterprises, with access to funding, advisory services, training and networks, and engagement in international trade, including under the EU-NZ FTA.
- Given that certain measures or approaches included into provisions of a trade agreement may have a different impact on men and women in the context of trade, the Parties should consider analysis of such impacts at the time of design and implementation of FTA provisions in core trade disciplines, including in the EU-NZ FTA, e.g. trade in services (given the large share of women employed as workers and operating as entrepreneurs in the services sectors), public procurement (with possibilities to further unlock opportunities for SMEs, including those led by women), investment or policy on SMEs. A similar step has been recommended by the UN Economic Commission for Europe (UNECE) within its Gender Responsive Standards

Initiative (and the recommendation adopted in November 2018) promoting greater involvement of women in standard setting.[63]

3.5. Human rights impact analysis

3.5.1. Introduction

This chapter first provides an overview of the current human rights situation in New Zealand and in the EU (for more detailed information, we refer to Annex III.3). Existing issues of vulnerabilities are then taken into account when assessing the potential impact of the EU-NZ FTA on human rights in both Parties, followed by a screening and scoping exercise and then a more detailed impact assessment for selected human rights.

3.5.2. Human rights state of play

In this section, we outline the core elements of the current situations in the EU and New Zealand from a human rights perspective.

European Union

Human rights are guaranteed at the EU level by the EU Charter of Fundamental Rights (CFR) adopted in 2000 and having a binding nature on all EU Member States following the Lisbon Treaty of 2009. The Charter is consistent with the European Convention on Human Rights (ECHR) ratified by all the Member States. The European Union's trade relations are guided by its commitment to support and promote democracy and human rights as it is established in the Lisbon Treaty (Art. 3(5), Art. 21(1) (3) TEU and Art. 207(1) TFEU). Moreover, Article 6(1) TEU gives the Charter the binding legal value equal to that of the Treaties by mandating that the EU legal order 'recognises the rights, freedoms and principles set out in the Charter of Fundamental Rights'.

Since EU Member States have not followed homogeneous development paths before becoming members of the EU, some states have more human rights issues than others. Despite a decrease in migration flows to Europe, rights of migrants and asylum seekers continue to be compromised by some EU Member States (HRW, 2019), and issues remain with respect to discrimination against women, Roma people and LGBTI persons. HRW also praised the European Union for remaining a leading actor in promoting human rights globally and welcomed the commitment of the EU institutions in their action to address attacks on democratic institutions and rule of law in Hungary and Poland in 2018 (HRW, 2019). Many of these issues are of domestic character and are not likely to be directly related to trade relations with New Zealand. However, the current situation and specific provisions in the proposed EU-NZ FTA could be important in order to assess human rights impacts, particularly the degree of the impact, while considering existing sensitivities and issues of vulnerability.

New Zealand

Currently, the human rights relationship between the EU and New Zealand is governed by the EU-New Zealand Partnership Agreement for Relations and Cooperation (PARC) that includes cooperation on human rights and gender issues (EEAS, 2018; New Zealand Government, 2016). New Zealand is a party to seven out of nine core international human rights treaties and six out of eight core ILO Conventions and has human rights obligations established in these instruments. New Zealand is also a signatory to the UN Agenda 2030 for sustainable development that came into effect in January 2016. Every time the New Zealand government signs a new significant international treaty, a National Interest Analysis (NIA) is produced by the lead government agency. The Ministry of Foreign Affairs and Trade of New Zealand notes that in negotiating trade agreements, New Zealand seeks to include provisions that include "commitments that

[63] UNECE: Thematic Areas – Gender Initiative: http://www.unece.org/tradewelcome/steering-committee-on-trade-capacity-and-standards/tradewp6/thematic-areas/gender-initiative.html [accessed 28 November 2018].

labour and environmental laws, policies, regulations and practices will not be used for trade protectionist purposes, or be weakened to encourage trade or investment".[64] In New Zealand, human rights are recognised and protected under two main legal acts: the New Zealand Bill of Rights 1990 and the New Zealand Human Rights Act 1993. Next to that, New Zealand has an institutional framework in place to promote and monitor protection of human rights. One of the founding documents of the system of government in New Zealand (though not formally a part of the national legislative framework) is the Treaty of Waitangi which was signed between the Māori chiefs and the British Crown in 1840 (United Nations, 2018a). It provides guarantees for the right of Māori to self-determination and includes the duty to consult the Māori in decisions that affect them.

New Zealand is found to have a strong record on human rights.[65] However, there are also issues of concern. They relate to the rights of children, violence against women, and high rates of Māori incarceration. Some of the issues related to human rights have already been discussed in the ex-ante study: the right to health, rights of indigenous peoples, rights of migrants, and rights of refugees and asylum seekers.

Overall, the EU and New Zealand have a strong human rights record. Although the human rights situation in both Parties can be characterised by several issues that need attention, at the same time, it demonstrates that there are constant developments to improve the human rights record and performance. There are various institutions in place that point out shortcomings and elaborate recommendations on constant improvement of human rights situations.[66]

3.5.3. Screening and scoping of specific human rights

The likely cause-effect relationships between the trade and trade-related measures in the EU-NZ FTA and human rights have been developed based on various sources, in particular, the experience of other FTAs, literature review of various studies, results of the modelling carried out by the European Commission, assessment of the ex-ante study, expert opinions, stakeholder consultations and results of the human rights survey. The LSE (2017) ex-ante study gives a first overview of how literature and EU and New Zealand stakeholders view the impact of the EU-NZ FTA on human rights. It points out a few impacts of the EU-NZ FTA on several human rights: the right to health, right to an adequate standard of living, freedom of expression, freedom of association and peaceful assembly, right to participate in the conduct of public affairs. The analysis concludes that all the selected rights are expected to be impacted in a minor way, except for the freedom of expression, freedom of association and peaceful assembly and right to participate in public and political life (as related to transparency in the negotiations) which are expected to be impacted in a major way, generating either neutral or positive impact.[67] The outcomes of the economic modelling are used to see where – at sectoral level especially – human rights impacts can be expected from the EU-NZ FTA. For example, looking at the right to work in sectors that grow or decline; or how growth of water-intensive sectors affects rights of indigenous people; or how tariff revenue impacts affect availability of funds for public policies like education and/or healthcare, potentially affecting the right to education and right to health.

Based on the above-mentioned sources, and in line with the EC Guidelines for human rights impacts assessments, Table 3.16 presents the outcomes of the screening and scoping exercises based on the trade and trade-related measures specified in the textual proposals for the EU-NZ FTA and contains the following information:

- What trade measures/ provisions from the textual proposals are expected to cause the impact on human rights;

[64] Website of the Ministry of Foreign Affairs and Trade of New Zealand, https://www.mfat.govt.nz/en/trade/free-trade-agreements/about-free-trade-agreements/ [accessed 25 January 2019].
[65] See website of the Ministry of Foreign Affairs and Trade of New Zealand, https://www.mfat.govt.nz/en/trade/free-trade-agreements/about-free-trade-agreements/ [accessed 25 January 2019].
[66] See Annex III.3 for a more detailed description of the state of play.
[67] See Table 41 in LSE (2017).

- Reference in the textual proposal (if available);
- Potentially affected human rights/issues and the normative framework;
- Short explanation of the impact based on secondary materials: nature of the expected impact (both in the short and in the long run) and possible directions of the impact;
- Whether the potentially affected right is an absolute human right or not (yes/no);[68]
- What kind of impact is expected (direct or indirect);[69]
- The degree of the impact (major or minor);
- The direction of the impact (positive and/or negative) that is specified through a 5-item Likert scale: positive impact (++), somewhat positive impact (+), no impact (0), somewhat negative impact (-), negative impact (--);
- Population groups affected by the impact, where possible indicating specific vulnerable groups.

The Table represents the outcome of the screening and scoping exercise on the potential impact of the trade measures that are likely to be introduced in the EU-NZ FTA, while taking into account existing sensitivities and vulnerabilities with respect to human rights identified at the state of play and reflecting on the inputs received from stakeholder consultations.

[68] In line with the Tool No.28 of the Better Regulation Toolbox, see European Commission (2017a).

[69] A direct effect is one which directly follows form the measures introduced by the FTA. For example, a direct effect is the effect of more jobs and higher wages brought about by the FTA on the right to work. An indirect effect is the effect of the FTA via a longer causal chain. For example, higher wages induced by the FTA might have an indirect impact on the right to health because people might afford better health treatment.

Table 3.16: Screening of EU-NZ FTA for effects on enjoyment of human rights

Trade & trade-related measures	Textual Proposal reference[70]	Potentially affected human rights / issues / normative framework	Short explanation of the impact based on secondary materials	Abso-lute right?	Kind of impact: direct/ indirect	Degree of impact: major/ minor	Impact (++) (+) (0) (-) (--)	Population groups affected
Liberalisation of tariffs for goods (incl. agriculture)	Chapter [XX] *National Treatment and Market Access for Goods*	*Right to an adequate standard of living* Art. 11 (ICESCR), Art. 27 (CRC), Art. 28 (CRPD), Art. 25 (UDHR)	Liberalisation of tariffs for goods puts pressure on prices in the sectors that have been liberalised, increasing competitiveness which eventually leads to cheaper prices, thereby positively affecting the *right to an adequate standard of living* of the population in general. Next to that, liberalisation of tariffs contributes to GDP growth because it supports specialisation and thus increases in output. More revenues, with lower input costs also has a positive effect on company revenues, which in the long run increases tax revenues for the government making more funds available for public services, as well as more jobs for workers and uses for (international) capital positively affecting the right to an adequate standard of living, right to health, right to social security, right to education. The degree to which the most vulnerable groups of population also benefit, depend on support from the government and publicly funded programmes as well as the degree to which they are included. However, while tax revenues tend to increase, tariff revenues are reduced and in the short run depending on the choices made by the government, this may put some pressure on the rights of persons dependent on public funding (the elderly, children, women, persons with disabilities, migrants, persons with low income, and others) because funds decrease. In the case of the EU-NZ FTA, both the EU and NZ are high-income countries with developed social systems and security nets and with appropriate attention to human rights. So it is not likely that reduction of tariff liberalisation will be so significant as to have a major impact on government revenues in the short run and to negatively affect vulnerable groups dependent on publicly allocated funds. Positive impact from increased tax revenues is not likely to be significant in the short run either. In the long run, the expected impact will be proportional to the effects of the tariff liberalisation for the negotiated goods. In agriculture, Tariff-Rate Quotas (TRQs) matter) as more	No	Direct	Minor	(+) (-)	Marginally EU and NZ population
		Right to health Art. 35 (CFR), Art. 12 ICESCR), Art. 25 (UDHR), Art. 24 (CRC), Art. 12 (CEDAW), Art. 25 (CRPD), Art. 28 (ICMW), Art. 5 (CERD)		No	Indirect	Minor	(+) (-)	NZ and EU population in general
		Right to social security Art. 34 (CFR), Art. 34(CFR), Art. 9 (ICESCR), Art. 22 and 25 (UDHR), Art. 26 (CRC), Art. Aa (CEDAW), Art. 27 (ICMW), Art. 5 (CERD), CESCR General Comment No. 19		No	Indirect	Minor	(+) (-)	Marginally NZ population in general
		Right to education Art. 14 (CFR), Art. 13 (ICESCR), CESCR General Comments No.11 and No. 13, Art. 26 (UDHR), Art. 28 (CRC), Art. 10 (CEDAW), Art. 24 (CRPD), Art. 30 (ICMW), Art. 5 (CERD)		No	Indirect	Minor	(+) (-)	Marginally NZ population in general
		Right to work		No	Direct	Minor	(+) (-)	EU and NZ

[70] Upon availability.

Trade & trade-related measures	Textual Proposal reference[70]	Potentially affected human rights / issues / normative framework	Short explanation of the impact based on secondary materials	Abso-lute right?	Kind of impact: direct/ indirect	Degree of impact: major/ minor	Impact (++) (+) (0) (-) (--)	Population groups affected
		Art. 15 (CFR), Art. 6 (ICESCR), Art. 23 (UDHR), Art. 11(CEDAW), Art. 27 (CRPD), Art. 5 (CERD)	agricultural produce would become available for EU and NZ consumers. Impacts within the sectors may be positive or negative (affecting *the right to an adequate standard of living* in opposite directions, depending on the sector).[71] In the long run, the trade effect is expected to be positive (proportional to the marginal effects of liberalisation of tariffs) and having a small positive effect on the two parties' GDPs. So, *the right to an adequate standard of living* is not likely to be affected for NZ citizens or only marginally in both directions. In case of the EU, liberalisation of tariffs is not expected to influence *the right to an adequate standard of living* neither in the short run, nor in the long run. As a result of tariff liberalisation some competitive sectors both in NZ and the EU are expected to grow while non-competitive ones are expected to decline, causing job creation and job losses respectively, creating a mixed impact on *the right to work* of employees of different sectors. The positive impact of more trade resulting from tariff liberalisation could already be felt in the short run as jobs will be created shortly after the FTA is in force. Impacts within the sectors may be positive or negative (affecting *the right to an adequate standard of living* and *right to work* in opposite directions and for various vulnerable groups, depending on the sector). Liberalisation of tariffs in agriculture, in particular, meat and dairy is expected to lead to increase in production and increase in GHG emissions in New Zealand, thereby affecting the *right to a clean environment* in New Zealand in a minor negative way (see detailed analysis in the Environmental Impact Chapter).					workers
		Right to a clean environment Art. 37 (CFR), Art. 14 (CEDAW), Art. 24 (CRC), Art. 25 (UDHR), Art. 12 (ICESCR)		No	Direct	Minor	(-)	NZ population
Facilitation of trade and investment in the areas of energy and raw materials	Energy and Raw Materials Chapter	*Right to an adequate standard of living* Art. 11 (ICESCR), Art. 27 (CRC), Art. 28 (CRPD), Art. 25 (UDHR)	This trade measure is intended to ease access to energy and raw materials while maintaining high standards and the national government's right to regulate (Art. X.2 of the Textual Proposal of the Energy and Raw Materials Chapter). Easier access could potentially increase competitiveness among the energy providers and lead to cheaper prices for the consumers in New Zealand and the EU. Lower costs could have a direct but	No	Direct	Minor	(+) (-)	EU and NZ population in general

[71] Sectoral impacts for selected sectors are covered in the sector analysis, see Chapter 4.

Trade & trade-related measures	Textual Proposal reference[70]	Potentially affected human rights / issues / normative framework	Short explanation of the impact based on secondary materials	Abso-lute right?	Kind of impact: direct/ indirect	Degree of impact: major/ minor	Impact (++) (+) (0) (-) (--)	Population groups affected
		Indigenous peoples' rights ILO Convention No.169, UNDRIP, Art. 27 (ICCPR), Art. 30 (CRC) *Land rights, access to traditional subsistence livelihoods and to water, right to health, right to water, right to work, right to take part in cultural life*	not significant impact on *the right to an adequate standard of living* of citizens in both EU and New Zealand. However, if export restrictions are lifted, and there is a lot of domestic consumption, domestic prices could potentially rise – so the impact on this right can go either way but is not expected to be very significant. Given the size of economic effects, this FTA transmission channel is, however, not expected to be significant. From the economic analysis, we find that for the EU no large change is expected in terms of production (marginal decreases in oil and coal and a small increase for gas), but gas exports will increase considerably (+5.7%). For NZ, production of coal and oil go up marginally and gas production declines. In terms of trade, NZ exports decline for all three fossil fuels. Increased cooperation in such areas as sustainable and renewable energy could have an indirect positive impact on the *right to a clean environment* in the long run for both EU and New Zealand citizens, contributing to promotion and further research into renewable energy and developing new technologies based on combined research and cooperation activities, through exchange of best practices (Articles X.15, X.16, X.17 in the Textual Proposal). This measure is not expected to have any significant impact on the enjoyment of human rights by the EU population. From the perspective of the indigenous people's rights, if a consequence of the EU-NZ FTA is that the number of energy-related projects increases (e.g. hydraulic fracturing), this could put some pressure on indigenous peoples' rights. Although environmental impact assessment requirements (specified in Art. X.8 of the Textual Proposal) are included in the EU-NZ FTA.	No	Direct	Minor	(+) (-)	NZ indigenous populations
		Right to a clean environment Art. 37 (CFR), Art. 14 (CEDAW), Art. 24 (CRC), Art. 25 (UDHR), Art. 12 (ICESCR)		No	Direct	Minor	(+) (-)	EU and NZ population in general
Services liberalisation	Investment liberalisa-tion and	*Right to privacy and protection of personal data*	EU Negotiating directives for an FTA with New Zealand state that "The Agreement should have substantial sectoral coverage and should cover all modes of supply,"[72] excluding audio-visual	No	Direct	Minor	(+) (-)	NZ population in general

[72] Council of the European Union, Negotiating directives for a Free Trade Agreement with New Zealand, 7661/18 Add 1 DCL 1, 25 June 2018, p.12, available at : http://data.consilium.europa.eu/doc/document/ST-7663-2018-ADD-1-DCL-1/en/pdf

Trade & trade-related measures	Textual Proposal reference[70]	Potentially affected human rights / issues / normative framework	Short explanation of the impact based on secondary materials	Abso-lute right?	Kind of impact: direct/ indirect	Degree of impact: major/ minor	Impact (++) (+) (0) (-) (--)	Population groups affected
	trade in services (Chapter 3, Cross-Border Trade in Services)	Art. 7 and 8 (CFR), Art. 12 (UDHR), Art. 17 (ICCPR), Art. 16 (CRC), Art. 22, 23 (CRPD), Art. 14 (ICMW), Regulation (EU) 2016/679	services and services supplied in the exercise of governmental authority.[73] As a result of liberalisation, some competitive sectors both in New Zealand and the EU are expected to grow while non-competitive ones are expected to decline causing job creation and job losses respectively, creating a mixed impact on the *right to work* of employees of different services sectors. Growth opportunities could for example materialize for the ruminant meat and dairy sectors in New Zealand and the automotive sector in the EU. Impacts within the sectors may be positive or negative (affecting the *right to an adequate standard of living* and *right to work* in opposite directions and for various vulnerable groups, depending on the sector).[74] For example, SMEs in the ruminant meat and dairy sectors in NZ could benefit. To some extent this chapter could lead to more activities from NZ firms in the EU and enhance, both in the EU and NZ, the quality of services. Liberalisation in certain sectors (e.g. telecommunications, financial services), could lead to more cross-border activities. Implications for the exchange of personal data of citizens cannot be neglected. GDPR Regulation (Regulation (EU) 2016/679), on the other hand, provides an important safeguard. New Zealand is working on its revised Privacy Act to protect privacy of its citizens and introduce improved data protection standards. Art. 14 of the Textual Proposal contains cooperation provisions (also specifically in protection of consumers) that may have a positive impact on privacy laws in New Zealand through exchange of best practices.					
		Right to work Art. 15 (CFR), Art. 6 (ICESCR), Art. 23 (UDHR), Art. 11 (CEDAW), Art. 27 (CRPD), Art. 5 (CERD)		No	Direct	Minor	(+) (-)	EU and NZ workers
		Right to an adequate standard of living Art. 11 (ICESCR), Art. 27 (CRC), Art. 28 (CRPD), Art. 25 (UDHR)		No	Direct	Minor	(+) (-)	EU & NZ population in general, vulnerable groups in particular
		Right to access information Art. 9 (CFR), Art. 16 (UDHR), Art. 10 (ICCPR), Art. 14 (CRC), Art. 12 (ICMW), Art. 5 (CERD), Regulation (EU) 2016/679		No	Direct	Minor	(+) (-)	NZ population in general
Digital Trade	Digital Trade Chapter	*Right to privacy and protection of personal data* Art. 7 and 8 (CFR), Art. 12 (UDHR), Art. 17 (ICCPR), Art. 16 (CRC), Art. 22, 23 (CRPD), Art. 14	Digital trade provisions aim to ensure consumer protection in the online environment. EU Negotiating Directive specifies that the EU-NZ FTA 'should result in rules covering digital trade and cross-border data flows, consumer protection in the online environment, electronic trust and authentication services, open internet access, unsolicited direct marketing communications, improvement of the conditions for international roaming and	No	Direct	Minor	(+) (-)	NZ population in general

[73] Ibid.
[74] Sectoral impacts for selected sectors are covered in Chapter 4.

Trade & trade-related measures	Textual Proposal reference[70]	Potentially affected human rights / issues / normative framework	Short explanation of the impact based on secondary materials	Abso-lute right?	Kind of impact: direct/ indirect	Degree of impact: major/ minor	Impact (++) (+) (0) (-) (--)	Population groups affected
		(ICMW), Regulation (EU) 2016/679	addressing unjustified data localisation requirements, while neither negotiating nor affecting the EU's personal data protection rules and without prejudice to the EU legislation'. Art. 12 of the Chapter "recognises the importance of enhancing consumer trust in digital trade… and shall adopt or maintain measures to ensure the effective protection of consumers in electronic commerce transaction"[75] and Art. 13 sets out provisions on unsolicited direct marketing communications, protecting both EU and NZ citizens from spam. EU GDPR provides context for the Agreement and may be used for possible alignment with New Zealand legislation on privacy. Improved data protection standards are being developed in the revised Privacy Act. However, discussions on legally binding provisions in the EU-NZ FTA regarding privacy regulation are not part of the negotiations (only cooperation activities are as per Article 14) because each country has its own right to regulate (Article 6(2)). With increased trade the need for good data protection is higher.					
		Right to access information Art. 9 (CFR), Art. 16 (UDHR), Art. 10 (ICCPR), Art. 14 (CRC), Art. 12 (ICMW), Art. 5 (CERD), Regulation (EU) 2016/679		No	Direct	Minor	(+) (-)	NZ population in general
		Online privacy Regulation (EU) 2016/679, ePrivacy Directive (Directive 2002/58/EC)		No	Direct	Minor	(+) (-)	NZ population in general
Reduction of non-tariff measures:[76] technical barriers to trade;	Chapter Technical Barriers to Trade	*Right to an adequate standard of living* Art. 11 (ICESCR), Art. 27 (CRC), Art. 28 (CRPD), Art. 25 (UDHR)	As per EU Negotiating Directives, the Technical Barriers to Trade (TBT) Chapter aims to facilitate market access and trade in goods between the parties via alignment of TBT measures between the EU and New Zealand and use of international standards, except where they are ineffective or inappropriate. Alignment of TBT could lead to stronger focus on the quality of products. Both the EU and New Zealand have high TBT standards, and further alignment would not reduce them, but allow resources to be spent more efficiently: for regulators, and for companies. For regulators, inspections could become more efficient (and joint) while for companies regulatory costs would go down while technical quality would be maintained or even increased. Ultimately this could lead to cheaper products of high quality for EU and New Zealand consumers. Though the TBT Agreement would enshrine high standards, the quality of products would only marginally be impacted and thus also only marginally affect *right to health.*	No	Indirect	Minor overall, but larger in some sectors	(+) (-)	NZ population in general and vulnerable groups
		Right to health Art. 35 (CFR), Art. 12 ICESCR, Art. 25 (UDHR), Art. 24 (CRC), Art. 12 (CEDAW), Art. 25 (CRPD) Art. 28 (ICMW), Art. 5 (CERD)		No	Indirect	Minor	(+) (-)	EU and NZ consumers
		Right to clean environment Art. 37 (CFR), Art. 14		No	Indirect	Minor	(+) (-)	EU and NZ populations

[75] EU Textual Proposal on Digital Trade Chapter, available at: http://trade.ec.europa.eu/doclib/docs/2018/december/tradoc_157581.pdf

[76] Based on UNCTAD (2015).

Trade & trade-related measures	Textual Proposal reference[70]	Potentially affected human rights / issues / normative framework	Short explanation of the impact based on secondary materials	Abso-lute right?	Kind of impact: direct/ indirect	Degree of impact: major/ minor	Impact (++) (+) (0) (-) (--)	Population groups affected
		(CEDAW), Art. 24 (CRC), Art. 25 (UDHR), Art. 12 (ICESCR)	For job creation/reduction, the impact is expected to be developing in both directions: lower costs mean also more business opportunities and jobs but at the same time, more simplification of inspection may also affect existing jobs which will not be needed as a result of it. All these changes have the potential to affect the *right to an adequate standard of living, right to work* and *right to health*. Through sharing of environmental goods and technologies there is a possible impact on the *right to a clean environment* (e.g. with respect to emission standards), see also analysis in the Environmental Impact Chapter.					
		Right to work Art. 15 (CFR), Art. 6 (ICESCR), Art. 23 (UDHR), Art. 11 (CEDAW), Art. 27 (CRPD), Art. 5 (CERD)		No	Indirect	Minor	(+) (-)	EU and NZ workers
Reduction of non-tariff measures: sanitary and phyto-sanitary measures	Chapter Sanitary and Phyto-Sanitary Measures	*Right to food* Art. 11 (ICESCR), CESCR General Comment No. 12, Art 24 and 27 (CRC), Art 12 and 14 (CEDAW), Art. 25 and 28 (CRPD), Art. 24 and 26 (DRIP), Art. 25 (UDHR)	The EU and New Zealand have high SPS standards and they are difficult to align. In the ambitious scenario a degree of SPS alignment is assumed to be able to capture potential gains in agriculture and processed foods. Neither side wants to lower SPS standards in the EU-NZ FTA, but via aligning further (reducing regulatory duplications, joining forces on risk-based checks, and other measures) food quality can be further emphasised while reducing costs – both for regulators and companies – which leads to a potentially positive impact on *the right to food* and *right to health, right to an adequate standard of living*. Impact on the *right to work* could be both positive and negative (in both cases minor), depending on the exact consequences for employment as a result of jointly performed checks and other related activities. In some sectors (beef and sheep meat and dairy), modelling results predict potential for agricultural food trade increases between the EU and NZ leading to possibly more jobs created in those sectors.	No	Direct/in direct	Minor	(+)	EU and NZ population in general
		Right to health Art. 35 (CFR), Art. 12 ICESCR, Art. 25 (UDHR), Art. 24 (CRC), Art. 12 (CEDAW), Art. 25 (CRPD) Art. 28 (ICMW), Art. 5 (CERD)		No	Indirect	Minor	(+)	EU and NZ population in general
		Right to an adequate standard of living Art. 11 (ICESCR), Art. 27 (CRC), Art. 28 (CRPD), Art. 25 (UDHR)		No	Indirect	Minor	(+) (-)	EU and NZ workers
		Right to work Art. 15 (CFR), Art. 6 (ICESCR), Art. 23 (UDHR), Art. 11 (CEDAW), Art. 27 (CRPD), Art. 5 (CERD)		No	Indirect	Minor	(+) (-)	EU and NZ workers
Reduction of	Trade in	*Right to an*		No	Direct	Minor	(+) (-)	EU and NZ

Trade & trade-related measures	Textual Proposal reference[70]	Potentially affected human rights / issues / normative framework	Short explanation of the impact based on secondary materials	Abso-lute right?	Kind of impact: direct/ indirect	Degree of impact: major/ minor	Impact (++) (+) (0) (-) (--)	Population groups affected
NTMs: non-automatic licensing, quotas, prohibitions, quantity measures other than SPS or TBT	Goods Chapter. Chapter National treatment and market access for goods, Art. X.13 and X.14.	*adequate standard of living* Art. 11 (ICESCR), Art. 27 (CRC), Art. 28 (CRPD), Art. 25 (UDHR)	Tariff-Rate Quotas (TRQs) are essentially quotas that act as entry barriers for foreign competitors. Especially in agriculture they are a frequently used tool. Enlarging the TRQs, lowering the tariff part of the TRQs or even abolishing the TRQs, would lead to potential larger market access that competitive sectors could benefit from in terms of market access - e.g. NZ farmers, both large and small in the ruminant meats and dairy sectors – while potentially putting pressure on the producers in the importing markets where market access is given to. Given the asymmetry in EU and NZ market sizes, however, the EU-NZ FTA is an opportunity to give more access for dairy and meat producers into the EU, which is a relatively small access from an EU perspective. For competitive sectors, removal of TRQs would lead to positive effects on the *right to work, right to a decent standard of living* as wages would go up and jobs are created. For 'defensive' (i.e. relatively less competitive sectors) TRQs provide protection against (foreign) competition. So the removal or weakening of TRQs could lead to more competition and a decline in wages and job opportunities. However, since TRQs ensue in the agricultural sector mostly, job mobility in the long run would allow also workers in declining sectors to benefit (from higher salaries and new job opportunities), even though in the immediate aftermath of changing TRQs job frictions could temporarily affect the *right to work* negatively.					population
		Right to work Art. 15 (CFR), Art. 6 (ICESCR), Art. 23 (UDHR), Art. 11 (CEDAW), Art. 27 (CRPD), Art. 5 (CERD)		No	Direct	Minor	(+) (-)	EU and NZ population
Reduction of non-tariff measures: intellectual property protection;	Intellec-tual Property Chapter. SubSection 1. Copyright and related rights. Subsection 4. Geographic	*Right to health and access to medicines* Art. 35 (CFR), Art. 12 ICESCR, Art. 25 (UDHR), Art. 24 (CRC), Art. 12 (CEDAW), Art. 25 (CRPD) Art. 28 (ICMW), Art. 5 (CERD)	New Zealand provides patent protection for pharmaceutical products in line with the TRIPS WTO Agreement. New Zealand has also committed to some regulatory data protection in the CPTTP agreement: General patent-term extension for unreasonable delays in granting a patent[77] and Patent-term extension for pharmaceuticals for humans with respect to the unreasonable curtailment of the effective patent term as a result of the marketing approval process per the Medicines Act 1981[78] (see more detailed analysis in the detailed assessment of the right to health). But it is not known at this stage whether these types of patent extensions are foreseen in the EU-NZ FTA. Extension of patent protection secures innovation for new	No	Direct			NZ population in general

[77] TPP Agreement Amendment Act 2016, s75 introducing ss 111A and 111B.
[78] TPP Agreement Amendment Act 2016, s75 introducing ss 111C-111I.

Trade & trade-related measures	Textual Proposal reference[70]	Potentially affected human rights / issues / normative framework	Short explanation of the impact based on secondary materials	Abso-lute right?	Kind of impact: direct/ indirect	Degree of impact: major/ minor	Impact (++) (+) (0) (-) (--)	Population groups affected
	al Indications		medicines and their introduction which is necessary for the promotion of the *right to health*. It can also lead to lower health					
		Right to take part in cultural life Art. 27 (UDHR), Art. 15 (ICESCR), CESCR General Comment No. 21	care costs in other parts of the health care system when new and better medicines become available to cure patients reducing the costs for the health care system. At the same time, however, extension of patent protection could put a strain on the government budget when new, innovative, but also expensive, products enter the New Zealand market, thereby potentially negatively impacting the right to health, in particular for most vulnerable groups of the population (the elderly, children, women, persons with disabilities and others). Balance between presence of innovative medicine (vital to some of the patients already now as reported by some patient groups) and affordability of essential medicines is necessary to ensure enjoyment of the right to health for all the population groups.	No	Direct	Minor	(+) (-)	EU farmers
		Right to work Art. 15 (CFR), Art. 6 (ICESCR), Art. 23 (UDHR), Art. 11 (CEDAW), Art. 27 (CRPD), Art. 5 (CERD)		No	indirect	Minor	(+) (-)	EU and NZ farmers
		Right to an adequate standard of living Art. 11 (ICESCR), Art. 27 (CRC), Art. 28 (CRPD), Art. 25 (UDHR)	Because extension of patent protection is in part dependent on the speed of regulatory approval processes, streamlining these processes by the governments (e.g. via International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH) and Pharmaceutical Inspection Co-operation Scheme (PIC/S) standards implementation outside the EU-NZ FTA. The goal of the overall system should be to allow patients to get quicker access to the best possible medicines and not an overly commercial approach to innovation as stated by the Office of the United Nations High Commissioner for Human Rights in 2005. At the moment of writing this report, the existing draft provisions do not specify the period for regulatory data protection, an important building block of the IP system. The potential impact of more extensive patent protection on the sustainability of health care systems should be properly assessed since while higher prices could reduce sustainability, new medicines also lead to lower costs for the health care system overall: lower hospital costs, less doctor visits, and less patients that need prolonged treatment and care. Expansion of the system of Geographical Indications (GIs) as part of the protection of intellectual property rights could lead to positive impact on protecting the cultural heritage behind a	No	Indirect	Minor	(+) (-)	EU and NZ farmers

Trade & trade-related measures	Textual Proposal reference[70]	Potentially affected human rights / issues / normative framework	Short explanation of the impact based on secondary materials	Abso-lute right?	Kind of impact: direct/ indirect	Degree of impact: major/ minor	Impact (++) (+) (0) (-) (--)	Population groups affected
			brand for small and large European and NZ producers, preserving the traditional quality of products, affecting positively *the right to take part in cultural life*, and allowing farmers to brand their products, leading to a positive effect also on *their right to work* and *right to an adequate standard of living.* GIs could potentially lead to pressure on other farmers or agricultural product producers to have to adjust labelling and branding of existing products that have come to use an EU GI term.					
Inclusion of labour and environ-mental standards	Not available yet TSD Chapter from the Textual Proposal for EU-AUS FTA	*Right to health* Art. 35 (CFR), Art. 12 ICESCR, Art. 25 (UDHR), Art. 24 (CRC), Art. 12(CEDAW), Art. 25 (CRPD) Art. 28 (ICMW), Art. 5 (CERD)	The TSD Chapter textual proposal for EU-NZ FTA is not yet available, so we base our analysis on the textual proposal for the TSD Chapter from the EU-AUS FTA. In line with the FTA Negotiating Directives, the TSD Chapter aims to promote and ensure effective implementation of the highest standards of labour, safety, environmental and consumer protection as well as enhance civil society inclusion in all areas of the Agreement.[79] The TSD Chapter for EU-AUS FTA contains obligations on effective implementation of ILO Conventions ratified, recognition of ILO Decent Work principles and their relevance for trade and labour. It supports UN Framework Convention on Climate Change (UNFCCC) and Paris Agreement on climate change (Art.5) as well as other relevant key international instruments with respect to labour rights and environment protection. Moreover, in its Article X.3(3), the Agreement aims to facilitate ratification of all ILO Conventions ratified by the parties (which would be relevant for New Zealand which did not yet ratify the ILO Minimum Age Convention (C138), Freedom of Association and Protection of the Right to Organise Convention (C087)). Overall, this trade-related measure is expected to have a direct positive impact on *labour rights* in both EU and NZ, as well as *the right to clean environment* and, as a consequence, *right to health*. It is not clear though how specific vulnerable groups (e.g. women, indigenous peoples) are protected under this	No	Indirect	Minor	(+)	EU and NZ population
		Right to clean environment Art. 37 (CFR), Art. 14(CEDAW), Art. 24 (CRC), Art. 25 (UDHR), Art. 12 (ICESCR)		No	Indirect	Minor	(+)	EU and NZ population
		Labour rights: *Right to work;* *Freedom of association;* *Right to collective bargaining;* *Prohibition of forced labour;* *Prohibition of child labour;* *Elimination of discrimination at work;* *Right to just and favourable working conditions of work;* *Right to form trade unions*		No	Indirect	Minor	(+)	EU and NZ workers

[79] Council of the European Union, Negotiating directives for a Free Trade Agreement with New Zealand, 7661/18 Add 1 DCL 1, 25 June 2018, p.17, available at : http://data.consilium.europa.eu/doc/document/ST-7663-2018-ADD-1-DCL-1/en/pdf

Trade & trade-related measures	Textual Proposal reference[70]	Potentially affected human rights / issues / normative framework	Short explanation of the impact based on secondary materials	Abso-lute right?	Kind of impact: direct/ indirect	Degree of impact: major/ minor	Impact (++) (+) (0) (-) (--)	Population groups affected
		Art. 15 (CFR), Art. 6 (ICESCR), Art. 23 (UDHR), Art. 11 (CEDAW), Art. 27 (CRPD), Art. 5 (CERD), ILO Conventions	Chapter which does not include provisions regarding vulnerable groups of the population in its current version. More in general, however, there is a commitment to respect the core labour standards regarding elimination of discrimination in respect of employment and occupation.					
		Right to take part in the conduct of public affairs Art. 39 (CFR), Art. 25 (ICCPR), Art. 7 (CEDAW), Art. 29 (CRPD), Art. 21 (UDHR), Art. 5 (CERD)	Another caveat is that under EU law the EU Member States have to enforce the agreement. This leaves the EU at EU level with a challenge on how to deal with enforcement if the TSD Chapter is not adhered to (even if it is legally binding on the EU). Next to that, TSD Chapter aims to facilitate trade and responsible supply chain management through *responsible business conduct/ corporate social responsibility* practices (Art. X.9), having regard to internationally recognised instruments (such as the OECD Guidelines for Multinational Enterprises, the ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy, the UN Global Compact and the UN Guiding Principles on Business and Human Rights). Active civil society participation is encouraged in Articles X.12 and X.14 of the TSD Chapter, providing for regular consultations and communication action. In this connection, the TSD Chapter is viewed as a working incentive for the implementation of the existing legislation and fine-tuning the remaining issues in line with international standards and developing solutions that will ensure enjoyment of the *right to take part in the conduct of public affairs* and increase *transparency*.	No	Indirect	Minor	(+)	EU and NZ population in general
		Responsible business conduct/corporate social responsibility OECD Guidelines for Multinational Enterprises, the ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy, UN Global Compact, UN Guiding Principles on Business and Human Rights		No	Indirect	Minor	(+)	EU and NZ population in general
		Right to information Art. 9 (CFR), Art. 16 (UDHR), Art. 10 (ICCPR), Art. 14 (CRC), Art. 12 (ICMW), Art. 5 (CERD)		No	Direct	Minor	(+)	EU and NZ population in general
Inclusion of provisions on gender balance	Not available	*Gender non-discrimination* Art. 23 (CFR), Art. 26 (ICCPR), CEDAW, Art.	It is not clear at the time of writing of this report, if gender provisions will be included in the EU-NZ FTA. If included, trade and gender provisions could have a minor positive impact on the rights of women in the long run, both in the EU and NZ, putting the importance of gender issues on the 'map' of trade	No	Direct	Minor	(+)	EU and NZ women

Trade & trade-related measures	Textual Proposal reference[70]	Potentially affected human rights / issues / normative framework	Short explanation of the impact based on secondary materials	Abso-lute right?	Kind of impact: direct/ indirect	Degree of impact: major/ minor	Impact (++) (+) (0) (-) (--)	Population groups affected
		3 (ICESCR), Art. 3 (ICCPR)	discourse and linking it to the EU's and NZ's international commitments. Gender provisions would also be welcome taking into account existing vulnerability with respect to women's rights in New Zealand as discussed in the state of play section of the human rights analysis. See also the social analysis on gender effects in Section 3.4 of the report.					
Investment liberalisation measures	Investment and Trade in Services Title Chapter II Investment	*Right to work* Art. 15 (CFR), Art. 6 (ICESCR), Art. 23(UDHR), Art. 11 (CEDAW), Art. 27 (CRPD), Art. 5 (CERD)	Investments in general are expected to lead to more growth and more opportunities to develop companies and consequently lead to more jobs (*right to work*), incomes for workers and higher living standards as well as the potential to increase available resources for the realisation of the economic, social and cultural rights, if managed correctly (positively affecting the *right to an adequate standard of living* and rights of vulnerable groups dependent on these resources). The analysis of the textual proposal (Chapter I. General Provisions, Art. 1.1. para. 2) shows that the Chapter affirms the right to regulate 'to achieve legitimate policy objective, such as the protection of public health, social services, public education, safety, environment including climate change, public morals, social or consumer protection, privacy and data protection, or the promotion and protection of cultural diversity.' However, prohibition of performance requirements (Article 2.6) could potentially restrict the regulatory capacity of the government to promote human rights (Nikiéma 2014) – this is not the consequence of the legal provisions in the text, but could arise from the implementation practice by authorities desiring to avoid legal proceedings with investors. Corporate social responsibilities of investors could possibly have an impact on human rights. The TSD Chapter is aimed to possibly secure CSR/RBC standards based on relevant international instruments (see also section on CSR in the Social analysis of the report).	No	Indirect	Minor	(+)	EU and NZ workers
		Right to an adequate standard of living Art. 11 (ICESCR), Art. 27 (CRC), Art. 28 (CRPD), Art. 25 (UDHR)		No	Indirect	Minor	(+) (-)	EU and NZ workers, especially in affected sectors
		Government's right to regulate		N/A	Direct	Minor	(+) (-)	NZ population
		CSR/RBC (human rights responsibili-ties of investors) *UN Guiding Principles on Business and Human Rights*		N/A	Direct	Minor	(+) (-)	NZ workers, vulnerable groups
Measures in public procurement	Public Procureme nt Chapter	*Government's right to regulate*	The Public Procurement Chapter aims to regulate access to public procurement markets, which could provide greater transparency and effective international competition in this area for both EU and NZ companies. Mutual increases in market access could lead, in the long run, to more jobs, more profit for companies, and eventually more growth. This could potentially	N/A	Direct	Minor	(+) (-)	NZ population
		Right to work Art. 15 (CFR), Art. 6 (ICESCR), Art. 23 (UDHR), Art. 11		No	Direct	Minor	(+) (-)	EU and NZ workers

Trade & trade-related measures	Textual Proposal reference[70]	Potentially affected human rights / issues / normative framework	Short explanation of the impact based on secondary materials	Abso-lute right?	Kind of impact: direct/ indirect	Degree of impact: major/ minor	Impact (++) (+) (0) (-) (--)	Population groups affected
		(CEDAW), Art. 27 (CRPD), Art. 5 (CERD)	lead to a direct positive impact on *the right to work* and *right to an adequate standard of living* for workers in the relevant sectors. Next to that, pro-competitive effects in public procurement lead to more competition on the supplier side which could lead to lower prices. According to the Textual proposal of the Public Procurement Chapter, the EU-NZ FTA will be based on the rules, procedures and requirements established under the WTO Government Procurement (GPA) (Art.X.1). EU Negotiating Directives set out the ambition to include the utilities sector, state owned enterprises and undertakings with special or exclusive rights, and procurement of goods, services and public works. It is not clear from the current version of the textual proposal how the particularities and the sensitivities of the respective procurement environments will be handled. The Textual proposal provides for a framework for social and environmental criteria in public procurement: '(a) allow procuring entities to take into account environmental and social considerations throughout the procurement procedure, provided they are non-discriminatory and they are linked to the subject-matter of the contract; and (b) take appropriate measures to ensure compliance with its obligations in the fields of environmental, social and labour law, including the obligations under Chapter X (Trade and Sustainable Development)' (Article X.2 (7)). The gravity analysis (see section 3.1) on public procurement suggests that opening NZ and EU public procurement markets via an FTA leads to an increase of 50.4 percent of public imports; i.e. significantly more public tendering in each other's markets. This leads to more value for money for governments.					
		Right to an adequate standard of living Art. 11 (ICESCR), Art. 27 (CRC), Art. 28 (CRPD), Art. 25 (UDHR)		No	Indirect	Minor	(+) (-)	EU and NZ workers
Introduction of good regulatory practices	Chapter XX. Good regulatory practices	Right to access information Art. 9 (CFR), Art. 16 (UDHR), Art. 10 (ICCPR), Art. 14 (CRC), Art. 12 (ICMW), Art. 5 (CERD), Regulation (EU) 2016/679	This measure aims at enhanced use of good regulatory practices (GxP measures), taking into account transparency and the right to regulate. Provisions of the textual proposal are intended to promote public awareness in advance of major regulatory activities through public consultations (Art. X.7), impact assessments (Art. X.8) and retrospective evaluations (Art. X.9), contributing to a potential positive impact from the	No	Indirect	Minor	(+) (-)	EU and NZ population

Trade & trade-related measures	Textual Proposal reference[70]	Potentially affected human rights / issues / normative framework	Short explanation of the impact based on secondary materials	Abso-lute right?	Kind of impact: direct/ indirect	Degree of impact: major/ minor	Impact (++) (+) (0) (-) (--)	Population groups affected
			FTA on the *right to access information* and *right to take part in the conduct of public affairs* in the long run and clear competitive cost advantages also in the shorter run, positively affecting the *right to work* and *right to a decent standard of living*. Is also helps regulators link to international best practices and use the same baseline for regulatory evaluations, ensuring a high degree of mutual alignment. To a certain extent, the Chapter is set to promote good governance, also through the use of regulatory impact assessments (though without specific reference to human rights impacts) for the new major initiatives (Art. X.8) and evaluations of their regulations in order to assess their effectiveness and coordinate procedures to facilitate the development of regulations (Art. X.9).					
		Right to take part in the conduct of public affairs Art. 39 (CFR), Art. 25 (ICCPR), Art. 7 (CEDAW), Art. 29 (CRPD), Art. 21 (UDHR), Art. 5 (CERD)		No	Indirect	Minor	(+) (-)	EU and NZ population
		Good governance		N/A	Indirect	Minor	(+) (-)	EU and NZ population

In line with the EC Guidelines (European Commission, 2015a), the analysis should focus on those human rights that are expected to be significantly impacted by the EU-NZ FTA. That is why, based on the findings of the screening and scoping exercise and stakeholder consultations, it has been identified that the following rights will be analysed in detail: *right to work* and *right to the highest attainable standard of physical and mental health and access to essential medicines.*

3.5.4. Detailed analysis of scoped rights

3.5.4.1. The right to work

The analysis of potential impacts of the EU-NZ FTA on labour rights focuses on their scope enshrined in the eight ILO fundamental conventions, all of which have been ratified by the EU Member States and most of which have been ratified by New Zealand.[80] In this section, we consider potential impacts which may result from the EU-NZ FTA on the right to work as it is defined in Article 6 of the ICESCR and its normative content explained in General Comment No. 18 of the Committee on Economic, Social and Cultural Rights. The impact of the proposed TSD Chapter and its labour provisions, and the operation of the civil society monitoring mechanism are analysed. Next to that, particular attention is paid to the right to work of various population groups in both the EU and New Zealand that are expected to be affected by the EU-NZ FTA as identified in the screening and scoping exercise. Impacts on specific labour rights (right to favourable and just working conditions, freedom of association and right to collective bargaining, freedom from forced labour, freedom from child labour, non-discrimination at work) are covered in section 3.4.

Normative framework

The right to work is recognised in various international human rights treaties. The Universal Declaration of Human Rights recognises the right to work in its Article 23(1). In the ICESCR, the right to work is addressed in Article 6:

> "(1) The States Parties to the present Covenant recognize the right to work, which includes the **right of everyone to the opportunity to gain his living by work which he freely chooses or accepts and will take appropriate steps to safeguard this right**.
>
> (2) The steps to be taken by a State Party to the present Covenant to achieve the **full realization** of this right shall include **technical and vocational guidance and training programmes, policies and techniques to achieve steady economic, social and cultural development and full and productive employment under conditions safeguarding fundamental political and economic freedoms to the individual**." (emphasis added)

The scope of the right to work has been further defined by the UN Committee on Economic, Social and Cultural Rights in its General Comment No. 18. In the framework of the EU-NZ FTA, the analysis will further focus on the following relevant elements that are included in the right to work as stated in the General Comment No.18:

- Every individual has the right to be able to work, allowing him/her to live in dignity. The right to work contributes at the same time to the survival of the individual and to that of his/her family (para.1).
- Although, Article 6 of the ICESCR does not mean a guarantee of full employment, the right to work encompasses the right not to be unjustly deprived of work, requiring security against unfair dismissal (para. 4, 6);
- States must take the requisite measures to reduce to the fullest degree possible the number of workers outside the formal economy to ensure their social protection (para.10);
- States must have specialised services to assist and support individuals in order to enable them to identify and access available employment (para. 12(a));
- Labour market should be open to everyone without discrimination (para. 12(b), Art. 2(1) ICESCR);

[80] See Annex III.3 for a detailed overview.

- The right to work should be protected, by providing the worker with just and favourable conditions of work, in particular to safe working conditions, the right to form trade unions and the right to freely choose and accept work (para. 12(c)).

We will look at the right to work in the framework of labour rights that are also mentioned in Articles 7 and 8 of the ICESCR and core ILO Conventions. Both EU Member States and New Zealand recognise their international obligations with respect to the right to work and other labour rights through ratification of the relevant international instruments.[81]

Right to work in the EU
The EU Charter of Fundamental Rights explicitly recognises the right to work under its Article 15. Chapter IV on Solidarity provides for a number of labour rights in Articles 27-34 that reflect upon the international standards and cover among others, workers' right to information and consultation within the undertaking, right of collective bargaining and action, right of access to placement services, protection in the event of unjustified dismissal, fair and just working conditions). Next to that, the European Commission has adopted various policy instruments that are relevant for respecting, protecting and promoting right to work and rights at work.[82] The EU Member States have state obligations with respect to right to work and other labour rights under the international human rights treaties (ICESCR, CEDAW, CRPD, ILO Conventions). Individual EU countries must make sure that their national laws protect labour rights laid down by EU employment laws. Issues with respect to labour rights vary across Member States.

Right to work in New Zealand
New Zealand is a party of a number of international human rights treaties that contain provisions related to the right to work: ICESCR (Articles 6(1), 7, 8(1)(a)), ICCPR (Articles 8 and 22), CERD (Articles 5(e)(i) and (ii)), CEDAW (Articles 11 and 14(2)(e)), CRC (Article 32), CRPD (Article 27). These instruments also contain provisions regarding the right to work to specific population groups: women (CEDAW), children (CRC), persons with disability (CRPD). New Zealand is not party to the ILO Convention No.169 on the protection of the rights of the indigenous population and it not a party to the ILO Conventions No.138 (Minimum Age Convention) and No. 087 (Freedom of Association and Protection of the Rights to Organise).

New Zealand's labour-related legislation is based on two sources: statutes and common law. There is a number of statutes that constitute the 'minimum code' for the entitlements of the New Zealand employees. The most prominent statute is the Employment Relations Act 2000 (the "ER Act"), which contains key labour-related provisions. Other major sources of labour legislation in New Zealand are listed in the Box 3.1 below.

Box 3.1: Major labour legislation in New Zealand

- ***The ER Act*** - this Act enacts a number of core provisions on freedom of association, recognition and operation of unions, collective bargaining, collective agreements, individual employment agreements, employment relations education leave, strikes and lockouts, personal grievances, disputes, enforcement of employment agreements, the Mediation Service, the Employment Court, the Employment Relations Authority and labour inspectors;
- ***The Bill of Rights Act 1990*** - sets out fundamental freedom such as freedom of association, freedom of peaceful assembly, freedom of expression and the like;
- ***The Holidays Act 2003*** - sets out minimum entitlements to three weeks paid annual holiday; five days special leave (for sickness, bereavements and the like) for each 12-month period of employment; and 11 days of public holidays per year;
- ***Parental Leave and Employment Protection Act 1987*** - sets out entitlements of employees to parental leave (at this stage unpaid, although there is currently a proposal before the New Zealand Parliament for the introduction of paid parental leave);
- ***Minimum Wage Act 1983*** - sets out minimum wage rates for employees;

[81] For details, see the inception report.
[82] Some of them include European Pillar of Social Rights, Communication «Safer and Healthier Work for All », see more at: https://ec.europa.eu/social/main.jsp?langId=en&catId=82

- ***Privacy Act 1993*** - sets out various privacy principles including those on the collection, use and disclosure of personal information. Personal information includes information held about employees;
- ***The Equal Pay Act 1972*** - an Act which seeks to remove and prevent discrimination, based on the sex of an employee, in the rates of remuneration paid to employees;
- ***The Health and Safety at Work act 2015*** - this Act requires employers and employees to take steps to maintain a safe workplace;
- ***The Accident Insurance Act 1998*** - this Act sets out the no fault scheme in New Zealand whereby employees who suffer an injury at work have an entitlement to compensation from a State funded insurance scheme. As a result of this scheme, employees are not able to sue at common law for compensatory damages for such injuries;
- ***The Human Rights Act 1993*** - this Act expressly prohibits discrimination on certain stated grounds including sex, race, family status, political opinion and the like. The ER Act expressly incorporates these prohibitions into the employment context.

Source: ILO website[83] and MBIE website[84]

Current labour-related issues in New Zealand include high unemployment rates for Māori and Pacific People (approximately double the average rate), as well as for persons with disabilities; inequality in the labour market for the Māori, disadvantaged pension benefits for women that are caused by employment environment for them in the country (see Annex III.3 for a detailed analysis of the state of play with respect to the right to work in New Zealand).

Potential impact of the EU-NZ FTA on the right to work

Quantitative analysis

Increased trade flows between the EU and New Zealand triggered by the EU-NZ FTA could promote economic activity and growth, as well as increase in employment overall (given the fact that the model indicates increases in wage levels at the overall level). At sectoral level, however, effects may not always be positive. While some of the sectors for both EU and New Zealand are expected to benefit in terms of increased employment, others are expected to decline, which negatively affects employment. The right to work is expected to be positively affected in the sectors that benefit, but could come under pressure in those sectors that decline if economic push factors are stronger than pull factors.[85] Moreover, in some sectors gains and losses also lead to a broader impact on human rights: e.g. rights of indigenous peoples could be affected in those sectors that actively employ Māori and Pacific People in New Zealand, especially if there exists a particular vulnerability with respect to their rights from the start (see also section 3.3).

In the **European Union**, in line with modelling results on employment, some sectors are expected to lose out, though to a limited extent, while others are expected to gain from the EU-NZ FTA. In particular, such sectors as rice, sugar, vegetables, fruits and nuts, as well as coal are expected to face small job reduction (around 0.2 percent for both skilled and unskilled workers under the ambitious scenario). The most pronounced job reduction is expected in the ruminant meat sector (1.5 percent for both groups of workers under the ambitious scenario). Job creation is expected in such sectors as motor vehicles and transport equipment and gas sector (0.3 – 0.4 percent for both groups of workers under the ambitious scenario) – see Table 3.15 for a detailed overview. Therefore, the right to work could be impacted negatively for those sectors that face job reduction – less for workers in the rice, sugar, vegetables, fruits and nuts, as well as coal sectors and more for the workers employed in the ruminant sector. In practice, this reduction may be achieved by some farmers moving over time towards different types of farming (i.e. being pulled towards other types of farming that benefit from the FTA). But because the effects are caused – in the modelled scenario – by a reduction in tariffs and TRQs – which could happen instantly if agreed in the negotiations (unlike changes in SPS measures or other regulatory

[83] Available at: https://www.ilo.org/ifpdial/information-resources/national-labour-law-profiles/WCMS_158915/lang--en/index.htm

[84] https://www.employment.govt.nz/about/employment-law/legislation/

[85] A pull factor is one where another sector grows and experiences wage rises – 'pulling' workers away from a sector that does not grow. The pull factor therefore does not lead to unemployment as workers are incentivised to change jobs (e.g. through higher salaries). The push factor is one where a sector declines without other opportunities in other sectors, which means that workers are made redundant involuntarily.

measures that would take much more time to align), there is a risk that the right to work (and the right to an adequate standard of living) is negatively affected if the adjustment occurs immediately. The impact matters further because a large share of the ruminant meat sector in the EU is concentrated in Ireland. A positive impact on the right to work is expected in the sectors where more jobs will be created (motor vehicles and transport, and gas).

In **New Zealand**, the relative impact on the right to work is expected to be larger than in the EU and spread more broadly, affecting more sectors. Thus, the most significant negative impact on the right to work could result for workers in the machinery sector (3.4 percent for unskilled workers and 3.1 percent for skilled workers under the ambitious scenario), motor vehicles and transport equipment (3.2 percent and 2.0 percent respectively), coal sector (3.0 percent and 2.2 percent), cereals sector (1.8 percent and 1.7 percent), metal products (1.8 percent and 1.5 percent), other meats (1.5 percent and 1.3 percent) and sugar (1.5 percent and 1.2 percent). There is a more limited impact in some other sectors that ranges between 0.4 and 1.0 percent (see Table 3.15 in Social Analysis). Because the effects in many of these sectors (except sugar, other meats and cereals sectors) depend on regulatory alignment of technical barriers to trade, the rate of change for these sectors is expected to be much slower than for ruminant meat in the EU. But these impacts may still be more profound for the vulnerable population groups employed in these sectors (women, young workers, persons with disabilities, indigenous peoples, migrant workers) and specific measures may need to be taken to mitigate possible negative impacts. Tailor-made, specifically directed programmes or task forces may need to be created to assist these population groups in organising necessary trainings, helping them adjust to new employment positions, ensuring that their rights are not violated at any stage of the employment adjustment. In this respect, it is important to note that New Zealand did not ratify the ILO Conventions No.169, No. 138 and No. 087 (see analysis above) and the International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families. Because of the reported existing sensitivities with respect to these vulnerable groups, stakeholders expressed concern that labour rights may not be adequately protected and impair implementation of the standards voiced in the textual proposal for the TSD Chapter of the EU-NZ FTA.

A strong positive impact on the right to work in New Zealand is expected in such sectors as ruminant meat (with job creation of up to 4.1 percent for unskilled workers and 4.2 for unskilled workers under the ambitious scenario), vegetables, fruits and nuts sector (2.9 percent for both groups of workers under the conservative scenario), other animal products (1.1 percent for both groups of workers under the conservative scenario), minerals (0.7 percent for both groups of workers under the conservative scenario), utility, including water supply and construction (1.0 percent for unskilled workers and 1.2 percent for skilled ones under the ambitious scenario), minerals (0.7 percent for both groups of workers under the ambitious scenario), textiles, apparel and leather (0.6 percent for unskilled workers and 0.7 for skilled one under the conservative scenario), and dairy products (0.5 and 0.6 percent, whereas under the conservative scenario, this sector is estimated to experience a job reduction of 0.8 percent for both groups of workers). See Table 3.15 above for a detailed overview of employment changes.

Because the drivers of the effects in the agricultural sectors are tariffs and TRQs, these effects could materialise quickly when the trade measures are adjusted (unless a phase out over time is agreed that would spread out the potential positive effects over a longer time period). This means that workers in the sectors that benefit from the EU-NZ FTA, will be able to quickly feel the positive impact.

It is difficult to predict the exact direction of the overall impact, as opportunities from the EU-NZ FTA will have to be accurately managed by the New Zealand authorities with the priority to assist most vulnerable groups of the population. For example, staff shortages in such sectors as ruminant meat and dairy could be met by migrant workers, persons with disabilities or other population groups already employed in agricultural sectors and

suffering from discrimination and unfair treatment (see state of the play analysis on human rights in Annex III.3 and Social Analysis).

Other vulnerable groups, such as women, young workers, temporary workers, migrants, persons with disabilities, persons working in conditions of slavery also often work in agricultural sectors– e.g. fruits and vegetables, agriculture in general, meat processing. They could benefit from the EU-NZ FTA, if New Zealand authorities manage to spread the positive effects to these groups. The projected sectoral employment opportunities and overall wage increase suggest that these is also room in these sectors to use part of the newly earned opportunities for supporting workers in these sectors (farmers, workers on the farms, etc.). For declining sectors, adjustment mechanisms for workers to find new jobs in other sectors (i.e. the pull effect) generally work much less effective for vulnerable groups as these tend to have less education, less flexibility, and do not so easily 'switch' – and many not want to because they are afraid to do that. So they require special attention of New Zealand authorities at different levels.

Qualitative analysis
The TSD Chapter that is expected to be included in the EU-NZ FTA aims to promote and ensure effective implementation of the highest standards of labour, safety, environmental and consumer protection as well as enhance civil society inclusion in all areas of the Agreement.[86] A proposed text for the TSD Chapter is not available at the moment of writing of this report, so this analysis is based on the textual proposal for the EU-AUS FTA.

The proposed TSD Chapter for the EU-AUS FTA is expected to include a set of provisions enshrined in ILO Conventions and promotes their effective implementation (Article X.3(2), (4), (5)). It suggests that it will include not only aspirational provisions but also binding obligations for the parties that are intended to be enforced by the TSD Sub-Committees (Article X.12) "through dialogue, consultation, exchange of information and cooperation" between the Parties (Article X.13), and stakeholder involvement via domestic civil society bodies (Article X.14). Binding dispute settlement mechanism coordinated by a Panel of Experts (Article X.15) is aimed to achieve joint compliance (enforcement in line with the so-called "managerial model" that "advocates a cooperative, problem solving approach to promoting compliance with international law" as opposed to the "sanctions model" used by the US and Canada, for example (Kommerskollegium, 2016). The effectiveness of this compliance mechanism will have to be seen but is a step in the right direction from the more aspirational texts used by the EU in earlier FTAs. In particular, these provisions could be used to support the position of vulnerable groups in sectors that are negatively affected and monitor closely environmental developments as a consequence of the EU-NZ FTA.

The draft specifies promotion of the Decent Work Agenda (Article X.3(7)) and, moreover, in Article X.3(3), aims to facilitate ratification of all the ILO Conventions by the Parties (recall that New Zealand has not yet ratified the ILO Minimum Age Convention No.138 and ILO Convention No. 87 on freedom of association and protection of the rights to organise).

The textual proposal also contains provisions that address strengthened cooperation in labour (Article X.3(9)) and civil society involvement (Article X.14). Active civil society participation is encouraged in Articles X.11 and X.14 of the TSD Chapter, providing for regular consultations and communication action. In this connection, the TSD Chapter is viewed as a working incentive for the implementation of the existing legislation and fine-tuning the remaining issues in line with international standards and developing solutions that will ensure enjoyment of the right to take part in the conduct of public affairs and increase transparency.

Next to that, the TSD Chapter aims to facilitate trade and responsible supply chain management through RBC/CSR practices (Art. X.9), having regard to internationally

[86] Council of the European Union, Negotiating directives for a Free Trade Agreement with Australia, 7663/18 Add 1 DCL 1, 25 June 2018, p.17, available at: http://data.consilium.europa.eu/doc/document/ST-7663-2018-ADD-1-DCL-1/en/pdf

recognised instruments (such as the OECD Guidelines for Multinational Enterprises, the ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy, the UN Global Compact and the UN Guiding Principles on Business and Human Rights). It plays an important role in significantly contributing to effective implementation of international labour standards and exercising pressure on companies to follow international rules of responsible business conduct.

Overall, inclusion of the TSD Chapter is expected to have a direct positive impact on *labour rights* in both EU and New Zealand, although protection of specific vulnerable groups (e.g. women, indigenous peoples) seems not to be addressed in detail, there is a commitment in the TSD Chapter to respect the Core labour standard of elimination of discrimination in respect of employment and occupation. Since human rights issues in general concern more specific vulnerable groups of the population rather than general population of the EU and New Zealand, both Parties could benefit from specific provisions concerning commitments and cooperation on protection of the rights of vulnerable groups.

3.5.4.2 The right to highest attainable standard of physical and mental health and access to essential medicines

The right to health is recognised in various international human rights treaties. Article 25(1) of the Universal Declaration of Human Rights states that "Everyone has the right to a standard of living adequate for the health of himself and his family, including food, clothing, housing and medical care and necessary social services." Article 12 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) "provides the most comprehensive article on the right to health in international human rights law".[87] The right to health is an inclusive right, it includes a wide range of "underlying determinants of health." It includes safe drinking water and adequate sanitation, safe food, adequate nutrition and housing, healthy working and environmental conditions, health related education and information, gender equality.[88] Access to essential medicines is a part of the right to the highest attainable standard of health and includes essential medicines "as defined by the World Health Organisation (WHO) Action Programme on Essential Drugs."[89] Other instruments referring to the right to health include CEDAW (Articles 10(h), 11(1)(f), 12 14(2)(b) and 16(1)(e)), CRC (Articles 24 and 25), CRPD (Articles 23(1)(c) and 25), CERD (Article 5(iv)) that cover such vulnerable groups as women, children, persons with disabilities.

Obligations of the states with respect to right to health include the adoption of necessary measures for its progressive realisation based on the principle of non-retrospection, without discrimination, while respecting, protecting and fulfilling it, even through international cooperation and assistance. Also, in line with the AAAQ (availability, accessibility, acceptability and quality) framework outlined in the CESCR General Comment No. 14, states are obliged to provide a functional public health system, and facilitate access to essential health facilities, goods and services. Both the EU Member States and New Zealand recognise their international obligations with respect to the right to health through ratification of the relevant international instruments.[90]

Right to health in the EU

While EU Member States have state obligations with respect to the right to health under the international human rights treaties, the EU Charter of Fundamental Rights also guarantees this right under its Article 3, which protects individual physical and mental integrity, as well as under Article 35, which safeguards the right to an adequate access to health care.

87 CESCR General Comment No. 14 (2000), p.1
88 See CESCR General Comment No. 14 (2000).
89 CESCR General Comment No. 14.
90 For details, see the inception report.

In August 2017, the WHO Regional Office for Europe developed a roadmap to implement the 2030 Agenda for Sustainable Development,[91] building on Health 2020, the European policy for health and well-being (WHO Regional Office for Europe, 2017). While noting uneven improvements in health and well-being among the Member States, the Roadmap notes that according to several health indicators (outcome indicators),[92] the overall situation with respect to health has improved in the EU. For example, life expectancy at birth increased from 73.9 years in 2000 to 77.5 years in 2014, though years of life in good health still remains a concern. Also, global maternal mortality ratio has been reduced, but reproductive health disparities within and among member states remain. Mortality rates for children under 5 years old have also reduced but further investment in children and adolescent health is necessary. The tuberculosis incidence rate has been declining by 4.5% each year since 2015, even though 20% of tuberculosis cases are of a multidrug resistant variety. Finally, high coverage in vaccinations measles and rubella has been reached and maintained at the levels of 94% and 89% respectively, but have dropped recently. Most Member States offer universal or nearly universal health coverage (WHO Regional Office for Europe, 2017).

Issues that remain a concern include: social inequalities affecting the right to health – families with lower income levels have poorer health; an increasing number of migrants pose health implications for the EU member states; the need to protect populations from environmental pollution remains; health damaging lifestyles (unbalanced diets, harmful use of alcohol and tobacco use) complicate health situation in Europe and antimicrobial resistance is considered a serious health threat (WHO Regional Office for Europe, 2017).

Access to essential medicines
In the EU, right to access to essential medicines is a Member State competence. However, EU institutions are constantly working on improving the access to medicines in the EU, through presenting a range of EU initiatives (e.g. the European Charter of Patients' Rights, based on the Charter of Fundamental Rights of the European Union) and through raising awareness on prices, accessibility, acceptability, affordability and availability of medicines in the EU. EU institutions call on Member States to foster research and development with respect to patients' needs and promote open data in research on medicines where public funding is involved as well as ethical behaviour and transparency in the pharmaceutical sector in general. There are a number of Directives that are relevant for the right to health in general at the EU level (e.g. among others, Directive 2011/24/EU on the application of patients' rights in cross border healthcare and Paediatric Regulation comprising of Regulation (EC) No. 1901/2006 on the medicinal products for paediatric use and Regulation (EC) No. 1902/2006). This is a vast topic going beyond the scope of the present analysis, but the examples provided illustrate the broad action of the EU with the respect to the right to health which does not relate to the EU-NZ FTA.[93]

Right to health in New Zealand
There is no explicit reference to right to health in New Zealand's legislation. However, New Zealand recognises the right to health through the ratification of international human rights treaties, most importantly, the ICESCR (see above). At the national level, there is a range of laws that are directly linked to the delivery of health services (Box 3.2).

New Zealand's health system is largely publicly funded (approximately 80 percent) and generally functions well. Public funds allocated for health care amount to the second largest area of expenditure. There are various strategies and policies designed in order to ensure provision of healthcare and the underlying determinants of the right to health (e.g. He

[91] UNGA, Report of the Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health, Dainius Puras, 5 August 2016, A/71/304.
[92] UNGA, Report of the Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health, Paul Hunt, 10 October 2003, A/58/427.
[93] Based on the following publications: EU Parliament (2017), Report on EU options for improving access to medicines (2016/2057(INI)), available at: http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A8-2017-0040+0+DOC+PDF+V0//EN; European Parliament (2016), EU options for improving access to medicines. Study for the ENVI Committee, available at: http://www.europarl.europa.eu/RegData/etudes/STUD/2016/587304/IPOL_STU(2016)587304_EN.pdf

Korowai Oranga: Māori Health Strategy, Primary Health Care Strategy, Cancer Control Strategy, New Zealand Disability Strategy, etc.).[94] Most of the funds come from taxation. The Ministry of Health oversees the health system and directly administers funds to such national services as disability support services for citizens under 65 years, public health services, Well Child Programme (support services for children from birth till 5 years) and midwife services. Most health funding is performed through twenty geographically distributed District Health Boards (DHBs), which are responsible for planning, delivering and funding services in their districts.

Box 3.2: Health legislation in New Zealand

- *New Zealand Bill of Rights Act 1990* (through the right to freedom from discrimination, the right not to be subjected to medical or scientific experimentation, and the right to refuse medical treatment).
- *The Human Rights Act 1993* – deals with discrimination and human rights generally.
- *New Zealand Public Health and Disability Act 2000* – provides for the public funding and provisions of personal health services, public health services, and disability support services, and establishes publicly-owned health and disability organisations.
- *The Health and Disability Services (Safety) Act 2001* – aims to promote the safe provisions of health and disability services to the public, to enable the establishment of consistent and reasonable standards for providing health and disability services to the public safety, to encourage providers of health and disability services to take responsibility for providing those services to the public safely, to encourage providers of health and disability services to the public to improve continuously the quality of those services.
- *Health Practitioners Competence Assurance Act 2003* – aims to protect the health and safety of members of the public by providing for mechanisms to ensure that health practitioners are competent and fit to practise their professions.
- *Health Act 1956* - sets out the roles and responsibilities of individuals to safeguard public health, including the Minister, the Director of Public Health and designated officers for public health. It contains provisions for environmental health, infectious diseases, health emergencies and the National Cervical Screening Programme.
- *Intellectual Disability (Compulsory Care and Rehabilitation) Act 2003 (IDDCR Act)* – aims to provide courts with appropriate compulsory care and rehabilitation options for persons who have an intellectual disability and who are charged with, or convicted or, and offence; to recognise and safeguard the special rights of individuals subject to this Act, to provide for the appropriate use of different levels of care for individuals who, while no longer subject to the criminal justice system, remain subject to this Act.
- *Substance Addiction (Compulsory Assessment and Treatment) Act 2017* – aims to enable persons to receive compulsory treatment if they have a severe substance addiction and their capacity to make decisions about treatment for that addiction is severely impaired.
- *Smoke-Free Environments Act 1990* – aims to reduce the exposure of people who do not themselves smoke to any detrimental effect on their health caused by smoking by others, to regulate and control the marketing, advertising, and promotion of tobacco products in order to improve public health, to monitor and regulate the presence of harmful constituents in tobacco products, to give effect to certain obligations and commitments that New Zealand has as a party to the WHO Framework Convention on Tobacco Control.
- *Health and Safety at Work Act 2015* – aims to provide for a balanced framework to secure the health and safety of workers and workplaces.
- *Mental health (Compulsory Assessment and Treatment) Act 1992 (MH(CAT) Act)* – aims to address issues of mental health.
- Intellectual Disability (Compulsory Care and Rehabilitation) Act 2003 (IDCCR Act) – aims to address intellectual disability and rehabilitation.
- *Accident Compensation Act 2001* – provides for no-fault personal insurance cover for injury though the Accident Compensation Corporation Scheme

Source: New Zealand Human Rights Commission[95], New Zealand legislation websites[96] [97]

Overall, New Zealanders live relatively long and healthy lives (life expectancy at birth is at 80 years for men and 83.4 years for women).[98] However, life expectancy for Māori and

[94] Available at: https://www.hrc.co.nz/files/9714/2388/0506/HRNZ_10_Right_to_health.pdf
[95] Available at: https://www.hrc.co.nz/files/9714/2388/0506/HRNZ_10_Right_to_health.pdf
[96] Available at: http://www.legislation.govt.nz
[97] Available at: https://www.hrc.co.nz/our-work/social-equality/health/
[98] OECD (2017) database, available at: https://data.oecd.org/healthstat/life-expectancy-at-birth.htm

Pacific populations is lower by 7.3 years for men and 6.8 years for women.[99] Main risk factors for health are smoking (especially high rates are recorded for Māori), poor diet, lack of physical activity, and abuse of alcohol and drugs. The health system records poor performance in mental health, including high suicide rates, especially for young people and Māori. Equity remains an issue also as Māori, Pacific and lower income people have high rates of unfilled prescriptions due to cost and have poor access to dental care.[100]

Access to essential medicines

New Zealand has prices for medicines that are around 8 times cheaper than in Australia. New Zealand is able to achieve such savings because of a combination of programme budgeting, tough price negotiations and different procurement mechanisms, such as competitive tendering.[101] The downside of this policy is, however, that fewer medicines (including innovative medicines) are reimbursed in New Zealand, leading to a reduced access to essential medicines for patients. For example, between 2000 and 2009, only 43 percent of all medicines listed in Australia were available in New Zealand's Pharmaceutical Schedule. Also, these listings occurred, on average, 32.7 months after Australia,[102] and New Zealand was the country that reimbursed the fewest cancer indications of 13 countries or regions compared.[103] One reason for this is that New Zealand works with a capped budget meaning the health authorities in New Zealand must prioritise new drugs against other new and existing drugs (for budget). This leads to an inferior situation with respect to access to medicines in New Zealand, especially when Australia – in comparison – also considers cost-effectiveness of new drugs.

Lack of access to new innovative medicines in New Zealand is negative for patients when looked at in isolation: patients want to and should have access to the latest available treatments and medicines as it strengthens their right to health. However, when the budget is not infinite, switching to other brands (if really equivalent) to keep costs under control, or to carry out a cost effectiveness analysis before reimbursing new drugs helps governments to maximise the usefulness of the overall medicines offer for patients – which may have the result of not reimbursing a new, innovative drug that is not considered cost-effective enough. For example, in New Zealand, insulin pumps are subsidised for all patients with Type 1 diabetes, which is 'better access' than in many other countries, including Australia. Also, the lower co-payments for prescriptions in New Zealand make them more accessible for the general population.

While the New Zealand government continues to look into further solutions to the challenge of medicines availability, the EU experience could prove useful for New Zealand as well as some research on medicines shortages.[104] EAHP (2014) shows that two out of three hospital pharmacies report that shortages affect their work and in some cases the situations are even worse. According to Maynou and Cairns (2017), medicines shortages in some EU countries (e.g. Scotland, England, Belgium and Poland) are due to pricing and reimbursement decisions by the health technology assessment and national pricing bodies. Their decisions not to reimburse medicines has led to a share of medicines being restricted for use at all (e.g. 26 percent of medicines in Scotland, 31 percent in Poland and 29 percent in Belgium) while another share is looked at non-favourably.[105] Another reason for lack of access comes from formulary availability. An ESMO (2016) study shows that with respect to medicines for lung cancer, some medicines listing and availability on formularies in

99 Statistics New Zealand (2017), Life expectancy. August 2017, available at: http://archive.stats.govt.nz/browse_for_stats/snapshopts-of-nz/nz-social-indicators/Home/Health/life-expectancy.aspx

100 Annual health and independence report for 2017 (the latest): https://www.health.govt.nz/publication/health-and-independence-report-2017

101 Cumming J, Mays N, Daub, How New Zealand has contained expenditure on drugs. BMJ 2010;340:c2441

102 Wonder M, Milne R. Access to new medicines in New Zealand compared to Australia. N Z Med J 2011;124:12-28.

103 Cheema PK, Gavura S, Migus M, Godman B, Yeung L, Trudeau ME. International variability in the reimbursement of cancer drugs by publically funded drug programs. Curr Oncol 2012;19:e165-76.

104 EAHP (2014), Medicines shortages in European Hospitals, available at: http://www.ordre.pharmacien.fr/content/download/193899/1082308/version/2/file/EAHP+-+Rupture+d%27approvisionnement+dans+les+hôpitaux+europeens+-+octobre+2014.pdf

105 Mainou L. & J. Cairns (2017), An empirical analysis of Drug Reimbursement Decisions in 6European countries, available at: http://theta.lshtm.ac.uk/files/2017/02/Research-paper-2-17.pdf

Poland mean that Gefitinib – for example, is not available.[106] Finally, IMS Health (2015) notes that in Europe parallel trade has caused shortages in countries like Bulgaria, Greece and Spain that were very severe.[107] Theses causes point to broader elements for the New Zealand government to investigate in order to ensure that essential medicines reach patients in need.

In addition, in New Zealand there are particular concerns about equitable access for Māori and Pacific Island people – who, it seems, have a lack of access to some drugs. Also, financial considerations seem to outweigh other important criteria (e.g. usefulness or efficacy).[108] Moreover, the New Zealand population overall is ageing so the demand for medicines will only increase in the future, with patients expecting expensive medicines to be funded by the government. Though concerns have been expressed with CPTPP that access to affordable medicines may be negatively impacted, no such evidence has emerged to date.

In any case, public consultations and patient inputs into healthcare debates should be encouraged. The entire healthcare system is about helping patients in the end: preventing people from becoming patients, but once they are, helping them with general and expert support and with generic and innovative treatments. In each of these elements patients should be central: value-based healthcare focuses on value for patients (outcomes) at the lowest possible cost over the full care cycle to achieve these outcomes (Porter, 2019).

Potential impact of the EU-NZ FTA on the right to health

The right to health is generally a domestic matter but, in some cases, it could potentially be affected by trade measures introduced as a result of a trade agreement. Because human rights are interdependent and intertwined by nature, some of the impacts on the right to health stem from other rights, especially since the impact on the right to health is related to those rights that are more directly linked to the potential economic impact of the EU-NZ FTA, like the right to a clean environment and the right to water. Because of this indirect link, most of the effects are expected to be minor in nature (see Table 3.16 above and section 3.6 on environmental analysis). Exact textual proposals are not known, but because this topic has been very sensitive for the stakeholders, it is approached here in more detail nonetheless.

Because policies related to the right to health are often developed at national level – from healthcare to food safety and clean air and water policies – many effects do not depend on the EU-NZ FTA. There are, however, some elements that matter and that we look at for potential impacts – see also Table 3.16 above. In particular, we cover health and food, access to medicines, and biodiversity and the environment – because all three of these aspects directly affect the right to health for EU and New Zealand's citizens. We do this against the current state of play with respect to the economic, social, human rights and environmental situations in the EU and New Zealand that – though facing challenges as in any other country- are generally showing high levels of standards and regulatory systems.

Health and food

There is an ongoing debate on whether trade liberalisation causes more trade in, and cheaper prices for, foodstuffs that can have harmful effects on health, such as drinks with high amounts of sugar and other products (e.g. alcoholic beverages, tobacco). The beverages and tobacco sectors are expected to benefit from the FTA, which may be an indication that there could be challenges. However, the increase seems to come mostly from the wine sector. Moreover, the production in the EU does not change, while in New Zealand it increases by 0.7 percent. The growth in exports from the EU to New Zealand by

[106] Cherny, N. et al. (2016), European Society for Medical Oncology (ESMO) European Consortium Study on the availability, out-of-pocket cost and accessibility of antineoplastic medicines in Europe, available at: https://www.researchgate.net/publication/305647141_ESMO_European_Consortium_Study_on_the_availability_out-of-pocket_costs_and_accessibility_of_antineoplastic_medicines_in_Europe

[107] IMS Health (2015), Parallel trade: which factors determine the flow of goods in Europe.

[108] http://www.nzma.org.nz/journal/read-the-journal/all-issues/2010-2019/2018/vol-131-no-1485-9-november-2018/7737

6.0 percent and from New Zealand to the EU by 14.5 percent comes in part from trade diversion elsewhere. Finally, in the SPS textual proposals it is made clear that both the EU and New Zealand have a clear right to regulate, and a potential increase in trade also does not automatically mean that consumer behaviour is changing. An increase in wine exports from New Zealand to the EU by 14.5 percent amounts to an increase of €12.2 million, which is 0.003 percent of the total EU wine production.

Access to medicines

The healthcare sector is comprised of providers of diagnostic, preventive, remedial and therapeutic services (e.g. doctors, nurses, hospitals), as well as medical equipment and pharmaceutical manufacturers. Healthcare policies are developed at national levels, including pricing & reimbursement systems, policies regarding primary care, as well as health technology assessments for medicines, and competition policy and other related aspects. So, the main effects do not depend on the EU-NZ FTA. Moreover, due to the fact that the details of the legal text that are relevant for the analysis are not known at the moment of writing of this report (e.g. how long will regulatory data protection be provided for or what supplementary protection certificate provisions will be part of the EU-NZ FTA), it is not clear if the impact is going to be major or minor/ positive or negative. The negotiations are ongoing, in the April 2019 round of negotiations, the topic of intellectual property (IP) has been discussed.[109] The main question is what the effect of RDP and SPC provisions would mean for the access to medicines and for healthcare costs. EPHA (2018) notes that stronger IP provisions in FTAs would lead to reduced access to medicines and higher prices for longer periods of time, but with a focus on developing countries (in case patent term extension – PTE – is covered in the FTA)[110]. While an NDP Analytics study (2019) shows that stronger IP provisions in US FTAs (where IP provisions are much stronger than in EU FTAs) have not led to an increase in healthcare costs – rather the contrary.[111] Because SPCs are granted in cases where regulatory approvals take such a long time that effective patent protection is hollowed out, a focus on streamlining regulatory approvals in order to achieve faster patient access is a priority. Because New Zealand's systems to contain the costs for medicines, lead to delays in drug approvals (a delay of 32.7 months compared to Australia), SPCs could be a necessary tool to keep the New Zealand market sufficiently focused on rewarding innovation. Regulatory streamlining would mean patients get faster access to medicines, societal health outcomes are more effectively improved, and the need for SPC protection is lower. We believe that access to medicines is rightfully a priority issue for the New Zealand government in general and patients in particular.

Clean environment

From the environmental detailed analysis, we can infer that the EU-NZ FTA could marginally increase the GHG emissions in New Zealand, while not much impacting the EU. This could have a very small effect on *the right to health*, in particular the *right to a clean environment*. Moreover, the growth in trade in general and agricultural production in particular (especially ruminant meat and fruits, vegetables & nuts) could have an impact on the right to a clean environment, because the former leads to more emissions and could pose extra challenges for New Zealand (an 'island-economy') to keep out invasive foreign species that could affect the delicate biodiversity balance, and the latter could lead to more emissions related to the beef and sheep meat sector as well as pressure on the environment via changes in land use. These mechanisms that could impact on the *right to a clean environment* need to be monitored carefully.

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[109] Update from 3rd round of negotiations in April 2019, available at: http://trade.ec.europa.eu/doclib/docs/2019/april/tradoc_157864.pdf

[110] European Health P (2017), Unhealthy Trades: The Side-effects of the European Union's Latin American trade Agreements, p.20, available at: https://epha.org/wp-content/uploads/2018/05/Unhealthy-Trade-Mercosur.pdf

[111] Pham D.N. & M. Donovan (2019), The Declining Trend of Pharmaceutical Expenditures in U.S. FTA Partner Countries, NDP Analytics Study, 10 June 2019.

3.5.5. Policy recommendations and flanking measures

- We recommend New Zealand to ratify the ILO Convention No. 87 concerning freedom of association and protection of the right to organise, the ILO Minimum Age Convention No.138, the ILO Indigenous and Tribal Peoples Convention No.169, the International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families to strengthen protection of the rights of the respective vulnerable groups in line with the international standards.
- We also recommend New Zealand as well as those EU Member States who did not yet do so, to ratify the 2014 Protocol to the ILO Forced Labour Convention No. 29.
- Because of the predicted shifts in employment triggered by the Agreement, both parties should consider allocation of special budget to provide for the training programmes and necessary social support of the workers that are expected to be negatively affected by the EU-NZ FTA, monitoring that the right to work of the workers from the affected sectors is not violated.
- Based on the analysis of the impact (see above), we recommend removing the EU tariffs and TRQs in agriculture, as well as those in New Zealand – if agreed - gradually, with time adjustment paths, to allow the ruminant sector in the EU and the farmers to adjust slowly. Next to that, we recommend that the EU authorities carefully monitor labour rights of the workers from declining sectors ensuring that their rights are not violated and assist them in adjusting to the new situation. For the workers in the ruminant sector, given the potential negative employment consequences of the ambitious scenario, the EU may need to reflect on costs and benefits from the full liberalisation in this sector as opposed to partial liberalisation.
- We recommend that New Zealand considers introduction of a special taskforce directed at monitoring that the labour rights of the workers from the declining sectors are protected and allocate financial resources in order to assist affected workers in adjusting to the new employment situation. Next to that, we recommend that New Zealand authorities establish a separate taskforce that works out a detailed plan on how to use benefits from the growing sectors and direct them to the needs of the vulnerable groups employed in the sector.
- Complementing the TSD Chapter, which – assuming the same approach as in the textual proposal for the EU-AUS FTA is taken – already includes binding obligations for the Parties that are intended to be enforced by the TSD Sub-Committees, the Parties should consider including provisions on FTA effects for specific vulnerable groups (indigenous peoples, persons with disabilities, children, women, migrants, refugees and asylum seekers) that contain clear and measurable targets to strengthen their rights within the framework of the FTA.
- In the framework of CSR/RBC, all relevant stakeholders (government, civil society, companies, interest groups, etc.) should work on promoting the human rights responsibilities of companies and monitoring their responsible business conduct – setting up public-private-partnerships is one way to proceed.
- While the exact text of the EU-NZ FTA is not available at the time of writing of this report, access to essential medicines may be affected. Increased IP protection stimulates innovation and contributes to reducing medicines shortages, but it can also put certain pressure on the New Zealand government via increasing costs for healthcare in case new innovative drugs hit the market and no economic benefit assessment is in place. The FTA should aim to contribute to availability of medicines for patients in New Zealand to reduce costs in the New Zealand healthcare system.
- Finally, we recommend to include continued monitoring and ex-post evaluation of the impact of the EU-NZ FTA, not just once after five years, and to carry out a targeted human rights impact assessment of the EU-NZ FTA at regular intervals to ensure proper implementation of the parts of the Agreement relevant for human rights (e.g. TSD Chapter) but also to assess whether other parts of the Agreement identified as possibly affecting human rights had any impact and if so, its nature, direction and degree.

3.6. Environmental impact analysis

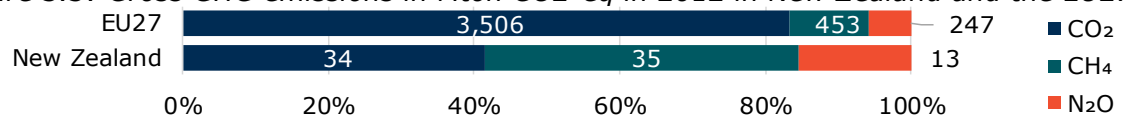
3.6.1. Introduction

This section analyses the potential environmental impacts of the EU-NZ FTA. To do so, six *environmental impact areas* are analysed: climate change, air quality, land use & soil quality, ecosystems & biodiversity, water quality & quantity and waste & waste management. For each environmental impact area, we discuss the state of play and the impact of the EU-NZ FTA. The state of play contains a description of the governance framework (which is not shown here, but in Annex III.4) and the environmental performance. When relevant, New Zealand's state of play is compared to the EU. The state of play sections are kept brief on purpose in order to avoid overlap with the work done for the ex-ante study and other recent TSIAs. The reader is referred to the ex-ante study (LSE, 2017) in case more details on the state of play for certain impact categories are desired.

3.6.2. Climate change

State of Play - New Zealand is on track to meet its 2020 Nationally Determined Contributions (NDC) which aims to reduce the *net* Greenhouse Gas (GHG) emissions to 5 percent below 1990 emission levels. Climate Action rates their 2020 NDC as "compatible with the 2 °C target" (Climate Action, 2018). New Zealand furthermore committed to a 2030 reduction target of 30 percent below 2005 emission levels (which is, in contrast, rated as "insufficient to keep global warming below 2 °C"). In comparison, the EU committed to a 40 percent reduction compared to 1990 levels, but also that ambition is judged too low to meet the Paris goal (Mathiesen & Sauer, 2018). The country's *gross* GHG emissions increased by 19.6 percent from 1990 to 2016, but 2016 emissions (roughly 79 Megaton CO_2-equivalents) were lower than peak emissions, which occurred in 2006 (roughly 83 Mton CO_2-eq). The transport and agriculture sectors (dairy in particular) have, over the years, contributed the most to the rise in gross emissions. New Zealand's *net* GHG emissions show an opposite trend resulting from their Land Use, Land-Use Change and Forestry (LULUCF) policy. In 2017, for instance, New Zealand offset around 24 Mton CO_2-eq with their LULUCF policy. Figure 3.3 shows the emissions (in CO_2-eq) of the three major GHGs in New Zealand and Table 3.17 the responsible sectors in 2012. In contrast to most countries, New Zealand's most significant GHG is methane (CH_4) rather than carbon dioxide (CO_2) or nitrous oxide (N_20) - 43, 41 and 15 percent respectively[112].

Figure 3.3: Gross GHG emissions in Mton CO2-eq in 2012 in New Zealand and the EU27



Source: EDGAR

The agricultural sector is responsible for the lion's share of both the CH_4 and the N_20 emissions. In fact, more than 95 percent of the CH_4 and N_2O emissions were caused by different activities in the agricultural sector (predominantly enteric fermentation and manure).

[112] CH_4 and N_2O emissions contribute much more (25 and 298 times more than CO_2, respectively) to global warming than CO_2. When emissions are expressed in CO_2-eq., CH_4 emissions are multiplied by 25 and N_2O emissions by 298 to illustrate their impact on global warming

Table 3.17: Sector shares in GHG emissions in 2012 in New Zealand and the EU27

Sector	CO_2		CH_4		N_2O	
	NZL	EU	NZL	EU	NZL	EU
Road transportation	36%	22%				
Public electricity and heat production	19%	36%				
Manufacturing industries and construction	15%	11%				
Residential and other sectors	9%	17%				
Other Energy Industries	5%	4%				
Enteric fermentation			74%	30%		
Solid waste disposal on land			11%	19%		
Manure management			10%	9%		
Fugitive emissions from oil and gas			2%	13%		
Fugitive emissions from solid fuels			1%	13%		
Manure in pasture/range/paddock					64%	10%
Direct soil emissions					17%	37%
Indirect N2O from agriculture					14%	12%
Production of chemicals					unknown	14%
Other	17%	9%	2%	18%	5%	27%

Source: Trinomics based on EDGAR

EU-NZ FTA impact on Climate Change

Qualitative assessment

According to the proposed TSD chapter published in May 2019, the EU and New Zealand would commit to effectively implement the Paris Agreement and their respective NDCs[113]. Both Parties will also facilitate the removal of obstacles to trade and investments of products that are particularly relevant for climate mitigation or adaptation. Should this be eventually agreed between the Parties, this could, theoretically, have a positive impact on the global climate. However, as no concrete measures are specified, we cannot comment on the effectiveness of this plan. On a global level, both Parties reconfirm their commitments to strengthening their cooperation on multilateral environmentally related agreements and fora, including the United Nations Framework Convention on Climate Change, the WTO, the Montreal Protocol on Substances that Deplete the Ozone Layer and the International Maritime Organisation.

The proposed TSD chapter also foresees institutional mechanisms such as monitoring, committees and government consultations which add new processes to this framework and allow the Parties to raise their concerns on climate change at the bilateral level. The aim of these provisions would be to lock in the commitment to ensure effective implementation of Paris Agreement and right to regulate in the bilateral FTA context. Consequently, the aim would be to set out the framework for joint work on trade and climate issues in the implementation and thereby generate positive impacts.

The FTA is expected to affect climate change mostly through its impact on volume of economic activity in the agricultural sector, specifically the meat and dairy sectors, because both contribute a large share in total GHG emissions in New Zealand. Therefore, we assessed the impact of the FTA on the most important GHGs which are emitted in these sectors: CH_4 and N_2O (see next section). Moreover, the meat and dairy sector are separately analysed in the sector studies (see Chapter 4). Aside from the agricultural sector, the transport sector (road, maritime and aviation) also contributes significantly to climate change in both New Zealand and the EU through CO_2 emissions. The FTA's impact on CO_2 emissions has, however, already been assessed in the ex-ante study (LSE, 2017). For this reason, we focus on other GHGs. It should be noted, though, that because of the large distance between the EU and New Zealand, increased trade between the EU and New Zealand will in most cases create *additional* GHG emissions from the transport sector. In contrast to trade between countries with relatively small distances between one another, increased trade between the EU and New Zealand does not only increase the GHG emissions from transport in the case of trade creation, but also in case of trade diversion (as trade between the EU and New Zealand will replace trade between two parties with smaller distances between one another in most cases).

[113] Available at: http://trade.ec.europa.eu/doclib/docs/2019/april/tradoc_157866.pdf

Quantitative assessment

The impacts of the FTA on the environmental impact areas *climate change* and *air pollution* have been assessed quantitatively. In order to clearly show the dynamics and the drivers of the effects of the trade deal on climate change and air pollutants, three different effects are considered:

- **The scale effect**: the impact resulting from the overall change in production due to the FTA;
- **The structural effect**: the impact resulting from the change in production due to the FTA, taking into account the sectoral output changes and sectoral emissions of GHGs and air pollutants; and
- **The technology effect**: the impact resulting from the exchange of technologies and production methods with (e.g.) different efficiencies resulting in a change of emissions per unit of production.

The quantitative assessment combines data resulting from the quantitative model and environmental data on GHG emissions and air pollutants. The methodological note in Annex II provides more details about the calculations and assumptions taken for the analysis.

In New Zealand, the overall rise in production resulting from the FTA (**scale effect**), is expected to lead to 0.077 to 0.196 Mton additional annual CH_4 emissions and 0.028 to 0.07 Mton additional annual N_2O emissions from 2030 onwards compared to the baseline[114] scenario (in CO_2-eq). In the EU, the scale effect is expected to create 0.059 to 0.09 Mton additional annual CH_4 emissions and 0.028 to 0.043 Mton additional annual N_2O emissions. In line with the increase in economic activity expected as a result of the FTA due to the reduction in costs of placing products and services on the market and the assumptions that overall aggregate demand will also slightly increase as a result of the FTA and emission intensities stay the same, GHG emissions are expected to increase concomitantly. Moreover, the predicted additional trade flows between the EU and New Zealand will result in an increase in GHG emissions from the transportation of goods. The FTA is likely to lead to additional trade flows that would not have taken place globally at all as well as some diversion of trade flows from existing trading partners. Of course for the effect on total emissions from transport it matters from where the trade flows would be diverted, but since the distance between the EU and New Zealand is likely to be larger than the average distance with main trading partners between the EU and New Zealand, an overall increase in GHG emissions from increased transportation of goods is expected.

Changes in output resulting from the FTA as well as current CH_4 and N_2O emissions differ substantially across sectors. As such, the scale effect alone does not accurately estimate the true impact of the FTA on GHG emissions in New Zealand and the EU. Figure 3.4 shows the annual impact of the FTA on CH_4 and N_2O emissions per sector[115] compared to the baseline 2030 scenario. This figure clearly demonstrates the importance of the combined effect of the FTA's impact on New Zealand's agricultural sector and the dominant role of this sector in CH_4 and N_2O emissions. In the conservative scenario, output in the meat and dairy sector decreases by 0.54 percent. As the large majority of CH_4 emissions is created by this sector, the overall CH_4 emissions in New Zealand decrease as well in this scenario. In the ambitious scenario (with increased trade liberalisation), however, output is expected to increase significantly in the meat and dairy sector (by 1.64 percent). The rise in CH_4 emissions from the meat and dairy sector is equal to 96 percent of the total rise in CH_4 emissions in the ambitious scenario. N_2O emissions are mainly created by activities in the wider agricultural sector (including horticulture). Since output is expected to rise significantly in the horticulture sector (+1.91 percent, mainly due to intensified production of fruits and vegetables), the sum of the N_2O emissions is positive in both scenarios.

[114] The baseline emissions in have been estimated by correcting the EDGAR 2012 emission data using the projected change in non CO_2 GHG emissions between 2010 and 2030 from the United States Environmental Protection Agency. Details can be found in Annex II.

[115] The environmental sector definition deviates from the economic modelling; some sectors were aggregated so that they could be matched with the sector definition from the EDGAR database on the emissions of GHGs and air pollutants.

Figure 3.4: CH_4 and N_2O emissions per sector resulting from the FTA in New Zealand

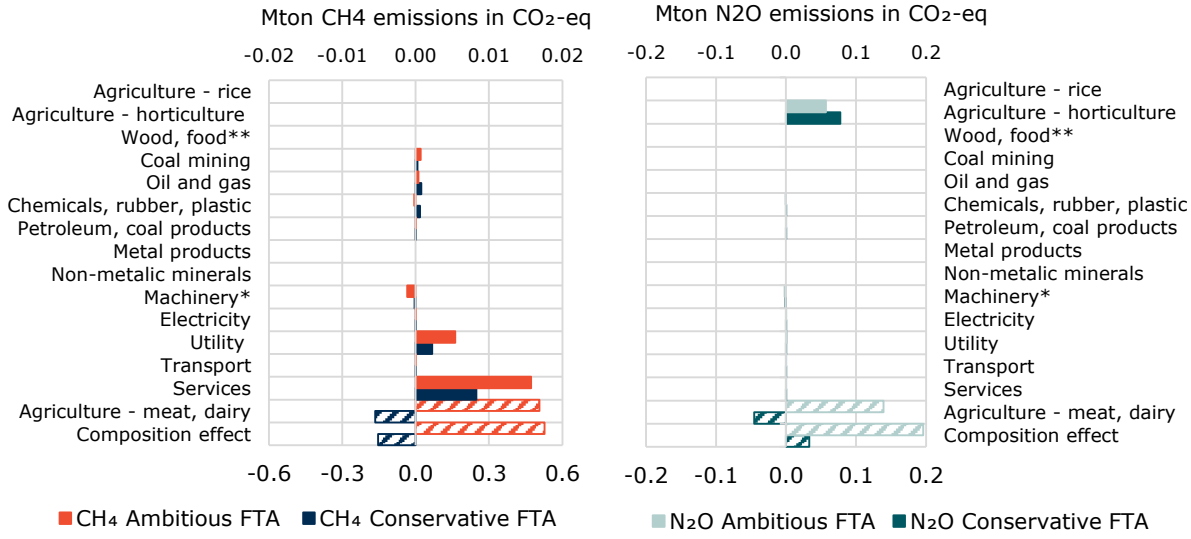
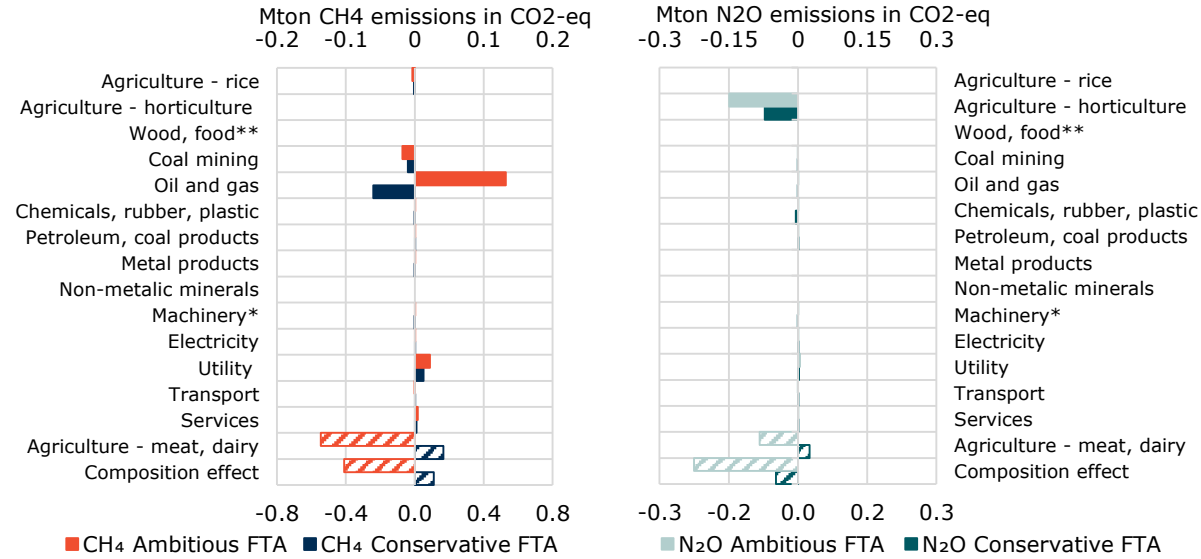


Figure 3.5: CH_4 and N_2O emissions per sector resulting from the FTA in the EU



Note: axes differ per graph. The coloured bars refer to the upper x-axes and the patterned (striped) bars refer to the lower x-axes. The composition effect refers to the sum of all sector effects.[116]
Source: Trinomics based on EDGAR, EPA and economic modelling results

The **composition effect** (the sum of all sector effects) shows that a conservative FTA is estimated to decrease CH_4 emissions by 0.154 Mton in 2030 compared to the 2030 baseline scenario in New Zealand but to increase CH_4 emissions by 0.527 Mton in case of an ambitious FTA. N_2O emissions are expected to rise by 0.033 Mton (conservative) to 0.196 Mton (ambitious) in 2030 compared to the 2030 baseline (in CO_2-eq). In the EU (as shown in Figure 3.5), the opposite effects are expected: CH_4 emissions are expected to increase by 0.109 Mton in the conservative scenario, but to decrease by 0.409 Mton in the ambitious scenario (in CO_2-eq). N_2O emissions are expected to decrease by 0.048 (conservative) to 0.226 (ambitious) Mton (in CO_2-eq). In short, in the ambitious scenario, intensified agricultural activities in New Zealand increase CH_4 and N_2O emissions. In the EU, the opposite trend in emissions is expected due to a decrease in output of the agricultural sector. The overall increase in emissions in New Zealand is larger than the overall decrease in the EU.

[116] * Wood, paper, food beverages and tobacco products; ** Machinery, electronic equipment and other manufacture.

Global GHG emissions could be reduced as a result of the FTA when production would shift to sites with lower emission intensities of CH_4 and N_2O per unit of production. This would be capture by a potential **technology effect** of the FTA. However, it is unclear how this technology effect would influence the beef and sheep meat sector, and therefore no quantitative assessment of this potential effect is undertaken. The large majority of emissions is created by enteric fermentation of cattle and we expect no large differences between emissions from identical cattle in New Zealand and the EU. It is, however, possible that increased exchange of goods with better environmental performance can induce positive impacts on the global climate by replacing products with lower environmental performance. For the technology effect on CO_2 emissions we refer to the ex-ante study.[117]

As GHG emissions have global impacts, it is the global effect on GHG emissions that matters. Table 3.18 shows the **total effect** of the FTA on CH_4 and N_2O emissions in the relevant countries, and at a global level. In New Zealand, CH_4 emissions are expected to decrease by 0.42 percent (0.154 Mton CO_2-eq) in the conservative scenario, but to increase by 1.44 percent (0.527 Mton CO_2-eq) in the ambitious scenario. In the EU, CH_4 emissions are expected to increase by 0.02 percent (0.109 Mton CO_2-eq) in the conservative scenario and to decrease by 0.09 percent (0.409 Mton CO_2-eq) in the ambitious scenario. In the rest of the world[118], CH_4 emissions are expected to decrease in both scenarios between 0 and 0.01 percent (between 0.213 and 0.812 Mton). N_2O emissions are expected to increase by 0.25 percent (0.033 Mton CO_2-eq) in the conservative scenario and by 1.51 percent (0.196 Mton CO_2-eq) in the ambitious scenario in New Zealand. In the EU, N_2O emissions are expected to decrease by 0.02 percent (0.048 Mton CO_2-eq) in the conservative scenario and by 0.09 percent (0.226 Mton CO_2-eq) in the ambitious scenario. In the rest of the world, N_2O emissions are expected to increase between 0 and 0.002 percent.

These results confirm that an ambitious FTA (full trade liberalisation) is expected - everything else equal - to reduce the cost of certain goods and services, which creates additional demand and production, along with global emissions. As a result of trade diversion, the expected increase in production in certain sectors in New Zealand and the EU is partially offset by a decrease in production in certain sectors in the rest of the world. However, at a global level, an ambitious FTA is expected to lead to an increase in overall of CH_4 emissions and N_2O emissions, as a result of trade creation.

Table 3.18a: Conservative scenario: Change in non-CO_2 GHG emissions resulting from the FTA (in megaton CO_2-eq. and % change compared to the baseline)

Country/region	CH_4		N_2O		Total	
	Mton	%	Mton	%	Mton	%
Australia	0.09	0.066%	0.01	0.023%	0.10	0.055%
New Zealand	-0.15	-0.419%	0.03	0.254%	-0.12	-0.242%
EU	0.11	0.023%	-0.05	-0.023%	0.06	0.009%
Rest of the world	-0.21	-0.002%	0.05	0.002%	-0.17	-0.001%
Total	**-0.17**	**-0.002%**	**0.04**	**0.001%**	**-0.13**	**-0.001%**

Source: Trinomics based on EDGAR, EPA and economic modelling results

Table 3.18b: Ambitious scenario (full liberalisation): Change in non-CO_2 GHG emissions resulting from the FTA (in megaton CO_2-eq. and % change compared to the baseline)

Country/region	CH_4		N_2O		Total	
	Mton	%	Mton	%	Mton	%
Australia	1.70	1.310%	0.57	1.311%	2.27	1.311%
New Zealand	0.53	1.436%	0.20	1.499%	0.72	1.453%
EU	-0.41	-0.087%	-0.23	-0.109%	-0.63	-0.094%
Rest of the world	-0.81	-0.009%	0.00	0.000%	-0.81	-0.007%
Total	**1.01**	**0.010%**	**0.54**	**0.018%**	**1.55**	**0.012%**

Source: Trinomics based on EDGAR, EPA and economic modelling results

[117] The ex-ante study predicts that the technology effect will results in a small decrease in CO_2 emissions driven by a changed fuel mix and emission factor in New Zealand (LSE, 2017).

[118] Defined as all countries in the world, except Australia, New Zealand and the EU.

3.6.3.Air Quality

State of Play - By virtue of its, low incidence of heavy industry and low population density, New Zealand enjoys relatively good levels of air quality. It is ranked 7th globally in the 2018 Environmental Performance Index, based on an assessment of hazardous air pollutants (HAPs) from household solid fuels, $PM_{2.5}$ average exposure and $PM_{2.5}$ exceedance. Together with PM_{10}, these pollutants make up the most common negative contributors to New Zealand's air quality (via wood & coal burning for home heating and vehicle emissions). The concentrations of particulate matter PM_{10} were measured at 96 sites across the country between 1996 and 2017. They have decreased at many locations over the most-recent decade for which complete data is available (2007-2016), with decreases recorded especially in the spring and winter seasons. $PM_{2.5}$ measurements are much more scarce, but of the sites with enough data to calculate trends in the monthly average from 2007-2016, 3 of 4 airsheds had a decreasing trend in winter. Over the most recent three years for which data on PM_{10} is available (2014-2016), however, 30 of 51 airsheds still exceeded the National Emission Standards for Air Quality for 24-hour average limits (50 $\mu g/m^3$). Over the most recent three-year period (2014-2016) for which there is complete $PM_{2.5}$ data, 4 of 11 monitored airsheds were also higher than the WHO annual average guideline (2018)[119] for long-term exposure (10 $\mu g/m^3$). Table 3.19 shows the sectors that emitted most of the air pollutants (in 2012). In 2016, 121 kton NO_x was emitted in New Zealand, 46 kton $PM_{10}$and 34 kton $PM_{2.5}$ (NZ Stats, 2018).

Table 3.19: Sector shares in air pollutants in 2012 in New Zealand and the EU27

Sector	NO_x		SO_2		PM2.5		PM10	
	NZL	EU	NZL	EU	NZL	EU	NZL	EU
Road transportation	29%	37%	2%	0%	19%	18%	6%	6%
Manufacturing Industries and constructio	24%	12%	35%	12%	31%	19%	21%	13%
Public electricity and heat production	12%	26%	10%	60%	1%	8%	1%	7%
Manure in pasture/range/paddock	9%	0%	0%	0%	1%	0%	0%	0%
Direct soil emissions	7%	4%	0%	0%	0%	0%	0%	0%
Inland navigation	7%	5%	13%	5%	9%	7%	3%	2%
Residential and other sectors	3%	8%	19%	11%	15%	19%	21%	36%
Agricultural waste burning	2%	1%	1%	0%	0%	0%	30%	11%
Production of pulp/paper/food/drink	1%	0%	13%	4%	11%	3%	9%	6%
Other Energy Industries	1%	2%	1%	5%	0%	3%	0%	1%
Production of metals	0%	0%	5%	0%	5%	3%	3%	2%
Manure management	0%	1%	0%	0%	2%	6%	3%	9%
Other	5%	3%	1%	2%	5%	11%	2%	7%

Source: Trinomics based on EDGAR database

EU-NZ FTA impact on air quality

Qualitative assessment

No intentions or concrete actions to amend air quality policies are mentioned in the TSD chapter tabled by the EU for the EU-AUS FTA. As a result, the potential impact of the FTA on the efforts from both parties to strengthen their air quality policies are considered unlikely. Therefore we focus on the expected impact of the FTA on emissions of the most important air pollutants (NO_x, SO_2, $PM_{2.5}$ and PM_{10}) by analysing the effect of the FTA on production volumes. It should be noted that the quantitative assessment only analyses the absolute and relative changes in emissions of air pollutants (i.e. not the emission source). To ultimately assess the effect of air pollution on human health, the emission source is of crucial importance. Air pollution in very sparsely populated areas is less harmful than air pollution in more densely populated areas.

Quantitative assessment

The overall rise in production resulting from the FTA (**scale effect**)[120] is expected to create between 0.24 to 0.60 kton additional NO_x, 0.08 to 0.20 kton additional SO_2, 0.02 to 0.04 kton additional $PM_{2.5}$ and 0.05 to 0.13 kton additional PM_{10} emissions annually from 2030 onwards in New Zealand. In the EU, the scale effect is expected to create between 1.03 to 1.58 kton additional NO_x, 0.71 to 1.09 kton additional SO_2, 0.08 to 0.13 kton additional $PM_{2.5}$ and 0.28 to 0.43 kton additional PM_{10} emissions.

[119] There is no National Emissions Standard for $PM_{2.5}$. Therefore, the WHO guidelines are used as an adequate benchmark measurement.

[120] The definitions of the scale, composition and technique effects are discussed in the previous section

Figure 3.6 and Figure 3.7 show the impact of the FTA on air pollutants per sector compared to the 2030 baseline scenario for New Zealand and the EU respectively. Figure 3.6 shows that the majority of the FTA's impact on air pollution is expected to be caused by output changes in the agricultural, transport and machinery, electronic equipment and other manufacture sector. The **composition effect** shows that the FTA is expected to create 0.13 kton additional NO_x emissions in New Zealand in the conservative scenario, but also expected to *lower* NO_x emissions by 0.08 kton in the ambitious scenario. This is mainly driven by the fact that output increases in the meat and dairy sector in the conservative scenario, but decreases in the ambitious scenario and because output in the machinery, electronic equipment and other manufacture sector decreases much sharper in the ambitious scenario than in the conservative scenario. SO_2 emissions are expected to decrease by 0.01 kton to 0.24 kton, $PM_{2.5}$ emissions by less than 0.01 kton to 0.04 kton and PM_{10} by less than 0.01 kton to 0.07 kton. In the EU, the composition effect shows that the FTA creates 0.16 to 0.36 kton additional NO_x emissions, 0.13 to 0.88 kton additional SO_2 emissions, 0.01 to 0.02 kton additional $PM_{2.5}$ emissions and a reduction in PM_{10} emissions between 0.02 and 0.20 kton.

Figure 3.6: Air pollutants per sector resulting from the FTA in New Zealand

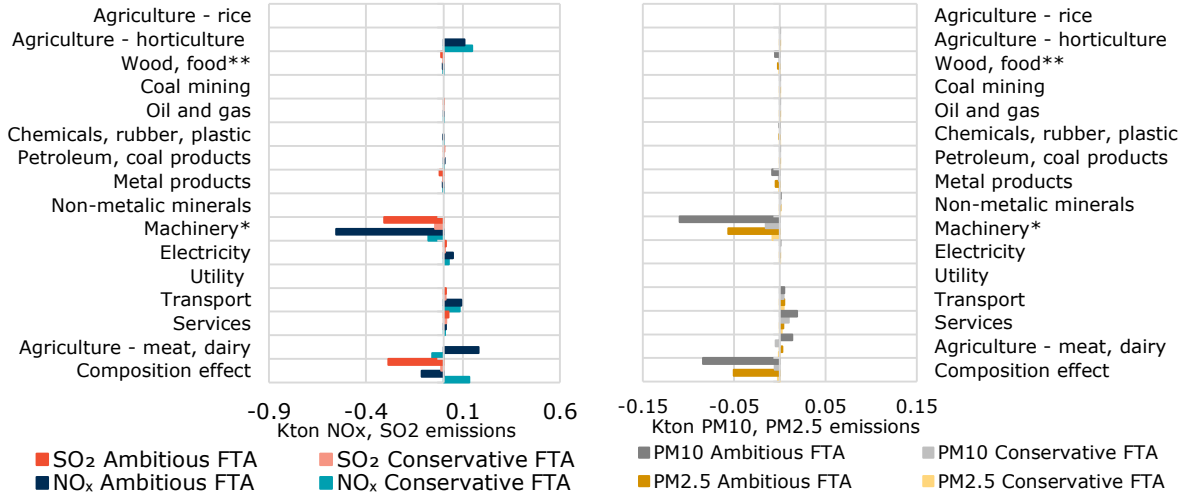
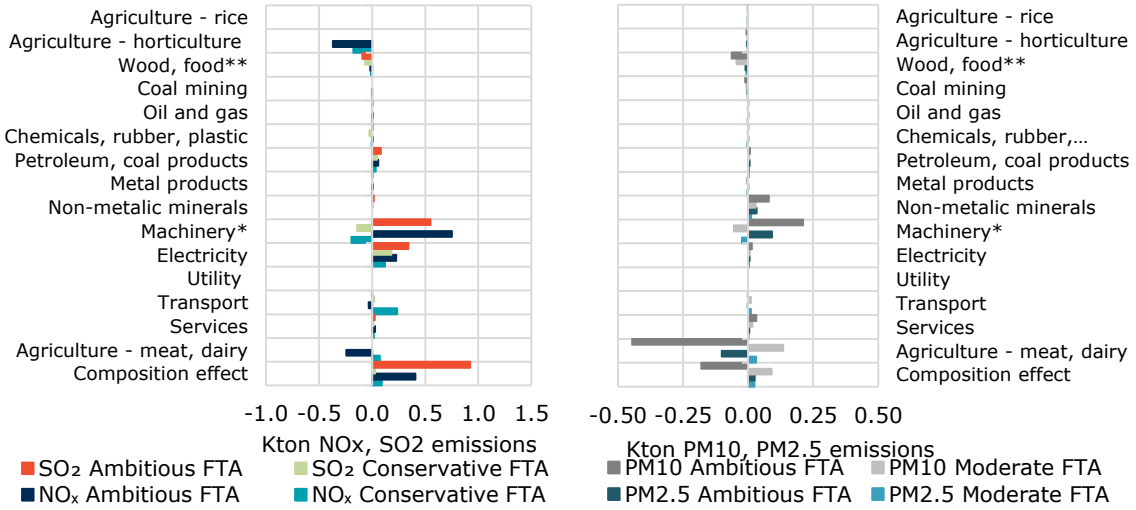


Figure 3.7: Air pollutants per sector resulting from the FTA in the EU



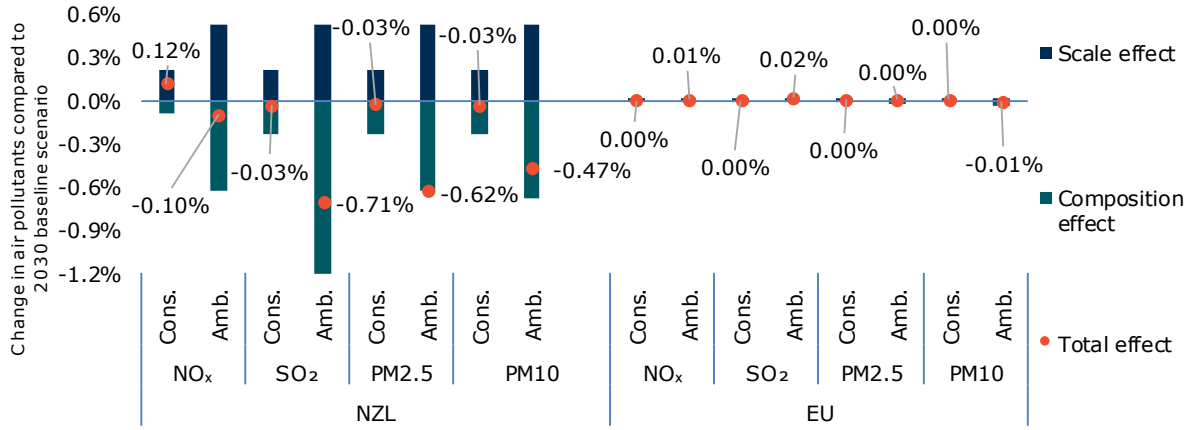
Note: axes differ per graph. The coloured bars refer to the upper x-axes and the patterned (striped) bars refer to the lower x-axes. The composition effect refers to the sum of all sector effects. [121]
Source: Trinomics based on EDGAR and economic modelling results

[121] * Wood, paper, food beverages and tobacco products ** Machinery, electronic equipment and other manufacture.

The **technology effect** has not been assessed quantitively since no major differences are expected between emission intensities (of air pollutants) between New Zealand and the EU, in particular not in the agricultural sector, and because we do not expect major technological developments resulting from the FTA which will drastically affect the level of air pollution.

The **total effect** of the FTA on the emissions of air pollutants is shown in Figure 3.8. In the EU, the effect of the FTA is expected to be negligible. In New Zealand, the expected effect of the FTA is very marginal. The emissions of all considered air pollutants are expected to decrease in both scenarios, except NO_x emissions in the conservative scenario (which increase). The decrease in the emissions of air pollutants in New Zealand is driven by the composition effect. As the FTA is expected to result in output decreases in sectors that emit many air pollutants and output increases in sectors which do not emit many air pollutants, the overall effect is a marginal decrease in air pollution in New Zealand.

Figure 3.8: Change in air pollutants resulting from the FTA



Source: Trinomics based on EDGAR and economic modelling results

3.6.4. Ecosystems & biodiversity

State of play – New Zealand's ecosystems and biodiversity were identified as a significant environmental impact area given the country's high levels of endemism[122] and the vulnerability of New Zealand's ecosystems to human-induced pressures. The FTA could potentially create an impact on biodiversity through two main pathways: 1) the potential increase in invasive species introductions as a result of rising import volumes and 2) possible impacts on native species and ecosystems via increases in agricultural production (and the resulting land use change). For this reason, a case study was conducted on the impact of the FTA on ecosystems and biodiversity in New Zealand

Case study 3.3: Ecosystems and biodiversity and impact of EU-NZ FTA

Current situation

New Zealand has one of the largest protected area coverage in the world, with a third of the country's terrestrial area under legal protection and management for conservation purposes. The country also has a network of 34 marine protected areas, covering about 7 percent of New Zealand's territorial sea (Convention on Biological Diversity, 2012). Despite this, indigenous land cover continues to decline and the condition of some ecosystems is deteriorating, constituting an ongoing threat to native biodiversity (Ministry of the Environment, 2018). For example, between 2001 and 2016, 214 wetlands (nearly 1,250 hectares) were lost, while a further 746 wetlands declined in size (ibid.). Almost two-thirds (45) of New Zealand's 71 identified rare and naturally uncommon ecosystems are classified as 'threatened', of which 18 are 'critically endangered' (ibid.). More than three-quarters of New Zealand's rivers were in excellent or good ecological status in 2013-2017, as measured by the Macroinvertebrate Community Index (MCI). However, the indicator correlates with land use in the area; median MCI scores are 31 percent lower in urban areas and 15 percent lower in areas with pastoral farming, compared to areas with native land cover (Ministry for the Environment & Stats NZ, 2019). Based on the submerged plant index (SPI),

[122] Species that can only be found in that country

33 percent of monitored lakes were in excellent or high ecological condition between 2007 and 2016, while 31 percent were in moderate and 36 percent in poor ecological condition (ibid.).

Of the species with assessed conservation status, almost 83 percent of native terrestrial vertebrates (birds, bats, reptiles and frogs) and 37 percent of plants are either 'threatened' or 'at risk of extinction' (Ministry of the Environment, 2018). In aquatic ecosystems, 76 percent of native freshwater fish, over 25 percent of native freshwater invertebrates, and nearly 33 percent of plant species that depend on fresh water are classified as threatened or at risk of extinction (Ministry for the Environment & Stats NZ, 2019). For native marine species, 90 percent of seabirds, 80 percent of shorebirds, and 26 percent of marine mammals are threatened or at risk of extinction (ibid.).

The main pressures contributing to the decline of biodiversity in New Zealand are: competition by invasive alien species; predation and herbivory by introduced species; habitat modification (e.g. from land use change, fragmentation); and human activity (such as agriculture, fishing, pollution, certain recreational activities) (Convention on Biological Diversity, 2014). Some of these pressures may be exacerbated through trade, as discussed in the following sections.

EU-NZ impact on Ecosystems and Biodiversity

The first potential impact pathway is through **invasive alien species**. These are plants, animals, pathogens and other organisms that are not native to an ecosystem, and which may cause economic or environmental harm or negatively affect human health (Convention on Biological Diversity, 2009). In particular, they negatively impact native species through competition, predation, or transmission of pathogens and disrupt local ecosystems and ecosystem functions (ibid.). In general, trade is a key pathway for the introduction of invasive alien species. In some cases, non-native species are themselves the object of trade (e.g. seeds), while in others they are unintentionally introduced (if undetected through biosecurity procedures), for example, on other imported commodities (e.g. insects on fresh fruit), packaging, ballast water, cargo and airfreight (Hulme, 2009). As such, almost any imported goods carry some risk of introducing non-native species; the risk depends on the type of commodity, its origin, and the effectiveness of biosecurity checks. In general, once introduced, only a small proportion of non-native species become established and subsequently invasive (i.e. causing damage to native biodiversity and the economy) (Lockwood et al., 2007), but this risk is higher in New Zealand compared to other countries given that native biodiversity developed in isolation for most of the country's history. Since invasive species pose a significant threat to New Zealand's unique habitats and important primary goods sectors, New Zealand places a strong focus on managing biosecurity risks before and at the border.

Based on the economic modelling results, the overall volume of merchandise imports into New Zealand (from all regions, not only the EU) is expected to increase by about 2 percent in the ambitious scenario. This would increase the burden on New Zealand's biosecurity system, as more imports will have to undergo risk assessment and biosecurity screening. However, given New Zealand's stringent and precautionary biosecurity regime, often cited as particularly progressive compared to other countries (Simberloff, 2013), it is unlikely that this increase in the overall volume of imports will significantly increase the probability of invasive species introductions.

In terms of imports from the EU, it is estimated that there will be an increase in imports of products of animal and plant origin. Such products can harbour unwanted organisms and pathogens. They are subject to import health standards, it would be important to see how to minimise any potential negative impacts, while still aiming for higher imports of animal and plant origin. At the same time, a recent study shows that the rates of exotic species interceptions by biosecurity inspectors in New Zealand are lower for imports originating from countries with high regulatory quality and political stability (Brenton-Rule et al., 2016). This suggests that imports from the EU may be safer, in terms of invasive species risk, than those from other countries with lower regulatory quality. Moreover, New Zealand is in the process of further strengthening its biosecurity system through the implementation of the 'Biosecurity 2025' programme, which should further alleviate the biosecurity risks associated with increased trade. Strengthening global biosecurity is one of four critical focus areas of the plan that receives particular attention in the coming five years.

The second impact pathway is the change in the **agricultural sector**. Based on the economic modelling undertaken for this study, it is estimated that an ambitious trade deal between New Zealand and the EU would increase the output of the beef and sheep meat sector by more than 4 percent, of the dairy sector by 0.5 percent, and of the vegetable and fruit sector by 2.2 percent. Even though output in other agricultural sectors is expected to decrease, the overall output in the

agricultural sector is expected to grow by around 1.5 percent in the increased trade liberalisation scenario.

Agriculture affects biodiversity through two main pathways: land use change, whereby natural habitats are converted to farmland, and pollution of aquatic ecosystems through agricultural run-off, which carries nitrogen, phosphorus, pathogens and sediments into water bodies (Ministry for the Environment & Stats NZ, 2019). Regarding land use, the quantitative analysis carried out in the impact assessment (European Commission, 2017) concluded that New Zealand would experience an increase in land use intensity, of 0.99 percent. As regards water pollution, the largest impacts from agriculture are associated with dairy farming (Ministry for the Environment & Stats NZ, 2019), yet this sector will experience only a relatively minor increase as a result of the FTA. Livestock farming for meat also contributes to water pollution, and the 4 percent increase in output could translate into significant effects on aquatic ecosystems, assuming that the increase corresponds to intensive farming and that farmers do not shift towards farming practices that reduce pollution risk. Beyond the FTA, domestic policy developments may improve the sustainability of farming in the future, potentially alleviating the negative impacts of increased agricultural output due to the FTA. For example, the Ministry of Environment is working with farmers to introduce more sustainable resource management practices. Moreover, according to an environmental organisation interviewed for this study, a new national policy statement under the Resource Management Act is being developed which will introduce requirements for a more sustainable use of land and other resources. The interviewee also noted that the FTA may increase demand for high-quality, environmentally sustainable products valued by EU consumers, and thus provide an incentive for New Zealand producers to improve their environmental performance rather than focusing on increasing production volumes. Yet holding everything else equal, the FTA is still expected to put an increasing pressure on New Zealand's biodiversity.

Through **enhanced cooperation on sustainable development**, the FTA could also generate positive impacts on biodiversity. The measures announced in the draft TSD chapter could help ensure that the negative impacts of trade on biodiversity are minimised and positive impacts are fostered through enhanced cooperation. For example, it commits the two Parties to "work together to strengthen their cooperation on trade-related aspects of biodiversity policies and measures bilaterally, regionally and in international fora", for example, in relation to: "initiatives and good practices concerning trade in natural resource-based products with the aim of conserving biological diversity", "trade and the conservation and sustainable use of biological diversity, the valuation of ecosystems and their services and related economic instruments", "tackling illegal wildlife trade", and implementing the Nagoya Protocol on access to genetic resources and the sharing of benefits arising from their utilisation. The chapter however does not prescribe legally binding actions and thus the material impact of its provisions is uncertain. A recommendation to the negotiators is therefore to further specify the cooperation foreseen in the context of the ambitious Biosecurity 2025 programme (in particular the Strengthening Global Biosecurity work programme) and explore in which way the EU can cooperate in providing information or facilitating preventive biosecurity measures before goods are shipped from the EU to New Zealand.

3.6.5. Water Quality and Quantity

State of Play - In New Zealand, a main threat to water quality is nitrogen leaching from agriculture (particularly livestock waste and fertiliser). The latest report on the state of New Zealand's freshwater resources – *Our fresh water 2017* – shows that nitrate-nitrogen levels worsened at 55 percent of monitored river sites and improved at 28 percent of sites between 1994 and 2013 (Ministry of Environment, 2017). Nitrogen leaching from agricultural soils was estimated to have increased by 29 percent from 1990 to 2012. Phosphorus levels were found to have improved at 42 percent of monitored river sites and worsened at 25 percent of sites between 1994 and 2013. Lake water quality varies: 37 percent of the 65 monitoring sites between 2009 and 2013 had 'good' or 'very good' Trophic Level Index scores (a measure of lake health), while 26 percent had moderate scores, the rest being 'poor' or 'very poor' (ibid). With regard to groundwater quality, nitrate contamination is the primary concern. Over 60 percent of sites reviewed between 2004-2013 exceeded nationally set water quality guidelines. Such elevated levels are primarily due to intensive agricultural practices (OECD, 2017d). As regards water quantity, New Zealand has relatively high fresh water per capita, but the supply is not uniform throughout the country. Climate change is predicted to affect rainfall patterns in New Zealand, which may increase pressures on freshwater quantity and flows in some parts of the country (Ministry of Environment, 2017). The main users of water resources are irrigation and hydroelectricity generation (ibid).

EU-NZ FTA impact on Water Quality and Quantity

Good quality water is best assessed from a perspective of the *chemical quality* of the water as well as the *ecological status* of the water - the ecological functions it delivers to aquatic ecosystems and the terrestrial ecosystems that directly depend on it (EU water framework Directive, 2000). A water's ecological status depends on its chemical composition as well as on its hydromorphological characteristics. Pressures from the FTA on the hydro morphology of waters (i.e. physical changes in water courses, construction of dams etc.) in the EU and New Zealand are unlikely given the outcomes of the economic modelling results (no significant expansions of hydropower expected for example or very significant changes to inland waterway transport that would put pressure on altering water courses). The largest source of potential impact of the FTA is through the impact of changes in economic activity in certain sectors that already create an impact on water quality through their production process and/or water quantity through releases of pollutants into water bodies. Thus, changes in the volume of output in those sectors due to the FTA can indirectly affect chemical status and thus also ecological status of freshwater bodies. Water quality has recently been polled in New Zealand as number one concern among citizens (January 2019), with 82 percent of respondents saying they were "extremely concerned or very concerned about pollution of New Zealand's rivers and lakes", above issues such as living costs and the health system (Piddock, 2019).

Pollution sources affecting water quality can stem from *point sources* (one concentrated output of pollutants, such as a wastewater treatment plant) or *diffuse sources* (small amounts of pollutant emissions dispersed across large areas, such as from fertilizer use in agriculture) or *atmospheric deposition* of substances such as mercury. The latest state of the environment report from New Zealand (April 2019) reports that average levels of nitrogen in waterways on pastoral land cover were almost 10 times higher, phosphorus levels more than 3 times higher and e.coli almost 15 times higher than pristine waters. 86 percent and 90 percent of waterways on pastoral land did not meet the required nitrogen and phosphorus levels respectively. Pastoral land concerns land on which diary, beef and sheep are farmed (Ministry for the Environment, 2019).

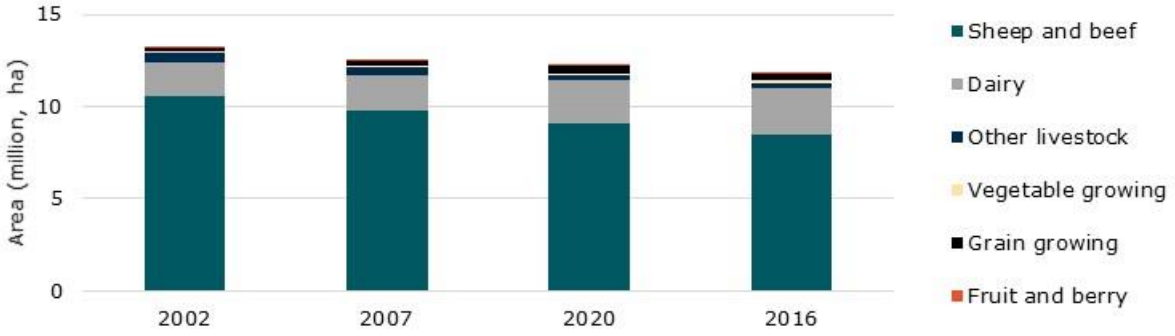
The FTA is predicted to lead to an increase in economic activity in particularly those sectors in New Zealand, especially the **beef and sheep meat sector** (+4.1 percent output in the ambitious scenario). This additional increase exacerbates a trend that has been ongoing in New Zealand that cattle numbers have increased in the sector compared with sheep and an intensification of farming in New Zealand (Davies-Colley, 2013). Cows produce more urine with a higher nitrogen concentration than sheep and also due to the intensification of beef farming, soil compaction increases because of the livestock trampling, which in turn increases the run-off of the pollutants into streams. This increased run-off is seen often as major driver of reduced stream water quality (ibid.). Moreover, cattle are believed to be very damaging to soils, especially on steep slopes and riparian soils, and beef more so than sheep. Cattle's attraction to water also results in particular damage to streambanks and riparian areas, increasing the likelihood of sediment runoff into waterbodies. Additional sediments in waters increases cloudiness and affect the habitat and food supply of much aquatic life as well as the growth of plants, affecting biodiversity severely, but also the recreational value. Models have found that 44 percent of the soil that enters New Zealand rivers come from pastures (Ministry for the Environment, 2019). The potential aggravated impact from pasture farming on water quality is of particular concern for this FTA as the new New Zealand government has since taken power not taking many new actions to tackle the issue (WPR, 2018). The Land and Water Forum has also established that the implementation of National Policy Statement for Freshwater Management across New Zealand's regions is "slow, variable and uncoordinated".

The projected output increase in the **vegetables and fruits** sector in New Zealand (+2.2 percent) creates less impact both in scale (it is a smaller economic sector and occupying much less land space – see Figure 3.9) as well as environmentally per unit. Still, the use of farm chemicals to stimulate the growth of plants (fertilizers and pesticides) also leads

to pollution and contamination of soil and water in the same way that it does via pasture farming.

The FTA is likely to also exacerbate the impact on water abstraction (*water quantity*) in New Zealand through the predicted growth in the above two sectors, but due to the large amounts of freshwater and annual rainfall in New Zealand, the impact is expected to be less impactful than the impact on water quality. Irrigation is however the largest source of water abstraction. Just like Australia, though, New Zealand also has strict policies (limits and restrictions) on the amount of water abstraction managed by regional councils that provide individual consents to take water. The NZ government is currently considering additional regulation in the field of ecological flows and water levels (Ministry for the Environment, 2008). Those proposals go beyond the status quo by proposing interim limits on water levels where such limits have not been imposed yet by regional authorities. They also include proposals regarding the evaluation of the ecological component of water levels. The minor additional pressure on water levels through the FTA could thus be mitigated by intentions to adopt such proposals.

Figure 3.9: Agricultural and horticultural land uses New Zealand, 2002-2016



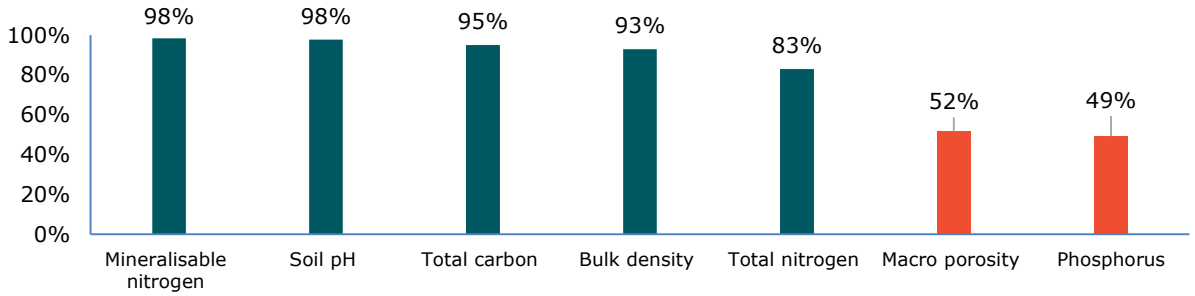
Source: Stats NZ Tatauranga Aotearoa

3.6.6. Land Use & Soil Quality

State of play - Indigenous land cover in New Zealand has been decreasing between 1996 and 2012 due to land clearance, conversion and development. This has accelerated land erosion, with losses now standing at 192 million tonnes lost per year. Even though land used for agricultural purposes decreased by 10 percent, a 10 percent increase in urban land use has led to the loss of some of the most fertile lands in the country. Pressures on soil quality have increased due to a heavy increase (42 percent) of land used for dairy farming, especially concerning phosphorus levels (51 percent of sites outside target range) and macro porosity (65 percent of sites outside the target range) (Ministry of environment, 2018b). New Zealand soil is mainly under pressure due to intensification (irrigation & fertilisation), land use change, and legacy effects (past deforestation & climate change). However, surveys conducted by Stats NZ between 2014 and 2017 found that 83 percent or more of total assessed sites (all uses[123]) were within target range for five of seven soil quality indicators. For the two remaining indicators, more than 48 percent of assessed sites (all uses) were outside target ranges. Individual performance of soil quality indicators in New Zealand is visualized in Figure 3.10.

[123] Land uses included in this assessment are: forestry, cropping & horticulture, dairy, dry stock.

Figure 3.10: Proportion of sites within target range for soil quality indicators



Source: Stats New Zealand

EU-NZ FTA impact on Land Use and Soil Quality

Land use and soil quality are generally mostly impacted by agricultural practices. As explained above, this is also the case in New Zealand. We focus on the two main impact channels through which agricultural activities can affect soil quality. The first channel, grazing, can negatively affect soil quality as it can damage vegetation which in turn can lead to soil erosion. The second channel is fertilizer use. Intensive fertilizer use and manure production can harm fertile soils as it increases the nitrogen and phosphorus concentrations. Increased concentrations of nitrogen and phosphorus can be caused by both horticulture (fertilizer use) and by cattle farming (manure production). Even though soil quality as such may not be the most tangible environmental impact area, soil quality (and land use) indirectly affects many environmental impact areas. Soil quality degradation can indirectly harm water quality (as explained in the previous section), biodiversity and – ultimately - human health since approximately 78 percent of the global average per capita calorie consumption comes from crops directly grown in soil (Brevik & Burgess, 2014).

Since the FTA is expected to increase output in the agricultural sector (in particular the beef and sheep meat sector +4.1 percent and the fruits and vegetables sector +2.2 percent in the ambitious scenario), the potential impacts on land use and soil quality could be significant. The effect through the first impact channel is expected to be minor; in contrast to other countries (e.g. Australia), cattle cover relatively small areas of land for grazing and the vegetation recovers relatively quickly as a result of the favourable weather conditions and fertile soils. For the same reason, the impact of the FTA on land use is also expected to be limited. The potential negative effect through the second impact channel is, however, likely to be more pressing in New Zealand. As shown in Figure 3.10 (above), excessive phosphorus concentrations are currently the most widespread pressure for soil quality in New Zealand. Activities in the beef and sheep meat sector (through manure) as well as in the fruits and vegetable sector (through fertilizer use) contribute significantly to high phosphorus concentrations in soils. The expected increase in production in the beef and sheep meat and vegetables and fruits sectors are expected to further increase phosphorus concentrations and as such harm soil quality. The expected degradation in soil quality can on its turn negatively affect water quality and biodiversity.

3.6.7. Waste & Waste Management

State of play - Statistics on waste management and recycling rates in New Zealand are not widely available. This is, to a certain extent, explained by the fact waste management is decentralised. International organisations are critical about New Zealand's performance. According to the World Bank, for instance, New Zealand is the most wasteful nation in the developed world (Perrot & Subiantoro, 2018). In 2007, it was estimated that around 8.7 million tonnes of solid waste (from domestic, commercial, industrial, and institutional waste sources) was generated in New Zealand in 2006, of which 2.4 million tonnes was subsequently diverted from disposal to landfills. This means that approximately 6.3 million tonnes of waste was sent to landfill and cleanfill sites each year. When averaged across the total population, that represented 1,572 kg of solid waste per person per year for New Zealand (Ministry of Environment, 2017).

EU-NZ FTA impact on Waste and Waste Management

The expected increase in production as a result of the FTA will most likely lead to a rise in waste generation in both New Zealand and the EU. In New Zealand, the agricultural sector is expected to gain most from the FTA. The potential environmental impacts in the dairy and ruminant meat industry are therefore explored in the sector studies (see Chapter 4). The proposed TSD chapter does not include specific measures which are expected to affect the waste or waste management industry. Based on this, we do not foresee major impacts of the FTA on the waste or waste management industry other than in the sectors which will be analysed in the sector studies.

In the EU, waste from mining and quarrying activities as well as waste from construction activities account for 64 percent of the total waste generation in the EU (European Parliament, 2014). These sectors are not expected to be significantly affected by the FTA. For this reason and based on additional impact screening, potential impacts on waste and waste management in the EU are not prioritised in this report. Despite this, it should be noted that the small overall increase in production (as a result of the FTA) will most likely lead to an increase in the volume of waste.

3.6.8. Policy recommendations and flanking measures

Based on the overall environmental analysis, we conclude that an ambitious FTA is expected to result in some small negative impacts on the environment globally as well as locally in New Zealand. Considering the scope of the environmental impacts and the potential effect of the FTA, we recommend negotiators to:

- Explore ways to stimulate further climate action in the context of the FTA in order to 'offset' the negative impact of the FTA by increased ambition. A provision in the sustainable development chapter could cover this. In terms of global effects, an ambitious FTA (full trade liberalisation) is expected to have a negative impact on climate change, particularly from the foreseen trade liberalisation in the agricultural sector (i.e. CH_4 emissions from enteric fermentation and CO_2 emissions from land clearing). The potential negative impact on climate change through the agricultural sector is predominately driven by the expected increased output in the beef and sheep meat sector (refer to the sector study in section 4.1 for details). Production in this sector creates significant amounts methane (CH_4) and, to a lesser extent, nitrous-dioxide (N_2O) emissions. There is also a small increase expected in CO_2 emissions as a result of the FTA, in part due to the transportation needed for the increased trade flows between the two partners. In addition, both parties are signatories of the Paris Agreement and have committed to keep global warming well below 2 °C by the end of the century. However, New Zealand's GHG emission reduction target of -30 percent compared with 2005 levels is assessed to be insufficient to keep global warming below 2 °C. Also, the EU's targets of -40 percent of emissions compared with 1990 are likely insufficient for Paris. The FTA is expected to jeopardise progress towards these goals.
- Find ways to alleviate the impacts of increased agricultural production on biodiversity. For instance, options to minimise land clearing could be explored in the light of the FTA. The FTA could exacerbate the pressures on biodiversity in New Zealand through the expected land clearing as a result of the predicted expansion of the agricultural sector (i.e. mostly the beef and sheep meat sector), in case of full trade liberalisation. A detailed case study on the issue as part of this SIA confirmed these potential threats for biodiversity.
- Find ways to exchange information on effective policy making in the field of water quality between the EU and New Zealand in the context of the FTA. The EU's regulation in the field of water (Water Framework Directive) is viewed as comprehensive and ambitious, but also suffers from difficulties in implementation. Both are encouraged to share best practices and in the area of implementation and regulatory measures to stimulate strengthening of water policy in both regions to accommodate the additional pressure from the FTA in this area.
- Explore possibilities to stimulate the implementation of New Zealand's Biosecurity Strategy in the context of the FTA.

4. SECTOR ANALYSES

As part of the Trade SIA approach, we have selected five sectors for detailed analysis: ruminant meat, dairy, machinery, motor vehicles and transport equipment, and communication services. The selection procedure can be found in Annex V.1. For each of the selected sectors, we look at the current situation, and then the economic, social, human rights and environmental effects as well as an investigation into the impact for SMEs, third countries, and how competitiveness of the sector is affected. We conclude each sector analysis with short policy recommendations and flanking measures.

4.1. Ruminant meat sector

4.1.1. Current situation

Economic aspects

The relative importance of ruminant meat trade for New Zealand and for the EU is high but varies across the partners. In short: especially sheep meat trade matters much more to New Zealand than to the EU. In 2018, beef, sheep and goat meat products were New Zealand's second biggest export commodity group by weight and by value, as well as its biggest non-dairy export to the world (FAOSTAT). New Zealand exports more than 80 percent of its beef and over 90 percent of its sheep meat production. In 2018, red meat and associated co-products (including skins and hides and offal, but not counting wool)[124] went to the EU for over €1 billion (43 percent of the industry's total exports). According to Beef & Lamb New Zealand, the EU28 currently takes nearly 50 percent of New Zealand's total global sheep meat exports, worth almost NZ$ 1.3 billion.[125] In contrast, only 5 percent of New Zealand's beef and 3 percent of its dairy exports go to the EU.

By far the largest part of total EU imports from New Zealand (€2.4 billion in 2018) was comprised of ruminant meat (43 percent). However, according to Eurostat in the year 2017, the EU was 85 percent self-sufficient in ruminant meat (and exported 7 percent of its production). Yet, as much as 94 percent of its imports came from New Zealand and Australia. For beef and veal, the EU had a self-sufficiency rate close to 102 percent, with a bovine herd of around 88 million heads and a total yearly production of about 7.8 million tonnes of beef. As for sheep meat and goat meat, with around 100 million heads (85 percent sheep and 14 percent goats) and a total annual production of about 1 million tonnes carcass weight, the EU is not self-sufficient for this sub-sector. This said, sheep and goats are often kept in economically vulnerable areas like mountain regions. The EU imports account for 20 percent of domestic consumption. About 80 percent of EU imports of sheep meat originate in New Zealand, followed by Australia and Mercosur countries.[126] Today, New Zealand is the world's first exporter of dairy products, the 2nd for sheep meat and the 5th for beef.

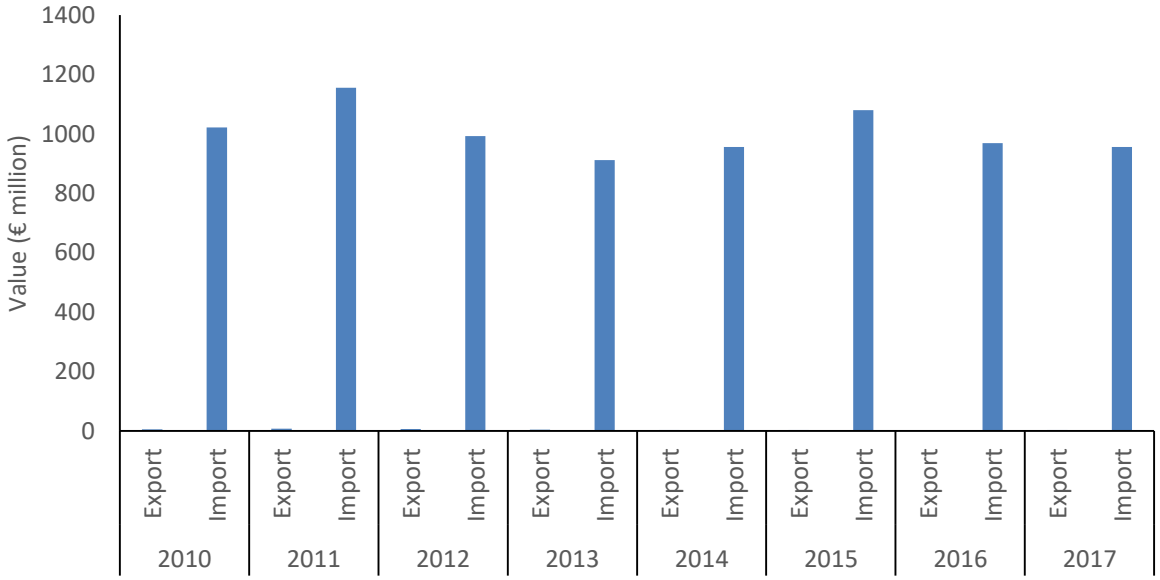
According to UN Comtrade data, the EU has consistently shown a deficit in its trade of ruminant meat with New Zealand over 2010-2018. The EU's bilateral exports of ruminant meat to New Zealand more than halved from €5.6 mln in 2010 to €2.4 mln in 2018 while its imports of ruminant meat from New Zealand remained stable from a value of €1.0 bn in 2010 to €1.05 bln in 2017 (see Figure 4.1). The share of the sector in the EU's total bilateral trade with New Zealand has been high: around 30 percent, primarily due to its imports. The share of bilateral trade in ruminant meat in the EU's total trade with the world is also high at around 7 percent, again primarily on the import side. During the last 10 years, about half of all New Zealand's ruminant meat exports to the EU28 went to the UK.

124 https://ec.europa.eu/agriculture/sites/agriculture/files/trade-analysis/statistics/outside-eu/countries_/agrifood-new-zealand_en.pdf

125 https://beeflambnz.com/your-levies-at-work/trade-policy-and-advocacy (last consulted on 22-5-2019).

126 European Commission, https://ec.europa.eu/agriculture/sheep-goats_en (last consulted on 22-5-2019).

Figure 4.1: EU-New Zealand trade in ruminant meat (value € million; EU basis)



Source: UNComtrade; own calculations

Trade policy measures

This section first describes the tariffs applied for the EU-NZ ruminant meat trade. Then we look at Non-Tariff Measures and SPS/TBT Agreements for effective market access.

Tariffs and Tariff-Rate Quotas

In respect of *tariffs*, EU market access for ruminant meat is characterised by two elements: relatively high tariffs and TRQs offering low tariff market access, but for limited quantities only. Moreover, access to such TRQs may be reserved to one country or "shared" between suppliers from different countries, within an FTA or otherwise agreed. In 2017, the average applied tariff on ruminant meat in the EU for imports from New Zealand was 39.3 percent, compared to 24.5 percent for imports from the rest of the world. In contrast, New Zealand has an applied tariff rate of only 0.3 percent on ruminant meat imports from the EU.

According to the joint submission to MFAT by Beef & Lamb New Zealand and the Meat Industry Association (as of December 2015), New Zealand enjoys "comparatively favourable conditions of access to the EU market" for sheep meat, thanks mainly to a zero-duty country-specific quota (TRQ) of 228,254 tonnes carcass weight equivalent (c.w.e.) of sheep meat (and goat meat). For beef, according to the WTO tariff data base, EU TRQs for which New Zealand is eligible are open to all other WTO Members, namely a frozen beef quota of 53,000 tonnes with an in-quota tariff rate of 20 percent, and a processing beef quota of 63,703 tons with an in-quota rate of between 20 percent and 20 percent plus €994.5/ton – €2,138.4/ton, depending on the product. These quotas "tend to be dominated by lower cost suppliers (for example from South America)". Another quota for hormone free and "grain-fed high-quality beef" (HQB), established as a "collateral" result of the WTO dispute on beef hormones, is also accessible to the US, Canada, Australia, Uruguay and Argentina. Within this HQB quota, New Zealand can supply a country-specific quota of 1,300 tonnes p.w. New Zealand (and Australia) supply 94 percent of the EU's sheep meat and goat meat imports, mostly through their preferential TRQs. However, they face relatively high, sometimes even prohibitive, tariffs for out-of-quota supplies.

Total tariff costs for New Zealand's red meat and co-product exports were estimated by *Beef + Lamb New Zealand* (B&L NZ) and the *Meat Industry Association* (MIA) at NZ$69 million (€62.2 million) in 2014, allegedly making the EU "the second-best protected beef market after Japan". According to a 2004 study, the WTO-established TRQ system leaves serious trade impediments in place, particularly for New Zealand's meat and dairy

industry.[127] On the other hand, according to B&L NZ, New Zealand is managing its sheep meat quota in the EU, thus gaining the "quota rent" for its producers.

Non-Tariff Measures
A number of *Non-Tariff Measures* also apply to ruminant meat trade, affecting bilateral EU – New Zealand trade in both directions.

In 2015, the EU and New Zealand updated the *EU–NZ Veterinary Agreement*, which had been in place since 1996. Upon the adoption of a series of technical amendments on November 10, 2015, the European Commission said it should give a significant boost to bilateral trade in meat and dairy products. New Zealand called it an example of "world-leading practice for trade in agricultural and food products" (New Zealand Food Safety, 2004). The full benefits of this agreement became effective as of 2015, after national regulations implemented the above-mentioned treaty modifications. According to the New Zealand Food Safety Authority (NZFSA), it was expected to save potential costs of up to NZD200 million (€180.2 million). The NZFSA also noted that this was one of the first agreements effectively applying the (WTO-enshrined) *regionalisation principle* by re-accepting EU meat products from specific EU Member States or regions. Respondents to the EU Commission Public Consultation confirmed that this agreement has led to specific results such as the rapidity of consignment clearance at port of entry and resultant cost reduction from fewer inspections, the ability to resolve minor issues in paperwork through improved communication and cooperation, increased EU pork sales to New Zealand, increased import of lamb from New Zealand, less complicated veterinary certification and the recognition of equivalence of sanitary measures between the two sides.

New Zealand has trade-limiting measures in place, such as market-offer concentrations (i.e. Export State Trading) or virtual trade prohibitions by way of SPS measures or technical standards and regulations. In their 2016 submission to the FTA negotiators, B&L NZ and MIA suggested "greater recognition of the equivalence of the New Zealand systems in meeting EU standards, particularly in relation to processing requirements, animal welfare and good manufacturing practices" (*op.cit.supra*) B&L NZ also points out that they cooperate with European producers under the "Meat Matters" programme, whereby jointly-funded promotional activities include a website containing information on the nutritional value of meat consumption, the environmental impact of meat production and a range of recipes using meat. However, it would appear that the FTA negotiation might also benefit from the above-mentioned new trade agreements already concluded with other countries and regions, mainly for approval, tracing and monitoring procedures.

Sanitary regulations and technical standards and requirements governing the animal sectors in New Zealand differ from the European requirements. The use of growth hormones and chemical decontamination of carcasses is allowed, but not for products bound for the EU. In addition, rules on individual traceability and journey duration for the transport of livestock are less strict than in Europe: while ovine animals are practically exempt from traceability regulations, those for bovines are limited to the first six months, and to the first movement of the cattle. Except for bovine tuberculosis (undergoing an eradication programme), New Zealand's ruminant health status and its mandatory certification regulations are basically in line with OIE standards.

Box 4.1 Summary of EU-NZ market access conditions as per ABCIS (2018)[128]

Together with Australia, New Zealand continuously negotiates trade agreements to develop and secure its meat and dairy exports. In 2018, New Zealand was party to 16 FTAs, and to two large RTAs not yet in force (namely the *Comprehensive and Progressive Agreement for Trans-Pacific Partnership* and the *NZ-Gulf Cooperation Council FTA*). Besides the ongoing negotiation with the

[127] Andrew Mead and Anna Strutt, Tariff Rate Quotas and New Zealand's Meat and Dairy Trade. Paper presented at the 2004 NZARES Conference. Blenheim Country Hotel, Blenheim, New Zealand. June 25-26, 2004.

[128] ABCIS (2018), Risques et opportunités pour les filières animales françaises et européennes dans la perspective d'accords de libre-échange UE/Nouvelle-Zélande et UE/Australie. Etude commanditée et financée par le Ministère de l'agriculture et de l'alimentation (MAA). Paris, avril 2018.

EU, and enlargement negotiations under the ASEAN and China FTAs, it was also engaged in negotiations for 4 new FTAs with 7 countries.

Favourable weather and land conditions give New Zealand's ruminant farms the possibility to rely heavily on grazing and thus to have a high structural cost competitiveness compared to the French systems, allowing significantly lower producer prices. In return, it is more dependent on weather conditions (seasonality and climatic events). Production costs estimates for ruminant meat show New Zealand at 20-25% for beef production costs in France, and up to 50% for sheep meat – with marked seasonal and pedoclimatic variations especially for grass-fed cattle (e.g. a historic drought in 2008). New Zealand prohibits ritual slaughtering.

Except for sheep meat, the main constraints for shipments of ruminant products from New Zealand to the EU are sometimes prohibitive tariffs, and quotas limited in volume or with dissuasive in-quota tariffs and management rules.

New Zealand has significantly expanded its ruminant products shipments to Asia in the last 10 years: while China will remain its main customer, it aims to secure other markets with a significant benefit potential. In the sheep meat sector, even though it no longer fills its generous duty free quota (76% in 2016), New Zealand remains by far the main supplier of the EU, its most important outlet for the highest-value cuts (rather than carcasses). In the beef sector, the EU is a very secondary but increasingly profitable market for New Zealand's high-value cuts (subject to a very restrictive quota).

Source: ABCIS (2018)

Investment barriers

The New Zealand meat industry has attracted international investment, primarily from China and Japan. New foreign firms continue to invest in the New Zealand meat industry: acquisitions worth over €270.4 million occurred between June 2015 and June 2017 whereby overseas firms are looking to secure New Zealand beef and lamb to strengthen their global agri-food positions – as is shown in Figure 4.2.[129]

Figure 4.2: Foreign investments in the New Zealand meat industry (2015-2017)

Source: MBIE Government New Zealand (2019)

The main investment barrier EU investors face in New Zealand, also in the ruminant meat sector, is a stricter investment screening threshold compared to investors from other countries that have already concluded FTAs with New Zealand. The Overseas Investment Act regulates investments by foreign natural and legal persons that want to invest in New Zealand with more than 25 percent foreign owned investments. For ruminant meat production non-urban land is needed. Regarding the screening of non-urban land, the following factors are of high relative importance to investments in large farmland (e.g. a

[129] According to a study by the Ministry Business, Innovation and Employment, The Investor's Guide to the New Zealand Meat Industry 2017, https://www.mbie.govt.nz/assets/8fdebf6c7b/investors-guide-to-the-new-zealand-meat-industry-2017.pdf

dairy farm of 1,987.5 hectares or sheep and beef farm of 7,146 hectares):[130] job creation, increased exports, introduction of new technologies or business skills, increased processing of primary products, and oversight and participation by New Zealanders in the investment. The stated rationale behind the new directive is to ensure that benefits realised for New Zealanders from the sale of farmland are genuinely substantial and identifiable. It is clear the Government now considers that the benefit to New Zealand can only be genuinely substantial and identifiable where the economic criteria in the Act are met. Farmland applications which focus solely on environmental and conservation gains, increased public access and other consequential benefits will now not meet the standard for consent under the new directive.

Non-urban properties over five hectares, which have previously been purchased by overseas persons through satisfying the non-economic benefit criteria in Act, are now effectively excluded from being purchased by overseas persons unless those persons move to New Zealand within 12 months of the investment, and will be living in New Zealand as a tax resident within two years of the investment. This will significantly limit the sale of non-urban land to overseas buyers. Applicants who still decide to embark on the process established by the Act to purchase non-urban land can expect that the assessment process will be more demanding, takes longer and be more costly. In addition, if immigration rules in New Zealand for the investor visa programme are sharpened, longer-term permanent residency is discouraged and associated – highly-productive – capital may no longer come in.

Social aspects

In the **European Union**, the livestock sector accounts for 4 million workers (Animal Task Force, 2017[131]), out of which the cattle sector employs 2.5 million and further 1.5 million work on farms specialised in sheep and goat-rearing[132] with the highest share in total employment (2.7 percent) being in Ireland (European Parliament, 2017). In 2016, unpaid labour (mainly family members) contributed around 90 percent of working hours on the livestock farms (for comparison, in fruits and vegetables sector, it was only around 46 percent, with the rest covered by hired workers) (European Commission 2016a).[133] In 2013, only 16.4 percent of people active in agriculture worked on farms full time (however, there were significant differences between Member States). Other paid activities included processing farm products (22.8 percent), contractual work (19 percent), forestry work (15.9 percent), renewable energy production (11.2 percent), tourism (10.7 percent) and others (Eurostat, 2017a). According to trade union representatives, there is a need for continued efforts to promote respect for labour standards, decent working conditions and health and safety at work in the EU meat (processing) industry, including living wages, equality of workers' treatment (support for migrant and vulnerable workers) and good relations between employers and workers in the sector.[134] In 2014, construction, transportation and storage, manufacturing, and agriculture, forestry and fishing sectors together accounted for 67.2 percent of all fatal accidents at work in the EU and 44.9 percent of all non-fatal accidents at work (Eurostat, 2016).

In 2018, beef, lamb and deer farms employed 18,459 workers in **New Zealand** (Primary ITO, 2018). The meat processing industry is the largest manufacturing employer and provides up to 25,000 jobs in 60 locations in New Zealand.[135] This means a slight increase

[130] Lane Neave law firm based in New Zealand, https://www.laneneave.co.nz/new-overseas-investment-restrictions-major-direction-change-offshore-new-zealand-land-acquisitions/

[131] Animal Task Force. (2017). Why is European animal production important today? Retrieved from: http://animaltaskforce.eu/Portals/0/ATF/Downloads/Facts%20and%20figures%20sustainable%20and%20competitive%20livestock%20sector%20in%20EU_FINAL.pdf

[132] European Parliament (2017), The sheep and goat sector in the EU. Main features, challenges and prospects: http://www.europarl.europa.eu/RegData/etudes/BRIE/2017/608663/EPRS_BRI(2017)608663_EN.pdf

[133] However, in the whole sector of agriculture the input of non-salaried labour (i.e. family members) has been declining since 2005 (Eurostat, 2017a).

[134] EFFAT (2018), Promoting proper working conditions in the European meat industry: https://www.effat.org/featured/promoting-proper-working-conditions-in-the-european-meat-industry/

[135] Meat Industry Association: https://www.mia.co.nz/ [accessed on 20 May 2019]

from 2008 when the meat processing sector employed 24,000 people (Meat Industry Association, 2009).[136]

Industry members have developed a set of voluntary health and safety at work guidelines to be applied in processing plants in addition to Health and Safety at Work Act 2015.[137] The aim is to promote the meat products to international buyers and consumers not only as complying with food safety and quality standards, but also as produced in a safe and ethical way despite challenging working environment (work in meat processing involves the use of sharp knives and saws, lifting or moving objects and being exposed to temperatures extremes). To address it, workers are provided with training (e.g. how to handle knives), are encouraged to report early discomfort caused by repetitive movements and carry out rotating (diverse) tasks to avoid injuries caused by systematic overburdening of certain parts of the body. Industry members are also encouraged to share information about the common problems with a view to developing further guidance.[138]

Also, the farmers' association (Beef and Lamb New Zealand) has taken measures to improve health and safety at work at livestock farms, e.g. by providing Farm Safety Management Systems (FSMS) workshops for farmers (4,000 participants by 2019) and plans to assist them in on-farm implementation of enhanced safety rules (e.g. related to use of vehicles).[139]

However, there is room for further improvement. According to a survey carried out in 2017 among 3,000 workers and 2,000 employers from six sectors, incl. agriculture (i.e. not only meat sector), the latter had the lowest scores in training rate on health and safety at work provided to workers (28 percent compared to 51 percent of average across sectors) and in perceiving safety among the top priorities (Work Safe NZ, 2017). The number of fatal accidents at work in the whole New Zealand's economy has been relatively stable between 2011-April 2019 with a total number of 29-34 accidents a year (with two peaks in 2012 and 2013 with 37 and 40 accidents respectively). The highest number has been recorded in agriculture (14-28 accidents a year with no clear trend), followed by construction (2-9) and forestry (1-10) (Work Safe NZ, 2019). Concerning non-fatal accidents, the total rate of related claims has been decreasing from 154 (per 1,000 Full-Time Equivalent worker) in 2002 to 101 in 2017 for the whole economy. In agriculture, after an increase, from 197 in 2009 to 213 in 2013, a decline has been observed to 186 in 2017 (Stats NZ, 2017b).

In 2016, the lowest sectoral rate of trade union membership (around 3 percent) was in agriculture, forestry and fishing (Stats NZ, 2016). The overall number of trade union members decreased by more than half since 1985, with the largest loss (-93.6 percent) recorded in agriculture, forestry and fishing. This was largely due to legislative changes: adoption of the Labour Relations Act 1987, which required unions to have a minimum of 1,000 members (compared to 30 members previously), and the Employment Contracts Act 1991, which abolished the special legal status and representation rights of unions, along with the institutional arrangements which facilitated collective bargaining. Other factors included e.g. rise in short-term and casual jobs (Parliament of New Zealand, 2000).

Human rights aspects

Both the EU and New Zealand have human rights obligations with respect to labour rights that are relevant for the workers in the ruminant meat sector (see overview of ratifications for both parties). Trade associations in both Parties at different levels join efforts to promote respect for labour standards, favourable working conditions and health and safety at work in the meat (processing) industry.

[136] Overall, in 2008, the red meat industry in New Zealand employed more than 53,000 people directly and accounted for 2.4% of the national workforce. The industry's workforce included: 24,000 people employed in the meat processing sector; 23,500 people employed in sheep, beef and deer farming; and 5,600 people employed in shearing services (Meat Industry Association, 2009).

[137] Meat Industry Association: https://www.mia.co.nz/ [accessed on 20 May 2019]

[138] Meat Industry Association: https://www.mia.co.nz/what-we-do/workforce/health-and-safety/ [accessed on 20 May 2019]

[139] Beef + Lamb New Zealand (7 February 2019), Health and safety heads-up: https://beeflambnz.com/news-views/health-and-safety-heads-up [accessed on 20 May 2019]

Several characteristics of the ruminant meat sector matter for the human rights analysis: the sector has a relatively high share of SMEs, the contracting situation (see also the social aspects described above) is dominated by daily hire or casual workers – not by long-term fixed contracts. Migrant workers, who are often more vulnerable to exploitation, are employed relatively more than in other sectors of the New Zealand economy because they have already acquired the necessary skills and because local workers were less interested in jobs in the sector. This elevates the *right to work*, the *right to an adequate standard of living* and *working conditions* linked to the *ILO Core Labour Conventions* to prominence for analysis. Also, the impact of the EU-NZ FTA on *migrants and vulnerable groups (e.g. indigenous peoples' rights)* needs to be covered, as well as the issue of informal (family) employment. This is the more relevant because the activities of this sector are predominantly concentrated in rural areas in New Zealand.

Health and Safety at Work Act 2015 is one of the main documents that establishes guidelines on safe and favourable working conditions in New Zealand. Next to that, Beef and Lamb New Zealand association provides support in trainings through Farm Safety Management Systems (FSMS) workshops for farmers (4,000 participants by 2019).[140] Based on the statistical data, the sector is characterised by low trade union membership rate of approximately 3 percent (Stats NZ, 2016). Media reports increasing employment of migrants in the sector but the exact statistics for the number of migrants working in this sector is not available.[141]

Environmental aspects

Food production is responsible for about 26 percent of the anthropogenic GHG emissions, 32 percent of global acidification and 78 percent of eutrophication globally. A recent European study found that livestock in particular is responsible for a large share of the agricultural sector's overall environmental impact: 78 percent of terrestrial biodiversity loss, 80 percent of soil acidification and air pollution (ammonia and nitrogen), 81 percent of the global warming effect produced by the sector and 73 percent of water pollution through nitrogen and phosphorus run-off (Leip et al. 2015). Table 4.1 summarises the results from another study from Oxford University, showing the relative size of the environmental footprint of bovine meat production (Poore and Nemecek, 2019). The production of bovine meat for human consumption creates by far the largest amount of GHG emissions from a life-cycle perspective (taking into account all materials and services needed to consume 100 grams of protein) as compared to other type of typical protein-rich food products. The large amount of GHG emissions largely stem from methane emissions from enteric fermentation by cows. The figure also shows that bovine meat has the second greatest impact on SO_2 emissions, which acidify soils and waters, and eutrophying emissions to water and soils due to the nitrogen content in the urine of cows (Poore & Nemecek, 2019).

Reactive nitrogen in various gases and products plays a significant role producing the variety of environmental impacts described above. Figure 4.3 below illustrates the nitrogen cycles involved in production processes related to livestock (feed for livestock and manure from livestock) and how they lead to various undesired emissions and environmental impacts. As shown, key in the figure is the large amount of fertiliser use in soils for crop cultivation, most of which is needed for livestock farming. Nitrogen releases predominantly lead to worsening water quality and soil acidification as well as create some impact on air quality.

[140] Beef + Lamb New Zealand (7 February 2019), Health and safety heads-up: https://beeflambnz.com/news-views/health-and-safety-heads-up [accessed on 20 May 2019]

[141] See, e.g. articles available at: https://www.independent.ie/business/farming/news/world-news/large-rise-in-meat-and-dairy-manufacturing-drives-new-zealands-economy-38224061.html or at https://www.nzherald.co.nz/the-country/news/article.cfm?c_id=16&objectid=12178163

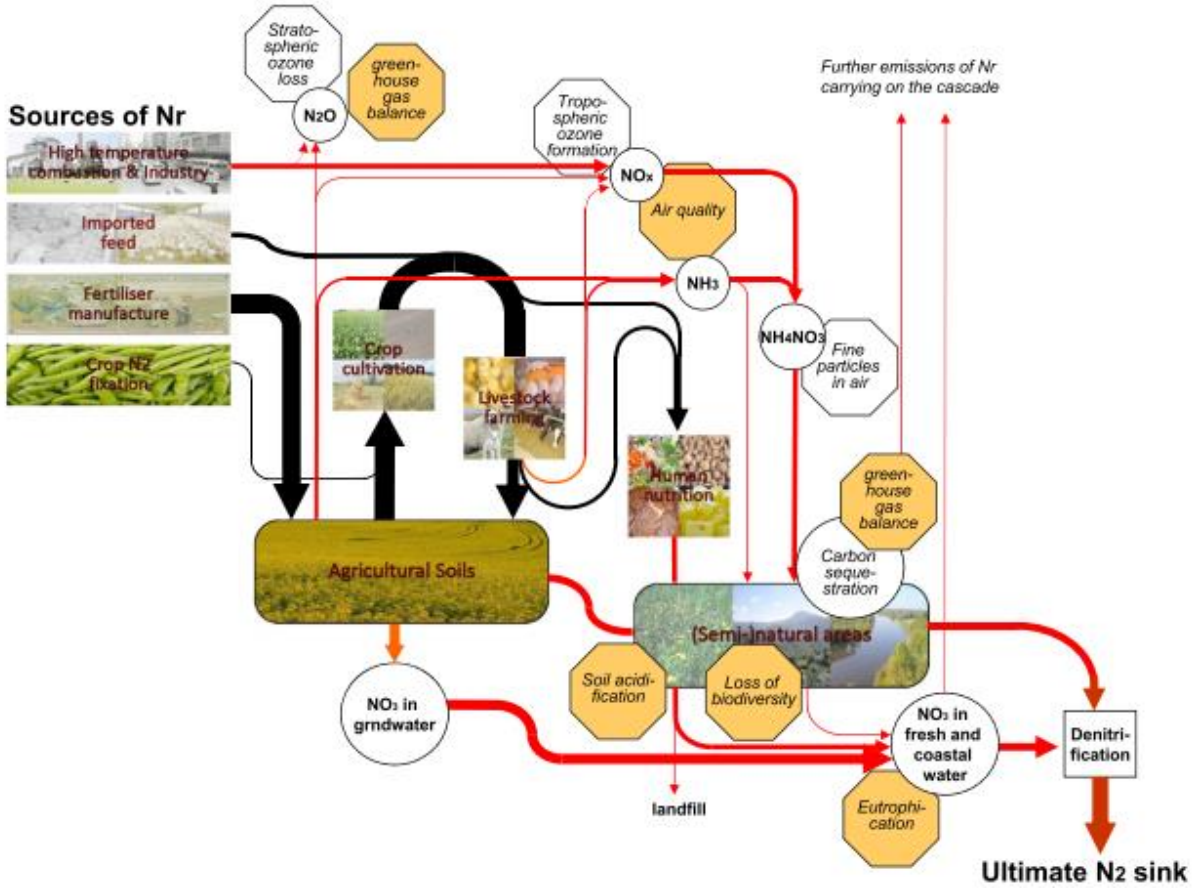
Table 4.1: Mean environmental impact of different food products per 100 grams proteins

Product	GHG Emissions (kg CO_2 eq.)	Land Use (m^2)	Acidifying Emissions (gram SO_2 eq.)	Eutrophying Emissions (gram PO_4^{3-} eq.)	Freshwater Withdrawals (liter)
Bovine Meat (beef herd)	50	170	160	151	740
Lamb & Mutton	20	127	69	49	461
Crustaceans (farmed)	18	1	90	154	1,208
Bovine Meat (dairy herd)	17	26	174	185	2,614
Cheese	11	20	75	45	1,559
Pig Meat	8	13	88	47	1,810
Fish (farmed)	6	6	29	103	1,581
Poultry Meat	6	11	59	28	370
Eggs	4	6	48	20	633
Tofu	2	3	4	4	7
Groundnuts	1	8	9	5	900
Other Pulses	1	12	10	8	-
Peas	0	7	4	3	-
Nuts	0	9	28	12	1,823

Source: Trinomics based on Poore & Nemecek (2019)

The impact of beef farming also has a significant impact on land use: for every 100 grams of protein consumed, 170 m^2 of land is needed for cattle grazing and growing cattle feed. Without strict policies in place, land clearing for cattle farming could result in significant impact on biodiversity as the land needed for beef farming could be taken away from natural areas, such as forests, which are key for the existence of animals and plants. According to Beef + Lamb New Zealand, the negative impact on biodiversity of their farming practices are not valid, because 24 percent of New Zealand native vegetation is on beef and sheep farms, thus providing a habitat for native fauna[142].

Figure 4.3: Role of nitrogen in agriculture and livestock production[143]



Source: Leip et al, 2015

[142] Interview with Julia Beijeman on https://www.sciencemediacentre.co.nz/2018/07/20/health-environment-impacts-of-meat-consumption-expert-reaction/

[143] The figure shows the input of new reactive nitrogen (Nr) production, contrasting the intended flows to and from European agriculture (black arrows), the unintended flows as this pass down the cascade (red arrows) and the resulting environmental concerns (orange boxes).

The New Zealand government has been active on trying to curb the impacts of the sector on the environment. Notably, a tax on methane emissions from ruminants was proposed ("fart tax"), but due to controversy abandoned in 2003. As a compromise, a research commission would be formed to investigate ways to reduce methane emissions from dairy and beef farming. The Commission and the government committed to reduce GHG emissions by 5 percent in 2020 compared to 1990 levels by investigating means of selecting low methane emitting animals, producing lower methane feeds, reducing nitrous oxide and nitrate leaching and increasing soil carbon.[144]

4.1.2. Economic impact

For the EU, total output of ruminant meat is estimated to increase by 0.2 percent under the conservative scenario and decline by 1.4 percent under the ambitious liberalisation scenario, compared to a no change scenario (Table 4.2). In contrast, for New Zealand, the corresponding estimated percentage change in total output of ruminant meat is a negative 0.1 percent and positive 4.1 percent, respectively. The increase in New Zealand's bilateral exports of ruminant meat to the EU is large under the ambitious scenario (25.3 percent), though its total exports of ruminant meat are expected to rise by 5.8 percent only. This indicates that better access to the EU market will lead to some trade diversion – i.e. some exports of New Zealand are diverted away from other markets towards the EU because it has become relatively more attractive. It should be highlighted again that the ambitious scenario is based on a theoretical assumption of a full elimination of tariffs and quotas in the agricultural sector. Such scenario has not been followed by the Commission in any trade negotiation and the Commission would elaborate its position on the findings of this report in the subsequent position paper.

The EU's bilateral exports of ruminant meat to New Zealand show more modest increases – 0.6 percent and 4.2 percent under the two scenarios, though its total exports of ruminant meat decline by 3.5 percent in the ambitious scenario.

Table 4.2: Effects of EU-NZ FTA on trade and output of the ruminant meat sector

	Bilateral exports	Total exports	Output
New Zealand			
Conservative (%)	0.3	-0.2	-0.1
Ambitious (%)	25.3	5.8	4.1
European Union			
Conservative (%)	0.6	0.6	0.2
Ambitious (%)	4.2	-3.5	-1.4

Source: CGE results provided by DG Trade (2019)

Despite its relatively stringent measures protecting human and animal health (SPS) and for mandatory consumer information, including packaging and advertising (TBT) on ruminant meat, the EU still has a huge deficit in its ruminant meat trade with New Zealand, with imports of nearly € 1 billion. TRQs and differences in standards are the main NTM affecting ruminant meat trade between the two partners. Further mutual recognition of such standards, as in the case of the EU-NZ Veterinary Agreement, and removal of TRQs are likely to further increase NZ-EU bilateral exports of ruminant meat. This is also what is observed in the economic impact analysis under the ambitious scenario, which inter alia simulates the effect of the removal of TRQs in this sector.

In terms of investments, raising the investment screening ceiling will facilitate EU investments into New Zealand. This has a relative competitiveness improving effect for EU investors vis-à-vis CPTPP investors in the sector who already have access, while it also leads to more potential growth and development.

[144] Beef + Lamb New Zealand, 2017, Guide to New Zealand Cattle Farming.

4.1.3. Social impact

Based on results of the economic modelling, ruminant meat sector in the EU is likely to be the most negatively affected sector (in relative terms) because of the FTA – However, only under the ambitious scenario, which is based on the theoretical assumption of full elimination of tariffs and quotas in the agricultural sector, but not in the conservative scenario, which foresees no liberalisation of the ruminant meat sector in the EU. Employment effects are expected to be in line with the estimated changes in output, i.e. an employment increase by 0.2 percent for both, skilled and unskilled workers under the conservative scenario and an employment reduction by 1.4 percent for both groups of workers under the ambitious one. This may relate to the increase in New Zealand's exports onto the EU market (by 25.3 percent under the ambitious scenario). However, the estimates produced by the economic modelling need to be interpreted in light of the assumptions and methodological constraints. Thus, the assumption that total employment is fixed tends to exaggerate employment effects at sector level. In addition, the majority of EU beef is a by-product of dairy production, and dairy production itself is usually integrated in a mixed farm of arable and (sometimes additional) livestock activities; these inter-sectoral linkages ameliorate the effects on individual sectors as identified in the economic model (such as ruminant meat) but are not reflected in the model estimates. In sum, the anticipated reduction of beef and sheep meat output in the EU under the ambitious scenario is likely to put some pressure on farm employment, but given other factors which are not reflected in the economic model, the estimated almost 1:1 relationship to on-farm employment is likely to be exaggerated. In any case, if the ambitious scenario was to be followed, there would be a need to monitor situation in certain Member States or regions which, due to a higher share of non-dairying cattle farming in economic activity and employment (e.g. in Ireland), may potentially be more affected (in particular if effects of more new FTAs cumulate). For New Zealand, the economic modelling suggests a decline in employment by 0.2 percent for both groups of workers under the conservative scenario and an employment increase by 4.1 for unskilled workers and 4.2 percent for skilled ones under the ambitious scenario; the caveats mentioned above apply.

The EU-NZ FTA (under the ambitious scenario) may also contribute to an increase in employment opportunities for migrant workers in New Zealand, if recently identified staff shortages are not met by local workers. Otherwise, the potential for new jobs and increased sectoral output related to the EU-NZ FTA may only materialize to a limited extent. Impacts related to changes in wage and price levels have been discussed in the general part of the analysis (given that economic modelling provides the former only for the whole economy, i.e. at an aggregated level).

Given that there is no visible correlation between employment levels in agriculture in New Zealand and the number of accidents at work (peaks in the number of fatal accidents in 2012-2013 were accompanied by low employment levels and the increasing employment in the following years witnessed a continuous decline in the number of non-fatal accidents), it is difficult to predict the impact of the EU-NZ FTA and the expected employment growth under the ambitious scenario on accidents as one of the indicators of health and safety at work levels. However, one can expect that initiatives taken and planned by farmers and the meat processing industry may increase the level of safety at the workplace in general and contribute to decline in the number of accidents (both, fatal and non-fatal). If they are continued, then the expected employment growth resulting from the EU-NZ FTA should not contribute to a higher number of accidents at work. Moreover, if agreed in negotiations, provisions on health and safety at work under the TSD chapter may encourage the Parties to take further unilateral actions and pursue bilateral cooperation and dialogue in this area.

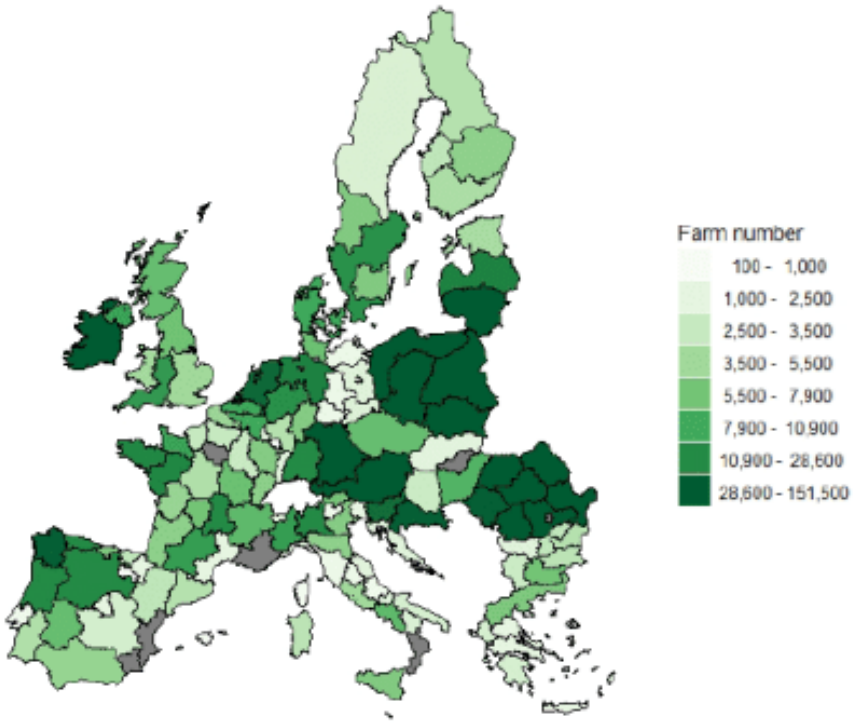
4.1.4. Human rights impact

Results of the economic modelling suggest that ruminant meat sector in the EU is likely to be the most negatively affected sector in relative terms (-1.4 percent in terms of output) because of the EU-NZ FTA. However, only under the ambitious scenario, because New Zealand's market access to the EU is much more limited in the conservative scenario. With respect to human rights, related to employment changes, *right to work* and, indirectly, right to an adequate standard of living of the workers in this sector are expected to be

affected, proportionate to changes predicted by the model. Thus, in the EU, based on the predicted employment increase of 0.2 percent for both skilled and unskilled workers under the conservative scenario, rights of the workers that benefit from the FTA are expected to be positively affected, creating more jobs. While based on the predicted employment reduction by 1.4 percent for both groups of workers under the ambitious scenario, the impact is expected to be negative for the affected groups of workers. Due to a high share of non-dairy farming in specific EU Member States, e.g. Ireland, Poland or Romania (see Figure 4.4), the impact may need to be monitored and liberalisation may need to be phased in to ensure a more gradual effect on the workers.

For New Zealand, the predicted decline in employment of 0.2 percent for both groups of workers under the conservative scenario is expected to generate a proportionate and marginally negative impact on the *right to work* (and indirectly, *right to an adequate standard of living*) for the related groups of the population. While the predicted employment increases by 4.1 for unskilled workers and 4.2 percent for skilled ones under the ambitious scenario is expected to generate an opposite and positive effect for affected workers. Because the ruminant meat sector is by nature of its activities concentrated in the rural areas, these employment effects would be positive for the relatively more vulnerable economic areas in New Zealand, adding to income equality across territorial authorities.

Figure 4.4: Regional distribution of EU cattle-keeping farms



Source: European Commission (2016)

The EU-NZ FTA (under the ambitious scenario) may also contribute to an increase in employment opportunities for migrant workers in New Zealand, thereby, positively affecting their *right to work*. That is, if recently identified staff shortages are continued to be met by overseas workers. Further strengthening of the existing legal mechanisms to respect, protect and promote the rights of migrants at work and monitoring the implementation is necessary in case the number of migrant workers working in the sector increases. This is especially relevant due to the fact that New Zealand did not ratify the International Convention on the Protection of the Rights of All Migrant Workers and Their Families.

If agreed in negotiations, provisions on health and safety at work under the TSD chapter may encourage the Parties to take further unilateral actions and pursue bilateral

cooperation and dialogue in this area which may have a positive impact on labour rights of the workers involved in this sector and nationwide.

Based on the environmental analysis (see section 4.1.5), the EU-NZ FTA is expected to increase to some extent the pressure on the *right to a clean environment* and *right to water* of the citizens of New Zealand as a result of economic activities in the ruminant meat sector. Water quality and emission pollution are expected to increase due to more intensive beef farming in New Zealand and thereby negatively affect these rights as well as indirectly put pressure on the right to health, especially taking into account the existing sensitivities with respect to water quality (Piddock, 2019). Environmental mitigation measures are key to flank this potential development to guard the right to a clean environment, right to water, and right to health.

4.1.5. Environmental impact

The environmental status quo section described that the environmental impact in relation to bovine meat production is significant: climate change is worsened due to the emissions of methane (CH_4) from enteric fermentation and life-cycle emissions (including nitrous-dioxide, N_2O) related to use of fertilizers and feed. Moreover, water quality is impacted through eutrophication from the run-off of urine and manure (containing nitrogen) and biodiversity can be impacted by land clearing for pasture farming. These impacts are potentially aggravated in New Zealand as a result of the FTA due to the predicted increase in output of up to 4 percent in the ambitious scenario (which is based on the theoretical assumption of full elimination of tariffs and quotas).

Based on the overall environmental analysis, in the ambitious scenario methane and nitrous dioxide emissions are predicted to increase (compared to the situation without the FTA) by 0.488 and 0.133 Mton CO_2 eq. respectively in 2030, due to the predicted increase in production in the beef and sheep meat and dairy sector. This represents 1.5 percent of NZ total methane emissions in 2012 and 1 percent of total N_2O emissions. The sectors dairy and beef and sheep meat could not be split from the quantitative environmental analysis, but since the majority of the growth is predicted to stem from the beef and sheep meat sector in New Zealand, the majority of the predicted impact will hold for this sector. In the EU, methane and nitrous-dioxide emissions are predicted to fall due to a decrease in output in the ambitious scenario. In the conservative scenario, however, the effects are predicted to be reversed. Even though the location of the emissions might matter for both countries' national emissions accounting, the environmental impact of GHG emissions is global and thus the overall aggregate environmental impact most relevant. This impact is expected to be slightly negative, because the FTA will lower costs (by reducing tariffs and NTMs) and thus stimulate consumption and concomitantly production. The FTA will also lead to more trade flows between both countries, but the GHG emissions related to transportation are small compared to those created from the farming process itself.

Secondly, the predicted increase in beef and sheep meat production in New Zealand (in the ambitious scenario) will also lead to increased pressure on water quality in New Zealand since the amount of nitrogen from urine and manure is expected to increase proportionally to the growth in the number of cattle in the ambitious scenario. Water quality is of crucial importance to New Zealand's citizens. In a recent poll, 82 percent of the respondents said to be "extremely concerned or very concerned about pollution of New Zealand's rivers and lakes", ranking water quality as the number one concern (above i.e. cost of living and the health system) (Piddock, 2019). The additional impetus provided by the FTA to increase output will contribute to the ongoing trend of intensification of beef and dairy farming in New Zealand. As a result, soil compaction will increase due to a higher number of cattle on land, increasing the amount of nitrogen run-off into waterways.

Lastly, biodiversity can be harmed by land clearing but this is likely minimal since increases in output in recent years have rather led to intensification of land use rather than more land clearing. When we assume this trend to continue, which is not unlikely given the stock of land is fixed, the additional output due to the FTA is likely to contribute to this intensification. Moreover, according to Beef + Lamb New Zealand, their farms host a large

share of native vegetation in New Zealand suggesting that land use for cattle farming might not reduce biodiversity to its full extent.

4.1.6. SME analysis

The ruminant meat sector in the EU is largely represented by SMEs. According to Eurostat (2010) the manufacturing of food products sector, which includes beef and sheep meat, consists of approximately 97.9 percent SMEs and 2.1 percent of large companies. Additionally, SMEs active in the sector account for 64.6 percent of the employment, whereas large companies employ roughly 35.4 percent. Although, SMEs are more abundant in the food product manufacturing sector, the value-added they generate amounts to 52.1 percent, whilst large companies achieve 47.9 percent.

In order to determine the degree of impact for EU SMEs in the ruminant meat sector, a matching approach between the economic model results provided by DG Trade and the data of the prevalence and importance of SMEs in the sector is used. The measures of impact include the changes in bilateral exports, value added and skilled and unskilled labour in the market. The effects of the EU-NZ FTA are modest for EU SMEs. The expected effects are both of direct and indirect nature. Currently EU exports of ruminant meat are quite difficult and limited as EU production costs tend to be higher, and welfare regulations, livestock management standards and SPS regulations are very strict.

However, based on the conducted calculations, under the conservative and ambitious scenarios bilateral EU exports to New Zealand of bovine and other meat are generally expected to increase (see Table 4.2). Thus, based on the sector structure, the high presence of SMEs and the reduction of trade barriers and regulatory requirements under the EU-NZ FTA, one is able to predict that SMEs will benefit slightly directly through exporting more ruminant meat under the FTA in light of a reduction in market access barriers, less RoO requirements, and simplified customs procedures. However, as these barriers and extra costs are relatively larger for SMEs compared to large companies due to lower scale and as the ruminant meat sector is comprised of only a few major exporters, SMEs are primarily expected to face modest value chain benefits through beef and sheep meat output increases under the conservative scenario (see Table 4.2). In light of higher output and a higher level of participation in the international marketplace for ruminant meat, higher turnover and growth is to be expected if SMEs are fully taking advantage of the FTA and utilise its required understanding and implementation of rules, provisions and preferences. In regard to employment, the beef and sheep meat and other ruminant meat sector will have a modest decrease in skilled and unskilled workers under the conservative scenario (see Table 3.15). Although, the output is expected to increase and SMEs employ the majority of people in the sector, employment of skilled and unskilled people will reduce as a consequence of the large increase in imports from New Zealand. This large influx of New Zealand ruminant meat will reduce put modest pressure on the production.

For New Zealand the ruminant meat sector is also largely represented by SMEs. In Deloitte's "Red Meat Sector Strategy Report" (2011) for Beef + Lamb New Zealand Limited and the Meat Industry Association of New Zealand, four main actors in the sector are identified: marketers, processors, procurers and suppliers. According to Deloitte, all of these actors except the procurers consist of only a few individuals and teams and are connected via various supply chains. The largest and most capital intensive of these actors are the suppliers which amount to approximately 12,250 farmers, which "[…] vary dramatically in scale from smaller sole operator farms through large consolidated farms run under a corporate structure." (Deloitte, 2011). In comparison, New Zealand has 80 processing plant, out of which four are listed in the 40 largest companies in New Zealand: Silver Fern Farms, Alliance Group, ANZCO Foods, and AFFCO (The Meat Industry Association, 2009). The remainder vary from small sized farms to single plant operations. To identify the impact of the FTA on New Zealand SMEs a matching approach was used as well. The effect of the EU-NZ FTA looks promising for New Zealand's SMEs. Same as for the EU SMEs, the expected effects for New Zealand's SMEs are both of direct and indirect nature. The EU currently has relatively low quotas and tariffs on New Zealand high-quality beef, sheep meat and goatmeat. These regulations are generally more difficult to fulfil by

SMEs compared to large enterprises. That said, the obligation to meet various testing, certification and documentation procedures implicitly puts potential SME exporters with their in general lower sales volumes at a comparative disadvantage due to the higher impact of the related costs per unit. However, the calculations project that under both the conservative and the ambitious scenario the bilateral New Zealand exports to the EU are expected to increase (see Table 4.2).

Based on the higher prevalence of SMEs and their high value-added, one is able to predict that New Zealand SMEs will benefit from the FTA through exporting more ruminant meat under even more facilitated and simplified market access barriers, less RoO requirements, customs procedures, welfare regulations, livestock management standards and SPS regulations. Additionally, in the occurrence of export increases in the sector and with the presence of several large-scale exporters, active SMEs farmers, suppliers and exporters will benefit indirectly through value chain benefits. Overall, in light of higher output (under the ambitious scenario), higher bilateral exports and a higher level of participation in the international market place for ruminant meat, higher turnover and growth is to be expected if SMEs are fully taking advantage of the FTA and utilise its required understanding and implementation of rules, provisions and preferences. New Zealand SMEs will also face large increases in terms of employment of skilled and unskilled workers under the ambitious scenarios (see Table 3.15). As SMEs employ the majority of people in the ruminant meat sector an increase in their employment is required as there will be an overall output increase.

4.1.7. Third country impact

In this section we address the effects of the EU-NZ FTA for third countries. We cannot cover each country, so we focus on countries that matter policy-wise directly for the EU (Turkey and EU FTA countries), that matter policy-wise directly for New Zealand (ASEAN, Pacific countries), LDCs (to look at impact on poorest countries), and those that matter for important EU and New Zealand competitors (South Korea, Japan, China, US).

Table 4.3 Third country effects of the EU-NZ FTA, ruminant meat sector

Variable (% change)	Turkey	EU FTA partners	Pacific	LDCs	ASEAN	South Korea	Japan	China	USA
Output – Amb	0.0	-0.1	**0.3**	0.0	0.1	**0.4**	0.1	0.0	0.0
Output - Cons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prices – Amb	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0
Prices – Cons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU exports to country – Amb	0.1	-0.1	**1.9**	0.0	**1.1**	**1.6**	**0.8**	0.5	0.4
EU exports to country – Cons	-0.1	-0.3	0.0	-0.2	-0.3	-0.3	-0.3	-0.2	-0.2
NZ exports to country – Amb	**-1.8**	**-1.9**	**-1.2**	**-1.9**	**-1.5**	**-1.2**	**-1.6**	**-1.6**	**-1.8**
NZ exports to country – Cons	-0.4	-0.5	-0.4	-0.5	-0.5	-0.5	-0.5	-0.4	-0.5
Country total exports - Amb	**-1.6**	**-1.4**	0.4	-0.1	**0.8**	0.3	**-2.9**	**-0.8**	0.1

Source: CGE results provided by DG Trade (2019)

Table 4.3 shows the main third country effects for the ruminant meat sector. The trade effects for Turkey and the EU FTA partners are negative, with their total exports decreasing by 1.6 percent and 1.4 percent, because of preference erosion vis-à-vis New Zealand. For the Pacific Countries the sector effects of the EU-NZ FTA are positive: output increases, and so do the islands' total ruminant meat exports. New Zealand's meat exports to the Pacific countries are replaced by EU meat exports in the ambitious scenario because New Zealand's exports are redirected to the UK and the EU27 in an ambitious opening up, leading to less exports to other countries. From the main EU and New Zealand competitors, South Korea benefits relatively most (0.4 percent growth in production) while also for Korea, imports of ruminant meats from New Zealand are replaced by imports from the EU.

Korean exports to the world increase by 0.3 percent; a similar pattern is observed for the Pacific countries. The effects for LDCs, Japan, China and the US are negligible. Finally, the increase in New Zealand exports of ruminant meat to the EU in the ambitious scenario lead to trade diversion away from all other third country markets.

4.1.8. Competitiveness analysis

Economic theory suggests that market integration from an FTA is likely to lead to defragmentation and pro-competitive effects with a fall in mark-ups and subsequent industrial restructuring resulting in bigger, fewer, more efficient firms facing more effective competition from each other.

The SME analysis undertaken above suggests that this sector is dominated by SMEs in both the EU and New Zealand. While the ruminant meat market is moderately concentrated in the EU with a Herfindahl-Hirschman Index (HHI) of 2,230[145], it is amongst the least contested sectors in New Zealand (with a profit elasticity, PE, weighted by gross value added, GVA, of -1.42[146] over 2000-2010).

The relative absence of competition and large SME representation suggest that the EU-NZ FTA is likely to unleash pro-competitive effects, leading to a fall in mark-ups and industrial restructuring especially in the ambitious scenario that entails more meaningful liberalisation of this sector via removal of TRQs. This could result in bigger, fewer, more efficient firms in this sector in both partner markets facing more effective competition from each other.

4.1.9. Policy recommendations and flanking measures

- In case the ambitious scenario is followed, the employment effects are not negligible and could be regionally concentrated (i.e. negatively affect the right to work and the right to an adequate standard of living). *So any tariff and/or TRQ liberalisation for ruminant meats should be introduced gradually and the EU should monitor the situation in EU Member States or regions which, due to a higher share of non-dairying cattle farming in economic activity and employment (e.g. in Ireland), may potentially be more affected* (in particular if effects of more new FTAs, such as FTAs with Australia and New Zealand, but also Mercosur, cumulate). Decisions to be taken either at the EU level or by individual EU Member States about the appropriate support measures for farmers should be based on a sound market analysis and trends in demand, supply and prices. Such analysis could be provided e.g. by the EU Meat Market Observatory, with a particular focus on changes following entry into force of new FTAs. Additional evidence related to effects of market changes on farmers and meat processors could be collected by their organisations, e.g. the Irish Farmers' Association, and reported at the national and EU level. Moreover, to avoid or mitigate potential negative effects, the governments and farmers' associations in the EU and EU Member States should continue or step up efforts supporting competitiveness of the ruminant meat sector in the EU and high products' quality, complemented by search for potential additional destination markets for products of this sector. Furthermore, given that the ambitious negotiation scenario may bring about the biggest employment gains, but also the biggest job reductions across sectors, the Parties will need to consider if they wish to follow it at all.
- While levels of health and safety at work in New Zealand's agriculture may require further improvement and monitoring, initiatives taken recently by farmers and meat sector representatives in New Zealand, may contribute to a decline in the number of non-fatal accidents at work in the sector; *the Parties should include these initiatives in the dialogue within the FTA framework*. An exchange of used practices in the EU and New Zealand with respect to how health and safety at work are pursued, could help further reduce the number of accidents at work in agriculture, including in the red meat and livestock sector.

[145] http://bruegel.org/wp-content/uploads/imported/publications/WP_2014_07__01.pdf

[146] https://www.mbie.govt.nz/assets/f8aae60a4e/competition-in-new-zealand-industries.pdf; note that a more negative PE score denotes more intense competition.

- In order to mitigate any negative social impact from the EU-NZ FTA, we recommend New Zealand to increase its social and human rights safeguards by ratifying ILO Conventions 87, 138 and 169 as well as the International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families;
- We also recommend New Zealand as well as those EU Member States who did not yet do so, to ratify the 2014 Protocol to the ILO Forced Labour Convention No. 29.
- The impact of the bovine meat sector on climate change is significant. However, for a large part of the emissions there is no easy way to reduce them (e.g. involving biological processes such as enteric fermentation). To the extent that the FTA will create *additional* demand and thus *additional* GHG emissions (from the EU to New Zealand), the EU and New Zealand should engage in a dialogue and create public-private partnerships in New Zealand between the public and private sectors to work towards climate mitigation or adaptation projects, such as for example contributing to the ongoing research on ways to reduce methane emissions in the New Zealand beef and dairy sector, and land maintenance practices.[147]
- Additional output growth (in the ambitious scenario) in the New Zealand beef and sheep meat sector will also lead to increased eutrophication, impacting water quality and aquatic biodiversity negatively. The EU and New Zealand should exchange best practices that resulted from the National Policy Statement for Freshwater Management 2014 (New Zealand) and the Water Framework Directive since 2000 (EU), sharing what works, what does not work and have technical experts contribute to the debate.
- We recommend that the Parties agree to New Zealand removing the pre-investment screening mechanism for EU investments or at least increase the threshold for the application of the mechanism. This would improve the competitive position of EU investors and benefit the New Zealand economy and lead to more economic growth.

4.2. Dairy

4.2.1. Current situation

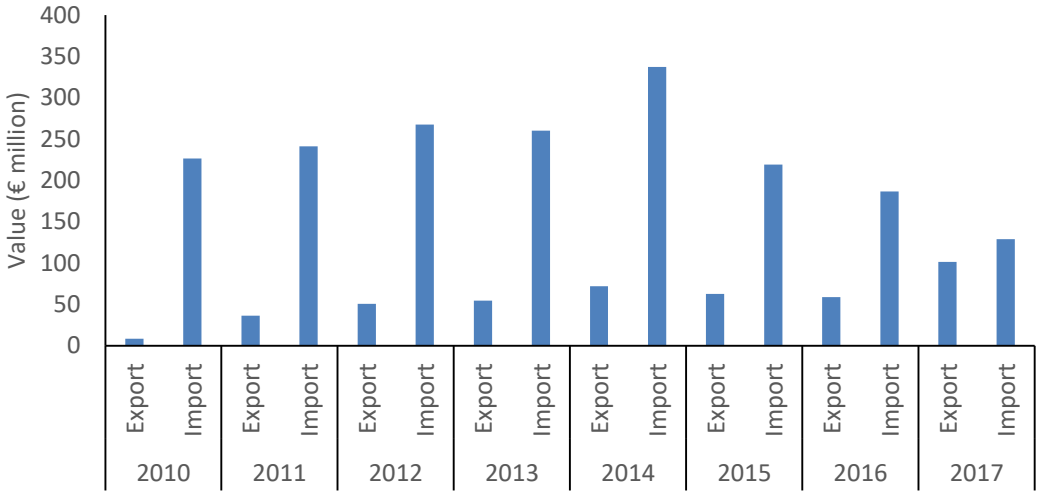
Economic aspects

Trade in dairy products is important for both the EU and New Zealand. The EU has shown a steady rise in its exports of dairy products to New Zealand though imports from New Zealand have been higher each year from 2010 – 2017. The level of the dairy trade deficit for the EU with New Zealand has, however, declined over time (see Figure 4.5). The EU's bilateral exports of dairy to New Zealand increased more than ten-fold from €8.5 million in 2010 to €101.5 million in 2017. In contrast, EU imports of dairy from New Zealand have nearly halved from a value of €226 million in 2010 (with a peak of €340 million in 2014) to €129 million in 2017. The share of bilateral trade of this sector in the EU's total bilateral trade with New Zealand was over 10 percent in 2014 but declined to 5.5 percent in 2017. In contrast, the share of bilateral trade in the sector in the EU's total trade with the world has been stable around 1 percent over the 2010-2017 period.

Total EU dairy production is 57.3 million tons (EDA, 2017) while for New Zealand total production is 21.5 million tons (USDA, 2017). This means that EU-NZ total trade (exports plus imports) amounts to 24.9 percent of total EU production. For New Zealand this figure is 9.3 percent of its production. In the EU28 (with a population of 511.522 million) the sector accounts for 300,000 employees, while in New Zealand (with 4.6 million residents), 46,000 persons are employed in the dairy sector.

[147] See Mayberry et al. (2019) for more examples

Figure 4.5: EU-New Zealand trade in dairy products



Source: UNComtrade; own calculations

Just these few examples show the interest and the need for market access predictability. Despite their structural and strategic differences, EU and New Zealand dairy market participants thus seek a level-playing field by way of trade and mutual recognition agreements – not least through transparent and science-based joint committee procedures, and their conformity assessment bodies. The tariff and NTM commitments recently entered into by New Zealand and the EU, the WTO SPS and TBT rules applying to both, and the EU-NZ *Veterinary Agreement* will be most useful cornerstones for a deep and ambitious FTA accompanying this dynamic industrial sector. "Closing the triangle" would be the *Memorandum of Understanding on dairy products between the Australian and New Zealand Dairy Industries* concluded under ANZCERTA, dated 28 March 1983 (Australian Treaty Series 1983 No. 2).

Box 4.2 The dynamism of New Zealand's dairy industry[148]

For most dairy products, FAO/AMIS data show very strongly (and presently very low) fluctuating prices on most markets. The cyclical and structural factors underlying these fluctuations cannot be discussed here. What matters for the FTA negotiations are the rapidly evolving investment and trade patterns not only in East Asia, and the regulatory context coming as a response to changing consumer demand, trade flows, import market conditions and – not least – to food scandals.

For New Zealand, the Chinese dairy market is now the most important export outlet. The dairy production, processing and export cooperative, Fonterra, invests and disinvests also in Australia, Europe, in Northern America, in the Middle East and in Brazil. In China it has two vertically integrated "farming hubs" and Joint Ventures with local or multinational companies (Nestlé). Even so, competitors in the USA and in Europe have a much bigger home market from which to grow with their exports or their own direct investment abroad. For instance, Oatly (Sweden), and both Lactalis and Danone (France) have started producing in China or plan to do so in the near future.

New products specifically directed at Chinese and other consumers keep being developed, such as highly concentrated whey protein concentrate (WPC), whey protein isolate (WPI), milk whey protein, or soy-based follow-on formula or low protein content in complementary children food. Dairy-derived animal feed is also of capital importance for the global lactose market, particularly in China, which is presently affected by African Swine Fever.

Besides the evolving sanitary standards and requirements, health claims, labelling, and ethical marketing practices, are other issues under consideration for new regulations. The Ministry of Primary Industries (MPI) is reviewing the New Zealand Dairy Restructuring Act (DIRA) in order to keep pace with international competition, despite the virtual monopoly of Fonterra. In 2019 MPI also launched public opinion surveys for producers and consumers of raw milk – a long-time virtually closed sector in both Australia and New Zealand also for local and imported cheese. The *Australia New Zealand*

[148] Jim Cornall, Pearly Neo, Beth Newhart, and Cheryl Tay, all in Dairy Reporter.com dated, respectively, 21 March, and 1, 14, 23 and 29 May 2019.

Closer Economic Relations Trade Agreement (ANZCERTA) is the treaty base for the regulatory development of the Single Market between these two countries applying also in the dairy sector.

Trade policy measures

Together with Australia, New Zealand continuously negotiates trade agreements to develop and secure its meat and dairy exports. In 2018, New Zealand was party to 16 FTAs, and to two large RTAs not yet in force (the CPTPP and the NZ-Gulf Cooperation Council FTA). Beside the ongoing negotiation with the EU, and enlargement negotiations under the ASEAN and China FTAs, it was also engaged in negotiations for 4 new FTAs with 7 countries.

Some of these agreements ensure tariff-free access to New Zealand's dairy exports. Moreover, especially the SPS provisions in the CPTPP allow for virtually unhindered circulation of animal products and a speedy resolution of standard differences.

In 2017, the average applied tariff rate on dairy products in the EU on New Zealand's exports was 54.6 percent. This is higher than the 41.5 percent the EU levies on imports from the rest of the world. In contrast, New Zealand has an applied tariff rate of 2 percent on dairy imports from the EU. Tariffs between 3 percent and 5 percent are applied on milk and cream and several processed milk products such as yoghurt, buttermilk, but also whey and milk powder products. A 7.7 percent tariff is applied on a range of cheese products, while other processed milk products imports face ad valorem zero tariffs.

As concerns EU tariffs and quotas, New Zealand benefits from a large number of Tariff-Rate Quotas (TRQs), which the EU opens for all supplier countries ("erga omnes") or to New Zealand only (either "traditional suppliers" or "new suppliers"). According to the WTO tariffs database, the EU grants a number of TRQs erga omnes (i.e. to all WTO Members).[149] Preferential import quota allocations for the year 2017 are for eight TRQs erga omnes, totalling 83,241 tons, while four large TRQs are reserved for New Zealand (for cheeses and butter), totalling 85,693 tons.[150] The last EU notification to the WTO shows fill rates of almost 100 percent under its four erga omnes quotas for butter and cheese. This is also reflected by Eurostat data, according to which New Zealand seems to make relatively good use of erga omnes quotas. The administration of these TRQs on an annual basis and in response to supplier requests is handled by New Zealand, allowing its own operators to keep the "quota rent". In 2000, Bureau and Tangermann had described the EU system of non-ad valorem tariffs for almost all raw and processed milk products (30 HS6 product lines in total) as "complex", but overall "relatively satisfactory, compared with those of other countries."[151] According to Eurostat data, New Zealand seems to make relatively good use of those quotas which are available to all producers.[152] In 2004, Meat and Strutt argued that the WTO-established TRQ system leaves serious trade impediments in place, including for New Zealand's meat and dairy industry. Overall, however, New Zealand consistently underfills by about one third the TRQs to which it is eligible. The analysis by different sources does not seem to answer the question whether this underfill might be

[149] (i) [12.9 EUR/100 kg] [13.8 EUR/100 kg] for "Milk and cream of a fat content by weight of <= 1%, not concentrated nor containing added sugar or other sweetening matter"; (ii) [1.81 EUR/kg/lactic matter + 19.4 EUR/100 kg] [1.08 EUR/kg/lactic matter + 18.5 EUR/100 kg] [1.08 EUR/kg/lactic matter + 19.4 EUR/100 kg] [57.2 EUR/100 kg] [1.81 EUR/kg/lactic matter + 18.5 EUR/100 kg] for "Milk and cream, concentrated and sweetened (excl. in solid forms)"; (iii) [8.3 % + 26.6 EUR/100 kg] [8.3 % + 12.4 EUR/100 kg] [8.3 % + 168.8 EUR/100 kg] [8.3 % + 130.4 EUR/100 kg] [8.3 % + 17.1 EUR/100 kg] [8.3 % + 95 EUR/100 kg] [0.54 EUR/kg/lactic matter + 21.1 EUR/100 kg] [0.2 EUR/kg/lactic matter + 21.1 EUR/100 kg] [0.17 EUR/kg/lactic matter + 21.1 EUR/100 kg] [59.2 EUR/100 kg] [24.4 EUR/100 kg] [20.5 EUR/100 for "Yogurt, whether or not flavoured or containing added sugar or other sweetening matter, fruits, nuts or cocoa".

[150] (i) whole cheddar cheeses (ii) cheese for processing (iii)/(iv) butter, for new and for traditional exporters. Source: Milk Market Observatory (TRA.EU.Pref), EU Preferential Import Quotas. Accessible at https://ec.europa.eu/agriculture/sites/agriculture/files/market-observatory/milk/pdf/preferential-importquotas_en.pdf.

[151] Jean-Christophe Bureau and Stefan Tangermann, Tariff Rate Quotas in the EU. Agricultural and Resource Economics Review 29/1 (April 2000) 7, p.80.

[152] For EU preferential TRQs globally and their use by NZ see the continuously updated website at https://ec.europa.eu/agriculture/sites/agriculture/files/market-observatory/milk/pdf/preferential-importquotas_en.pdf.

due to the EU quota system negatively impacting on New Zealand dairy exports to Europe, or to still increasing exports to other, possibly less lucrative markets in Asia.

According to ABCIS, in 2016 New Zealand was the world's biggest dairy exporter. As noted by European Dairy Association (EDA), while the top ten EU dairy processors collect 36 percent of all milk produced in the EU, New Zealand's biggest dairy producer, Fonterra, processes 95 percent of all milk produced in New Zealand. This near-monopoly market power – under review in the Doha Round negotiations – has turned New Zealand into China's first supplier of butter and other products.[153]

In respect of NTMs and agreements, the *EU–NZ Veterinary Agreement* agreed in 1996 and substantially updated in 2015 remains the cornerstone for ensuring a relatively smooth EU-NZ dairy trade – even though New Zealand's commitments under the CPTPP are in some respects more trade-conducive ("WTO Plus"). The WTO provisions in respect of *Mutual Recognition Agreements* (MRA) aim at more standard equivalence between the whole membership, including as a collateral benefit of regional integration agreements. As for the rights of third countries to "equivalent" NTM access under a FTA, this is more difficult under SPS-related than under TBT measures where WTO foresees at least a right to consult. Nonetheless, the "longstanding and close relationship, cemented in the recently concluded Partnership Agreement on Relations and Cooperation" (New Zealand Ministry of Foreign Affairs and Trade, Press Release dated 22 September 2016) is a good starting point for further deepening of trade cooperation including in the matter of NTMs. Similarly, the EU's "Asian" agreements with Korea, Singapore, Viet Nam, as well as with Canada, demonstrate the extent of the EU's outreach and of its capacity to conclude trade agreements also with different trade regimes.

Investment barriers
As far as dairy, in particular milk production is concerned in New Zealand, EU investments significantly lack behind those from China, Japan and US, countries with who New Zealand already has FTAs.[154]

To the extent that land acquisition is required for the production and processing of dairy products, the same applies as in the case of ruminant meat: the investment screening threshold, in particular the OIO is difficult – as it affects the easy with which foreign investors can invest in non-urban land in New Zealand, needed for dairy production. In particular, non-urban properties over five hectares, which have previously been purchased by overseas persons through satisfying the non-economic benefit criteria in Act, are now excluded from being purchased by overseas persons unless they meet strict additional criteria. In addition, if immigration rules in New Zealand for the investor visa programme are sharpened, longer-term permanent residency is discouraged and associated – highly-productive – capital may no longer come in.

In this context, it should be noted that there has been a general decline in the number of approved foreign investment applications in the agri-business over the period 2014 to 2018.[155] The drop in the number of approvals by the OIO suggests that the New Zealand market is not as attractive to foreign investors as it once was.

[153] Sources: (i) EDA Trade Focus, Dairy Trade and New Zealand (July 2016) (ii) The New Zealand Herald, 28 August 2015.

[154] See Dairy report, Who benefits from China's massive investments in Kiwi dairy, 12 September 2018, https://www.dairyreporter.com/Article/2018/09/12/Who-benefits-from-China-s-massive-investment-in-Kiwi-dairy; KMPG report, Overseas investments in New Zealand Dairy Land, October 2015 https://home.kpmg/content/dam/kpmg/pdf/2015/10/KPMG-Overseas-Investment-NZ-Dairy-Land.pdf; KPMG report, FDI in New Zealand: Trend and Insights, August 2015, https://assets.kpmg/content/dam/kpmg/pdf/2015/08/KPMG-Foreign-Direct-Investment-analysis-August-2015.pdf; KMPG report, FDI in New Zealand: Trends and Insights into OIO decision summary (2013-2015), https://assets.kpmg/content/dam/kpmg/nz/pdf/November/KPMG-FDI-Thought-Leadership-Web.pdf

[155] KMPG report, Foreign Direct Investment Report 2016-2018, https://home.kpmg/nz/en/home/insights/2019/04/foreign-direct-investment-report-16-18.html

Social aspects

With respect to the social current situation, in 2016, the **European Union** dairy sector employed 300,000 people working at 12,000 milk processing and production sites (without considering enterprises cooperating along the supply chains). In addition, there were around 740,000 dairy farms.[156] 45,000 jobs were directly linked to exports (European Dairy Association 2016, 2017). In 2016, dairy farms provided higher income than an average farm in the EU and with €20,506 ranked 4th among farm types securing the highest incomes, after horticulture, wine and granivores (it is to note that farm incomes increased between 2009 and 2014 to decline in 2015-2017). However, there were differences in average income levels between the EU Member States, depending on productivity, farm size, herd size and levels of milk production. Moreover, taking account of costs of labour and capital used on farms revealed that wages are not sufficient to balance the input of labour and capital invested by farmers in work. Subsidies and direct payments played an important role as income components (European Commission, 2018c).

New Zealand. In 2019, the dairy sector provides employment for 46,000 people, including 34,000 on-farm jobs (8380 out of these are farm owners or operators)[157] and 12,000 in processing and wholesaling (Dairy NZ, 2019). It also supports 9,284 jobs in other sectors, such as support services, rail transport, veterinary and other professional services, and others (NZIER, 2018). Between 2000 and 2017, the sector has recorded an average annual employment growth of 3.1 percent (compared to 1.8 percent for the whole economy). It has been important to many local economies in New Zealand. In three Districts (Wainmate, West Coast and Southland) it has been the top income generator. In Wainmate, Otorohanga and Southland, it provides over 20 percent of total employment to the local population and in further eight Districts between 10 and 20 percent. In the top 20 Districts, the annual employment growth in the dairy sector (since 2000) was between 6 and 19 percent. Wages in dairy sector rank high among sub-sectors in the agriculture (with the average annual wage of NZ$48,700 in 2017, were the highest in farming) and food processing (also the first rank with an annual average wage of NZ$74,900). The average female dairy processing wage at NZ$72,710 was the fifth highest compared to all other sectors in the economy. The gender wage gap in the dairy sector has been reducing over the last 15 years (from -41 percent to -35 percent in dairy farming and from -33 percent to -20 percent in dairy processing). Dairy sector plays also an important role for Māori employment and economy. Māori own 10 percent of all assets in the sector (NZIER, 2017 and 2018).

Around 2,000 migrant workers are employed in the dairy industry.[158] In 2018, the dairy sector welcomed the Government's intention to review the immigration policy and rules related to temporary work visas to provide more certainty for migrant workers and farmers and to help attract skilled migrant workers to regions where New Zealand's workers with the right skills set are not available.[159] As indicated in the general part of the analysis and Annex III.2, there were reported cases related to exploitation of migrant workers in the dairy sector, including severe underpayment for delivered work. On the other hand, however, there is an increasing awareness about those cases, new investigations, and an increasing number and variety of mechanisms used by the Government, enforcement agencies and employers and trade unions to prevent such cases and to address them when they happen.

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156 Given considerable differences between EU Member States regarding size of dairy farms and cattle herds, the studies provide separate data for farms in the 15 "old Member States", having on average 55 cows in a herd and farms in the 13 "new Member States" having on average nine cows. Source: European Parliament (2018), The EU dairy sector. The main features, challenges and prospects: http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/630345/EPRS_BRI(2018)630345_EN.pdf

157 An average size of a herd on a farm in New Zealand to handle by farm workers is of 431 cows.

158 Stuff: Migrant workers the backbone of the dairy industry, doing the work Kiwis won't (of 17 March 2019): https://www.stuff.co.nz/business/farming/110862196/migrants-workers-are-the-backbone-of-the-dairy-industry-outstrip-kiwis-in-qualifications-and-work-ethic [accessed on 15 May 2019]

159 NZ Herald: Farmers, growers welcome immigration proposals (of 18 December 2018): https://www.nzherald.co.nz/the-country/news/article.cfm?c_id=16&objectid=12178976 [accessed on 15 May 2019]

Dairy sector representatives (Dairy NZ and Federated Farmers) have developed a Workplace Action Plan which assists dairy farming businesses to adopt good workplace management practices. While all farmers and processing industry are expected to comply with the labour legislation, they came to the conclusion that favourable workplace environment which goes beyond legislative requirements, can help to attract and retain the best workers. It rests on five pillars: 1) balanced and productive work time; 2) fair remuneration; 3) wellness, wellbeing health and safety; 4) effective team culture and 5) rewarding careers.[160]

According to a survey carried out in 2017 among 3,000 workers and 2,000 employers from six sectors, incl. agriculture, the latter had the lowest scores in training rate on health and safety at work provided to workers (28 percent compared to 51 percent of average across sectors) and in perceiving safety among the top priorities (Work Safe NZ, 2017). The number of fatal accidents at work in the whole New Zealand's economy has been relatively stable between 2011-April 2019 with a total number of 29-34 accidents a year (with two peaks in 2012 and 2013 marking 37 and 40 accidents respectively). The highest number has been recorded in agriculture (14-28 accidents annually with no clear trend), followed by construction (2-9) and forestry (1-10) (Work Safe NZ, 2019). Concerning non-fatal accidents, the highest number occurs in the construction sector, followed by manufacturing and transport, with lower numbers in agriculture and mining (Work Safe NZ, 2019a). However, the total rate of claims related to injuries at work has been decreasing from 154 (per 1,000 Full-Time Equivalent worker) in 2002 to 101 in 2017 for the whole economy. In agriculture, after an increase, from 197 in 2009 to 213 in 2013, a decline has been observed to 186 in 2017 (Stats NZ, 2017b).

In 2016, the lowest sectoral rate of trade union membership (around 3 percent) was in agriculture, forestry and fishing (Stats NZ, 2016). The overall number of trade union members decreased by more than half since 1985, with the largest loss (-93.6 percent) recorded in agriculture, forestry and fishing. This was largely due to legislative changes: adoption of the Labour Relations Act 1987, which required unions to have a minimum of 1,000 members (compared to 30 members previously), and the Employment Contracts Act 1991, which abolished the special legal status and representation rights of unions, along with the institutional arrangements which facilitated collective bargaining. Other factors included e.g. rise in short-term and casual jobs (Parliament of New Zealand, 2000).

Human rights aspects

Both the EU and New Zealand have frameworks in place to enshrine protection of the different human rights. This is explained in detail in section 3.5. The EU has, for example, the Charter of Fundamental rights that recognises explicitly the right to work under its Article 15, while New Zealand recognises and protects human rights under two main legal acts: the New Zealand Bill of Rights 1990 and the New Zealand Human Rights Act 1993. Next to that, New Zealand has an institutional framework in place to promote and monitor protection of human rights.

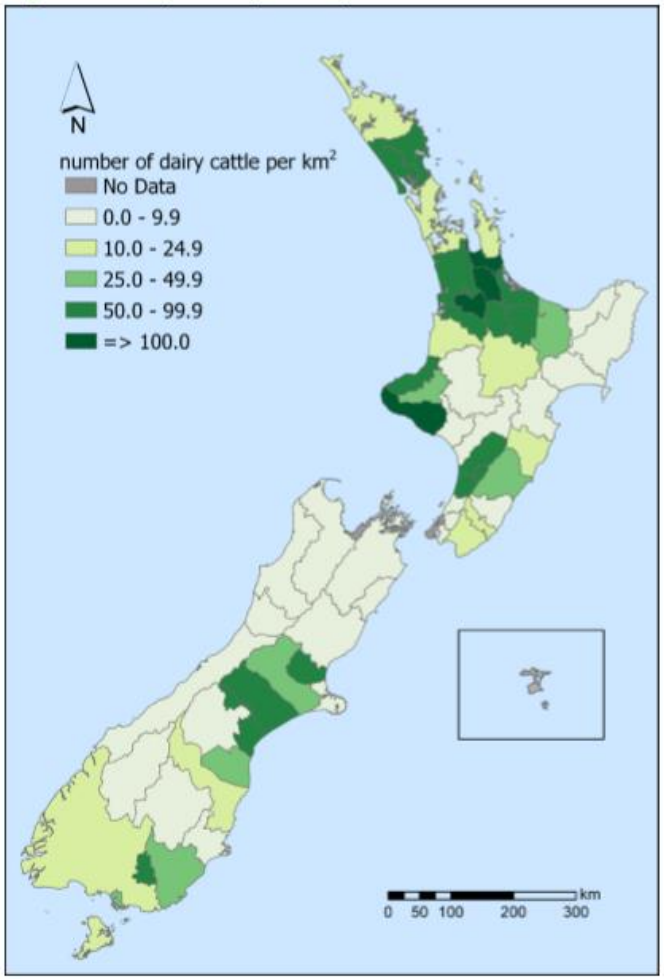
The dairy sector is an important sector for the New Zealand economy, though relatively not as important as ruminant meat (analysed in section 4.1), with 46,000 jobs. Tariffs in the sector are still quite high and there is a range of NTMs that affect two-way trade between the EU and New Zealand (see overall description). The dairy sector is also rural in nature (see Figure 4.6). In the EU the dairy production is spread over 740,000 dairy farms with some concentrations in the EU in for example Ireland and The Netherlands. The FTA's expected economic impact on the sector is relatively significant, both in the EU and in New Zealand. Hence, it warrants analysing what the potential human rights effects for the sector could be, in particular the *right to work*, *right to health* – including the *right to food* – as well as the *right to a clean environment*.

[160] Dairy NZ: Workplace Action Plan: https://www.dairynz.co.nz/people/sustainable-dairying-workplace-action-plan/ [accessed on 16 May 2019]

Several characteristics of the dairy sector matter for the human rights analysis: the sector has a high share of SMEs, the sector employs with temporary contracts relatively larger shares of migrant workers and workers from vulnerable groups, and it is a sector that by nature of its activities is concentrated in rural areas. Because of these characteristics, the *right to work*, the *right to an adequate standard of living* and *working conditions* linked to the *ILO Core Labour Conventions* matter. Also, the impact of the EU-NZ FTA on *migrants and vulnerable groups (e.g. indigenous people's rights)* should be looked at in more detail. In this context it is important to note that New Zealand has not yet ratified ILO Core Labour Conventions 138 (Minimum Age Convention) and 169 (Indigenous and Tribal Peoples Convention). The focus here is not on New Zealand ratifying these Conventions or not, as this is a domestic policy matter, but whether not having ratified them, the potential effects of the EU-NZ FTA, especially in case of negative (sectoral) effects, could be less effectively mitigated or prompt less action from the government because it has not made these international commitments. In the EU, trade union leaders are focused on promoting and enhancing respect for *labour standards*, decent working conditions and health and safety at work, equal treatment of workers, (especially relevant for migrant and vulnerable workers), and they also watch closely accidents at work.

The *right to health* and *right to food* link to the dairy sector in two ways. First the regulatory systems to monitor and enforce the way milk is produced and meet high standards is different in the EU and New Zealand – insofar this affects the quality of food, the *right to health* and *right to food* could be impacted. The other aspect is the impact of the dairy sector on the environment (see also the environmental aspects described below showing the relative size of the environmental footprint of the dairy sector (in particular milk production but also transportation) and thus the *right to a clean environment* and the *right to water* because emissions and biodiversity impact could matter.

Figure 4.6: Density of dairy cattle by territorial authority in New Zealand (2012)



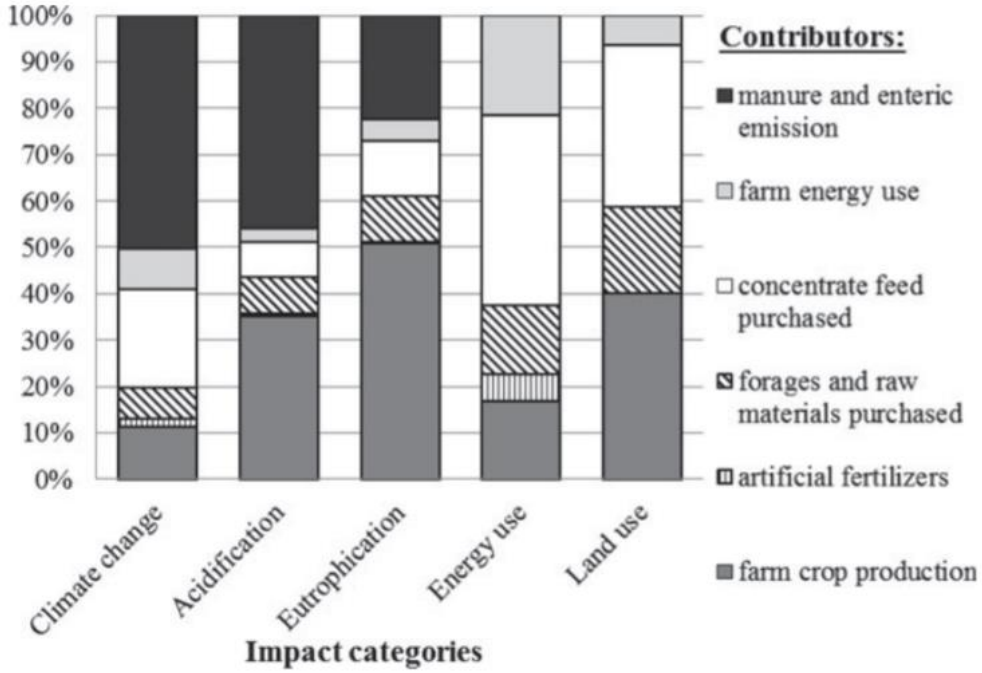
Source: EHINZ Factsheet (2017)

Environmental aspects

As shown in the sector study on ruminant meat (see section 4.1), GHG emissions from dairy production are about three times lower than GHG emissions from ruminant meat production per 100 grams proteins. Dairy production also has a much lower impact (a factor 6.5 lower) on land use per 100 grams proteins. Both are due to the fact the emissions of a cow due to enteric fermentation and the feed it uses over its lifetime are spread over a much larger amount of protein (form litres of milk and for some extent to meat when it reaches maturity) than for beef cattle that is slaughtered when it reaches maturity. However, the impact of dairy production on climate change and land use is still far above the average impact of food products. Figure 4.7 shows that manure and enteric emissions are indeed the largest contributors to climate change and acidification, whereas eutrophication (impacting water quality) is mainly triggered by the fertilizer use for farm crop production. In terms of air pollution, soil degradation and freshwater use, dairy production has the biggest environmental footprint of all food products shown in Table 4.1 per 100 grams proteins (Poore & Nemecek, 2019).

The pathways through which dairy production creates environmental impacts are very similar to those of ruminant meat production. In terms of GHG emissions, dairy cattle create large amounts of CH_4 emissions (much more than e.g. poultry). As far as for land use, increased land use for dairy farming can go at the costs of natural land and as such negatively affect biodiversity. Moreover, soil quality on land used for dairy farming will deteriorate as a result of increased nitrogen and phosphorus concentrations (e.g. eutrophication emissions). Since dairy cattle often cover a smaller area of land than meat cattle - dairy cattle are more often located in stables than meat cattle – the impact of increased dairy production on land use is lower than the impact of ruminant meat production.

Figure 4.7: Contribution of activities in dairy farming on the environment in Italy



Source: Guerci et al, 2013

However, the dairy sector in New Zealand is also characterised by increased intensification of farming, which is a source of competitiveness on an international market (Baskaran, Cullen and Colombo, 2009). The intensification of farming is found in international literature to be positive for the overall environmental impact of the sector in terms of acidification and eutrophication impact per kg of milk and it does not significantly affect climate change impact. However locally at the fewer but intensively farmed sites, the

pressures from acidification and eutrophication increase. Whether or not intensification is good or bad therefore depends on the locations (Guerci et al, 2013).

In recent years, dairy farming has increased much in size in New Zealand. From 1994 to 2017, the number of dairy cattle increased by 70 percent. As a result, the environmental issues related to dairy farming have also increased. For instance, land use for dairy farming has increased by 42 percent between 2002 and 2016 and the share of nitrate-nitrogen (leading to soil and water quality degradation) leaching from dairy farming increased from 39 percent in 1990 to 65 percent in 2017 (Ministry for the Environment, 2019). The government of New Zealand currently thinks that the limits of growth in the sector are being reached as the environmental impact cannot increase further[161].

4.2.2. Economic impact

For the EU, total output of dairy is estimated to increase by 0.1 percent under the conservative scenario and to fall by 0.1 percent under the ambitious one, compared to the baseline. For New Zealand, in contrast, the estimated percentage change in total dairy output is -0.8 percent and 0.5 percent, respectively, under the two scenarios. The explanation for these results lies in the scenario definitions. In the conservative scenario there is no trade liberalisation in the dairy sector, which means that the dairy sector in New Zealand will not be benefitting from the FTA – rather resources (e.g. investments, workers) are drawn away from that sector to other sectors that do benefit and grow. From an EU perspective, EU output is not challenged by the New Zealand dairy sector. In the ambitious scenario, market access for New Zealand dairy sector exports to a drop in production in the EU, a rise in production in New Zealand and large increases in trade.

Indeed, we find a significant increase in New Zealand's bilateral exports of dairy to the EU (133.3 percent) under the ambitious liberalisation scenario. Total dairy exports rise by only 0.9 percent, however, indicating the exports to the EU are shifting in from all other – current – dairy export markets for New Zealand (especially Australia where New Zealand dairy exports are expected to drop by 12.6 percent). The EU's bilateral exports of dairy to New Zealand rise by 27.2 percent and 29.4 percent under the two scenarios though its total exports of dairy decline (again due to trade diversion, in this case from the intra-EU mainly).

Table 4.4: Effects of the EU-NZ FTA on trade and output of the dairy sector

	Bilateral exports	Total exports	Output
New Zealand			
Conservative (%)	0.4	-1.0	-0.8
Ambitious (%)	133.3	0.9	0.5
European Union			
Conservative (%)	27.2	0.2	0.1
Ambitious (%)	29.4	-0.1	-0.1

Source: CGE results provided by DG Trade (2019)

The precise extent of the trade impact of TRQs (and possibly even more of their administration) is difficult to calculate for different liberalisation scenarios and a given FTA. A study by the European Commission on the cumulative trade impact of twelve envisaged FTAs, including with Australia and New Zealand, suggests a generally positive overall impact for EU farmers. Of course, the "Bali" commitment of WTO Members to review their TRQ administration practices with a view to liberalisation could remove some of the costly procedures involved even for TRQs handled by the exporting country, as is the case for New Zealand's quota rights under the EU's dairy TRQs. It goes without saying that an even bigger trade gain would result under an ambitious scenario whereby the EU would return to a single tariff border protection by abolishing the TRQ for countries like New Zealand.

Under a conservative scenario, the removal of additional NTM and/or a deepening of the bilateral Veterinary Agreement would be more difficult than under an ambitious scenario

[161] https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11846305

with basically all NTBs "on the table". This also depends on the readiness of New Zealand to introduce its recent "WTO Plus" commitments in respect of its own substantial and procedural NTBs into the FTA with the EU, namely those entered into under the CPTPP.

In terms of investments, raising the investment screening ceiling will facilitate EU investments into New Zealand. This has a relative competitiveness improving effect for EU investors vis-à-vis CPTPP investors in the sector who already have access, while it also leads to more potential growth and development.

4.2.3. Social impact

In the EU, employment effects in the sector are expected to be limited and in line with the estimated changes in output, i.e. an employment increase by 0.1 percent for both skilled and unskilled workers under the conservative scenario and a job reduction by 0.1 percent for both groups of workers under the ambitious one, which may be related to the increase in New Zealand's exports to the EU (by 133.1 percent under the ambitious scenario).

For New Zealand, the economic modelling suggests a decline in employment by 0.8 percent for both groups of workers under the conservative scenario, and employment increase by 0.5 for unskilled workers and 0.6 for skilled ones under the ambitious scenario. This is in line with the estimated changes in sectoral output under both scenarios.[162] However, it is to highlight that until 2015, employment in the dairy sector in New Zealand was growing continuously (3.7 percent annually on average). If such a trend was observed in the next few years, the results of the economic modelling would mean a slower job growth in the sector instead of a net job reduction. On the other hand, in case of a declining employment (as in 2016-2017) in the sector in general, the modelled job reduction would add to the observed trend deepening the job loss.

Impacts related to changes in wage and price levels have been discussed in the general part of the social analysis (given that economic modelling provides the former only at an aggregated level, i.e. for the whole economy). However, as noted above, wages in the dairy sector in New Zealand have been relatively high (compared to other sub-sectors in agriculture) and growing, hence, the increase predicted by economic modelling would add to that favourable trend.

Given limited employment effects of the EU-NZ FTA in the dairy sector, it is rather unlikely that the agreement will bring about noticeable changes in job quality indicators or respect for rights at work (moreover, there doesn't seem to be any correlation between changes in employment levels and the number of accidents at work in agriculture). These will rather be influenced by domestic factors, such as the new Health and Safety at Work Strategy 2018-2028 or sectoral initiatives, such as Workplace Action Plan, as well as awareness raising among workers and employers. However, if agreed in negotiations, provisions on health and safety at work under the TSD chapter may draw the Parties' attention to this area and encourage their own actions, as well as bilateral cooperation and dialogue.

The EU-NZ FTA should not have any major impact on the situation of migrant workers in the dairy sector (this will rather be influenced by the immigration and visa policy). However, given the predicted increase in output and exports under the ambitious scenario, the EU-NZ FTA may create additional demand for skilled migrant workers given the ageing New Zealand's workforce and skills shortages among New Zealanders in sector-related areas. One cannot exclude in this context that cases of migrant workers' exploitation will continue to happen, however, one cannot say either that there will be a direct link between the number of new jobs created by the EU-NZ FTA (part of which may be taken by migrant workers) and the number of cases of workers' exploitation or violation of different workers' rights.

[162] The caveats made in section 4.1.3 on the simulated employment effects apply.

4.2.4. Human rights impact

The trade measures that affect the dairy sector potentially are tariff liberalisation (including changes in TRQs) as well as regulatory alignment (i.e. reductions in NTMs). These trade measures will have the effect of enhancing further the competitiveness of sectors that already are competitive – allowing them to benefit from increased market access. This economic impact is why also human rights effects are expected to occur though they are not expected to be very large, given the characteristics of the dairy industry (see section 4.2.1 on relevant human rights aspects), and given the human rights frameworks in place in the EU and New Zealand. When we look at the *right to work* and the *right to an adequate standard of living* for dairy producers in the EU and New Zealand, we expect positive effects on the *right to work* for New Zealand in the ambitious scenario. This could also translate into positive effects on the *right to an adequate standard of living*. As shown in Figure 4.6, the positive effect on these rights is likely to be skewed towards the rural population in New Zealand, positively impacting the relatively poorer areas in New Zealand. If the liberalisation towards the ambitious scenario is the result of the trade negotiations, it could come only over time, so if phased in, these effects could materialise only gradually. It could provide opportunities to also improve working conditions in the sector further, in particular with respect to temporary contracts. The potential TSD chapter of the EU-NZ FTA, including commitments to work towards ratification of the ILO Core Labour Conventions to uphold high labour standards, could have a positive effect on the quality of jobs and working conditions in the dairy sector by encouraging both parties "to promote the highest standards of labour, safety, environmental and consumer protection…".[163] For the EU dairy sector, the ambitious scenario only leads to a marginal reduction in dairy production, and no negative effect on dairy prices, nor in exports.

The impact of the EU-NZ FTA on the right to health in the dairy sector is considered to be minimal. The export growth of EU-NZ milk trade warrants an analysis regarding the quality of milk produced and the regulatory frameworks used to do so safely, but because both countries have very high sanitary standards to guarantee the product's quality – though different which leads to trade barriers – increased milk trade is not expected to have a negative impact on the right to health, especially because the EU and New Zealand already have a veterinary agreement in place.

Finally, the issue is whether the *right to a clean environment* is negatively affected by the EU-NZ FTA. The environmental footprint of the dairy industry is about three times lower than that of the ruminant meat sector and because the relative effect is smaller, the dairy sector impact on the right to a clean environment is much smaller than that of ruminant meat. However, in the ambitious scenario, New Zealand's production is expected to grow by 0.5 percent, which does lead to an increased negative environmental footprint and thus a negative effect on *right to a clean environment*. In addition, dairy trade is expected to increase, which increases GHG emissions from transport. And though this effect is small, the direction is negative.

4.2.5. Environmental impact

The environmental impact from dairy farming is significant. In particular, dairy farming contributes to climate change due to the emissions of methane (CH_4) from enteric fermentation and manure as well as from the emissions embedded in feed. Moreover, water quality is impacted through eutrophication from the run-off of urine and manure (containing nitrogen) and biodiversity can be impacted by land clearing for pasture farming. These impacts are potentially aggravated in New Zealand as a result of the FTA due to the predicted increase in output of up to 0.5 percent. In the ambitious scenario, the EU experiences a similar drop in output of -0.1 percent. In the conservative scenario the effect is reversed. Wherever the impact will occur, the environmental damage is similar. Whereas the environmental impact areas of the dairy sector are similar to the beef and sheep meat sector, their magnitude is smaller (with an approximate factor of three).

[163] Council of the European Union, Negotiating directives for a Free Trade Agreement with Australia, 7663/18 Add 1 DCL 1, 25 June 2018, p.17, available at: http://data.consilium.europa.eu/doc/document/ST-7663-2018-ADD-1-DCL-1/en/pdf

Combined with a less dramatic impact of the FTA compared to the beef and sheep meat sector, the environmental impact in the dairy sector is likely to be smaller than in the beef and sheep meat sector.

The effect on climate change in both the beef and sheep meat and dairy sectors through the emission of non-GHG emissions of methane and nitrous dioxide are in the overall environmental analysis predicted to increase by 0.509 and 0.133 Mton CO_2 eq. respectively per year from 2030 onwards in the ambitious scenario for the beef and sheep meats and dairy sectors jointly. This represents 1.5 percent of NZ total methane emissions in 2012 and 1 percent of total N_2O emissions. Since the majority of the growth is predicted to stem from the beef and sheep meat sector in New Zealand, the majority of the predicted impact will hold for this sector. As a result, the overall effect on climate change can be considered to be small, also because dairy farming is conducted more intensely than beef and sheep meat farming. Depending on the scenarios, this effect will occur in either New Zealand or the EU. Even though the location of the emissions might matter for both countries' national emissions accounting, the environmental impact of GHG emissions is global and thus the overall aggregate environmental impact most relevant. This impact is expected to be slightly negative due to the fact that the FTA will lower costs (by reducing tariffs and NTMs) and thus stimulate consumption and concomitantly production. The FTA will also lead to more trade flows between both countries, but the GHG emissions related to transportation are small compared to those created from the farming process itself.

Moreover, the predicted increase in dairy production in New Zealand (in the ambitious scenario) will also lead to increased pressure on water quality in New Zealand since the amount of nitrogen from urine and manure is expected to increase proportionally to the growth in the number of cattle in the ambitious scenario. Since dairy farming is conducted more intensely than beef and sheep meat farming, the overall level of eutrophication is likely to be lower, but the localised impact on water in certain places higher (where farming output will be expanded).

Lastly, the impact of the FTA on biodiversity from dairy farming is likely to be minimal due to the relatively minor increase in output due to the FTA and the intensive way of production of dairy.

4.2.6. SME analysis

The dairy sector in the EU is largely represented by SMEs. The EU dairy industry partners with around 700,000 dairy farms, all of which work closely along their supply chains. According to the European Dairy Association (2017), more than 80 percent of active dairy companies are SMEs. Additionally, SMEs in the manufacturing of food products sector, which includes dairy, account for 64.6 percent of the employment, whereas large companies employ roughly 35.4 percent (Eurostat, 2010). Value-added generated by SMEs in food manufacturing amounts to 52.1 percent, compared to 47.9 percent by large companies. Five out of the ten world's largest dairy companies are European: Lactalis, Danone, FrieslandCampina, Arla Foods and Müller. More than 85 percent of dairy goods produced in the EU are consumed within the EU, but there is a large desire to increase the EU share in global exports (European Dairy Association, 2016).

The effects of the EU-NZ FTA are generally positive for EU SMEs. Currently, EU dairy exports are rather limited as EU production costs tend to be higher, and welfare regulations, livestock management standards and SPS regulations are strict. Based on the conducted calculations, the EU dairy sector is expected to increase its exports and output under the conservative scenario (see Table 4.4 above). Thus, based on the sector structure, the high presence of SMEs and the reduction of trade barriers and regulatory requirements under the EU-NZ FTA, one is able to predict that SMEs will benefit directly through exporting more dairy under the FTA through a reduction in market access barriers and simplified customs procedures. However, as these barriers and extra costs are relatively larger for SMEs compared to large companies due to lower scale and as the dairy sector is comprised of only a few major exporters, SMEs are primarily expected to face modest value chain benefits through dairy output increases under the conservative

scenario (see Table 4.4 above). In light of higher exports and a higher level of participation in the international market place for dairy products, higher turnover and growth is to be expected if SMEs are fully taking advantage of the FTA and utilise its required understanding and implementation of rules, provisions and preferences, and through supporting and supplying the larger exporting companies. In regard to employment, the dairy sector will have a modest increase in skilled and unskilled workers under the conservative scenario (see Table 3.15). As SMEs employ the majority of people in the sector an increase in their employment is expected – this was to be expected as the overall output in the sector increases as well.

In New Zealand the importance of SMEs in the dairy sector is also high. Overall, the country's primary industry is primarily run by SMEs. The dairy sector is a highly vertically integrated global supplier industry with only a few large players. These large companies are also the main exporters of dairy products within the sector. New Zealand has three dairy companies which are co-operatives: Fonterra, Tutua and Westland. Fonterra is the largest one and is owned by more than 10,500 small to medium sized dairy farmers. There are seven further companies exporting dairy products: Goldman Fielder, Open Country, Synlait, Miraka, Yashili, Danone and Oceania Dairy (Beef + Lamb New Zealand, 2018).

The effects of the EU-NZ FTA also look quite positive for New Zealand's SMEs active in the dairy sector. Regarding exports to the EU, the EU currently has imposed relatively low quotas and tariffs on New Zealand dairy products such as cheese (e.g. cheddar and cheese for processing). These regulations are generally more difficult to fulfil by SMEs compared to large enterprises. That said, the obligation to meet various testing, certification and documentation procedures, and SPS requirements implicitly puts potential SME exporters with their in general lower sales volumes at a comparative disadvantage due to the higher impact of the related costs per unit. The calculations, however, project increases in exports and a slight decrease in output under the scenarios (see Table 4.4 above). Based on the higher prevalence of SMEs and their high value-added, one is able to predict that New Zealand SMEs will benefit from the FTA through exporting more dairy under even more facilitated and simplified market access barriers, customs procedures, welfare regulations, livestock management standards and SPS regulations. Additionally, in the occurrence of export increases in the sector and with the presence of several large-scale exporters, active SMEs farmers, suppliers and exporters will benefit indirectly and primarily through value chain benefits. Overall, in light of higher exports and a higher level of participation in the international market place for dairy, higher turnover and growth is to be expected if SMEs are fully taking advantage of the FTA and utilise its required understanding and implementation of rules, provisions and preferences. New Zealand dairy SMEs will also face slight decreases in terms of employment of skilled and unskilled workers under the conservative scenario (see Table 3.15). As SMEs employ the majority of people in the dairy sector a decrease in the industry's output under the conservative scenario will result in a reduction in employment, requiring SMEs to effectively manage and oversee their resources to fully benefit from the utilisation of the FTA for direct exports and the provision of supplies to the larger exporting firms.

4.2.7. Third country impact

Table 4.5 shows the main third country effects for the dairy sector. The effects for Turkey and EU FTA partners are positive but only marginally so (total exports are expected to increase by 0.2 to 0.3 percent). For the Pacific countries the effects of the EU-NZ FTA are negligible (total exports decrease by 0.1 percent). Interestingly, both the EU and New Zealand dairy exports to the Pacific decrease under the scenarios, except under the ambitious scenario where, through larger market opening, the EU exports to New Zealand increase by 0.7 percent – as a consequence the exports from New Zealand decrease by 2.4 percent. The results for some of the main competitors for the EU and New Zealand are negligible. Production (except for South Korea under the conservative scenario) and the prices remain unchanged for Korea, Canada, Chin and the US. Similar to the ruminant meat sector, the EU dairy exports reduce for the majority of specified countries and regions. New Zealand's dairy exports in both the conservative and the ambitious scenarios decrease for all the specified third countries and regions. This effect can be explained by

trade diversion to the bilateral EU-New Zealand trade relation resulting from ambitious market opening, away from third countries. Finally, we find that the EU-NZ FTA in dairy does not affect poorer nations in the world (LDCs) negatively. Overall LDC exports increase by 0.3 percent and dairy imports from New Zealand (under the ambitious scenario) are expected to decrease by 3 percent while EU exports to LDCs are expected to go up. Output in LDCs slightly increases by 0.1 percent after the introduction of the FTA.

4.2.8. Competitiveness analysis

Economic theory suggests that market integration from an FTA is likely to lead to defragmentation and pro-competitive effects with a fall in mark-ups and subsequent industrial restructuring resulting in bigger, fewer, more efficient firms facing more effective competition from each other.

The SME analysis undertaken above suggests that this sector is dominated by SMEs in both the EU and New Zealand. While the dairy market is moderately concentrated in the EU, with a Herfindahl-Hirschman Index (HHI) of 2,230[164], it is amongst the least competitive sectors in the case of New Zealand (with a profit elasticity, PE, weighted by gross value added, GVA, of -1.42[165] over 2000-2010).

The relative absence of competition and large SME representation suggest that the EU-NZ FTA is likely to yield pro-competitive effects, leading to a fall in mark-ups and industrial restructuring especially in the ambitious scenario that entails more meaningful liberalisation of this sector via removal of TRQs. This could result in more efficient firms in this sector in both partner markets facing more effective competition from each other.

Table 4.5 Third country effects of the EU-NZ FTA, dairy sector

Variable (% change)	Turkey	EU FTA partners	Pacific	LDCs	ASEAN TPP	South Korea	Canada	China	USA
Output – Amb	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0
Output - Cons	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
Prices – Amb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prices – Cons	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
EU exports to country – Amb	0.1	-0.2	**0.7**	0.1	**-0.7**	-0.3	-0.1	0.3	-0.1
EU exports to country – Cons	-0.1	-0.2	-0.1	-0.1	-0.3	-0.6	-0.1	-0.1	-0.2
NZ exports to country – Amb	**-3.0**	**-3.3**	**-2.4**	**-3.0**	**-2.8**	**-3.3**	**-3.2**	**-2.8**	**-3.2**
NZ exports to country – Cons	-0.6	**-0.7**	-0.6	-0.6	**-0.7**	-1.1	-0.5	-0.6	**-0.7**
Country total exports - Amb	0.2	0.3	-0.1	0.3	0.3	**-0.4**	-0.2	-0.1	0.1

Source: CGE results provided by DG Trade (2019)

4.2.9. Policy recommendations and flanking measures

- We recommend that the Parties agree to New Zealand removing the pre-investment screening mechanism for EU investments or at least increase the threshold for the application of the mechanism. This would improve the competitive position of EU investors and benefit the New Zealand economy and lead to more economic growth.
- The Parties should use the opportunity which may be provided by TSD provisions, notably on health and safety at work, to strive towards high levels of labour protection and to pursue dialogue and exchange of good practice, based on experience of individual EU Member States, the EU as a whole and New Zealand in provision of training and raising awareness among workers and employers. If applied, these may help to reduce the number of accidents at work in agriculture, including in the dairy sector.

[164] http://bruegel.org/wp-content/uploads/imported/publications/WP_2014_07__01.pdf

[165] https://www.mbie.govt.nz/assets/f8aae60a4e/competition-in-new-zealand-industries.pdf; note that a more negative PE score denotes more intense competition.

- In case the conservative scenario is followed, New Zealand should monitor employment trends in the dairy sector, in particular if the recent decline continues, in conjunction with potential effects of the EU-NZ FTA. While the expected negative changes under the conservative scenario are limited in general, they may have some impact locally.
- Based on results of the economic modelling with predicted employment growth under the ambitious scenario in the dairy sector in New Zealand, it seems likely that at least part of additional jobs may be filled in by seasonal workers (e.g. short-term migrants). In this context, it will be important for New Zealand's employers to ensure that working conditions for this group of workers are decent and meet the established standards. Labour inspection will need to ensure that cases of migrant workers' exploitation documented in some studies are prevented and, when they happen, are investigated and addressed. While observance of laws regarding working conditions will be the employers' obligation, labour inspection and Immigration NZ (supported by information from workers, trade unions, NGOs and others) should identify and address cases of workers' rights violations. Moreover, measures helping to prevent exploitation of workers, such as information for migrant workers about their rights and banning employers exploiting migrants from employing them in the future should be continued. The Government should also consider granting migrant workers the same or similar protections as enjoyed by other workers in New Zealand, as well as ratification of the 2014 Protocol to the Forced Labour Convention No. 29.
- The impact of the dairy sector on climate change is significant. To the extent that the FTA will create *additional* demand, also *additional* GHG emissions will be created. In the case of the ambitious scenario, the EU will 'outsource' the emission creation to New Zealand by importing more dairy products and producing less in the EU (and vice versa in the conservative scenario). The EU and New Zealand – depending on the final FTA scenario – should set up a public-private partnership between governments and dairy sector (and beef and sheep meat sector) to mitigate the extent of these extra emissions by working on climate mitigation and adaptation projects in New Zealand, such as for example contributing to the ongoing research on ways to reduce methane emissions in the New Zealand beef and dairy sector, and other measures suggested to reduce emissions (aiming for these sectors to become climate change neutral).
- Additional output growth (in the ambitious scenario) in the New Zealand dairy sector will also lead to increased eutrophication, impacting water quality and aquatic biodiversity negatively. The EU and New Zealand should exchange best practices that resulted from the National Policy Statement for Freshwater Management 2014 (New Zealand) and the Water Framework Directive since 2000 (EU), sharing what works, what does not work and have technical experts contribute to the debate – in order to mitigate the impact of the projected growth of the sector on water quality.

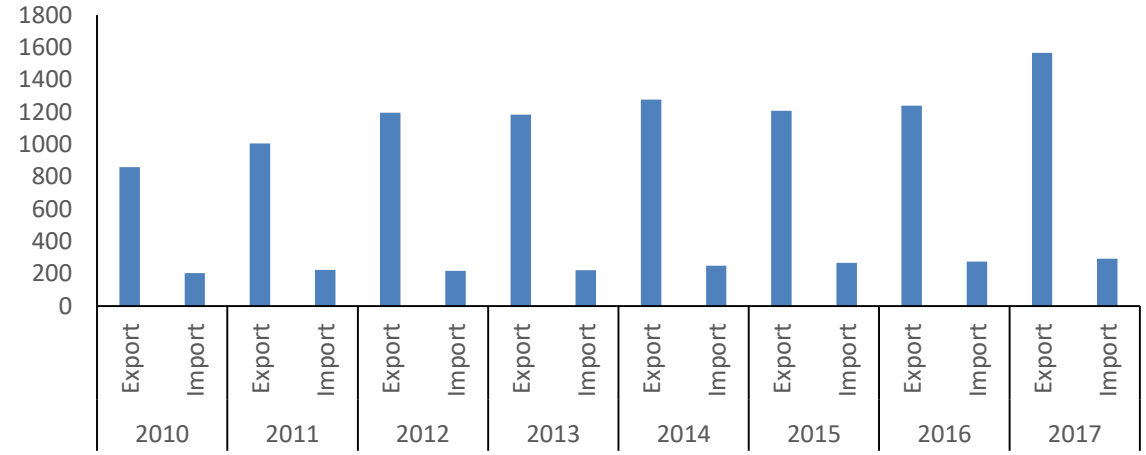
4.3. Machinery

4.3.1. Current situation

Economic aspects

Trade in machinery products plays an important role in EU-New Zealand trade relations. The EU has shown a steady and rising surplus in its trade of machinery with New Zealand over 2010-2017. In fact, its bilateral exports of machinery to New Zealand have nearly doubled from €860 million in 2010 to €1.6 billion in 2017, while imports increased from a value of €203 million in 2010 to €293 million in 2017 (see Figure 4.8). The share of bilateral trade of the machinery sector in the EU's total bilateral trade with New Zealand is high at just under 40 percent, though its share in EU total trade with the world is only around 0.2 percent.

Figure 4.8: EU-New Zealand trade in machinery



Source: UNComtrade; own calculations

Trade policy measures

In 2017, the average applied tariff rate on machinery in the EU on New Zealand's exports was 1.9 percent compared to 0.9 percent for exports from the world. Meanwhile, New Zealand has an applied tariff rate of 2.7 percent on machinery exports from the EU, which is higher than the 1.7 percent tariff on its global imports of machinery.

Table 4.6 exhibits a number of NTMs in New-Zealand and the EU applied on imports of machinery products. Although tariffs are already generally low for most of these products, the obligation to fulfil complex customs procedures is a particular obstacle for EU SMEs, and this obstacle would continue to prevail unless tariffs are completely eliminated. Potential economic gains depend to a large extent on the degree of ambition achieved in aligning these NTMs.

Table 4.6: Summary of NTMs in New Zealand and the EU on machinery products

Sector	Average MFN tariffs	Non-tariff measures (NTMs)
New Zealand		
Non-electrical machinery	Average MFN: 3.5 percent	• Several inspection procedures apply according to the Import Health Standard (IHS) for Vehicles, Machinery and Tyres • Applies to new and used machinery
Electrical machinery & electrical equipment	Average MFN: 2.6 percent	• All electrical equipment imported and sold in NZL must be proven to be electrically safe • Australia's and New Zealand's Electrical Equipment Safety System (EESS) applies • Sets out various testing, documentation and certification procedures for electrical equipment • Specific fees apply
European Union		
Non-electrical machinery		• Third party testing requirements • 100 percent container scanning
Electrical machinery & electrical equipment		• The EU's Waste Electric and Electronic Equipment (WEEE) directive • Electromagnetic compatibility requirements

Source: LSE Enterprise (2017)

Other major NTMs include differing product standards, third party testing requirements, 100 percent container scanning, differences in IPR systems, the EU's Waste Electric and Electronic Equipment (WEEE) directive, differences in patent systems, different customs and border requirements and electromagnetic compatibility requirements.

The EU and New Zealand also have a bilateral agreement for mutual recognition of certain technical certificates, covering inter alia machinery and pressure equipment to facilitate trade by reducing technical barriers.

Investment barriers
The main (overall) investment barrier that EU investors face in New Zealand – also for the machinery sector – relates to stricter investment screening thresholds compared to investors from other countries (e.g. the US, China, and the CPTPP member states) that have already concluded FTAs with New Zealand. In 2005 the Overseas Investment Act entered into force, which regulates foreign investments by foreign natural and legal persons that want to invest in New Zealand with more than 25 percent foreign owned investments. Investments in New Zealand's sensitive land, significant business assets and fishing quota must obtain consent from the Overseas Investment Office (OIO) before they do so. To gain consent, investments from overseas investors must usually deliver benefits over and above those that a likely New Zealand investor would deliver. These benefits can be economic, such as additional jobs or improved market access, but can also include other benefits.

Social aspects
In 2015, the **European Union** machinery industry employed 2.9 million persons. This included such segments of the sector as components specialists, machine manufacturers, equipment and machine system providers, aftersales providers and software providers. It has been operating in a challenging environment, where volatile macroeconomic situation does not support strategic or long-term planning, digitisation strongly influences traditional business models, shorter product lifecycle puts pressure on returns and demands more agility in production and product development. This has an impact on skills requirements, where in addition to diverse engineering skills, companies seek to increase their capability in software design and advanced analytics. In a survey carried out by McKinsey in 2015, many of them recognised attracting and retaining skilled workers as a challenge and as a factor which may hinder competitiveness of European companies. In exchange, they offer attractive development programmes with diverse training proposals, rotation programmes, competitive salaries and flexibility at the workplace (McKinsey, 2016). In 2014, construction, transportation and storage, manufacturing, and agriculture, forestry and fishing sectors together accounted for 67.2 percent of all fatal accidents at work in the EU and 44.9 percent of all non-fatal accidents at work (Eurostat, 2016). The EU Strategic Framework on Health and Safety at Work 2014-2020 stated that while in the preceding years the number of accidents at work decreased due to raising awareness and preventive actions, there was still room for further improvements in implementation of the safety and health at work legislation by the Member States, in particular by micro- small and medium-sized enterprises. The European Agency for Safety and Health at Work developed guidance and other online tools for enterprises (European Commission, 2014a).

In **New Zealand**, in 2017, the broad sector of machinery and equipment (including transport, electric and electronic equipment in addition to other types of machinery, equipment and appliances) provided jobs for 36,250 persons (in a more limited scope corresponding with the machinery sector in economic modelling, it offered jobs for 21,850 workers). Between 2007 and 2017, the whole manufacturing sector in New Zealand lost 16,000 jobs (this includes the machinery sector which lost 1,900 jobs, i.e. 0.5 percent of its workforce). For comparison: in the same period, the services sector in New Zealand created 156,000 new jobs and public administration, health care and education provided jointly additional 80,000 jobs. (MBIE, 2018d)

The majority of companies in the sector are micro and small enterprises (47.3 percent and 49.4 percent respectively) having either no employees (the first group) or up to 50 of them (the second one). Only 3 percent are medium-sized and large companies employing 50 or more workers. These, however, have an over 50 percent share in the sector's employment.

Wages in manufacturing (i.e. sector broader than machinery) were increasing between 2011 and 2016 and were on average 15 percent higher than in other sectors. However,

this may (at least partly) be related to the fact that workers in manufacturing worked more hours per week (39.4) than the average for the whole economy (33.1) (MBIE, 2018d). Due to skills shortages in manufacturing, the recruitment of overseas workers increased in New Zealand, with the number of related visas more than doubling (from 4,187 to 9,469) between 2011 and 2016 (MBIE, 2018d).

Concerning job quality and non-fatal accidents at work in New Zealand, the highest number occurs in construction sector, manufacturing and transport (Work Safe NZ, 2019a). However, the total rate of related claims has decreased from 154 (per 1,000 Full-Time Equivalent worker) in 2002 to 101 in 2017 for the whole economy (Stats NZ, 2017b). In 2016, the rate of trade union membership in manufacturing was 20 percent, placing the sector in the middle of the New Zealand's economy (with values for other sectors ranging from over 40 percent in health care and social assistance, and education and training to around 3 percent in agriculture, forestry and fishing) (Stats NZ, 2016).

Human rights aspects

Both the European Union and New Zealand have human rights obligations with respect to labour rights that are relevant for workers in the machinery sector (see overview of ratifications for both parties). Trade associations in both Parties at different levels join efforts to promote respect for labour standards, favourable working conditions and health and safety at work.

Safety at work is a relative concern for this sector, which is why in the EU, trade union leaders are focused on promoting and enhancing respect for *labour standards*, decent working conditions and health and safety at work, equal treatment of workers, (especially relevant for migrant and vulnerable workers), and they also watch closely accidents at work. The machinery sector has a challenge to face when it comes to GHG emissions – and thus the *right to a clean environment*.

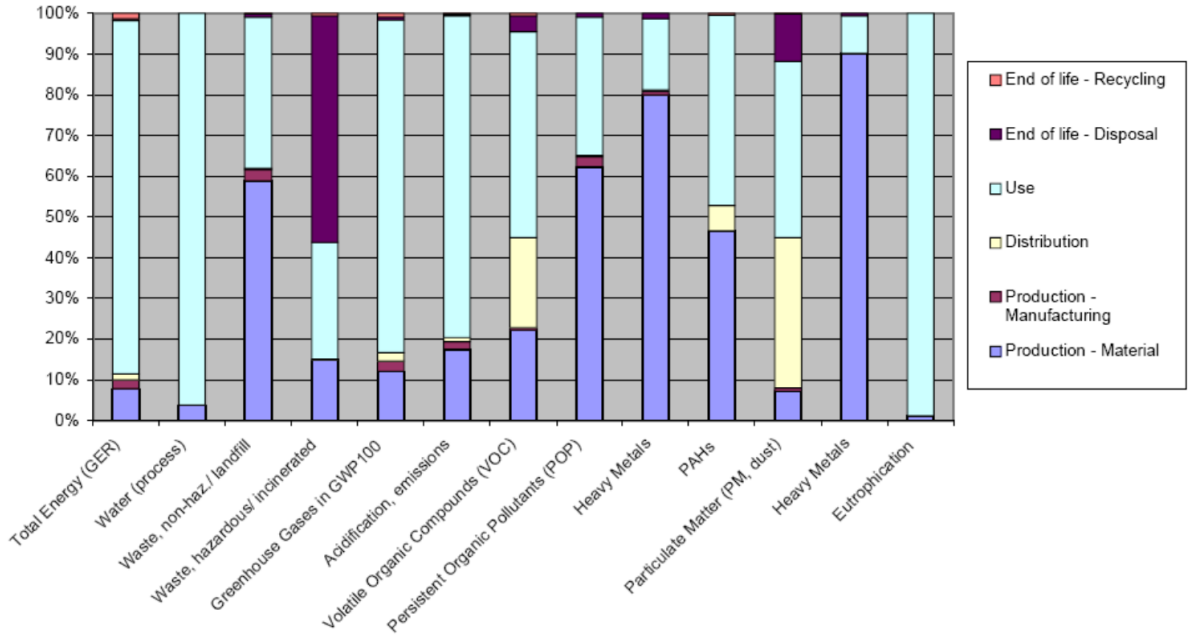
For New Zealand, the Health and Safety at Work Act 2015 is one of the main documents that establishes guidelines on safe and favourable working conditions in New Zealand. This sector is reported to employ a high share of migrant workers in New Zealand that has doubled between 2011 and 2016 (MBIE, 2018d) (see also social aspects).

Environmental aspects

The machinery sector is extremely diverse, covering a broad variety of sub-sectors. For EU-New Zealand trade the relevant sub-sectors based on 2015 EU exports to New Zealand (LSE, 2017) include turbo jets, turbo-propellers and other gas turbines (HS 8411); dish washing machines and machinery for cleaning, drying, filling, closing, sealing or labelling containers, bottles, cans, boxes, bags (HS 8422); and harvesting or threshing machinery (HS 8433). All such machinery usually requires a relatively high manufacturing intensity, which subsequently implies high energy consumption and the need for other resources and materials (steel and other ferrous and non-ferrous metals).

To illustrate this, Figure 4.9 shows the environmental impact of a standard 12 place setting dishwasher based on a Life Cycle Assessment (LCA), where environmental pressures are usually consequential of the production or use phase of the product. Most of the environmental impact is created through the energy use of the appliances, which indirectly creates GHG emissions (depending on the emission profile of electricity production in the country) and thus contributes to climate change. Resource extraction and waste creation are also important. Though other machinery products may not have the same water consumption as a dishwasher, their material use (during production) and energy use (during the use-phase) will likely be similar.

Figure 4.9: Share of life cycle impacts for dishwashers (% shared by life cycle stage)



Source: JRC (2015) Environmental Footprint and Material Efficiency Support for Product Policy.

Broadly speaking, environmental EU legislation relevant for machinery products is more comprehensive than the New Zealand one. Examples of this include the Ecodesign Directive which ensures all energy related-products[166] meet quality requirements and indicate their compliance via a CE mark[167] and a Declaration of conformity.[168] The New Zealand energy efficiency legal standards only cover certain energy-related products such as household refrigeration appliances, heat pumps, and three-phase cage induction motors[169]. The EU further has the waste electrical and electronic equipment (WEEE) Directive and the Directive on Restricting the use of Hazardous Substances in electoral and electronic equipment (RoHS) to mitigate environmental and health pressures by ensuring products do not contain toxic substances[170] of more than 0.1 percent of the product's weight. New Zealand's legislation on Hazardous Substances and New Organisms Act from 1996 applies more broadly to substances that could be included in all product types, but does not outline particular machinery products (like with the EU's WEEE legislation) or substance limits.

4.3.2. Economic impact

For the EU, total output of machinery is not estimated to change under the conservative scenario and by a marginal 0.1 percent under the ambitious scenario, compared to a situation without the FTA (Figure 4.7); this small relative change is still a significant amount in absolute terms. For New Zealand, in contrast, the estimated percentage change in total machinery output is -0.6 percent and -2.8 percent, respectively, under the two scenarios. The increase in New Zealand's bilateral machinery exports to the EU under the two scenarios is 9.4 percent and 9.2 percent respectively for the conservative and ambitious scenarios. The EU's bilateral exports of machinery to New Zealand show much larger gains of 19.5 percent and 62.4 percent under the two scenarios (conservative and ambitious). As such this sector is for the EU the single most important one in terms of potential economic effects that could stem from the EU-NZ FTA.

166 Any product that has an impact on energy consumption during use which is placed on the market, including any parts intended to be used within the energy-related product.

167 Simply a symbol of the letters "CE" placed on the product, denoting the French phrase "Conformité Européenne".

168 As outlined in Directive 2006/42/EC on machinery.

169 New Zealand (2202) Energy Efficiency (Energy Using Products) Regulations 2002. Available at: http://www.legislation.govt.nz/regulation/public/2002/0009/latest/DLM108730.html.

170 Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), and Polybrominated diphenyl ethers (PBDE).

Table 4.7: Effects of the EU-NZ FTA on trade and output of the machinery sector

	Bilateral exports	Total exports	Output
New Zealand			
Conservative (%)	9.4	0.3	-0.6
Ambitious (%)	9.2	-1.9	-2.8
European Union			
Conservative (%)	19.5	+0.0	+0.0
Ambitious (%)	62.4	0.3	0.1

Source: CGE results provided by DG Trade (2019)

Despite technical regulations and conformity assessment procedures applying to machinery imports in New Zealand, the EU still has a large surplus in its machinery trade with New Zealand, with exports exceeding €1 billion. Stringent standards are the main NTM affecting EU machinery exports to New Zealand, liberalisation of which is likely to further increase EU-NZ bilateral exports of machinery. This is also what is observed in the economic impact analysis under the ambitious scenario, which simulates a reduction in NTMs on the EU's bilateral exports in this sector.

In terms of investments, raising the investment screening ceiling will facilitate EU investments into New Zealand. This has a relative competitiveness improving effect for EU investors vis-à-vis CPTPP investors in the sector who already have access, while it also leads to more potential growth and development.

4.3.3. Social impact

Based on the results of the economic modelling, there will be no changes in employment levels in the EU machinery sector under the conservative scenario and a very limited job growth of 0.1 percent for skilled and unskilled workers under the ambitious one.

For New Zealand, the economic modelling foresees a likely job reduction of 0.7 percent for both unskilled and skilled workers under the conservative scenario and of 3.4 percent for unskilled and 3.1 percent for skilled workers under the ambitious one. However, the actual effect would depend also on other factors, e.g. total demand for machinery products (and workers in the sector). If the trend of job loss in the sector observed until 2017 continues, then the estimated job reductions resulting from the EU-NZ FTA may add to it, strengthening the negative effect on workforce.

For the EU, employment effects (discussed above) are in line with the expected changes in sectoral output and for New Zealand go beyond them under both scenarios (in this case, more pronounced job reductions compared to decline in output may potentially be related to technological changes in the sector, such as automation, and shift from low-skilled jobs to the more advanced ones).

Impacts related to changes in wage and price levels have been discussed in the general part of the analysis (given that economic modelling provides estimations for changes in wage levels only for the whole economy, i.e. at an aggregated level).

4.3.4. Human rights impact

Results of the economic modelling suggest that there will be no changes in employment levels in the EU machinery sector under the conservative scenario and a marginal job growth of 0.1 percent for skilled and unskilled workers under the ambitious scenario. This means that there will be no impact on the right to work related to employment for the EU workers in this sector. For New Zealand, employment changes suggest a limited negative impact on the right to work (and indirectly, right to an adequate standard of living) for both skilled and unskilled workers (a 0.7 percent employment reduction) under the conservative scenario. While under the ambitious scenario, the expected negative impact on the right to work (and indirectly, right to an adequate standard of living) is more

pronounced, also for both categories of workers (between 3.1 and 3.4 percent employment reduction).[171]

In the context of the predicted reduction in employment and taking into account the high share of migrant workers employed in the sector, there is a risk that they may be treated disproportionately negatively. For this reason, New Zealand government may consider strengthening protection of migrant workers in the sector by putting in place a task force that will monitor the situation on the rights of the migrant workers. This is especially relevant due to the fact that New Zealand did not ratify the International Convention on the Protection of the Rights of All Migrant Workers and their Families. New Zealand may also propose to only gradually open up the sector to ensure that workers have ample time to find different employ in growing sectors. This should be accompanied by (tested) retraining and job programmes to help workers adjust. Impacts related to changes in wage and price levels (illustrating in more detail the impact on the right to an adequate standard of living) have been discussed in the general part of the analysis (given that economic modelling provides the former only for the whole economy, i.e. at an aggregated level).

If agreed in negotiations, provisions on specific vulnerable groups under the TSD chapter could encourage the Parties to take further unilateral actions and pursue bilateral cooperation and dialogue in this area which may have a positive impact on labour rights of the workers from vulnerable population groups involved in this sector and nationwide.

4.3.5. Environmental impact

In case of an ambitious FTA, production in the machinery sector is expected to rise by 0.1 percent in the EU and be reduced in New Zealand by 2.8 percent. As such, environmental pressures related to machinery production will be marginally intensified (i.e. the extraction and use of raw materials) in the EU and lowered in New Zealand. The environmental baseline section already described that the bulk of the environmental impacts in the machinery sector are related to climate change and air pollution (from fuel and electricity use in the use and production phases) as well as resource extraction. As regards the impact on **climate change**, the quantitative analysis conducted for the overall environmental impact analysis predicts a marginal decrease in CH_4 and N_2O emissions in the machinery, electronic equipment and other manufacture sector in New Zealand (which was analysed as one sector). In the EU, the expected increase in output in the ambitious scenario is expected to lead to a marginal increase in CH_4 and N_2O emissions in the same broad sector. Given the overall volume of methane and N_2O emissions in the sector, these impacts are considered very marginal. Most of the climate change impact from the sector is however expected to be created through CO_2 emissions (due to electricity and fuel throughout the life cycle of the products). The ex-ante study already concluded that the CO_2 impacts in the sector are likely small (LSE, 2017). In terms of **air pollution,** the quantitative environmental analysis also found marginal increases in non-GHG air pollutants for the machinery, electronic equipment and other manufacture sector combined.

Beyond this, though, the lowering of tariff and potentially NTBs on imports of machinery equipment into New Zealand could make EU products preferred more often against third party competitors. This does not per se lead directly to environmental impacts, because New Zealand standards to minimum energy performance standards or end-of-life treatment of those products will continue to exist (which apply to all imported products). Still, an impact from the FTA could still be expected if regulatory cooperation between the EU and New Zealand foreseen in the FTA would lead to a further heightening of any environmental standards in either regions, such as for example on the energy efficiency standards of those products, Ecodesign or waste legislation. As explained in the baseline section, the regulatory framework of New Zealand is considered to be less ambitious than the EU's in these areas. Given the FTA's principles of countries maintaining their full autonomy and right to regulate on domestic policies, it is unlikely to expect material impact on this front.

[171] See social analysis for relative numbers.

4.3.6. SME analysis

The machinery sector in the EU is one with a high share of SMEs. According to Eurostat (2016) the machinery consists of approximately 99.2 percent SMEs and 0.8 percent of large companies. Additionally, SMEs active in the sector account for 57.6 percent of the employment, whereas large companies employ roughly 42.4 percent. Despite the high number of SMEs, the value-added large companies contribute is larger than the value-added of SMEs: Large companies account for approximately 58.5 percent and SMEs for 41.5 percent.

The expected direct and indirect effects of the EU-NZ FTA are positive for EU SMEs. Based on the conducted calculations, the EU machinery sector is one of the largest gaining sectors under the top 15 gaining sectors in exports under both scenarios, whilst output is projected to increase only slightly (see Table 4.7 above). In addition, New-Zealand regulators require specific product conditions and requirements especially for (electrical) machinery products (see Table 4.6 above for NTMs). Although the difficulty to overcome language differences weighs lower on EU SMEs compared to other export destinations, these regulations are generally more difficult to fulfil by SMEs compared to large enterprises. That said, the obligation to meet various testing, certification and documentation procedures implicitly puts potential SME exporters with their in general lower sales volumes at a comparative disadvantage due to the higher impact of the related costs per unit. Thus, based on the sector structure, the high presence of SMEs and the reduction of trade barriers and regulatory requirements and the introduction of mutual recognition standards and procedures under the EU-NZ FTA, one is able to say that SMEs will benefit directly through exporting more machinery under the FTA. However, as these barriers and extra costs are relatively larger for SMEs compared to large companies due to lower scale and as the machinery sector is comprised of several major exporters, SMEs are primarily expected to face modest value chain benefits through slight machinery output increases under both scenarios (see Table 4.7 above) through supplying products to the large companies. With regard to SMEs and the employment of skilled and unskilled workers, one is able to project a slight increase under the ambitious scenario (see Table 3.15). As SMEs employ the majority of people in the sector an increase in their employment is expected – this was to be expected as the overall output in the sector slightly increases as well.

In New Zealand, SMEs also play an important role in the machinery sector. According to New Zealand's Ministry of Business, Innovation and Employment (2018), there is only a small limited number of large companies in the manufacturing industry. More specifically, the overall manufacturing sector consists of a total of 300 companies with more than 100 employees, whilst in the machinery and equipment manufacturing sector there are only 51 firms that employ more than 100 people. New Zealand's Ministry of Business, Innovation and Employment (2018) also states that 3 percent of the firms active in the manufacturing sector employ more than 50 people and that the entire manufacturing industry consists of approximately 49.4 percent of small firms. However, although there is a high number of SMEs in the machinery sector, the main exporters are still the large companies.

The effects of the EU-NZ FTA are modest for the majority of New Zealand's SMEs active in the machinery sector. The calculations project increases in exports but decreases in output under the conservative and ambitious scenario (see Table 4.7 above). Currently, EU regulators require specific product conditions and requirements especially for (electrical) machinery products (see Table 4.6 above for NTMs). Similar as for EU SMEs, these regulations are more difficult to fulfil by SMEs exporters due to their generally lower sales volumes, which causes a comparative disadvantage for SMEs due to the higher impact of the related costs per unit. Based on the higher prevalence of SMEs and their high value-added, one is able to predict that generally New Zealand's SMEs will benefit from the FTA through exporting more machinery under even more facilitated and simplified market access barriers and customs procedures. Additionally, the presence of several large-scale exporters requires supplies from active SMEs. Generally, SMEs will thus benefit indirectly through value chain benefits. Overall, in light of higher exports and a higher level of participation in the international market place for machinery, higher turnover and growth is to be expected if SMEs are fully taking advantage of the FTA and utilise its required

understanding and implementation of rules, provisions and preferences. In terms of employment, SMEs will also face decreases in terms of employment of skilled and unskilled workers under both scenarios (see Table 3.15). As SMEs employ the majority of people in the machinery sector a decrease in the industry's output will result in a reduction in employment, requiring SMEs to effectively manage and oversee their resources to fully benefit from the utilisation of the FTA for direct exports and the provision of supplies to the larger exporting firms.

4.3.7. Third country impact

Table 4.8 shows the main third country effects for the machinery sector. Turkey will only marginally be affected, but New Zealand's exports there are predicted to increase as a result of the EU-Turkey customs union for industrial goods, which implies that Turkey's tariffs will also be eliminated under the EU-NZ FTA. The effects for EU FTA partners are negative but only very marginal: the EU FTA partners will slightly reduce their imports from the EU and New Zealand. Overall, the EU FTA partners will reduce their total exports by 0.1 percent. For the Pacific Countries the EU-NZ FTA has a slightly negative impact for the machinery sector: Pacific country's production goes down marginally (-0.4 percent in the ambitious and -0.1 percent in the conservative scenario), and so do the islands' total machinery exports – a consequence of the increase in New Zealand's competitiveness in the region, and as a result of a stronger motor vehicle and transport equipment sector for the Pacific countries, that draws away resources. The effects for the main EU and New Zealand competitors (South Korea Japan, China and the US) are negligible. However, it is interesting to note that New Zealand's exports of machinery in both the conservative and the ambitious scenario will decrease (except for to the EU and UK). This can be explained through the opening up of the EU and New Zealand markets bilaterally, leading to trade diversion away from third countries. Finally, we find that the EU-NZ FTA in machinery does not affect poorer nations in the world (LDCs) negatively, with a small exception of decreasing exports of both the EU (-0.5 percent) and New Zealand (-0.3 percent) in the ambitious scenario.

Table 4.8 Third country effects of the EU-NZ FTA, machinery sector

Variable (% change)	Turkey	EU FTA partners	Pacific	LDCs	ASEAN TPP	South Korea	Japan	China	USA
Output – Amb	0.0	-0.1	**-0.4**	0.0	0.0	0.1	0.0	0.0	0.0
Output - Cons	0.0	0.0	-0.1	0.0	0.0	0.1	0.0	0.0	0.0
Prices – Amb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prices – Cons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU exports to country – Amb	-0.4	**-0.6**	**-1.1**	-0.5	**-0.7**	**-0.7**	**-0.7**	**-0.6**	**-0.6**
EU exports to country – Cons	-0.2	-0.3	-0.5	-0.3	-0.3	-0.4	-0.4	-0.3	-0.3
NZ exports to country – Amb	**13.3**	**-0.4**	**-0.9**	-0.3	-0.5	-0.5	-0.5	-0.4	-0.4
NZ exports to country – Cons	**13.7**	-0.1	-0.3	0.0	-0.1	-0.1	-0.1	-0.1	-0.1
Country total exports - Amb	0.0	-0.1	**-0.9**	-0.1	-0.1	0.2	0.0	-0.1	-0.2

Source: CGE results provided by DG Trade (2019)

4.3.8. Competitiveness analysis

Economic theory suggests that market integration from an FTA is likely to lead to defragmentation and pro-competitive effects with a fall in mark-ups and subsequent industrial restructuring resulting in bigger, fewer, more efficient firms facing more effective competition from each other.

The SME analysis undertaken above suggests that this sector is dominated by SMEs in both the EU and New Zealand. The machinery market shows a high degree of competition in the

EU, with a Herfindahl-Hirschman Index (HHI) of 979[172], and also in New Zealand (with a profit elasticity, PE, weighted by gross value added, GVA, of -3.20[173] over 2000-2010).

The relatively competitive market structure and large SME representation suggest that the EU-NZ FTA could yield further pro-competitive effects, leading to a fall in mark-ups and industrial restructuring especially in the ambitious scenario that entails more meaningful liberalisation of this sector via a 10 percent reduction in NTM AVEs on EU's bilateral exports. This could result in even more efficient firms in this sector in both partner markets facing more effective competition from each other.

4.3.9. Policy recommendations and flanking measures

- Trends in the machinery sector both in the EU and New Zealand suggest that future jobs (whether new or the existing ones) may be related with new skills requirements such as engineering skills, software design and advanced analytics. Therefore, for the expected limited job growth (in the EU) to materialise EU institutions and Member States should work with industry and training providers to create a training offer, which would equip workers with the right skills set and enable them to continue or to start working in the sector. In New Zealand, a well-designed training offer may help to maintain or improve competitiveness of the sector and support employability of local workers and their competitiveness (given that currently, due to skills shortages, recruitment needs to focus on overseas candidates).
- New Zealand should propose to only gradually open up the machinery sector to ensure that workers have sufficient time to find employment in (other) growing sectors. This should be accompanied domestically in New Zealand by (tested) retraining and job programmes to help workers adjust.
- The situation in the machinery sector in New Zealand will need to be monitored by the industry itself (by reporting the number of jobs created and lost over time or the number of workers employed) the Ministry of Business, Innovation and Employment and Stats NZ. If job reductions occur (as a result of the EU-NZ FTA), workers should receive support (e.g. social security assistance, training, career advice, an opportunity to participate in a job fair or to set up an own company).
- Regarding the mitigation of environmental impact, no specific flanking measures are proposed given the marginal output increases expected in the sector, implying the climate change, air pollution and resource extraction impacts are expected to be limited. The most significant environmental impact created of machinery is through its energy use in the use phase. Energy efficiency policy in New Zealand is however considered to be less ambitious than in the EU. Therefore, any regulatory cooperation foreseen in the FTA could focus on exchanging best practice standards and increasing the ambition in New Zealand's energy efficiency policy, while respecting their domestic right to regulate.
- The Parties are encouraged to agree to the removal of the New Zealand pre-investment screening mechanism for EU investments or at least agree to raise of the threshold for the application of the mechanism. This would improve the competitive position of EU investors. For example, raising the threshold to €516 million, which is already applicable to non-governmental investors from Australia at this moment.

4.4. Motor vehicles and transport equipment

4.4.1. Current situation

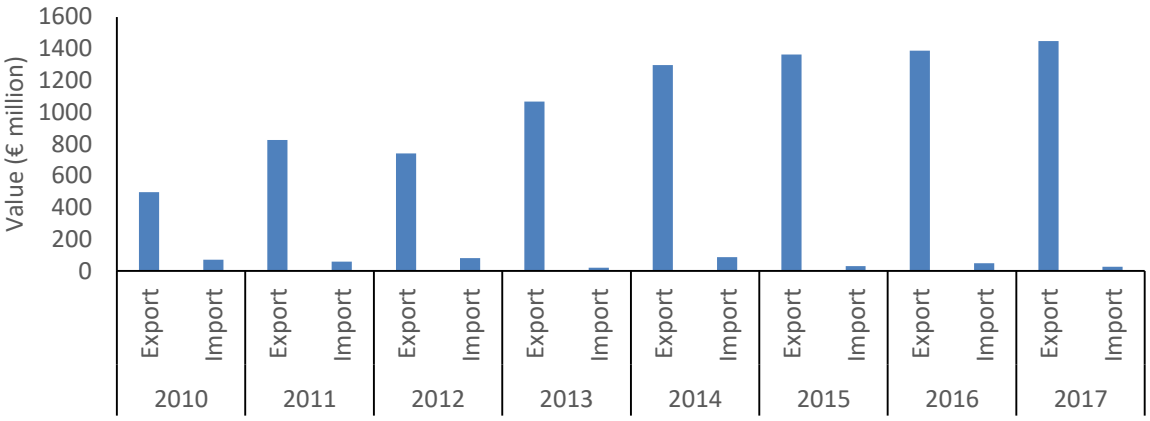
Economic aspects

Motor vehicles and transport equipment – motor vehicles for short – is an important sector for EU-New Zealand trade. The EU has shown a steady and rising surplus in its trade of motor vehicles with New Zealand over 2010-2017: its bilateral exports to New Zealand have more than doubled from €496 million in 2010 to €1.4 billion in 2017, while its imports from New Zealand have declined from a value of €72 million in 2010 to €26 million in 2017

[172] http://bruegel.org/wp-content/uploads/imported/publications/WP_2014_07__01.pdf
[173] https://www.mbie.govt.nz/assets/f8aae60a4e/competition-in-new-zealand-industries.pdf; note that a more negative PE score denotes more intense competition.

(see Figure 4.10). The share of bilateral trade in the sector in the EU's total bilateral trade with New Zealand is high at around 30 percent, though its share in EU total trade with the world is only around 0.2 percent.

Figure 4.10: EU-New Zealand trade in motor vehicles and transport equipment



Source: UNComtrade; own calculations

Trade policy measures

In 2017, the average applied tariff rate on motor vehicles and transport equipment in the EU on imports from New Zealand was 4.0 percent compared to 1.7 percent for imports from all other countries in the world (on average). Meanwhile, New Zealand has an applied tariff rate of 3.1 percent on motor vehicles and transport equipment imports from the EU, higher than the 2.0 percent tariff on its global imports of motor vehicles and transport equipment.

Table 4.9 summarises a number of regulations in New Zealand and the EU applied on imports of transport equipment. Although tariffs are already generally low for most of these products, the obligation to fulfil complex customs procedures is an obstacle.

Table 4.9: Summary of NTMs in New Zealand and the EU on transport equipment

Sector	Average MFN tariffs	Non-tariff measures (NTMs)
New Zealand		
Transport equipment	Average MFN: 3.2 percent	• Several inspection procedures apply for the import of new and used vehicles, equipment and parts, aircraft and sea-craft according to Import Health Standard (HIS) for Vehicles, machinery and Tyres • Importers must meet various biosecurity requirements to keep New Zealand free from harmful pests and diseases • Vehicles, machinery, and tyres must comply with the requirements of the import health standard (IHS) • Importers must provide a declaration with details about the consignment • Several fees charged for documentation processing, import permit applications and all inspections
European Union		
Transport equipment		• Consumer safety requirements in the EU vary • Differences in air pollution and noise standards

Source: LSE Enterprise (2017)

Other specific NTMs are concentrated in the areas of safety and environmental standards, technological R&D support, and security measures that limit trade and investment flows. Consumer safety requirements in the EU vary and there are differences also in air pollution and noise standards. However, there is no MRA between EU-NZ covering this sector.

Investment barriers
The main (overall) investment barrier EU investors face in New Zealand – also for the motor vehicle and transport equipment sector – relates to stricter investment screening thresholds compared to investors from other countries (e.g. the US, China, and the CPTPP member states) that have already concluded FTAs with New Zealand. The 2015 Overseas Investment Act regulates investments by foreign natural and legal persons that want to invest in New Zealand with more than 25 percent foreign owned investments. Investments in New Zealand's sensitive land, significant business assets and fishing quota must obtain consent from the Overseas Investment Office before they do so. To gain consent, investments from overseas investors must usually deliver benefits over and above those that a likely New Zealand investor would deliver. These benefits can be economic, such as additional jobs or improved market access, but can also include other benefits.

Social aspects
In 2016, the **European Union** automotive industry employed in total around 13.3 million persons (out of which 3.4 million were high-skilled). The total included direct and indirect (3.4 million) jobs in manufacturing, automobile use[174] (4.4 million), transport (4.8 million) and infrastructure (0.7 million). This was an increase since 2012, when around 12.4 million people worked in this sector.[175] Automotive industry has been facing skills shortages due to dynamic technological changes (e.g. an increasing importance of software and electronics engineering skills, advanced data analytics or artificial intelligence) and the related need for workforce adaptation, moreover, poor perception of the manufacturing sector by skilled youth, ageing workforce and diverging approaches taken by education systems. There has been an acknowledged need to create a framework of standard job roles with associated skills requirements (to increase the understanding of available opportunities in the sector), improve mobility of workforce across the value chain and transferability of competences, create a better functioning EU apprenticeship market and improve the recognition of non-formal / informal learning. Moreover, it is necessary to address workforce-related needs of SMEs operating in the sector. In 2018, a four-year EU project, Development and Research on Innovative Vocational Education Skills (DRIVES), was launched with a view to delivering human capital development solutions for the automobile industry along its value chain. (European Commission, 2019a) Another project initiated in 2019 focuses on upskilling and reskilling strategies for SMEs in the automotive industry (European Commission, 2019b).

According to analysis based on megatrends in the sector, in the coming years the number of direct and indirect jobs in automotive manufacturing in the EU may decrease as a result of influence of such factors as automation (may bring about job reduction in the region of 0.4 million, with a shift from low-skilled towards high-skilled jobs) and electrification (0.3 million jobs less by 2030 due to lower complexity and a higher degree of automation in production of alternative powertrains compared to engines). On the other hand, connected and autonomous vehicles may contribute to creation of 0.4 million new jobs for software specialists. However, their current shortage, if persists, may prevent this opportunity from materialising and impair competitiveness of the European automotive industry. Moreover, new jobs may be created in mobility services and data-enabled business models, as well as in other related areas, e.g. infrastructure (e.g. charging, grid, 5G, and control towers), energy (e.g. renewables and alternative fuels) and chemicals (e.g. advanced materials and battery cell chemistry) (McKinsey & Company, 2019).

In 2015, the automotive industry in **New Zealand** provided 64,852 jobs in manufacturing and 9,560 in repair and maintenance. This was a 3 percent increase compared to previous year and it was expected that the workforce will remain stable in the few following years (until 2020). 82 percent of enterprises in the sector were micro-businesses employing on

[174] Automobile use is defined in this context as sale, maintenance and repair of motor vehicles, sale of vehicle parts, accessories and fuel, as well as renting and leasing motor vehicles. (Institute for Innovation and Technology, 2018)
[175] European Automobile Manufacturers Association, Employment trends: https://www.acea.be/statistics/tag/category/employment-trends [accessed on 22 May 2019]

average 4.4 workers. Men constituted the vast majority of workers in both sub-sectors (86 percent in manufacturing and 92 percent in repair and maintenance) (MITO, 2016).

Fast-paced technological, policy and legislative changes, and ageing workforce represent challenges for the automotive sector, which – at least partly – can be addressed through provision of training and development of new skills related to production and maintenance of electric cars and those on biofuels, intelligent transport systems, e-commerce and other services provided through internet. Training providers suggest in this context consideration of a few components of a skills development strategy, including an offer for youth (transition from school to vocational training or apprenticeships), provision of continuous, flexible learning enabling workers to keep up with technological changes, an increased participation of employers in formalised industry training, as well as promotion of best practices in human capital development (MITO, 2016).

Wages in manufacturing (i.e. sector broader than motor vehicles) were increasing between 2011 and 2016 and were on average 15 percent higher than in other sectors in total. However, this may (at least partly) be related to the fact that workers in manufacturing worked more hours per week (39.4) than the average for the whole economy (33.1) (MBIE, 2018d). Due to skills shortages in manufacturing, the recruitment of overseas workers increased in New Zealand, with the number of related visas more than doubling (from 4,187 to 9,469) between 2011 and 2016 (MBIE, 2018d).

Concerning job quality and non-fatal accidents at work in New Zealand, the highest number occurs in construction sector, manufacturing and transport (Work Safe NZ, 2019a). However, the total rate of related claims has been decreasing from 154 (per 1,000 Full-Time Equivalent worker) in 2002 to 101 in 2017 for the whole economy. The same indicator for manufacturing (i.e. a sector broader than motor vehicles) has been fluctuating between 2009 and 2017 with numbers between 151 and 166, where an increase has been observed every second year followed by a decrease in the number of claims. Hence, there is no clear correlation between the number of jobs in the sector and the number of non-fatal accidents and related claims (Stats NZ, 2017b).

In 2016, the rate of trade union membership in manufacturing was 20 percent placing the sector in the middle of the New Zealand's economy (with values for other sectors ranging from over 40 percent in health care and social assistance, and education and training to around 3 percent in agriculture, forestry and fishing) (Stats NZ, 2016).

Human rights aspects

Both the EU and New Zealand have human rights obligations with respect to labour rights that are relevant for the workers in the automotive industry sector (see overview of ratifications for both parties). Trade associations in both parties at different levels join efforts to promote respect for labour standards, favourable working conditions and health and safety at work.

The motor vehicles and transport equipment sector is very important for the EU and less so for New Zealand. As with the machinery sector (the other manufacturing industry we analyse) New Zealand's geography and market size are not attractive for reaping economies of scale in the automotive industry. The automotive and transport equipment sector is very globalised with a range of very large players operating in an oligopolistic market, but also with a wide range of larger and smaller suppliers (i.e. SMEs) in their complex global value chains. Because New Zealand is to some extent part of this value chain, and with employment in the sector growing, strengthening its participation is important.

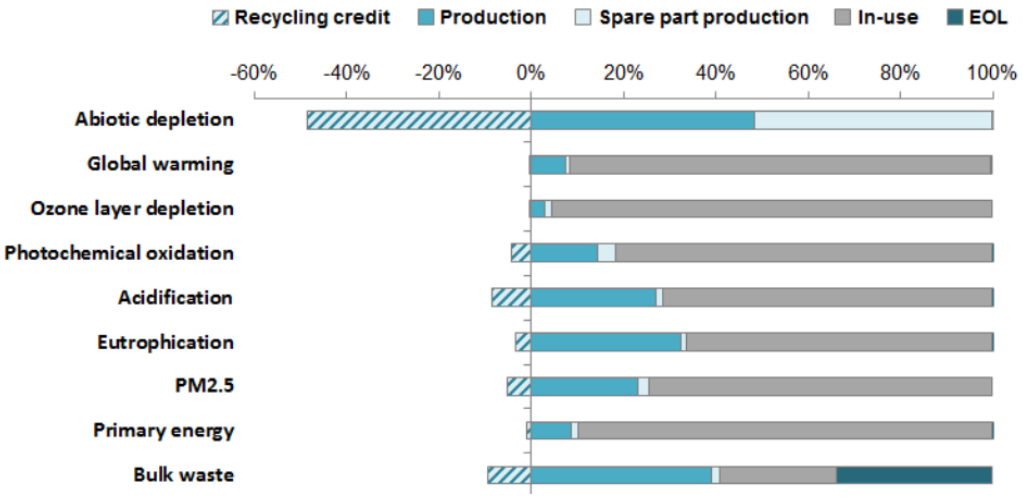
The motor vehicles and transport equipment sector has a large challenge to face when it comes to GHG emissions – which for 80 percent come from the use-phase of the vehicles. In addition, there are currently no standards provided by New Zealand on CO_2 emissions from motor vehicles, which means that fuel efficiency in New Zealand is much lower than in the EU (per km). Increased production, trade and demand (i.e. driving) for motor

vehicles would therefore have the potential to negatively affect the *right to a clean environment*.

Environmental aspects

The sector's environmental impacts are predominantly accrued over the use-phase of the vehicles it produces (roughly 80 percent of their environmental pressure), as shown in Figure 4.11 (Martinuzzi, 2011). The environmental pressures caused by the sector are mostly from energy consumption and GHG emissions. This causes additional indirect pressures on ecosystems and biodiversity (primarily via acidification and eutrophication). In 2016, motor vehicle emissions contributed to around 20 percent of total EU GHG emissions (EEA, 2018). New Zealand road transport made up 17.9 percent of total GHG emissions in 2017 (Ministry for the environment, 2019). Additionally, the sector contributes to resource use, waste production, and water consumption (JRC, 2017) during its manufacturing and end of life stages. It has been estimated that the End-of-Life Vehicle (ELV) phase, makes up another 10 percent of the sector's environmental pressures. Therefore, product design and efficiency (using light-weight reusable materials, improving fuel efficiency, inventing new energy sources, using non-toxic chemicals, electrification and automation etc.) plays a key role in the sustainability in this sector. The EU automotive sector achieves these advances through its large investments into automotive R&D of €53.9 billion per year, making up 5 percent of the sectors total turnover.[176] Recently the Volvo Group, along with DAF, Daimler, Iveco, MAN and Scania have been developing smart technology to allow multi-brand automated heavy vehicle platooning in Europe. Platooning will improve fuel economy, CO_2 emissions, as well as road safety.[177]

Figure 4.11: Share of life cycle impacts for a petrol car (% shares per life cycle stage)



Source: JRC (2017) Best Environmental Management Practice for the Car Manufacturing Sector.

The main differences between the EU and New Zealand in the legislative landscape of motor vehicles and environmental standards are outlined in Table 4.10. Most importantly, there are currently no standards provided by New Zealand on CO_2 emissions from motor vehicles. In practice this means that the average fuel efficiency of EU vehicles was 121.6g CO_2/km (petrol) and 117.9g CO_2/km (diesel) in 2017[178], whereas for New Zealand it was 164.8g CO_2/km (petrol) and 204.8g CO_2/km (diesel).[179] In the area of waste, contrary to the EU, in New Zealand there is currently no national legislation on ELV. There is no requirement in the country to recycle ELV and once deregistered, a vehicle can stay on private or public property indefinitely without penalty. Furthermore, to deregister the car no proof of

[176] See https://www.acea.be/industry-topics/tag/category/research-and-innovation for more information

[177] For more information on European platooning see https://www.volvogroup.com/en-en/news/2018/feb/truck-platooning-on-european-roads.html.

[178] See https://www.eea.europa.eu/highlights/no-improvements-on-average-co2.

[179] New Zealand Ministry of Transport (2018) Annual fleet Statistics 2017. Available at: https://www.transport.govt.nz/assets/Uploads/Research/Documents/Fleet-reports/1b33252a3d/The-NZ-Vehicle-Fleet-2017-Web.pdf.

whereabouts is required from the owner. Nonetheless, market forces still drive ELV waste, and 75% (by weight) of current ELV waste is recycled.[180]

Table 4.10: EU and New Zealand motor vehicle environmental legislative landscape

Type of measure	EU	New Zealand
Vehicle CO_2 emission standards	Passenger vehicles must conform to 95g CO_2/km from 2020/2021; Light commercial vehicles the target is 147g of CO_2/km from 2020.[181]	There are no legislative limitations on CO_2 emissions from cars currently.
Toxic vehicle emission standards	Euro 6 for passenger and light vehicles;[182] Euro VI for heavy vehicles.[183]	Used vehicles – Euro 4/Euro IV; New vehicles – Euro 5/Euro V. [184]
ELV processes	ELV Directive - aims to ensure that 95% of all vehicles on the market are recovered and 85% are reused/recycled by 2015.[185]	Market forces drive ELV waste recycling. Current rate of recycling is 75% by weight. (Cassekks, 2004)

4.4.2. Economic impact

For the EU, total output of motor vehicles is estimated to rise by 0.2 percent under the conservative scenario and by 0.3 percent under the ambitious liberalisation scenario. For New Zealand, the estimated percentage change in total output of motor vehicles is -1.3 percent and -2.7 percent, respectively, under the two scenarios. The rise in New Zealand's bilateral exports of motor vehicles to the EU under the two scenarios expected to be 12.3 percent and 13.7 percent, respectively (in contrast, its total exports of motor vehicles will decline under both scenarios). The EU's bilateral exports of motor vehicles to New Zealand are expected to increase by 22.2 percent and 43.0 percent under the conservative and ambitious scenarios respectively. EU total exports grow by 0.3 percent in the conservative and 0.4 percent in the ambitious scenario.

Table 4.11: Effects of EU-NZ FTA on trade and output of motor vehicles and transport equipment

	Bilateral exports	Total exports	Output
New Zealand			
Conservative (%)	12.3	-0.1	-1.3
Ambitious (%)	13.7	-1.0	-2.7
EU			
Conservative (%)	22.2	0.3	0.2
Ambitious (%)	43.0	0.4	0.3

Source: CGE results provided by DG Trade (2019)

Despite technical requirements on imports of motor vehicles and transport equipment into New Zealand, the EU has a large surplus in its sectoral trade with New Zealand, with exports exceeding €1 billion. Stringent standards are the main NTM affecting EU motor vehicles and transport equipment exports to New Zealand, liberalisation of which is likely to further increase EU-NZ bilateral exports in this sector. This is also what is observed in the economic impact analysis especially under ambitious scenario, which simulates a reduction in NTMs in New Zealand affecting EU's bilateral exports.

In terms of investments, raising the investment screening ceiling will facilitate EU investments into New Zealand. This has a relative competitiveness improving effect for EU

[180] Cassekks, S. (2004) Management of End-of-Life Vehicles: Lessons Learned from Europe for the New Zealand Situation, Massey University. Available at: http://www.wasteminz.org.nz/wp-content/uploads/Sue-Cassells.pdf.
[181] Regulation (EU) 2019/631 setting CO2 emission performance standards for new passenger cars and for new light commercial vehicles.
[182] Regulation (EU) No 459/2012 as regards emissions from light passenger and commercial vehicles (Euro 6).
[183] Regulation (EU) No 582/2011 with respect to emissions from heavy duty vehicles (Euro VI).
[184] Land Transport Rule 33001/2007 Vehicle Exhaust Emissions 2007.
[185] Directive 2000/53/EC on End-of-Life Vehicles.

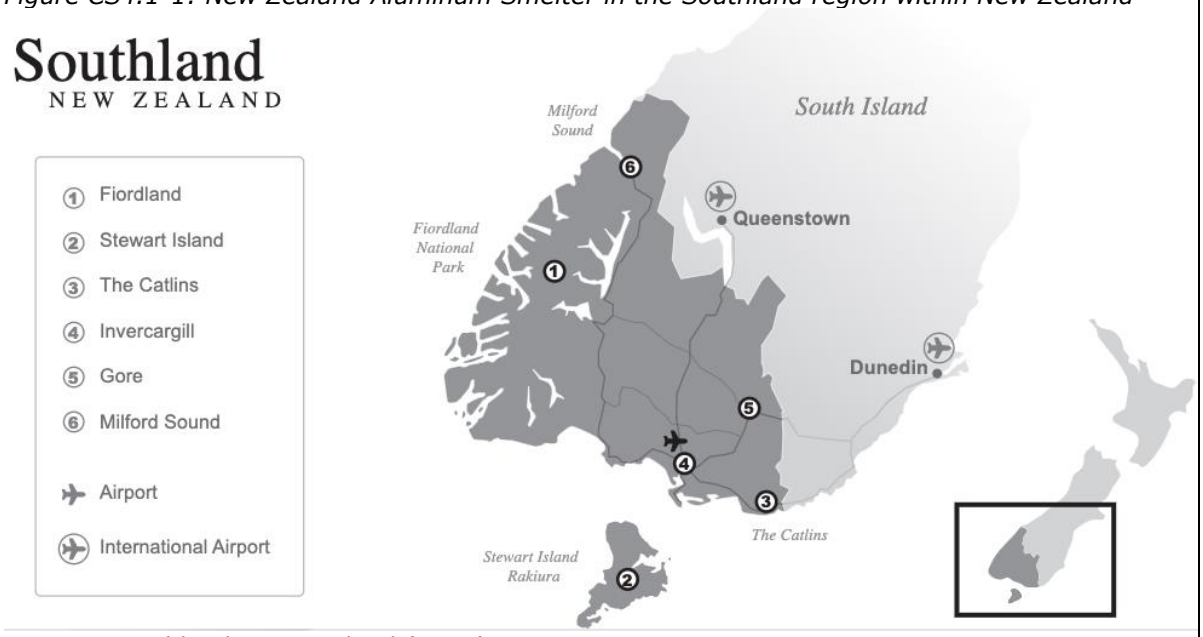
investors vis-à-vis CPTPP investors in the sector who already have access, while it also leads to more potential growth and development.

Case Study 4.1: Aluminum

Current situation

Currently, New Zealand has a small number of heavy industry sectors which were established by the government or with the aid of the government in order to exploit abundant natural resources. One of these sectors is aluminum smelting under New Zealand's Aluminum Smelter – the country's sole smelter situated in Southland. Aluminum represents one of the major primary manufacturing processes for local consumption and exports in New Zealand. In 2017, New Zealand's aluminum smelting industry directly employed 900 people and indirectly employed 3,200 people and produced approximately 337,016 tonnes. Out of this manufactured and saleable aluminum, the sector was able to create export earnings of €772 million. The sector accounts for 2.2 percent of New Zealand's exports and 22 percent of Southland's exports. The GDP benefits for the Southland region in 2017 were estimated to be at €307 million. Figure CS4.1-1 below shows the location of the New Zealand Aluminum Smelter.

Figure CS4.1-1: New Zealand Aluminum Smelter in the Southland region within New Zealand



Source: Southland New Zealand (2019)

Overall, New Zealand exported 89 percent of the produced aluminum to a total of 20 countries: Brazil, China, Great Britain, Hong Kong, Indonesia, Israel, Japan, Malaysia, the Netherlands, Norway, Panama, the Philippines, Romania, South Africa, South Korea, Taiwan, Thailand, the US and Vietnam. The major demand driver for New Zealand's aluminum smelting sector is Asian countries. In 2018, 58 percent of the exported aluminum was imported by Japan at a value of €403.2 million. South Korea imports amounted to €110.9 million. The largest EU importers were the Netherlands and the UK with €31.3 million and €11.2 million respectively.

Currently, the EU itself accounts for 8 percent in global aluminum production with 16 smelters in ten countries (France, Germany, Greece, the Netherlands, Spain, the UK, Romania, Slovakia and Slovenia). In 2017, the EU exported a total of €11.9 billion, out of which €2.1 billion was imported by Switzerland, €1.8 billion by the US and €847.3 million by China. In the past however, the EU used to be self-sufficient in aluminum, but today the region imports more than 6 million tonnes of aluminum ingot, which represents around 50 percent of the overall required amount. The EU imports primarily from Russia, the United Arab Emirates and Mozambique.

Aluminum has a large environmental footprint. To start with, aluminum production is an extremely energy intensive process; about nine times more energy intensive than steel production (Rankin, 2012). Around 80% of the GHG emissions related to aluminum production are created by energy use (Australian aluminum council, 2019). Globally, aluminum production accounts for roughly 1% of the total GHG emissions. Aside from (in)direct CO2 emissions, aluminum production can create significant amounts of perfluorocarbons (PFCs) emissions which have a much higher (more than a thousand times) global warming potential than CO2. Aside from climate change, aluminum production requires large amounts of (fresh) water and can negatively impact soil and water

quality through hazardous waste. New Zealand's Aluminum Smelters is claimed to have one of the lightest carbon footprints per ton aluminum (NZAS, 2015). The smelter is responsible for about 13% of the country's electricity consumption (Devlin and McCarthy, 2015) and creates about 0.5 megaton of direct CO2 emissions (i.e. without the indirect emissions from electricity consumption) which accounts for about 1.5% of New Zealand's CO2 emissions (greens.org, 2016). In recent years, one incident took place through which large amounts of toxic waste were found in the surroundings of the smelter (Heron, 2018).

Potential FTA effects

Within the framework of the economic modelling, we have conducted a Global Simulation (GSIM) analysis (see Annex II for a methodological description) to detail the potential effects for aluminum. We did not reduce tariffs because – except for the ROW – these were already at zero percent, but we did assume a marginal reduction in NTMs due to more alignment between the EU and New Zealand, including further alignment in other sectors that use aluminum as inputs. We find that the economic effects are positive for New Zealand, the EU27 and UK in terms of welfare (see Table CS4.1-1), while the gains in these countries is more for consumers of aluminum (in the form of lower prices) – i.e. industries using aluminum as inputs for manufacturing machinery and equipment. Overall, the effects are not large in terms of order and magnitude. New Zealand will face gains of €1.3 million and the EU27 of €1.1 million. Trade diversion primarily hurts Japanese consumers of aluminum. In terms of output not much change is expected. This was expected as the EU27 and New Zealand are not each other's main trading partners with respect to aluminum.

Table CS4.1-2 shows changes in bilateral trade in aluminum as a consequence of the EU-NZ FTA. We see roughly that the increase in New Zealand aluminum exports to the EU27 is diverted from Japan, at the expense of Chinese and ROW exports to the EU27 – who in turn will divert exports to Japan. The total global trade effect of the EU-NZ FTA on aluminum trade is an increase of €74.2 million.

Table CS4.1-1: Economic effects for the aluminum industry

Variable	NZ	EU27	China	Japan	Switzer-land
Welfare effects (€mln)	1.3	1.1	-0.1	-0.4	-0.1
Consumer surplus (€mln)	0.7	0.7	-0.0	-0.4	-0.1
Producer surplus (€mln)	0.6	0.4	-0.1	-0.0	-0.0
Output effects (%)	+0.1	+0.0	0.0	-0.0	-0.0
Price effects (%)	0.1	0.0	0.0	0.0	0.0

Source: UNComtrade; own calculations

Based on these economic findings, the expected social impact is limited, because production does not change much. The aluminum sector's market structure is characterised by very large firms that make heavy and long-term investments and that do not contain many SMEs – so no SME effect is envisaged. Also, from a human rights angle, no impact is foreseen. From an environmental perspective, the increase in trade could have a negative effect on CO_2 emissions. The increased trade between New Zealand and the EU is expected to cause additional environmental impacts through the emissions related to transportation (even though most is of the increased trade between the EU and New Zealand is trade diversion, the large distance between the EU and New Zealand can still cause additional GHG emissions). Because the increase in New Zealand production is very small (0.1 percent), environmental effects around the smelter resulting from the EU NZ FTA are considered negligible. There could be a small impact on competitiveness of downstream industries because consumer prices (i.e. prices for aluminum consumers, which is downstream industry) decrease marginally in New Zealand.

Table CS4.1-2: Bilateral trade flow effects for the aluminum industry

	EU27	NZ	AUS	Japan	Switzer-land	US	China	ROW
EU27	-33.0	161.3	-0.6	-0.3	-10.8	-21.3	-7.4	-10.3
NZ	217.2	0.0	-18.3	-112.0	0.0	-6.5	-3.9	-61.3
Australia	-0.1	-23.0	0.0	12.1	0.0	1.4	0.4	6.2
Japan	-0.3	-6.7	0.5	0.0	0.0	0.5	2.2	2.5
Switzerland	-3.2	-0.1	0.1	0.1	0.0	0.2	0.1	0.5
US	-4.7	-5.5	0.4	3.1	0.1	0.0	1.3	4.4
China	-13.1	-51.2	8.6	18.6	0.1	8.0	0.0	19.0
ROW	-73.9	-22.7	2.7	38.0	2.4	11.7	3.9	31.0

Source: UNComtrade; own calculations

Policy recommendations
Including the aluminum sector in further NTM alignment, leading to cost reductions, would not lead to significant production effects, but could marginally improve the competitive position of downstream industries in New Zealand and the EU. Hence, it is recommended that the EU and New Zealand further align NTMs (i.e. increased coherence and convergence between the two country's respective regulatory systems).

4.4.3. Social impact

Based on the results of the economic modelling, the motor vehicles sector in the EU is likely to experience job creation of 0.2 percent for both groups of workers under the conservative scenario and 0.3 percent under the ambitious one. While these changes are limited if compared to the number of workers in the sector in the EU, locally they may bring about some relief against expected job reductions to be caused by technological changes, such as automation. However, new jobs may be related with new skills requirements, which in turn may create a need for provision of training for existing and new workers. Positive changes may become more pronounced if similar effects of several FTAs cumulate.

For New Zealand, the economic modelling foresees a likely job reduction of 1.5 percent for unskilled workers and 1.4 percent for skilled ones under the conservative scenario and of 3.2 percent and 3.0 percent respectively under the ambitious scenario. However, the actual net effect would depend also on other factors, e.g. the total demand for cars in New Zealand and export markets. If, thanks to these factors, the sector grows in the next few years, then the net effect of the EU-NZ FTA may be closer to a slower job growth rather than to a net job reduction.[186]

Impacts related to changes in wage and price levels have been discussed in the general part of the analysis (given that economic modelling provides estimations for changes in wage levels only for the whole economy, i.e. at an aggregated level).

4.4.4. Human rights impact

Results of the economic modelling suggest employment creation in the EU motor vehicles and transport equipment sector (0.2 percent for both groups of workers under the conservative scenario and 0.3 percent under the ambitious one). This means that the *right to work* (and *the right to an adequate standard of living*) of the workers employed in this sector is expected to be positively affected as a result of the EU-NZ FTA. This positive impact may become more pronounced if similar effects of other FTAs (e.g EU-Mercosur, CETA) accumulate.

For New Zealand, employment changes suggest a modest negative impact on the right to work (and indirectly, right to an adequate standard of living) for both skilled and unskilled workers (1.4 and 1.5 percent employment reduction respectively) under the conservative scenario. Under the ambitious scenario, the negative effect is expected to be more pronounced negative impact on the right to work (and, indirectly, right to an adequate standard of living) also for both categories of workers (between 3.0 and 3.2 percent employment reduction).[187] In the context of predicted reductions in employment and taking into account a relatively high share of migrant workers employed in the sector, there is a risk that they may be treated negatively in a disproportionate way. For this reason, the New Zealand government may consider strengthening protection of migrant workers in the sector by putting in place a task force that will monitor the situation on the rights of the migrant workers. This is especially relevant due to the fact that New Zealand did not ratify the International Convention on the Protection of the Rights of All Migrant Workers and their Families. Prices for motor vehicles and transport equipment are expected to drop by 1.3 percent. This is one of the more significant sectoral price effects that would benefit

[186] Also note the methodological caveats made in section 4.1.3 on the simulated employment effects.
[187] See social analysis Table 3.15 for relative numbers.

consumers of cars in New Zealand and downstream industries for transport equipment (e.g. the local communities buying buses or other transport equipment).

If agreed in negotiations, provisions on specific vulnerable groups under the TSD chapter could encourage the Parties to take further unilateral actions and pursue bilateral cooperation and dialogue in this area which may have a positive impact on labour rights of the workers from vulnerable population groups involved in this sector and nationwide.

4.4.5. Environmental impact

The increase in net motor vehicle production results in increased environmental pressures from the production phase, having minor impacts on resource depletion and bulk waste. However, due to the on average higher fuel efficiency (CO_2/km) of EU cars, there is potential for the FTA to lower the climate change impact in the road transportation sector in New Zealand in case car manufacturers in the EU sell the same cars in New Zealand as in the EU. If this is the case, it can be expected that an increase in motor vehicle trade will lead to a minor decrease in the New Zealand motor vehicle sector's CO_2 emissions (in regard to the products' use phase). This is similar for the motor vehicle sector's toxic air pollution. The EU's higher standards (Euro 6/VI) compared to New Zealand ones (Euro 4/IV and above) may influence more exports of old EU Euro 5/V and lower standard vehicles to New Zealand. This would simultaneously increase the standards of both the EU (with fewer Euro 5/V vehicles and less in its fleet) and New Zealand (where the majority of the fleet has standards lower than Euro 4[188]). An impact from the FTA could also be expected if regulatory cooperation between the EU and New Zealand foreseen in the FTA would lead to a further heightening of any environmental standards in either regions, such as for example on Euro, CO_2, or ELV standards (as mentioned in the previous subsection). However, given the FTA's principles of countries maintaining their full autonomy and right to regulate on domestic policies, no material impact is expected on this front.

Since the overall quantitative environmental analysis could not single out the car manufacturing sector, no detailed climate change and air pollution impacts through CH_4 and N_2O emissions are available for the sector. However, since the expected impact on output in the EU in the sector is predicted to be small (+0.2 to +0.3 percent), the associated increase in environmental impacts due to production in the sector is expected to be limited as well.

4.4.6. SME analysis

The motor vehicles and transport equipment sector in the EU is also largely represented by SMEs. According to Eurostat (2010) the sector consists of approximately 96.1 percent SMEs and 2.0 percent large companies. Additionally, SMEs active in the sector account for 54.5 percent of the employment, whereas large companies employ roughly 45.6 percent. Despite the high number of SMEs in the sector, they contribute a value-added of 45.5 percent, whereas large companies contribute 54.5 percent.

Overall, the effects of the EU-NZ FTA on EU SMEs seem positive. Based on the conducted calculations, the EU motor vehicles and transport equipment sector is one of the largest gaining sectors in terms of exports under both scenarios (see Table 4.11 above). Although tariffs are already generally low for most of these products, the obligation to fulfil complex customs procedures is an obstacle. Particular obstacle for EU SMEs, and this obstacle would continue to prevail even if tariffs are completely eliminated. In addition, New Zealand's regulators require specific product conditions and requirements especially for (electrical) machinery products (see Table 4.9 and Table 4.10). Although the difficulty to overcome language differences weights much lower on EU SMEs compared to other export destinations, these regulations are generally more difficult to fulfil by SMEs compared to large enterprises. That said, the obligation to meet various testing, certification and documentation procedures implicitly puts potential SME exporters with their in general

[188] In 2017 around 30% of New Zealand vehicles were Euro 4/IV or the similar Japanese 2005 standard. Only 8-16% were Euro 5/V or the Japanese 2009 standards. See https://www.transport.govt.nz/mot-resources/vehicle-fleet-statistics/#annual.

lower sales volumes at a comparative disadvantage due to the higher impact of the related costs per unit. Accordingly, EU SMEs would generally benefit from a comprehensive FTA between the EU and Australia that aims for greater degrees of mutual recognition of standards and procedures and harmonisation in cases where standards are equivalent.

Thus, based on the sector structure, the high presence of SMEs and the reduction of trade barriers and regulatory requirements under the EU-NZ FTA, one can expect that SMEs will benefit directly through exporting more motor vehicles and transport equipment under the FTA. On the other hand, the high value-added of large firms in the sector implies that the majority of exports is conducted via large firms. In that regard, and as large firms are able to cope with the current regulations and requirements more easily, supplier SMEs are expected to face value chain benefits through machinery output increases under both scenarios (see Table 4.11 above). Regarding employment, the sector is expected to have a modest increase in skilled and unskilled workers under both scenarios (see Table 3.15). As SMEs employ the majority of people in the sector an increase in their employment is expected – this was to be expected as the overall output in the sector increases as well. These trends are in light with the EU's projects, e.g. the DRIVES project, aimed at delivering human capital development solutions for the automobile industry along its value chain (European Commission, 2019a) and upskilling and reskilling strategies for SMEs in the automotive industry (European Commission, 2019b).

Similar as in New Zealand's machinery manufacturing sector, the motor vehicles and transport equipment sector is also a large industry represented by SMEs. According to New Zealand's Ministry of Business, Innovation and Employment (2018), 3 percent of the firms active in the manufacturing sector employ more than 50 people. The entire industry consists of approximately 49.4 percent of small firms. The sector consists of 78 firms with 50 to 99 employees and 51 firms with 100 or more employees. New Zealand's Ministry of Business, Innovation and Employment (2018) also states that although there is a high representation of SMEs in the machinery sector, the main exporters are still the large companies.

The effects of the EU-NZ FTA look modest for New Zealand's SMEs active in the motor vehicles and transport equipment sector. The calculations project increases in bilateral exports but decreases in output under the conservative and ambitious scenario (see Table 4.11 above). In addition, EU regulators require specific product conditions and requirements for automotive products. These regulations are generally more difficult to fulfil by SMEs compared to large enterprises. The requirement to fulfil testings, certifications and further documentation procedures implicitly puts potential SME exporters with their in general lower sales volumes at a comparative disadvantage due to the higher impact of the related costs per unit. Based on the country's motor vehicles and transport equipment sector structure, the high presence of SMEs and the reduction of trade barriers and further regulatory requirements and the introduction of mutual recognition systems and procedures under the EU-NZ FTA, New Zealand's motor vehicles and transport equipment sector SMEs will benefit primarily through value chain benefits, caused through higher exports under the EU-NZ FTA. The opening of markets through FTAs reduces the requirement to process and meet the different regulatory requirements and establishes mutual recognition systems, which will benefit SMEs as they are able to reallocate their resources more efficiently to support the large exporting companies. Furthermore, New Zealand's SMEs will also face decreases in terms of employment of skilled and unskilled workers under both scenarios (see Table 3.15). As SMEs employ the majority of people in the motor vehicles and transport equipment sector a decrease in the industry's output will result in a reduction in employment, requiring SMEs to effectively manage and oversee their resources to fully benefit from the utilisation of the FTA.

4.4.7. Third country impact

Table 4.12 shows the main third country effects for the motor vehicles and transport equipment sector. For Turkey, sector output increases slightly in both scenarios, and New Zealand's exports there are predicted to increase as a result of the EU-Turkey customs union for industrial goods, which implies that Turkey's tariffs will also be eliminated under

the EU-NZ FTA. The effects for EU FTA partners are positive but only to a limited extent (total exports are expected to remain unchanged). However, New Zealand's and EU's exports to the EU FTA partners are expected to slightly decrease under both scenarios. For the Pacific Countries the EU-NZ FTA is positive in motor vehicles and transport equipment: their output is expected to increase under the ambitious scenario (0.6 percent), and so do the islands' total motor vehicles and transport equipment exports (0.8 percent). This leads for the Pacific Countries to economic adjustment between motor vehicles and transport equipment (the growing sector) and machinery (the declining sector – see previous sector analysis). The ASEAN region will produce less under both scenarios, following the implementation of the EU-NZ FTA. The region's imports from the EU and New Zealand will decline, and overall exports will go down by 0.7 percent. From the main EU and New Zealand competitors, South Korea suffers relatively most (-0.4 percent reduction in production) while also for the other three countries, imports of motor vehicles and transport equipment from the EU and New Zealand decrease. Overall, Korean exports to the world decrease by 0.6 percent. The overall export effects for Japan, China and the US are negative but not very high. New Zealand exports of motor vehicles and transport equipment in both the conservative and the ambitious scenario decline for all the specified countries and regions, except for the UK and EU. This can be explained through the opening up of the markets (i.e. tariff liberalisation and NTM alignment) and resulting trade diversion effects. Finally, we find that the EU-NZ FTA in motor vehicles and transport equipment does not affect poorer nations in the world (LDCs, Pacific Countries) negatively.

Table 4.12: Third country motor vehicles and transport equipment effects of EU-NZ FTA

Variable (% change)	Turkey	EU FTA partners	Pacific	LDCs	ASEAN	South Korea	Japan	China	USA
Output – Amb	0.1	0.0	**0.6**	0.0	-0.3	**-0.4**	-0.2	0.0	0.0
Output - Cons	0.1	0.0	-0.1	0.0	-0.2	-0.3	-0.1	0.0	0.0
Prices – Amb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prices – Cons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU exports to country – Amb	-0.2	-0.4	**-0.9**	-0.4	**-0.6**	**-0.7**	-0.5	-0.4	-0.4
EU exports to country – Cons	-0.1	-0.2	-0.4	-0.2	-0.4	-0.4	-0.3	-0.2	-0.2
NZ exports to country – Amb	**22.8**	**-0.7**	**-1.1**	**-0.7**	**-0.9**	**-0.9**	**-0.7**	**-0.6**	**-0.7**
NZ exports to country – Cons	**23.5**	-0.1	-0.3	-0.1	-0.3	-0.3	-0.2	-0.1	-0.1
Country total exports - Amb	0.1	0.0	**0.8**	0.0	**-0.7**	**-0.6**	-0.3	-0.2	-0.1

Source: CGE results provided by DG Trade (2019)

4.4.8. Competitiveness analysis

Economic theory suggests that market integration from an FTA is likely to lead to defragmentation and pro-competitive effects with a fall in mark-ups and subsequent industrial restructuring resulting in bigger, fewer, more efficient firms facing more effective competition from each other.

The SME analysis undertaken above shows that SMEs play an important role in this sector both the EU and New Zealand. The motor vehicles and transport equipment market is not very concentrated in the EU, with a Herfindahl-Hirschman Index (HHI) ranging from 1,231[189] for motor vehicles to 1,641 for other transport equipment, and in New Zealand (with a profit elasticity, PE, weighted by gross value added, GVA, of -3.20[190] over 2000-2010).

[189] http://bruegel.org/wp-content/uploads/imported/publications/WP_2014_07__01.pdf

[190] https://www.mbie.govt.nz/assets/f8aae60a4e/competition-in-new-zealand-industries.pdf; note that a more negative PE score denotes more intense competition.

The relatively competitive market structure and large SME representation suggest that the EU-NZ FTA is likely to unleash further pro-competitive effects, leading to a fall in mark-ups and industrial restructuring especially in the ambitious scenario that entails more meaningful liberalisation of this sector via a 10 percent reduction in NTM AVEs on EU's bilateral exports. This could result in even more efficient firms in this sector in both partner markets facing more effective competition from each other.

4.4.9. Policy recommendations and flanking measures

- Trends in the automotive sector, both in the EU and New Zealand suggest that new jobs may be related with new skills requirements e.g. software and electronics engineering skills, advanced data analytics, and new types of jobs in cooperating sectors and enabling services, e.g. research on advanced materials and battery cell chemistry, renewables and alternative fuels or 5G network. Therefore, for the expected job growth (in the EU) to materialise EU institutions and Member States should work with industry and training providers to create (re)training and adjustment programmes, which would equip workers with the right skills set and enable them to continue or to start working in the sector. One example of such an initiative is the DRIVES project with a budget of €3.9 million over four years implemented through a network of partner organisations from 11 countries. Components of the project include monitoring of skills needed in the automotive sector, design of job profiles and a pilot certification and training offer[191].
- The situation in the automotive sector in New Zealand will need to be monitored by the industry itself (by reporting the number of jobs created and lost over time or the number of workers employed) the Ministry of Business, Innovation and Employment and Stats NZ. If job reductions occur (as a result of the EU-NZ FTA), workers should receive support (e.g. social security assistance, training to upgrade / update their skills, career advice, a possibility to attend job fairs) to find new jobs.
- The environmental impacts associated with the motor vehicles sector are largely produced during the use phase of the vehicle, by burning petrol or diesel. Vehicle emission standards as used in the EU are an effective way to reduce the environmental impact of cars overall. New Zealand does not have CO_2 emission standards and lower toxic emission standards than in the EU. Within the remit of both parties to regulate domestically, New Zealand could be encouraged to adopt tighter emission standards via bilateral dialogues and by providing consumer incentives.
- The Parties should agree to the removal of the New Zealand pre-investment screening mechanism for EU investments or at least agree to raise of the threshold for the application of the mechanism. This would improve the competitive position of EU investors. For example, raising the threshold to €516 million, which is already applicable to non-governmental investors from Australia.

4.5. Communication and business services

In this section on communication and business services we focus on communication services, in particular telecommunication, and other business services, mainly professional services. The econometric model can only allow us to present the overall sector economic impact results on which we base our subsequent impact analyses. Qualitatively we add more detailed information.

4.5.1. Current situation

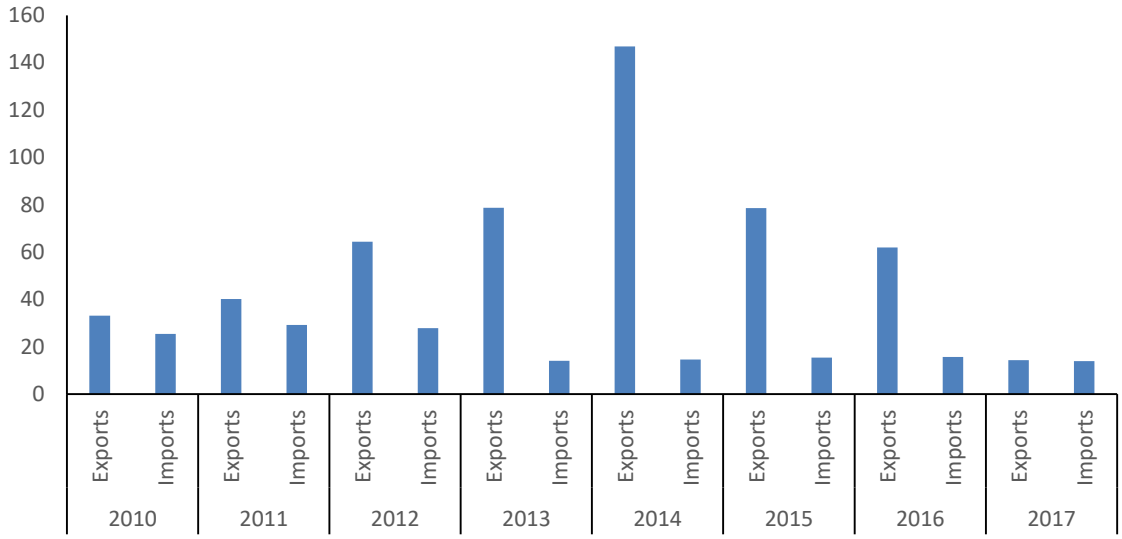
Economic aspects

The EU had a surplus in its trade of telecom services with New Zealand over the period 2010-2017, with the magnitude of the surplus and its bilateral exports to New Zealand rising sharply since 2013. The EU's bilateral exports to New Zealand initially nearly doubled from €80 million in 2013 to €150 million in 2014 but have fallen since then to only €14.3 million in 2017. In 2017, the EU-New Zealand trade in communication services (mostly

[191] DRIVES: https://www.project-drives.eu/en/home

telecommunication) was in balance (see Figure 4.12). The EU's imports of telecom services from New Zealand have also nearly halved from €25 million in 2010 to €14 million in 2017. The share of the sector in EU total bilateral services trade with New Zealand hovered around 2.0 percent until 2013 before nearly doubling in 2014. It has fallen below 1.0 percent in 2017. The importance of bilateral trade in telecom services in the EU's total trade with the world has also been low at a share well less than 0.5 percent, both regarding imports and exports.

Figure 4.12: EU-New Zealand trade in communication services



Source: OECD; own calculations

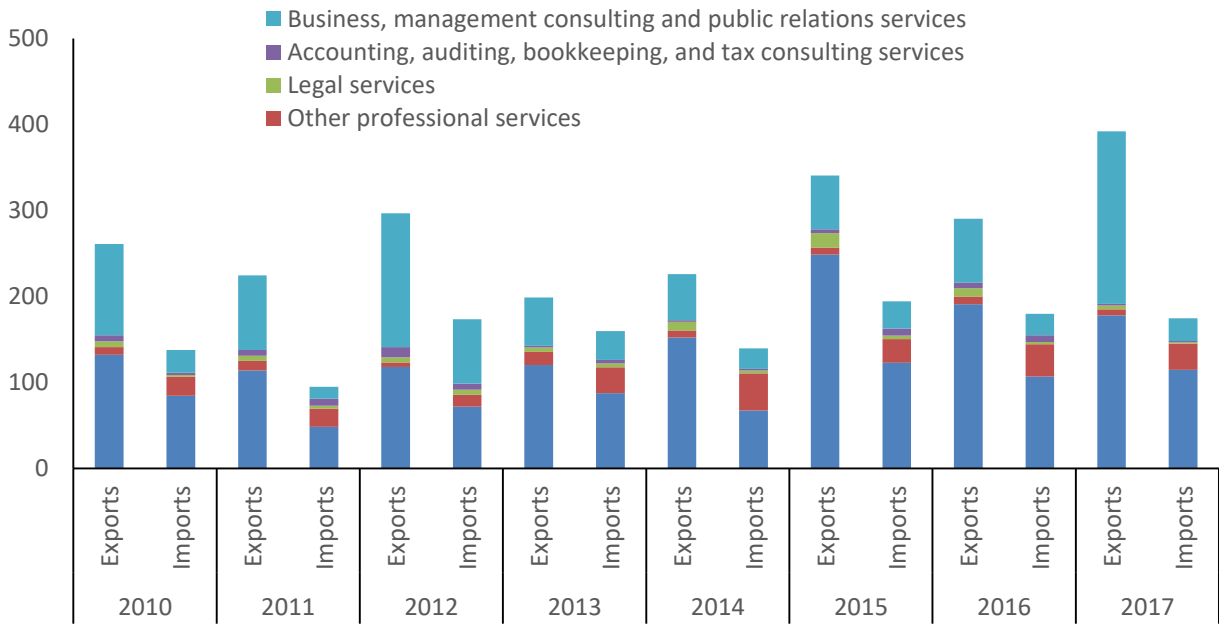
The EU also had a trade surplus in its trade of other business services (OBS) with New Zealand over the 2010-2017 period, though the magnitude of the surplus and its bilateral exports to New Zealand have both fluctuated over 2010-2017. The EUs bilateral exports of OBS to New Zealand went up from €261 million in 2010 to €392 million in 2017 while the value of bilateral imports increased from €138 million to €175 million over the same time period (see Figure 4.13). Miscellaneous OBS and business, management consulting and public relations services account for the bulk of OBS traded between the EU and New Zealand. The share of OBS in EU total bilateral services trade with New Zealand is above 20 percent. In contrast, the share of bilateral trade in OBS in the EU's total trade with the world has been around 0.1 percent.

According to the OECD database on services trade restrictiveness index (STRI), the EU is more restrictive than NZL in accounting, architecture, engineering and especially legal services but less restrictive in telecom services.

Even so, traditional telecommunications services providers in the EU benefit from high barriers to new entry and little direct competition. In addition, the extension of national regulatory authority (NRA) to Internet services raises concerns because most traditional telecommunications services suppliers historically serve one or a limited number of Member State markets, whereas most Internet "interpersonal communications services" are available in every Member State, thereby potentially subjecting them to conflicting NRA jurisdictions.

With regard to legal services within OBS, Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Greece, Hungary, Latvia, Lithuania, Malta, and Slovakia require EU or EEA nationality or citizenship for full admission to the bar, which is necessary for the practice of EU and Member State law. In many cases, non-EU lawyers holding authorisation to practice law in one Member State face more burdensome procedures to obtain authorisation in another Member State than would a similarly situated lawyer holding EU citizenship.

Figure 4.13: EU-New Zealand trade in other business services (OBS)



Source: OECD; own calculations

In the case of accounting services, the EC has taken the position that its directive on statutory auditing prohibits Member States from considering professional experience of foreign auditors acquired outside of the EU when considering whether to grant statutory auditing rights. This interpretation has hampered movement of experienced professionals and inhibited Member States from participating in the growing movement towards mutual recognition in this profession.

Investment barriers

In New Zealand, regarding the IT sector, it has been reported that 27 percent of computer system design firms have some foreign ownership, while 24 percent have ownership interest or shareholding outside New Zealand.[192] Establishing a new overseas business is the preferred method of gaining an ownership interest or shareholding off-shore. These investments have benefits to New Zealand and represent an expansion of New Zealand's intellectual property (IP) and innovation abroad. The increasing offshore footprint of these firms is not necessarily reflected in traditional export figures.

The main (overall) investment barrier EU investors face in New Zealand – also for the communication and business services sector – relates to stricter investment screening thresholds compared to investors from other countries (e.g. the US, China, and the CPTPP member states) that have already concluded FTAs with New Zealand. The Overseas Investment Act regulates foreign investments by foreign natural and legal persons that want to invest in New Zealand with more than 25 percent foreign owned investments. To gain consent, investments from overseas investors must usually deliver benefits over and above those that a likely New Zealand investor would deliver.

Social aspects

In the **European Union**, the information and communication sector employed 7.1 million people in 2018[193]. According to another classification, in 2014, 1.1 million people worked in the EU telecommunications sector in 43,000 businesses.[194] This sector covers activities

[192] Ministry of Business, Innovation and Employment, Information and Communications Technology Report 2017, https://www.mbie.govt.nz/dmsdocument/3879-information-and-communications-technology-report-2017+&cd=1&hl=nl&ct=clnk&gl=nl

[193] EUROSTAT, Labour Force Survey (NACE rev 2): https://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do

[194] European Commission, Sectoral social dialogue – Telecommunications: https://ec.europa.eu/social/main.jsp?catId=480&intPageId=1856&langId=en

including wired, satellite and other telecommunications activities; network maintenance, software publishing, computer programming, consultancy, data processing and hosting and related activities, web portals, and repair of computers and communication equipment. Given continuous technological change, innovation and increasing competition, there is a shift towards new skills sets, including computer and electronic engineering, marketing and finance skills, while traditional skills, such as network maintenance and repair, and the related employment, decline. Social partners (employers and trade unions) focus on future training and skills needs, changes in organisation of work introduced by digitisation, quality of service and work, economic performance of enterprises and health and safety at work.

The professional, scientific and technical services sector includes activities that require a high degree of training. They include legal and accounting activities; activities of head offices; management consultancy activities; architectural and engineering activities; technical testing and analysis; scientific research and development; advertising and market research; and veterinary activities. In 2017, the share of professional services in total EU employment was 6.5 percent (i.e. around 14.8 million people), which means an increase by 15.8 percent since 2012. Further employment growth in the sector is estimated at 27.5 percent for the period 2016-2030 for the whole EU, with differences between the Member States (ranging from a reduction of 10.6 percent in Spain to an increase of 91.4 percent in Romania). 64 percent of employed in this sector in 2017 in the EU had higher education.[195]

In 2018, in **New Zealand**, the telecommunications sector employed 16,000 workers, including migrants, an increase from 7,000 in early 2000s.[196] In 2018, the professional, scientific, technical, administrative and support services sector employed 334,300 people, i.e. 12.6 percent of the workforce (12.0 percent among women and 13.3 percent among men), being the second largest employer in New Zealand after retail trade, accommodation and food services having a 15.2 percent share in total employment in 2018 (Stats NZ, 2019). While there are seasonal fluctuations in employment in professional services sector, this means that in general, employment in this area was continuously increasing from 242,200 in 2012.[197]

In the years 2005-2012 (the latest identified data so far), wages in professional services sector were increasing and were around 40 percent higher than the average in New Zealand reflecting higher level of qualifications in this sector (MBIE, 2014). In 2016, the rate of trade union membership in professional services sector was 4 percent, i.e. the second lowest (just above agriculture, forestry and fishing, 3 percent). The highest rate of over 40 percent was in health care and social assistance, and education and training (Stats NZ, 2016).

Human rights aspects

Both the EU and New Zealand have human rights obligations with respect to labour rights that are relevant for the workers in the communications and business services sector (see overview of ratifications for both parties). Trade associations in both parties at different levels join efforts to promote respect for labour standards, favourable working conditions and health and safety at work. Health and Safety at Work Act 2015 is one of the main documents that establishes guidelines on safe and favourable working conditions in New Zealand.

Environmental aspects

The direct environmental impacts created in a service sector are based on the electricity use by offices, the heating and cooling of office buildings and the impacts associated with transport done by staff members for work. In New Zealand, electricity generation and

[195] CEDEFOP, Skills Panorama, Professional services: https://skillspanorama.cedefop.europa.eu/en/sectors/professional-services [accessed on 28 May 2019]

[196] Stuff (2018), Are there more employees in New Zealand's telco industry? https://www.stuff.co.nz/business/industries/101586207/are-there-more-employees-in-new-zealands-telco-industry

[197] Data comes from the Stats NZ series "Labour market statistics" from the period 2012-2018.

heating made up only 8.8 percent of all carbon dioxide emissions in 2016, which is largely because New Zealand has a high share of renewable electricity sources. The share of electricity generated from renewable energy sources in New Zealand was 85 percent in 2016 (MBIE, 2018). The sector also creates environmental impacts in an indirect manner, through by exercising demand for goods and services, the production of which involve creating emissions, waste or resource extraction (such as datacentres for IT, office supplies etc.). The environmental impacts of those sectors are covered in other sectoral analyses, if selected for this report.

4.5.2. Economic impact

For the EU, total output of communication services is estimated to stay the same under both the conservative and ambitious scenarios (Table 4.13)). For New Zealand, the estimated percentage change in total output of communication services is 0.2 percent and 0.5 percent, respectively, under the two scenarios, and compared to a situation without the FTA. The increase in New Zealand's bilateral exports of communication services to the EU under the two scenarios is considerable: 8.7 percent and 8.3 percent, respectively in the conservative and ambitious scenarios (the rise in its total exports of communication services is much lower at 0.9 percent and 0.5 percent, respectively). The rise in the EU's bilateral exports of communication services to New Zealand is also significant: 7.2 percent and 7.6 percent under the conservative and ambitious scenarios. The bilateral increases in communication services come at the expense of third countries (i.e. trade diversion), because the total EU trade in communication services does not change significantly (-0.1 percent at most under the ambitious scenario.

Table 4.13: Effects of the EU-NZ FTA on trade and output of the communication services sector

	Bilateral exports	Total exports	Output
New Zealand			
Conservative (%)	8.7	0.9	0.2
Ambitious (%)	8.3	0.5	0.5
EU			
Conservative (%)	7.2	0.0	0.0
Ambitious (%)	7.6	-0.1	0.0

Source: CGE results provided by DG Trade (2019)

Similarly, for the EU, total output of other services (that include OBS) will not change under the conservative scenario nor under the ambitious liberalisation scenario (Table 4.14). For New Zealand, the estimated percentage change in total output of other services is 0.2 percent and 0.3 percent, respectively under the conservative and ambitious scenarios. The increase in New Zealand's bilateral exports of other services to the EU under the two scenarios is 8.5 percent and 7.9 percent respectively (though the rise in its total exports of other services is much lower, increasing by between 0.8 and 0.2 percent). The rise in the EU's bilateral exports of other services to New Zealand is also significant, at 7.8 percent and 8.3 percent under the two scenarios, against almost no change in total exports, indicating that the bilateral gain in other services is diverted away from other countries.

Table 4.14: Effects of the EU-NZ FTA on trade and output of other services

	Bilateral exports	Total exports	Output
New Zealand			
Conservative (%)	8.5	0.8	0.2
Ambitious (%)	7.9	0.2	0.3
EU			
Conservative (%)	7.8	0.0	+0.0
Ambitious (%)	8.3	-0.1	+0.0

Source: CGE results provided by DG Trade (2019)

In terms of investments, raising the investment screening ceiling will facilitate EU investments into New Zealand. This has a relative competitiveness improving effect for EU investors vis-à-vis CPTPP investors in the sector who already have access, while it also

leads to more potential growth and development. With respect to communication services (i.e. telecommunications), there may, however, be certain investment concerns.

4.5.3. Social impact

Based on the economic modelling results, there will be no changes in employment levels in the EU communication and business services sector (which includes telecommunications, as well as professional services) under the conservative scenario and no changes either under the ambitious one.

For New Zealand, the economic modelling predicts a likely job reduction of 0.1 percent for unskilled workers under the conservative scenario and of 0.3 percent for the same group under the ambitious one. There will be no changes in employment levels for skilled workers. However, taking into consideration the overall positive trend and increasing employment in the sector in the last few years, one can assume that – if this trend continues, effects of the EU-NZ FTA may mean a slightly slower job growth rather than a net job reduction.

Impacts related to changes in wage and price levels have been discussed in the general part of the analysis (given that economic modelling provides estimations for changes in wage levels only for the whole economy, i.e. at an aggregated level).

Based on the textual proposal tabled by the EU, the EU-NZ FTA also has the potential to open the way to further mutual recognition of professional qualifications between the Parties and to facilitate in this way mobility of professionals and supply of services between the EU and New Zealand. The text envisages that professional bodies based on their territory may provide a joint recommendation supported by evidence (e.g. the value of a potential future Mutual Recognition Agreement, MRA, and the compatibility of the respective regimes of both Parties, i.e. to what extent their systems of authorisation, licensing, operation and certification of entrepreneurs and service suppliers are compatible). Upon a positive consideration of a relevant FTA Committee, the Parties may be invited to start negotiations of an MRA.[198]

4.5.4. Human rights impact

Results of the economic modelling suggest no employment changes in the EU communication and business services. This means there will be no impact on the *right to work* related to employment for the EU workers in this sector.

For New Zealand, employment changes suggest a limited negative impact on *the right to work* (and indirectly, *right to an adequate standard of living*) for unskilled workers under both scenarios (0.1 and 0.3 percent employment reduction respectively).

The *human right to privacy and personal data* is one that could be impacted by the EU-NZ FTA with regard to the flow of information, digital trade and telecommunications. Because we understand, however, that data issues will not be discussed as part of the FTA, any impact caused by data issues will not occur.

4.5.5. Environmental impact

The communication and businesses services sector causes its most significant environmental via electricity use, heating and cooling of office buildings and transportation for work purposes. The environmental status quo section already explained that the impact of electricity use and heating and cooling is relatively low in New Zealand. Through its effect on the transport sector, the communication and business services sector can affect several environmental impact areas (e.g. air quality, resource use), but the most prevailing environmental impact area is climate change (through the GHG emissions related to the transportation sector). Other indirect effects can for instance occur due to changes in energy use and raw materials use (e.g. paper, plastics etc.).

[198] Textual proposal tabled by the EU (Investment liberalisation and trade in services): http://trade.ec.europa.eu/doclib/docs/2018/december/tradoc_157580.pdf

Since output is expected to increase in New Zealand's communication sector, indirect environmental impacts are also likely to increase. We expect that the increase in output in the communication sector will result in a minor increase in GHG emissions (through higher demand for flights and road transport), air pollutant emissions (through road transport), energy use (e.g. in offices) and material use (e.g. in offices). In the EU, these impacts are not foreseen as output is not expected to change significantly. The overall environmental analysis conducted (see section 3.6) showed that the impact on CH_4 and N_2O emissions and other non-GHG air pollutants in New Zealand are expected to be negligible.

4.5.6. SME analysis

The communication and business services sector in the EU is largely represented by SMEs. According to Eurostat (2006) the business services sector consists of approximately 64.6 percent SMEs and 35.4 percent of large companies. 99 percent of the SMEs active in the business services sector also employ less than 50 people. SMEs also account for 66.7 percent of the value added, large companies on the other hand account for 33.4 percent. In the communication services sector, large companies make up the majority of the sectoral structure. 81.3 percent are large companies, whereas 18.7 percent are SMEs (Eurostat, 2015). The large companies in the communication services sector thus also employ 88.8 percent of the people, whilst SMEs employ the remaining 11.2 percent.

The effects of the EU-NZ FTA are expected to be modest for EU SMEs in the sector. Generally, the EU internal communication and business services market is characterised by bureaucracy, fragmented legislation, taxation and insurance regimes, and high barriers to entry. In addition to the aforementioned administrative burdens, the lacking group of middle-sized companies and mutual recognition principles is a reason limited cross-border trade and growth. However, the EC states in its High-Level Group on Business Services report (2014) that the SMEs in these sectors are active and willing to seize new international opportunities. Based on the conducted calculations, the communications and business services sector is one of the largest gaining sectors, however output remains unchanged and bilateral exports increase under both scenarios (see Table 4.13 and Table 4.14 above).

Based on the sector structure, the high presence of SMEs and the reduction of trade barriers and regulatory requirements under the EU-NZ FTA, one can expect that generally the SMEs will benefit directly through exporting more communications and business services under the FTA in light of a reduction of market access barriers and simplified bureaucratic procedures. However, as these barriers and extra costs are relatively larger for SMEs compared to large companies due to lower scale and as both sectors are comprised of only a few major exporters, SMEs are primarily expected to face modest value chain benefits through output increases under the scenarios (see Table 4.13 and Table 4.14). In light of higher output and a higher level of participation in the international market place, higher turnover and growth is to be expected if SMEs are fully taking advantage of the FTA and utilise its required understanding and implementation of rules, provisions and preferences. In regard to employment, the communication and business services sector will have no increase in skilled and unskilled workers (see Table 3.15).

In New Zealand SMEs are also important for the communication and business services sector. According to New Zealand's Ministry of Business, Innovation and Employment (2016) 47 percent of the people employed in the sector are employed by a SME, which amounts to a total of 17,500 people. Large companies employed the remaining 12,200 people within the sector. Out of the active SMEs, 76 percent of the small companies do not have any employees. Similar findings can be made in the medium-large firms of New Zealand, where approximately 81 percent employ around ten to 49 employees. However, New Zealand's Productivity Commission (2014) states that the industry is mainly dominated by large companies, which have the ability to fully exploit economies of scale.

The effects of the EU-NZ FTA also appear to be positive for New Zealand's SMEs active in the communication and business services sector. The country's communication and business services industry is one of the gaining sectors, in terms of output and bilateral

exports, under both scenarios (see Table 4.13 and Table 4.14 above). Based on the country's communication and business services sector structure, the high presence of SMEs and the reduction of trade barriers and further regulatory requirements under the EU-NZ FTA, including the obligation to meet various certification and documentation procedures, New Zealand's communication and business services sector SMEs will benefit primarily through value chain benefits, caused through higher exports of large companies under the EU-NZ FTA. The opening of markets through FTAs reduces the requirement to process and meet the different regulatory requirements and establishes mutual recognition systems, which will benefit SMEs as they are able to reallocate their resources more efficiently to support the large exporting companies. Same as for the EU SMEs active in this sector there are none to slight decreases in regard to the employment of skilled and unskilled employees (see Table 3.15).

4.5.7. Third country impact

As the communications and business services sector comprises two separate sectors in the economic modelling, we analyse both independently.

Table 4.15 shows the main third country effects for the communication services sector. Overall, the effects of the EU-NZ FTA on the sector in other countries are negligible. Output and prices are not expected to change in both scenarios, except in the Pacific, however these changes are quite limited. Generally, the EU's and New Zealand's exports of communication services to the regions and countries decline. The Pacific countries reduce their imports of New Zealand's communication services by the largest percentage (0.9 percent) under the ambitious scenario. Additionally, the Pacific region increases its total exports by 0.6 percent. The effects for EU FTA partners and the main EU and New Zealand competitors are negligible as well. Finally, we find that the EU-NZ FTA in communication services does not affect poorer nations in the world (LDCs) negatively. The total sector exports of LDCs are expected to grow by 0.1 percent.

Table 4.16 shows the main third country effects for the other services (business services) sector. The effects are very similar to the communication services sector.

Table 4.15: Third country communication and business services effects of the EU-NZ FTA

Variable (% change)	Turkey	EU FTA partners	Pacific	LDCs	ASEAN	South Korea	Canada	China	USA
Output – Amb	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
Output - Cons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prices – Amb	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
Prices – Cons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU exports to country – Amb	-0.2	-0.3	**-0.6**	-0.2	-0.3	-0.3	-0.3	-0.3	-0.3
EU exports to country – Cons	-0.1	-0.1	-0.3	-0.1	-0.2	-0.2	-0.1	-0.2	-0.2
NZ exports to country – Amb	-0.2	**-0.6**	**-0.9**	**-0.5**	**-0.6**	**-0.7**	**-0.6**	**-0.6**	**-0.6**
NZ exports to country – Cons	0.0	-0.1	-0.2	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1
Country total exports - Amb	0.0	0.1	**0.6**	0.1	0.3	0.3	0.1	0.1	0.2

Source: CGE results provided by DG Trade (2019)

Table 4.16: Third country other services effects of the EU-NZ FTA

Variable (% change)	Turkey	EU FTA partners	Pacific	LDCs	ASEAN	South Korea	Canada	China	USA
Output – Amb	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
Output - Cons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prices – Amb	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
Prices – Cons	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
EU exports to country – Amb	-0.2	-0.3	**-0.7**	-0.3	-0.4	-0.4	-0.3	-0.3	-0.3
EU exports to country – Cons	-0.1	-0.2	-0.3	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2
NZ exports to country – Amb	-0.2	**-0.9**	**-1.3**	**-0.9**	**-1.0**	**-1.0**	**-0.9**	**-0.9**	**-0.9**
NZ exports to country – Cons	-0.2	-0.3	-0.4	-0.2	-0.3	-0.3	-0.2	-0.3	-0.2
Country total exports - Amb	0.0	0.1	**0.6**	0.0	0.2	0.2	0.0	0.1	0.1

Source: CGE results provided by DG Trade (2019)

4.5.8. Competitiveness analysis

The SME analysis is difficult to undertake for this combined sector. The above parts on professional services clearly indicate that this part of the sector is dominated by SMEs in both the EU and New Zealand. While the communications and business services market is competitive in the case of the EU with a concentration ratio ranging from 8%[199] to 13%, it is also among the most competitive sectors in the case of New Zealand (with a profit elasticity, PE, weighted by gross value added, GVA, of -3.87[200] over 2000-2010). For communication services, however, market concentration in both the EU and New Zealand is much higher.

The relatively competitive market structure and large SME representation suggest that the EU-NZ FTA is likely to unleash further pro-competitive effects, leading to a fall in mark-ups and industrial restructuring especially in the ambitious scenario that entails more meaningful liberalisation of this sector via a 3 percent reduction in AVEs. This could result in further consolidation with even more efficient firms in this sector in both partner markets facing more effective competition from each other.

4.5.9. Policy recommendations and flanking measures

- As mentioned above for the other sectors analysed, we recommend that the Parties should agree to the removal of the New Zealand pre-investment screening mechanism for EU investments or at least agree to raising the threshold for the application of the mechanism.
- Trends in the professional services and telecommunications sectors, both in the EU and New Zealand are positive with employment growing over the last few years and suggest that future jobs may be related with new skills requirements and an overall high level of skills, including those related to digital economy. To continue with this trend and to mitigate potential limited negative impacts expected as a result of the EU-NZ FTA, the Governments should work with industry and training providers to create a training offer, which would equip workers with the right skills set and enable them to continue or to start working in these sectors. A well-designed training offer may help to maintain or improve sector's competitiveness and support employability and competitiveness of local workers.
- Increasing employment in the services sector, including digital, is linked to the latest trends in the economy, trade and organisation of work. Hence, both Parties, as well as

[199] ECB (2019) "Concentration, market power and dynamism in the euro area", Working Paper Series No. 2253.
[200] https://www.mbie.govt.nz/assets/f8aae60a4e/competition-in-new-zealand-industries.pdf; note that a more negative PE score denotes more intense competition.

business and civil society representatives are encouraged to use channels for dialogue provided by the TSD chapter to discuss challenges and opportunities related to the Future of work (as defined by the ILO and discussed by G20), i.e. new forms of work organisation and changes related to digital economy and technology in general, and the best course of unilateral and bilateral/joint action helping both Parties to seize the opportunities offered by new trends and technologies and the EU-NZ FTA.

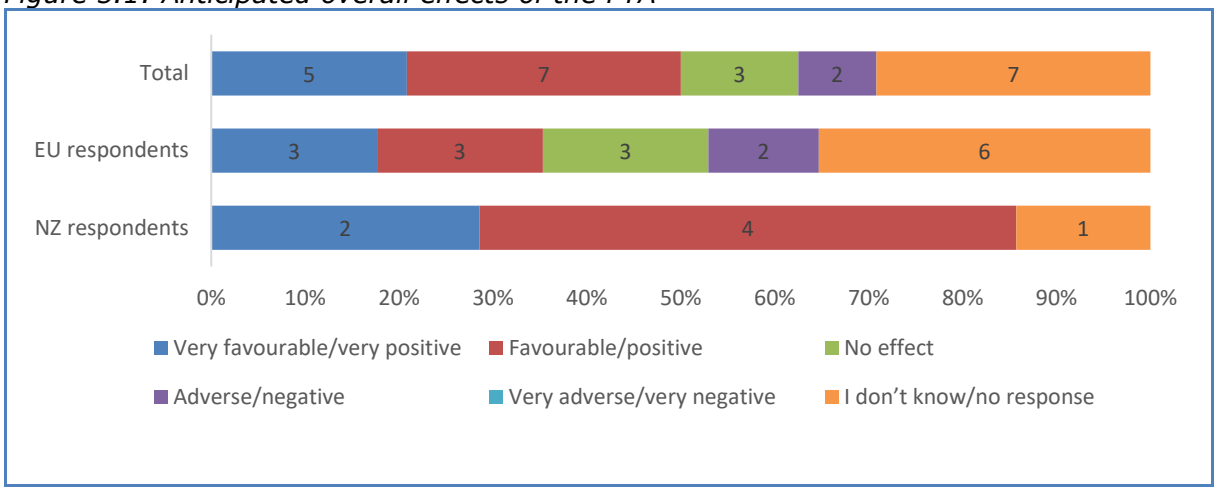
5. CONSULTATIONS

Consultation and communication activities were undertaken in line with the consultations plan presented in the inception report. In total, about 400 stakeholders (organisational entities) - 85 in New Zealand and 314 in the EU – were included in the database and contacted to provide comments through the online surveys, interviews or written contributions. In total, 24 respondents participated across the two surveys, of which 20 in the general one and 4 in the business/SME survey. 29% of the respondents (7) are New Zealanders, and the remaining 71% (17) located in the EU. 17% businesses, and 8% individuals.

This section presents a summary of the findings from the survey; contributions made through position papers and interviews have been reflected in the analyses presented in the preceding sections. Detailed information about the consultation activities undertaken and contributions from stakeholders obtained from these consultations are provided in a separate consultations report (Annex VI).

The overall view among stakeholders of the FTA is positive (Figure 5.1). Around 50% of respondents stated that the overall effect of the Agreement was positive or very positive, while 8% anticipated a negative overall impact of the Agreement. Respondents from New Zealand were more positive than EU respondents, and impact on New Zealand was also seen as more positive than in the EU, by both EU and New Zealand respondents (see Annex VI).

Figure 5.1: Anticipated overall effects of the FTA



Source: Responses to online surveys; n = 36.

With regard to economic effects of the FTA, stakeholders overall expect positive effects. The strongest positive effects are anticipated for the level of goods exports from New Zealand to the EU, better protection of IPR, and economic growth in New Zealand. Conversely, the most limited positive effects of the new Agreement are expected for the incidence of corruption, consumers in New Zealand, and for the economic growth in the EU. On average, New Zealand respondents are clearly more optimistic about the Agreement than EU respondents. In terms of sectors, respondents in New Zealand consider that agriculture is the sector in which the FTA will have the highest effect. EU survey participants see the dairy sector, meat production, and agriculture as more influenced by the negotiations than other sectors; in New Zealand the dairy sector and meat products are also considered as most influenced, followed by construction, services and food products.

Responses regarding the FTA's social impact show a generally positive perception of the effects in New Zealand across all types of social indicators, with varying degrees. The most limited/neutral effect is expected for wealth inequality, access to health care and income inequality. Conversely, the strongest positive effect of the Agreement is anticipated for

employment levels, wages and consumers. Generally, EU respondents have a more sceptical view, expecting a no impact or a slightly negative impact of the Agreement on forced labour, income and wealth inequality in New Zealand. Regarding the potential social effects of the Agreement in the EU, respondents expect a very limited impact across all indicators. With respect to the effects on different social groups in the EU and in New Zealand, few survey participants provided a response, indicating that the scale of the impact on any social group is expected to be limited.

Most survey participants considered the Agreement's effect on human rights to be negligible. With regard to the anticipated environmental effects, about 30% of respondents expect effects to occur in the EU and NZ, around 15% expect environmental effect only in New Zealand and 5% only in the EU. Half of all respondents expect no effect or provided no response. The responses to the various potential environmental effects show a generally slightly positive perception, due to positive views held among New Zealanders survey participants; conversely, EU respondents are more critical. However, very few respondents expressed a view.

Finally, in terms of FTA negotiation topics, the three issues considered most important overall are rules on state aid/subsidies, removal of remaining tariffs, and stronger rules for environmental protection. New Zealander respondents on average assign higher priorities on most issues than EU respondents, the only exceptions being rules on state aid and competition.

6. POLICY RECOMMENDATIONS AND FLANKING MEASURES

Throughout this report, both in Chapter 3 (overall analysis) and Chapter 4 (sector-specific analysis), we have drafted policy recommendations and flanking measures. For ease of reading, we group the main recommendations together once more in this Chapter, split between policy recommendations (section 6.1) and flanking measures (section 6.2). Policy recommendations are recommendations related to the EU-NZ FTA negotiations directly, while flanking measures are recommendations that are not part of the FTA negotiations but which we recommend in any case for the two negotiating partners because they could have an impact on the way the EU-NZ FTA works through the economies and impacts the EU, New Zealand or others.

6.1. Main policy recommendations

Main economic and SME policy recommendations

- The tariff and NTM liberalisations in the ambitious scenario show some sectoral effects. In order to minimise any potential negative effects of the liberalisation and give workers the time to adjust, the EU and New Zealand could negotiate to introduce liberalisation gradually (e.g. tariff liberalisation in ruminant meat, machinery or motor vehicles) over time.
- The EU and New Zealand should discuss how to open their economies for two-way investments, especially given the potential gains for the EU and New Zealand from investment liberalisation. Negotiations should aim at the removal (or increase) of thresholds for investments in New Zealand, so that no investments (or only very large ones) will be pre-screened. The EU should ask New Zealand at the minimum for EU investors to be treated similar to other foreign investors with which New Zealand has an FTA (e.g. CPTPP).
- Because the EU accounts for more than 40 percent of New Zealand's public procurement, both Parties should agree to a comprehensive coverage of government procurement would have 2-way positive economic effects which could be stimulated by the EU-NZ FTA.

Main social and gender equality policy recommendations

- While expected employment reductions at the EU level in the ruminant meat sector are likely to be relatively limited, in case the ambitious scenario is followed, some EU Member States or regions having a higher share of non-dairying cattle farming in economic activity and employment (e.g. in Ireland), may potentially be more (negatively) affected (in particular if effects of a few FTAs cumulate). Decisions about the appropriate support measures should be based on a sound market analysis and trends in demand, supply and prices. Such analysis could be provided e.g. by the EU Meat Market Observatory, with a particular focus on changes following entry into force of new FTAs. Additional evidence related to effects of market changes on farmers and meat processors could be collected by their organisations, e.g. the Irish Farmers' Association, and reported at the national and EU level. Moreover, to avoid or mitigate potential negative effects, the governments and farmers' associations in the EU should continue or step up efforts supporting competitiveness of the ruminant meat sector in the EU and high products' quality, complemented by search for potential additional destination markets for products of this sector.
- If agreed in negotiations, the EU-NZ FTA provisions on health and safety at work under TSD chapter may encourage the Parties to take further unilateral actions and pursue bilateral cooperation and dialogue in the area of health and safety at work. In this context, it would be important that the TSD chapter provides a space for workshops, joint projects and other opportunities for exchange of information and best practice, on the EU side based on Member States' experience and expertise developed by the European Agency for Safety and Health at Work. In the past, such cooperation with partner countries, e.g. Chile (under the Association Agreement) included study visits,

also in the Agency, and discussion about legislative solutions and their practical application in risk-related sectors, such as mining. Dialogue involved also employers' and workers' representatives. The EU and New Zealand would need to choose the most relevant set of sectors for their relations and ensure that cooperation activities engage sector representatives from both Parties.

- While quantitative impacts of the EU-NZ FTA on the respect of rights at work are likely to be limited (e.g. employment of disabled persons) or difficult to establish (e.g. regarding work of young persons or cases of exploitation of migrant workers), there may be a qualitative positive impact related to encouragement for New Zealand to ratify two outstanding ILO fundamental conventions (No. 87 and 138). The Parties should continue their dialogue in this area during negotiations, with a view to identifying steps to take by New Zealand towards ratification and effective implementation of these conventions.
- Cooperation and dialogue under TSD chapter could also include seminars to be attended by representatives of National Contact Points (NCP) under the OECD Guidelines for Multinational Enterprises to share information and best practice related to their operation and handling of specific instances. Such seminars and an opportunity for a discussion with NCP representatives were highly appreciated by civil society representatives from the EU and the Republic of Korea under the EU-Korea FTA.
- To enable monitoring of impacts of the EU-NZ FTA on women, the Parties should further collect and analyse data disaggregated by gender. This applies in particular to the EU level data related to women entrepreneurs and traders (e.g. sectors of their economic activity, as well as internationally traded goods and services), and to women entrepreneurs and traders in New Zealand. Exchange of best practice related to methods of data collection and analysis could follow in the regular dialogue under the TSD chapter of the EU-NZ FTA or other relevant chapters, e.g. on SMEs, and within other bilateral or multilateral initiatives, e.g. follow-up to the Buenos Aires Declaration on Trade and Women's Economic Empowerment. Examples could include methods to identify barriers to trade for women entrepreneurs (a new study to be published by the EU in September 2019), surveys to identify patterns of international trade activity by companies managed and/or owned by women and – in multilateral forums, such as exchanges with other partners in the follow-up to Buenos Aires Declaration – examples of recent Chilean studies identifying barriers to trade, as well as goods and services exported by women-led enterprises.
- Given that certain measures or approaches included into provisions of a trade agreement may have a different impact on men and women in the context of trade, the Parties should consider analysis of such impacts at the time of design and implementation of FTA provisions in core trade disciplines, including in the EU-NZ FTA, e.g. trade in services (given the large share of women employed as workers and operating as entrepreneurs and international traders in the services sectors), technical regulations and conformity assessment procedures (given participation of women-led SMEs in exports to New Zealand in sectors such as clothing or electronic components), public procurement (and impacts on SMEs' participation), investment, e-commerce or policy on SMEs. A similar step has been recommended by the UN Economic Commission for Europe (UNECE) in its Gender Responsive Standards Initiative (and the recommendation adopted in November 2018) promoting greater involvement of women in standard setting.[201]
- The Parties should monitor (in cooperation with social partners) whether women may be disproportionately impacted by price increases in food products in New Zealand as a result of the EU-NZ FTA.

Main human rights policy recommendations

- The FTA should include a commitment for New Zealand to ratify the ILO Convention No. 87 concerning freedom of association and protection of the right to organise, the ILO Minimum Age Convention No.138, the ILO Indigenous and Tribal Peoples

[201] UNECE: Thematic Areas – Gender Initiative: http://www.unece.org/tradewelcome/steering-committee-on-trade-capacity-and-standards/tradewp6/thematic-areas/gender-initiative.html [accessed 28 November 2018].

Convention No.169, the International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families to strengthen protection of the rights of the respective vulnerable groups in line with the international standards, as well as the 2014 Protocol to the ILO Forced Labour Convention No. 29.

- Based on the analysis of the impact, we recommend – if agreed – that both the EU and New Zealand apply a gradual removal of tariffs and TRQs in agriculture, to allow the ruminant sector in the EU and farmers to adjust.
- Next to that, we recommend that the EU authorities regularly monitor labour rights of the workers from declining sectors ensuring that their rights are not violated and assist them in adjusting to the new situation. For the workers in the ruminant sector, given the potential negative employment consequences of the ambitious scenario, the EU may need to reflect on costs and benefits from full liberalisation in this sector.
- Complementing the TSD Chapter, which already includes binding obligations for the Parties that are intended to be enforced by the TSD Sub-Committees, the Parties should consider including provisions on specific vulnerable groups (indigenous peoples, persons with disabilities, children, women, migrants, refugees and asylum seekers) that contain clear and measurable targets to strengthen their rights within the framework of the EU's trade policy – if possible linked to this FTA.
- While the exact text of the EU-NZ FTA is not available at the time of writing of this report, access to essential medicines may be affected. Increased IP protection stimulates innovation and can contribute to reducing medicines shortages, but it can also put certain pressure on the New Zealand government via increasing costs for healthcare in case new innovative drugs hit the market and no economic benefit assessment is in place. The FTA should aim to contribute to availability of medicines for patients in the EU and New Zealand and reduce costs in the New Zealand healthcare system by encouraging innovation.
- Finally, we recommend to include continued monitoring and ex-post evaluation of the impact of the EU-NZ FTA, beyond a one-time evaluation after 5 years, and to carry out targeted human rights impact assessments of the Agreement at regular intervals to ensure proper implementation of the parts of the Agreement relevant for human rights (e.g. TSD Chapter) but also to assess whether other parts of the Agreement identified as possibly affecting human rights had any impact and if so, its nature, direction and degree.

Main environmental policy recommendations

- Explore ways to stimulate further climate action in the context of the FTA in order to 'offset' the negative impact of the FTA by increased ambition. A provision in the sustainable development chapter could cover this. In terms of global effects, the FTA is expected to have a negative impact on climate change, particularly from the foreseen trade liberalisation in the agricultural sector (i.e. CH_4 emissions from enteric fermentation and CO_2 emissions from land clearing). The negative impact on climate change through the agricultural sector is predominately driven by the expected increased output in the beef and sheep meat sector (refer to the sector study in section 4.1 for details). Production in this sector creates significant amounts methane (CH_4) and, to a lesser extent, nitrous-dioxide (N_2O) emissions. There is also a small increase expected in CO_2 emissions as a result of the FTA, in part due to the transportation needed for the increased trade flows between the two partners. In addition, both parties are signatories of the Paris Agreement and have committed to keep global warming well below 2 °C by the end of the century. However, New Zealand's GHG emission reduction target of -30 percent compared with 2005 levels is assessed to be insufficient to keep global warming below 2 °C. Also, the EU's targets of -40 percent of emissions compared with 1990 are likely insufficient for Paris. The FTA is expected to jeopardise progress towards these goals.
- Consider ways in the negotiation on how to promote the exchange of information on effective policy making between the EU and New Zealand in the field of water quality between the EU and New Zealand in the context of the FTA. The EU's regulation in the field of water (Water Framework Directive) is viewed as comprehensive and ambitious, but also suffers from difficulties in implementation. Both are encouraged to share best practices and in the area of implementation and regulatory measures to stimulate

strengthening of water policy in both regions to accommodate the additional pressure from the FTA in this area.

6.2. Main flanking measures

Main economic flanking measures

- Flanking the gradual liberalisation of sectors where the effects are expected to be largest (e.g. ruminant meat, machinery), the EU and New Zealand should domestically put (tested) retraining and job programmes in place to help workers adjust to economic changes due to the EU-NZ FTA.
- The EU and New Zealand should agree to establish a one-stop-shop for SMEs in the EU Member States and New Zealand - much of the feedback received from SMEs points to the fact that the EU-NZ FTA is seen as very abstract and distant from their every-day concerns, and SMEs do not have the resources to investigate deeply.
- We propose for the EU and New Zealand to establish a public-private cooperation 'SME task force' in both Parties, linking the Chambers of Commerce and SME representatives up with the relevant ministry departments to develop and execute a 3-year action plan to explain to SMEs the potential of the EU-NZ FTA and to work with SMEs to reap benefits and become themselves ambassadors to other SMEs. In the EU this recommendation can build on the SME European Network.

Main social flanking measures

- Trends in the motor vehicles sector, both in the EU and New Zealand, suggest that new jobs may require new skills e.g. software and electronics engineering skills, advanced data analytics, and new types of jobs in cooperating sectors and enabling services, e.g. research on advanced materials and battery cell chemistry, renewables and alternative fuels or 5G network. Therefore, for the expected job growth (in the EU) to materialise, the EU institutions and Member States should work with industry and training providers to create training offers, which would equip workers with the right skills set and enable them to continue or to start working in the sector and to maintain or improve its competitiveness. One example of such an initiative is the DRIVES project with a budget of €3.9 million over four years implemented through a network of partner organisations from 11 countries. Components of the project include monitoring of skills needed in the automotive sector, design of job profiles and a pilot certification and training offer.
- The situation in sectors of New Zealand's economy that are likely to be negatively affected by the EU-NZ FTA, e.g. motor vehicles and machinery, may require that the New Zealand Government takes measures to support workers in transition to new jobs in case employment reductions occur in these sectors. Support measures could include training, career advice, support to set up own business, job fairs to facilitate matching workers with potential employers, as well as support for SMEs in the supply chains to diversify into other sectors.
- Based on results of the economic modelling with predicted employment growth in some agricultural sectors in New Zealand, it seems likely that at least part of additional jobs may be filled in by seasonal workers (e.g. short-term migrants) or casual workers. In this context, it will be important to ensure that working conditions for these groups of workers are decent and meet the established standards, and that cases of migrant workers' exploitation documented in some studies are prevented and, when they happen, are investigated and addressed. While observance of laws regarding working conditions will be the employers' obligation, labour inspection and Immigration NZ (supported by information from workers, trade unions, NGOs and others) should identify and address cases of workers' rights violations. Moreover, measures helping to prevent exploitation of workers, such as information for migrant workers about their rights and banning employers exploiting migrants from employing them should be continued. The Government should also consider granting migrant workers the same or similar protections as enjoyed by other workers in New Zealand, as well as ratification of the 2014 Protocol to the Forced Labour Convention No. 29.
- We recommend that both the EU and New Zealand flank the EU-NZ FTA with initiatives aiming at reducing the number of accidents at work – especially in agriculture and

construction to ensure that the FTA does not lead to increases in accidents at work. These programmes should be led by sector representatives and build on recent initiatives outlined in the sectoral part of the analysis and Annex III.2.

- If agreed in negotiations, the EU-NZ FTA provisions on trade and responsible supply chain management, including CSR/RBC practices, under the TSD chapter may encourage the Parties to take further unilateral actions and pursue bilateral cooperation and dialogue in these areas, as well as contribution to multilateral initiatives. In this context, it would be important that the TSD chapter provides a space for workshops, joint projects and other opportunities for exchange of information and best practice or search for solutions to address common challenges and that these activities can engage also businesses and other relevant stakeholders from both Parties.
- Addressing both the public sector negotiators and the private sector, In the framework of CSR/RBC, all relevant stakeholders (government, civil society, companies, interest groups, etc.) should work on promoting the human rights responsibilities of companies and monitoring their responsible business conduct – setting up public-private-partnerships is one way to proceed.
- The Parties should consider launch and/or continuation of tools and initiatives (discussed in detail in Annex III.2 to this Report) supporting women's economic activity, i.e. setting up and operation of enterprises, with access to funding, advisory services and networks, and engagement in international trade, including under the EU-NZ FTA.

Main human rights flanking measures

- Because of the predicted shifts in employment triggered by the Agreement, both parties should consider allocation of special budget to provide for the training programmes and necessary social support of the workers that are expected to be negatively affected by the EU-NZ FTA, or keep the potential effects of the EU-NZ in mind when allocating existing funds. Also both the EU and New Zealand should monitor that the right to work of the workers from the affected sectors is not violated.
- We recommend that New Zealand considers introduction of a special taskforce directed at monitoring that the labour rights of the workers from the declining sectors are protected and allocate financial resources in order to assist affected workers in adjusting to the new employment situation. Next to that, we recommend that New Zealand authorities establish a separate taskforce that works out a detailed plan on how to use benefits from the growing sectors and direct them to the needs of the vulnerable groups employed in the sector.
- In the framework of CSR/RBC, all relevant stakeholders (government, civil society, companies, interest groups, etc.) should work on promoting the human rights responsibilities of companies and monitoring their responsible business conduct.

Main environmental flanking measures

- Find ways to alleviate the impacts of increased agricultural production on biodiversity. For instance, options to minimise land clearing could be explored in the light of the FTA. The FTA is likely to exacerbate the pressures on biodiversity in New Zealand through the expected land clearing as a result of the predicted expansion of the agricultural sector (i.e. mostly the beef and sheep meat sector). A detailed case study on the issue as part of this SIA confirmed these potential threats for biodiversity.
- Explore possibilities to stimulate the implementation of New Zealand's Biosecurity Strategy in the context of the FTA.

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