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

Draft Final Report

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ABSTRACT

This report examines the potential economic, social, human rights and environmental impact of the EU-Australia 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-Australia 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 both the EU and Australia, based on an analysis also incorporating an FTA between the EU and New Zealand. In the EU, welfare in 2030 is expected to increase by €4.1 billion and real GDP by €3.9 billion, compared to a situation without the FTA, and Australian welfare and real GDP are expected to increase by €1.4 billion and 4.7 billion, respectively (in the ambitious scenario). Bilateral exports are expected to increase by 32.5 percent and 10.4 percent respectively for the EU and Australia in the ambitious scenario. There is, however, sectoral variation with ruminant meats benefiting most in Australia and motor vehicles and machinery in the EU. SMEs in the EU and Australia 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 marginally (for Australia) 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
AAWS	Australian Animal Welfare Standards
ABARES	Australian Bureau of Agricultural and Resource Economics
ACCSR	Australian Centre for Corporate Social Responsibility
ACCU	Australian Carbon Credit Units
ACOSS	Australian Council for Social Service
ACP	African, Caribbean and Pacific Countries
AHRC	Australian Human Rights Commission
AHS	Effectively Applied Tariff
ANREU	Australia National Registry of Emissions Units
ANZCERTA	Australia-New Zealand Closer Economic Relations Trade Agreement
APEC	Asia-Pacific Economic Cooperation
API	ASEAN Prosperity Initiative
AQI	Air Quality Index
ASEAN	Association of Southeast Asian Nations
ATMEG	Agricultural Trade and Marketing Experts Group
AUS	Australia
AVE	Ad Valorem Equivalents
BIT	Bilateral Investment Treaties
BND	Bound Tariff
BSE	Bovine Spongiform Encephalopathy
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
CEEV	Comité Européen des Enterprises Vins
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
CoTS	Crown of Thorns Starfish
CPI	Consumer Price Index
CPTPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership
CRPD	Convention on the Rights of Persons with Disabilities
CSD	Civil Society Dialogue
CSR	Corporate Social Responsibility
DA	Department of Agriculture and Water Resources of Australia
DG	Directorate-General
DRIVES	Development and Research on Innovative Vocational Education Skills
EAHP	European Association of Hospital Pharmacists
EBA	Everything but Arms
EC	European Commission
ECHR	European Convention on Human Rights
EDGAR	Emissions Database for Global Atmospheric Research
EESS	Electrical Equipment Safety System
ELV	End-of-Life Vehicle
EPBC	Environment Protection and Biodiversity Conservation
EPHA	European Public Health Alliance
ERF	Emissions Reduction Fund
ESMO	European Society for Medical Oncology
EU	European Union
FDI	Foreign Direct Investment
FIRB	Australian Foreign Investment Review Board
FRA	Fundamental Rights Agency
FTA	Free Trade Agreement
FTAAP	Free Trade Area of the Asia-Pacific
GATT	General Agreement on Tariffs and Trade
GEMS	Greenhouse and Energy Minimum Standards
GDP	Gross Domestic Product
GfC	Guidelines for Cattle
GGFC	Gross Government Final Consumption

GHG	Greenhouse Gas
GI	Geographical Indication
GPA	Agreement on Public Procurement
GRP	Global Reference Pricing
GSP	Generalised Scheme of Preferences
GTAP	Global Trade Analysis Project
GVC	Global Value Chain
HAP	Hazardous Air Pollutants
HDI	Human Development Index
HHI	Herfindahl-Hirschman Index
HQB	High Quality Beef
HRW	Human Rights Watch
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICIO	Inter Country Input Output
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
ICT	Information and Communications Technology
ILO	International Labour Organization
IMI	Innovative Medicine Initiative
IP	Intellectual Property
IPR	Intellectual Property Rights
ISG	Inter-Service Steering Group
ISO	International Organisation for Standardization
LCA	Life Cycle Assessment
LDC	Least Developed Country
LGBTI	Lesbian, Gay, Bisexual, Transgender and Intersex
LSE	London School of Economics Enterprise
MFN	Most Favoured Nation
MRA	Mutual Recognition Agreement
MSAG	Multi-Stakeholder Advisory Group
NAP	National Action Plan
NatRUM	National Return of Unwanted Medicines
NCP	National Contact Point
NDC	Nationally Determined Contribution
NEG	National Energy Guarantee
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
NGER	National Greenhouse and Energy Reporting Scheme
NGO	Non-Governmental Organization
NPS	National Prescribing Service
NRA	National Regulatory Authority
NTB	Non-Tariff Barriers
NTM	Non-Tariff Measure
NWI	National Water Initiative
NZ	New Zealand
OBS	Other Business Services
OCT	Overseas Countries and Territories
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
OIE	Organisation Internationale des Épizooties
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
PBAC	Pharmaceutical Benefits Advisory Committee
PBS	Pharmaceutical Benefits Scheme
PPML	Poisson Pseudo-Maximum Likelihood
PPP	Public-private Partnership
PTE	Patent Term Extension
RBC	Responsible Business Conduct

RDP	Regulatory Data Protection
RoO	Rules of Origin
R&D	Research and Development
SDG	Sustainable Development Goals
SDL	Sustainable Diversion Limits
SIA	Sustainability Impact Assessment
SME	Small and Medium Sized Enterprise
SPCS	Supplementary Protection Certificate
SPS	Sanitary and Phytosanitary measures
STEM	Science, Technology, Engineering and Mathematics
STRI	Services Trade Restrictiveness Index
TBT	Technical Barriers to Trade
TFEU	Treaty on the Functioning of the European Union
TGA	Therapeutic Goods Administration
TiVA	Trade in Value Added
ToR	Terms of Reference
TPP	Trans-Pacific Partnership
TPPA	Trans-Pacific Partnership Agreement
TPRM	Trade Policy Review Mechanism
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
UNCTAD	United Nations Conference on Development and Trade
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UN ESCAP	United Nations Economic and Social Commission for Asia
UNGP	United Nations Guiding Principles on Business and Human Rights
US	United States
WEEE	Waste Electric and Electronic Equipment Directive
WEF	World Economic Forum
WEgate	Women's Entrepreneurship Gate
WET	Wine Equalisation Tax
WHO	World Health Organisation
WIGB	Women in Global Business
WIOD	World Input Output Database
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-Australia 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 abovementioned Handbook for Trade Sustainability Impact Assessments, the key features of this study are:

- An integrated approach to assessing the impact of the EU-AUS FTA based on the four sustainability pillars: economic, social, human rights and environmental;
- Engagement in the EU and Australia 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-AUS FTA.

1.2. List of key issues for the EU-Australia 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**, key issues for the EU-Australia negotiations would be to reduce existing barriers to trade and investment – considering the EU's agricultural sensitivities – and to make it easier for EU SMEs to access the Australian market for goods and services.
- The analysis of the **social state of play** suggested that despite progress, gender gaps remain on the labour markets in both the EU and Australia, in terms of employment rates, pay, occupied positions, and the numbers of hours worked. Moreover, men and women tend to have different sectoral preferences in choosing jobs and setting up enterprises, which in turn means that the EU-AUS FTA may affect them differently in their roles of workers and entrepreneurs. Findings from the social state of play also suggested that job quality is an issue in some sectors which are likely to be affected by the EU-AUS FTA and should therefore be analysed in more detail, including ruminant meat and dairy products, as well as utilities, including construction. These are characterised by a high number of accidents at work, low to medium wages, low

presence of trade unions (notably in agriculture) and identified cases of exploitation of migrant workers.

- Because of sectoral impacts, some sectors will benefit while others will not (e.g. for the EU beef and sheep meat and vegetables and fruit decline while motor vehicles and machinery gain; for Australia, beef and sheep meat, beverages & tobacco, sugar and oilseeds grow in output, while motor vehicles and machinery decline). From a **human rights perspective,** initial findings on the possible impact of the EU-AUS FTA suggested that the *right to work*, *right to an adequate standard of living* and also *right to a clean environment* could be impacted, in particular with respect to vulnerable groups.
- Initial findings on the possible impact of the EU-AUS FTA on **environment** suggested that the environment could potentially be affected and should therefore be analysed in further detail.
  The direct environmental consequences of trade-induced growth of the agricultural sector in Australia and associated knock-on effects call for further exploration, with a special focus on the impact areas 'water' and 'biodiversity'.

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-AUS trade relationship at the moment and a summary of the impact assesment research work done on a potential EU-AUS FTA to date.

Chapter 2 presents a summary of the methodological approach for each of the two 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-AUS FTA for each of these four pillars overall. Particular attention is paid to the effect of the FTA on women and SMEs (separate sections).

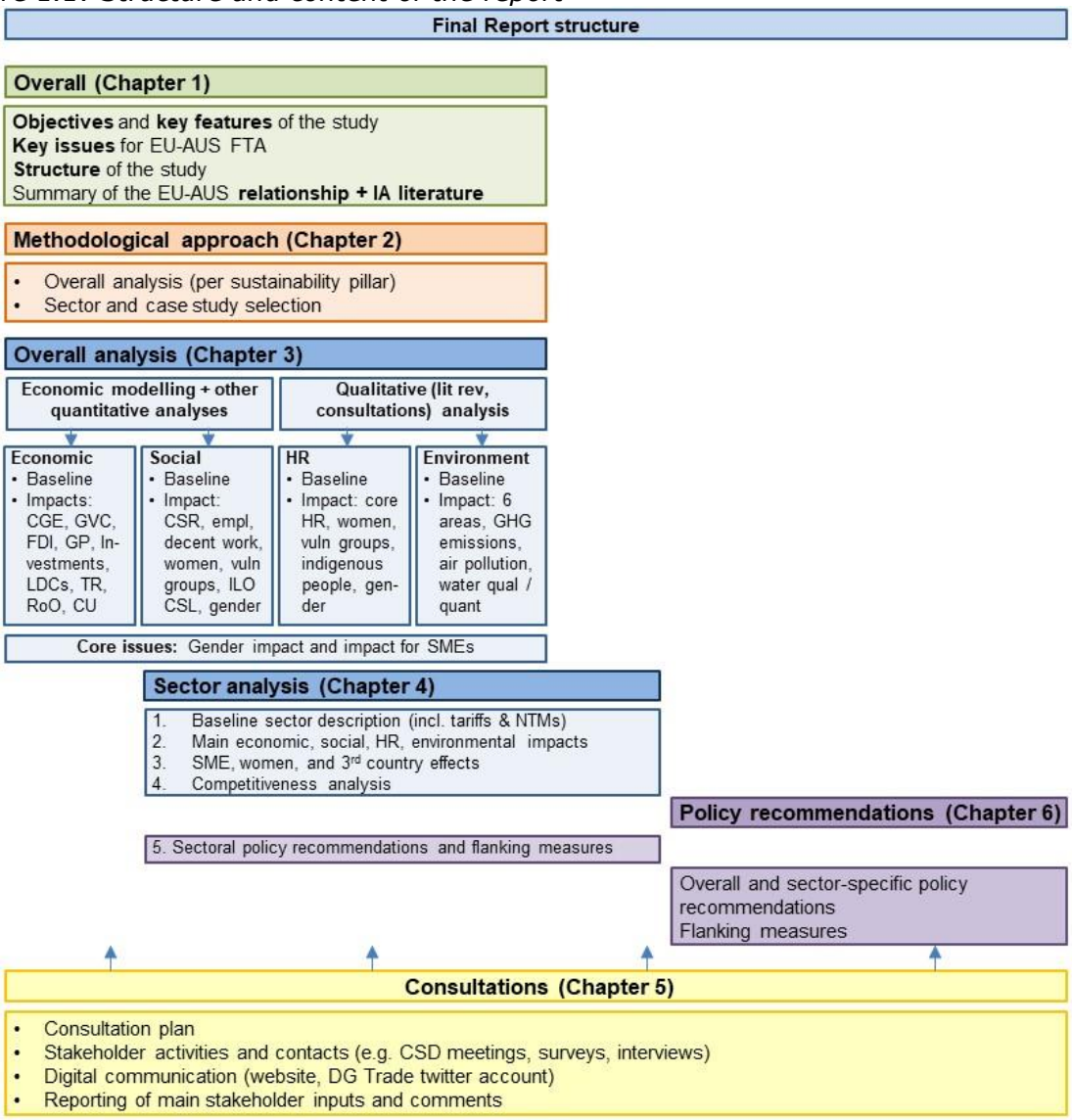
In Chapter 4 we turn to the sectoral effects. For five selected sectors we cover a baseline analysis, followed by expected sustainability effects (economic, social, human rights, environmental) stemming from the EU-AUS FTA. We also look at the sectoral effects on SMEs, women, and for third countries.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

Chapter 5 summarises the consultation approach. 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 and mitigate the potential negative effects.

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 state of play 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.

Figure 1.1: Structure and content of the report



1.4. The EU-Australia trade relationship

In this section, we present a concise overview of the EU-Australia trade and investment relationship. A more detailed description can be found in Annex III.1 to this report.

The EU and Australia have been conducting their trade and economic relations under the 2008 EU-Australia Partnership Framework, which aims at facilitating EU-AUS trade in industrial products by reducing technical barriers and by improving bilateral trade in services. These ties have been strengthened in 2017 with the signature of the EU-Australia Framework Agreement containing a number of economic and trade cooperation arrangements.

1.4.1. Merchandise trade

According to data from UN Comtrade, in 2018, total trade in goods accounted for €47.6 billion in 2017 (EU imports €11.6 billion, EU exports €36.0 billion). In terms of the composition of EU imports from Australia, primary products are by far the most important product group (58.7 percent), with manufactures (20.4 percent) and other products (18.8 percent) making up for the remaining 40 percent. In contrast, the composition of EU exports to Australia is dominated by manufactures (86.9 percent), followed by primary

products (11.0 percent). Almost half of EU-AUS exports (47.7 percent) comprise machinery and transport equipment, followed by chemicals and related products (18.8 percent). Miscellaneous manufactured articles (12.1 percent), manufactured goods (classified chiefly by material; 9.3 percent) and food and live animals (9.9 percent) make up for the remaining third. Australia's applied tariffs on these imports from the EU are already low, suggesting limited scope from a tariff liberalization perspective.

1.4.2. Agricultural products

Trade in agricultural products is important in the EU-AUS trading relationship. According to UN Comtrade data, agricultural products comprised 2.5 percent of the EU's extra-EU exports to Australia in 2018 (€3.4 billion in value) and 1.8 percent of the EU's extra-EU imports from Australia (€2.1 billion in value). The EU in particular imported oilseeds etc. (share of 28.0 percent in EU-AUS bilateral imports) from Australia in 2018, and wine, vermouth, vinegar (22.0 percent of EU-AUS bilateral imports). At the same time, for EU exporters Australia is an important market for several agricultural products, especially meat and edible meat; and animal products; and beverages, spirits and vinegar.

For Australian farmers and food manufacturers, the EU is a particularly important export destination for lac, gums and raisins; vegetable plaiting materials; and oilseeds etc. In 2017, the share of exports to the EU in Australia's total exports to the world exceeded 10 percent for 6 of the 24 HS chapters classified as agricultural goods.

According to the WTO Trade Profiles for 2019, the EU's applied simple average MFN rate was 12.0 percent for agricultural goods, while Australia's was 1.2 percent. The EU imposes high tariffs on several Australian imports including agricultural commodities such as sugar, wheat, and wine. Both the EU and Australia apply high excise and border taxes for tobacco. NTMs are often even more important. These include human and animal health protection measures, biodiversity and biosecurity measures, which further add to regulatory heterogeneity. Particular EU concerns relate to problems for EU agri-food exporters with respect to long Australian import approval procedures (e.g. for beef, pig meat, raw milk cheeses, poultry) as well as some domestic taxation issues, such as the Wine Equalisation Tax (WET).[1]

1.4.3. Services trade

The EU (in particular the UK) is Australia's largest services trading partner, with an overall volume of more than €32.7 billion in 2017 (€23.4 billion exported to Australia, €9.5 billion imported into the EU). The EU's largest services import from Australia in 2017 was travel services, which accounted for 36 percent of the EU's total services imports from Australia. Business services (25.8 percent) and transport (17.9 percent) comprised the remaining major EU services imports from Australia. The EU's largest service export to Australia in 2017 was also travel services (25.2 percent) while transport, telecoms and other business services accounted for the remaining major EU service exports to Australia.

1.4.4. Investment

The EU is also Australia's largest foreign direct investment (FDI) partner. Net EU FDI stock in Australia amounted to €136.5 billion in 2017, amounting to 22.2 percent of total Australian inward FDI stock. The sectoral composition of inward FDI suggests that the bulk of the flows are concentrated in finance and the mining and quarrying sectors. In 2017, EU outward FDI to Australia was €162.4 billion, while the inward FDI from Australia amounted to €25.8 billion. In 2017, the FDI flows were €-6.2 billion (i.e. more FDI outflow out of Australia to the EU than vice versa. This was a trend reversal as in the years before there has been a net positive FDI flow to Australia of €4.1 billion (2014), €8.2 billion (2015) and €15.1 billion (2016).

The UK and Belgium are the biggest investors in Australia while Australia has only a few bilateral investment treaties (BITs) with several Central and Eastern European Member States and a comprehensive free trade agreement (FTA) with the EU is still missing. As a

[1] https://madb.europa.eu/madb/barriers_result.htm?isSps=false&countries=AU

consequence, EU investors face several restrictive of less favourable investment measures compared to investors from other countries with which Australia has concluded FTAs and BITs, in particular the member states of the CPTPP (e.g. Canada, Japan, Mexico, Singapore and Vietnam). As far as investments are concerned, EU investors face barriers due to Australia's pre-investment screening mechanism (the Foreign Acquisitions and Takeovers Act of 1975), which enables Australia to screen foreign investments in certain areas, namely acquisition of sensitive land, 25 percent of more shareholding in businesses and fisheries and since recently, also residential land. For a further description, see Annex III.1.

1.4.5. Tariffs and NTMs

According to data analysed from UNCTAD TRAINS, Australia has the highest bound tariffs on textiles and clothing (average 41.4 percent) but its applied tariffs on EU imports are much lower (average 4.7 percent). In contrast, the EU imposes high tariffs on several Australian imports including agricultural products (average 8.0 percent) and textiles and clothing (average 11.5 percent). See Table III.1.5 in Annex III.1 for further details. With respect to NTMs, the EU and Australia have concluded a Mutual Recognition Agreement (MRA) of conformity assessment procedures, covering eight sectors - automotive products, electromagnetic compatibility, low voltage equipment, machinery, medical devices, pressure equipment, telecommunications terminal equipment, and good manufacturing practice inspections of medicinal products - to facilitates trade by reducing technical barriers. The EU and Australia also have an agreement on trade in wine that includes provisions for the reciprocal protection of wine Geographical Indications (GIs). According to the World Bank, with respect to services trade restrictiveness, on average, the EU is more restrictive than Australia, with an average overall STRI of 0.22 relative to 0.18 for Australia. The EU's services trade policy is particularly restrictive in air transport and legal services, while Australia is most restrictive in courier services followed by air transport services. The latter sector is therefore important from a liberalization perspective, also given the importance of transport services in EU's services trade with Australia.

1.5. The EU-Australia FTA impact assessment literature

This section provides an overview of previous impact studies conducted that are relevant for the EU-AUS FTA context and are useful for benchmarking of the present study. The literature review looks first at a range of studies that analyse the effects of current and anticipated FTAs of Australia and the EU. Second, as Australia 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 Australia and the EU respectively – in the Asian region. The analysis is summarised in Table 1.1.

1.5.1. Impact assessment literature of a potential EU-AUS FTA

In 2009, Ecorys (2009) conducted a study on the impact of an EU-AUS and EU-NZ FTA, an EU-US FTA, and an EU-Japan FTA in the OECD. The results of an EU-AUS FTA were promising as it would entail an estimated increase of 4.6 percent and 0.2 percent in exports for Australia and the EU respectively (in the ambitious scenario). 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-AUS and EU-NZ FTAs and stated that an EU-AUS FTA would entail positive results for both parties. The GDP of the EU and AUS would increase by 0.02 percent and 0.2 percent respectively (in the ambitious scenario). LSE also stated that exports of both the EU and AUS would increase by 0.1 percent and 0.8 percent respectively (in the ambitious scenario).

1.5.2. Impact assessment literature review of relevant AUS FTAs

One of the most important FTAs for AUS 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 in a qualitative report that through ANZCERTA, both New Zealand and

Australia achieved bilateral trade levels that were 9 percent higher (each year) and total increases in GDP of 3.1 percent and 3.8 percent respectively.

Petri and Plummer (2016) focus on the Trans-Pacific Partnership (TPP) and explore the economic, trade and investment impact of the agreement. According to their findings, the TPP could increase Australia's real GDP by 0.6 percent and the EU's GDP could gain 0.2 percent. In terms of trade, Petri and Plummer estimate that exports of Australia and the EU could increase by 4.9 percent and 0.5 percent respectively. Kawasaki (2014) and Lee and Itakura (2014) also estimate annual GDP increases for all TPP members. Rahman and Ara (2015) extend the analysis of Petri and Plummer (2016) by analysing the TPP in a set of three different scenarios. The study estimates a GDP growth of 0.8 percent and an export increase of 0.4 percent for Australia, and a decrease of 0.1 percent in GDP and an increase of 0.04 percent in trade for the EU. Walmsley et al. (2018) extend the analysis and explore the impact of the CPTPP, the successor to the TPP after US withdrawal in early 2017, on the CPTPP member countries' economies. They estimate a maximum average increase in GDP of approximately 0.4 percent compared to the absence of the CPTPP. In 2009, the Asia-Pacific Economic Cooperation (APEC) (2009) also published a study analysing the economic impact and implications of a Free Trade Area of the Asia-Pacific (FTAAP). As the FTAAP aims at creating an FTA among all APEC members, the agreement would have significant economic implications for Australia, the EU and the rest of world. Thus, the findings of this study are of interest to this report. The results imply that the introduction of an FTA would increase Australia's real GDP by 3.3 percent and the EU's real GDP by 0.2 percent. The study also estimates a trade growth of 10.6 percent for Australia, whereas the EU's exports would decrease by 0.3 percent. Kim et al. (2013) on the other hand analyse the impact of the FTAAP in a more detail and estimate that Australia's real GDP would increase by 0.1 percent–1.2 percent, whilst the EU's real GDP could decrease by approximately between 0.04 and 0.1 percent. The effects on trade and exports show a similar pattern in which Australia's exports are estimated to increase by between 4.5 and 7.1 percent and the EU's exports could decline by between 0.7 and 0.8 percent. Qi and Zhang's (2017) study on the economic effects of an FTA with China estimates an overall increase in GDP, welfare and trade for both countries. According to the study, Australia and China are likely to see a modest increase in GDP of 0.6 percent and 0.1 percent respectively, whereas the EU could face a slight GDP decrease of 0.02 percent.

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 highlights 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. In light of the Transatlantic Trade and Investment Partnership (TTIP), Ecorys (2017) estimates GDP increases of 0.3 percent to 0.5 percent for the EU and increases of 0.2 percent to 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	Model / Metho-dology	Scope / Time frame	1. Affected Countries 2 Issues	Results: GDP	Welfare (million EUR)	Trade (Export)	Wages/ Employment	Sectors EU and if indicated others (most important)
Ecorys (2009)	GTAP 7	2020	1. EU, AUS 2. Tariffs, NTMs, Investment	n.a.	EU: +3.454 AUS: +1.557	EU: +0.2% AUS: 4.6%	EU wages: no changes AUS wages: +0.2% (skilled) & +0.4% (unskilled)	Agriculture – Machinery +
LSE Enterprise Ltd. (2017)	GTAP 9	2030	1. EU, AUS 2. Tariffs, NTMs, Investment	EU: +0.02% AUS: +0.2%	EU: +2.600 to +4.800 AUS: +900 to +1,800	EU: +0.1% AUS: +0.8%	EU wages: +0.1% (skilled and unskilled) AUS wages: +0.3% (skilled & +0.3% (unskilled)	Machinery, motor equipment, dairy + Animal/ livestock –
Petri and Plummer (2016)	GTAP 9.0 (dyn, firm hetero-geneity)	2030	1. TPP (+EU) 2. WTO+	EU: +0.2% AUS: +0.6%	n.a.	EU: +0.5% NZ: +4.9%	n.a.	n.a.
Walmsley, Strutt, Minor and Rae (2018)	GTAP 9.2	2040	1. CPTPP (AUS) 2. Tariffs, NTMs, quotas, Investment	Other CPTPP members (AUS): 0.1% (sc 1); 0.2% (sc 2); +0.4% (sc 3); +0.2% (sc 4)	n.a.	Other CPTPP members (AUS): +0.7% (scenario 1) +1.3% (scenario 2) +2.0% (scenario 3) +1.3% (scenario 4)	CPTPP wages: rise for all signatories (especially low skilled); CPTPP employment: workers shift to agricultural and low-skilled workers occupation	AUS: beef and sheep meat + 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)	EU: Motor vehicles + Electrical Machinery – US: Non-ferrous metals + Motor vehicles -
LSE Enterprise Ltd. (2015)	GTAP 8	2030	1. EU, Japan 2. Tariffs, NTBs, 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. Methodological approach

In this Chapter we summarise the methodological approach taken to the Trade SIA – based on the DG Trade Handbook. For a more extensive description, we refer to Annex II.

2.1.1. Economic approach

The economic approach is based on a combination of quantitative and qualitative assessment techniques. The economic modelling (see Box 2.1) provides a starting point, 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[2] 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 (2017d)

We consistently report the results for the EU as modelled by DG Trade in early 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-AUS 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-AUS FTA on the EU and Australia, 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.

[2] 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-AUS FTA[3] – the EU27 simulation assumes no change in the UK's trade policy after its withdrawal.[4] 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 AUS*				**Change in AUS exports to EU***			
Scenario	Conservative		Increased Liberalisation		Conservative		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%	1%	1%	113%	113%
Cereals	0%	0%	2%	1%	1%	0%	53%	52%
Veg_fruits	7%	8%	9%	8%	20%	19%	19%	18%
Oil_seeds	1%	1%	1%	1%	5%	5%	5%	4%
Sugar	0%	0%	0%	0%	1%	1%	124%	123%
Fiber_crops	1%	1%	4%	1%	2%	1%	1%	1%
Ruminant_meat	1%	1%	2%	2%	1%	1%	539%	528%
Other animal	3%	3%	4%	3%	24%	24%	24%	23%
Other_meat	1%	1%	2%	1%	2%	2%	2%	2%
Dairy	48%	48%	49%	49%	1%	1%	86%	86%
Wood_paper	21%	21%	21%	21%	2%	2%	3%	3%
Fishing	5%	5%	5%	5%	23%	22%	23%	22%
Coal	0%	0%	117%	96%	0%	0%	1%	1%
Oil	0%	0%	15%	15%	0%	0%	0%	0%
Gas	2%	2%	2936%	3573%	1%	1%	8%	7%
Minerals	1%	1%	8%	8%	0%	0%	0%	0%
Other_food	11%	11%	11%	11%	75%	74%	75%	74%
Bev_tobacco	7%	7%	7%	7%	17%	17%	18%	18%
Textile	48%	48%	104%	103%	37%	37%	38%	38%
Chemicals	7%	7%	20%	20%	10%	9%	11%	11%
Oil_products	0%	0%	4%	4%	2%	2%	2%	2%
Metal_products	22%	22%	54%	54%	4%	4%	5%	5%
No_metal_pct	22%	22%	58%	58%	21%	20%	22%	21%
Motor_equip	38%	38%	52%	52%	14%	14%	16%	16%
Machinery	21%	21%	61%	60%	9%	9%	10%	10%
Ele_other	13%	13%	59%	58%	5%	4%	5%	5%
Electricity	0%	0%	-1%	-1%	1%	0%	1%	1%
Utility	7%	8%	8%	8%	11%	11%	11%	11%
Transport	6%	7%	6%	7%	9%	9%	9%	9%
Communication	7%	7%	7%	7%	9%	9%	9%	9%
Financial	7%	8%	7%	8%	9%	9%	9%	9%
Other_services	7%	8%	7%	7%	9%	9%	9%	9%
TOTAL	16%	17%	33%	34%	7%	6%	11%	11%

* 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-AUS FTA may affect a range of social aspects in the EU and Australia. 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). For each of the following social aspects we then analyse first the current situation, then analyse the expected impacts and conclude by suggesting policy recommendations and flanking

[3] Only one combined simulation for the EU-AUS FTA and the EU-New Zealand FTA was undertaken; in other words, the modelling assumes that both FTAs are concluded.

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

measures: employment levels, consumer welfare (including inequality and vulnerable groups), job quality, rights at work, corporate social responsibility (CSR), and public policies (e.g. education, social protection, healthcare). Gender equality issues, including the analysis of the state of play and expected impact of the EU-AUS FTA on women as workers, entrepreneurs, traders and consumers, are presented in a separate section.

2.1.3. Human rights approach

The human rights approach looks at how the EU-AUS 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-AUS FTA on both the EU and Australia. 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, machinery, motor vehicles and transport equipment, dairy, and communication and business services* (which includes telecommunications, as well as professional, scientific and technical services). For each of these sectors we first look at the current state of play, 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. Case studies were selected using 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 *sugar and water quality, wine, textiles labelling and rules of origin, access to critical raw materials (lithium battery value chain), iron ore mining,* and *ecosystems and biodiversity.*

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 macroeconomic effects

Results from the economic analysis suggest that the EU-AUS FTA is likely to have a marginally positive impact on the EU (Table 3.1). By 2030, compared to the baseline, welfare is expected to rise by € 2.2 billion for the EU and by €0.9 billion for Australia in the conservative scenario and by €4.1 billion and €1.4 billion respectively in the ambitious scenario. Real GDP will go up marginally in the EU in both the conservative and ambitious scenarios in relative terms, though still sizeable in Euros, by €1.8 billion in the conservative scenario and €3.9 billion in the ambitious one. Australia's GDP is expected to increase by €2.8 billion in the conservative and €4.7 billion in the ambitious scenario. So the gains of the EU-AUS FTA are balanced with Australia benefiting more in terms of (constant) GDP while the EU gains more in trade terms.

The economic gains are driven mainly by benefits from specialisation and EU exports to Australia, though Australian exports to the EU also grow significantly. EU bilateral exports rise by 16.1 percent (€9.1 billion) in the conservative scenario and by 32.5 percent (€17.7 billion) in the ambitious scenario. Australia's export gains are also significant but more modest when compared to the EU. They stand at 5.5 percent (€1.1 billion) in the conservative scenario and 10.4 percent (€2.0 billion) in the ambitious scenario.

Table 3.1: Summary of overall macroeconomic effects[5]

	EU27		Australia	
	Conservative	**Ambitious**	**Conservative**	**Ambitious**
Major macroeconomic indicators				
Welfare (€ million)	2,176	4,086	875	1,371
Real GDP (€ million)	1,755	3,917	2,822	4,741
CPI (% change)	+0.0	0.1	-0.1	-0.1
Trade effects				
Bilateral exports (% change)	16.1	32.5	5.5	10.4
Total exports (% change)	+0.0	0.1	0.4	0.8
Factor markets				
Real wages unskilled labour (% change)	+0.0	+0.0	0.2	0.3
Real wages skilled labour (% change)	+0.0	+0.0	0.2	0.3
CO2 emissions	+0.0	0.1	0.1	0.3

Source: Authors' calculations based on the CGE results provided by DG Trade

The simulations generate marginal price effects with the CPI rising by 0.1 percent for the EU in the ambitious scenario but falling by 0.1 percent for Australia in either scenario. This is a reflection of sectoral demand and supply that changes (EU services are demanded more which is why prices there increase; while in Australia prices for agricultural products rise due to EU demand). Real wages increase, which implies that disposable incomes in the EU and Australia rise. Moreover, they outstrip labour productivity gains in Australia in both scenarios, implying that per unit of final product produced wages also increase.[6]

[5] 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 add a '+' or '-' to show if the rounded off effect was marginally positive or negative.

[6] Productivity gains are equal to the real GDP gains since labour supply is fixed and the simulations assume full employment, which implies all real GDP gains are due to increases in output per worker.

3.1.2.Sectoral effects

In this section, we look at the overall sectoral effects that are expected to result from an EU-AUS FTA. We focus our reporting on exports from EU to Australia and from Australia to the EU as well as changes in output at sectoral level for the most impacted sectors in the EU and Australia. Table 3.2 reports this sectoral impact, and Table 3.3 ranks the top sectors by the expected changes in bilateral export value (not percentage change). We believe this is the right measure to use because very large relative changes are meaningless if the base export values to which they relate are almost nil. For example, the 3,573 percent increase in gas exports from the EU to Australia may look impressive, but currently EU gas exports to Australia are €21 million, so a 3,573 percent increase means EU gas exports to Australia increase from €21 million to €740 million. This is equivalent to only 14 percent of the increase in machinery exports from the EU to Australia.

Sectoral export effects

The top sectors for the EU likely to be impacted in terms of export value to Australia are dairy and textile products, followed by motor vehicles, though the gains vary between the conservative and the ambitious scenarios even amongst these products (Table 3.2). For instance, while EU dairy exports to Australia show a 48 percent increase in the two scenarios, the rise in EU textile exports varies from 48 percent in the conservative scenario to 103 percent in the ambitious scenario. Several other sectors show greater than average increases including wood and paper; metal and non-metal; and machinery. The industrial sector gains are mainly driven by the reduction of NTMs facing goods trade in Australia. The gains are nearly twice as large in the ambitious scenario, reflecting the assumption that NTM reductions are twice the size in the conservative scenario, coupled with knock-on effects from services liberalisation which drives additional income-driven gains. The leading services sectors are utilities and financial services (roughly 8 percent gain in the two scenarios) – which could be even larger in case dynamic investment effects are taken into account (which is not the case in the econometric model). In the conservative scenario, the largest gains for Australian exports to the EU are seen in industrial sectors (textiles, metals, motor equipment) followed by agriculture (other food, other animal, fishing, fruits and vegetables) while the agriculture sector (especially beef and sheep meat, sugar) dominates the gains in the ambitious scenario.

In absolute terms, the main export increases from the EU to Australia in the ambitious scenario because of the EU-AUS FTA are €5.5 billion in machinery; €5.1 billion in motor vehicles and transport equipment, and €1.9 billion in chemicals. For Australian exports to the EU, the EU-AUS FTA boosts beef and sheep meat exports by €650 million, other services by €252 million, and communication services by €181 million.

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 Australia from the EU-AUS FTA are reported in Table 3.2.

Table 3.2: EU-AUS sectoral exports (EU-AUS and AUS-EU) and sectoral production

	Exports EU-AUS		Exports AUS – EU		EU production		AUS production	
	Conservative	Ambitious	Conservative	Ambitious	Conservative	Ambitious	Conservative	Ambitious
Sector	%	%	%	%	%	%	%	%
Rice	-0.2	-0.4	0.7	112.7	0.0	-0.1	0.2	0.4
Cereals	0.0	1.0	0.1	52.1	0.0	-0.1	0.0	-0.1
Vegetables and fruit	7.4	8.4	19.2	18.2	-0.2	-0.2	0.2	0.1
Oilseeds	0.9	1.0	5.1	4.2	-0.1	-0.1	0.5	0.6
Sugar	0.1	0.2	0.5	123.0	0.0	-0.2	0.1	0.8
Fiber crop	0.7	1.2	1.7	0.6	0.0	-0.1	0.0	-0.4
Beef and sheep meat	0.1	2.5	0.5	527.9	0.3	-1.4	0.1	4.6
Other animal products	2.9	3.2	24.2	23.5	0.0	0.0	0.2	0.0
Other meat	0.9	1.1	2.8	2.5	0.0	0.0	0.0	-0.1
Dairy	47.8	48.6	0.8	86.2	0.1	-0.1	-0.3	0.0
Wood and paper	20.7	21.3	2.4	2.6	0.0	0.0	-0.1	0.0
Fishing	5.0	5.1	22.6	22.4	0.0	0.0	0.0	0.0
Coal	-0.3	96.3	0.4	0.6	-0.1	-0.1	0.2	0.3
Oil	0.0	14.9	0.3	0.4	0.0	-0.1	0.2	0.3
Gas	1.5	3572.8	0.9	6.9	-0.1	0.4	0.3	-0.8
Minerals	0.7	8.0	0.1	0.2	0.0	0.0	0.0	0.0
Other food	11.2	11.2	74.4	74.4	0.0	0.0	0.0	0.0
Beverages & tobacco	6.7	6.7	17.6	17.7	0.0	0.0	0.5	0.5
Textiles	47.8	103.4	37.5	37.9	0.0	0.0	0.4	-0.1
Chemicals	6.5	20.3	9.7	10.7	0.0	0.0	0.1	-0.1
Oil products	0.0	4.3	1.9	2.2	0.0	0.0	0.1	0.3
Metal products	21.7	54.1	4.5	5.4	0.0	0.0	0.1	0.0
Non metal products	22.4	58.2	20.7	21.3	0.0	0.1	0.0	-0.1
Motor vehicles	37.7	52.1	14.7	16.0	0.2	0.3	-1.4	-1.8
Machinery	21.1	60.4	9.5	10.1	0.0	0.1	-0.3	-2.2
Elect. machinery	12.7	58.4	4.8	5.2	-0.1	-0.1	0.3	0.1
Electricity	-0.3	-0.6	0.7	1.1	0.0	0.0	0.1	0.2
Utilities	7.8	7.8	10.8	10.9	0.0	0.1	0.3	0.6
Transport services	6.9	6.9	9.1	9.2	0.0	0.0	0.1	0.1
Comm services	7.4	7.2	8.9	9.3	0.0	0.0	0.1	0.2
Financial services	7.9	7.8	8.8	9.1	0.0	0.0	0.1	0.1
Other services	7.6	7.4	8.8	9.1	0.0	0.0	0.0	0.1
Total	**17.2**	**33.6**	**6.3**	**11.3**				

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 Australia for ambitious and conservative scenarios (top sectors)

EU-AUS exports (conservative scenario)		**EU-AUS exports (ambitious scenario)**		**Exports AUS-EU (conservative scenario)**		**Exports AUS-EU (ambitious scenario)**	
Top sectors	Export increase (€mln)	Top sectors	Export increase (€mln)	Top sectors	Export increase (€mln)	Top sectors	Export increase (€mln)
Motor vehicles and transport equipment	3,700	Machinery	5,451	Other services	250	Beef and sheep meat	650
Machinery	1,907	Motor vehicles and transport equipment	5,113	Communication services	178	Other services	252
Chemicals	623	Chemicals	1,959	Transport services	168	Communication services	181
Metal products	406	Metal products	1,011	Beverages and tobacco	67	Transport services	170
Transport services	400	Gas	738	Machinery	64	Cereals	88
Wood and paper	356	Other machinery	693	Chemicals	55	Machinery	69
Other services	274	Textiles	526	Motor vehicles and transport equipment	47	Beverages and tobacco	68
Other food	254	Transport services	398	Other food	46	Chemicals	61
Textiles	243	Wood and paper	365	Financial services	40	Motor vehicles and transport equipment	52
Communication services	240	Non-metal products	313	Textiles	38	Dairy	49
Dairy	201	Other services	272	Metal products	37	Other food	45

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 16 of the 32 sectors in the conservative scenario and in 19 sectors in the ambitious scenario. The losses are especially significant in beef and sheep meat (-1.4 percent in the ambitious scenario). In contrast, motor equipment registers a 0.2 percent and 0.3 percent rise in sectoral output in the conservative and ambitious scenarios.

Australia experiences losses in sectoral output in 6 and 11 sectors in the conservative and ambitious scenarios, respectively, especially in motor equipment (-1.4 percent and -1.8 percent), machinery (-0.3 percent and -2.2 percent), dairy (-0.3 percent, but no decline in the ambitious scenario) and fibre crops (-0.4 percent in the ambitious scenario). At the same time, it registers gains in sectoral output in all the remaining sectors and these are especially large in the case of beef and sheep meat (4.6 percent in the ambitious scenario), beverages and tobacco (0.5 percent in the two scenarios) and oilseeds (0.5 percent and 0.6 percent in the respective scenarios).

Services sectors in Australia make gains across the board, ranging from 0.1 percent in transport to 0.3 percent in utilities in the conservative scenario to 0.6 percent in utilities in the ambitious scenario; in the EU, gains are smaller in relative terms. The gains for Australia reflect the greater liberalisation of Australian services imports, especially in the ambitious scenario, which puts downward pressure on prices in these sectors, increasing the competitiveness of these sectors and thus resulting in output increases.

Case Study 3.1: The wine sector

Current situation

For both the EU and Australia, wine is important for several reasons. The anticipated competitiveness effects of the EU-AUS FTA will be a guiding factor in the negotiations in this sector, with both the EU and Australia having globally competitive and renowned wine industries. At first sight, therefore, this looks like an ideal sector for ambitious win-win negotiation results, promoting bilateral trade. One important element is the different winemaking techniques and the different protections available for the recognition and protection of GIs, brands, and trademarks. Where such differences are committed under different FTAs with third countries, and in the absence of binding global standards such as under the OIV, FTA negotiations can be difficult even where, as for Australia and the EU, a bilateral wine agreement exists. Moreover, under their public health policies, both Parties have taken different measures to protect consumers, or a specific segment thereof, from unethical marketing practices or trade-restrictive business practices.

The EU is the world's biggest wine producer in volume terms. France, Italy and Spain alone account for nearly 50% of world wine production. Wine, vermouth, cider and vinegar are in the 5 top EU agri-food product categories, with remarkable growth rates and market shares in all food exports to Australia, of between 8.0 and 9.5 percent (LSE 2017). For Australia, wines are its second most important export product to the EU market by value, after oilseeds. According to EC Comext Wine Trade results, wine imports from the EU in volume remained relatively stable between 2014 and 2018 when they reached 373,937 hectolitres, with small peaks in 2015 and 2016, whereas Australian wine exports to the EU during the same period slightly decreased from 3,298,794 hl to 3,271,462 hl.[7] Together with oilseeds they still represent almost 50 percent of total Australian exports to the EU. Australian alcoholic beverages, including beer, have long been successful in Europe, principally in the UK and Ireland, but also throughout the rest of the EU.[8] Where they still exist, EU tariff rates depend on alcohol content and container type. They range from €0.131 per litre of bottled wines to €0.209 for bulk wines. According to the Australian Grape and Wine Authority, the total value of EU import duty on Australian wine exports in 2014 was €40 million. Australian exports of grape concentrate to the EU were subject, for Brix values exceeding 67, to a tariff of 40 percent + €20.60/100kg. The high tariff rates of over 20 percent for bulk wine exports are seen as an increasing trade barrier in relative terms, because wine from main competitors like Chile and South Africa (inside TRQ) already enters the EU duty-free – because of acquired relative preferences with the EU bilaterally. Excluding the USA, Australia and New Zealand are the only countries among the top ten suppliers paying MFN tariff rates for their wine supplies to the EU.

[7] CN2204 Wine Trade results (2018): https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/farming/documents/wine-trade-2018_en_0.pdf

[8] Australian Grape and Wine Authority, Impact of tariffs on Australian wine in the European Union. Adelaide, 12 February 2015.

Australia applies virtually no tariffs to wine imports, but it does still apply a wine equalisation tax (WET) of 29% of the wholesale value of wine that applies exemptions for certain imports only, and a number of rebates for domestic producers.[9] The Winemakers Federation of Australia (WFA) is a vocal critic of the WET's modalities which it has called "rorted".[10]

In 2018, the wine sector in Australia (wine grape-growing, winemaking and wine tourism) employed 172,736 full-time and part-time workers (including employers, own account workers and contributing family workers), mainly in rural and Regional Australia. This included 68,395 direct jobs in the wine sector and 104,341 indirect ones. Around 10 percent of workers are employed by small-scale wine producers. There are 2500 wineries and more than 5000 wine grape growers in Australia. The large majority are small businesses (Wine Australia, 2018[11], Australian Grape & Wine, 2019[12]). The wine industry uses seasonal workers, including short-term migrants, and the Government provides tax incentives for them (by cutting to 15 percent the tax rate for those on working holidays) to facilitate job search and matching between workers and employers.[13] Regional wine industry associations provide advice to employers regarding working conditions (e.g. wages, visas and contracts) and health and safety at work in vineyards.[14] However, there were reported cases of underpayment and other types of worker exploitation in the fruit and vegetable sector, which may also include work in vineyards (Berg and Farbenblum, 2017, McCarthy, 2018).

The Australian wine industry has contributed to awareness raising campaigns targeted at domestic consumers and promoting responsible wine consumption. It has also committed to work with the State and Territory Governments and to support organisations, e.g. Drink Wise Australia, to develop policies and campaigns targeted at Australians who drink in a dangerous way, notably youth, and to design pregnancy warning labelling (Wine Australia, 2018, Australian Grape & Wine, 2019).

In the EU, the sector has provided over the last decade employment to around 3 million people, i.e. 20 percent of the total employment in agriculture. In 2016, there were 450,000 specialised wine farmers in the EU and that number was by 22 percent lower than in 2005 (the strongest fall was recorded in Italy, 40 percent and Germany, 38 percent). There has been a tendency for wine production to be concentrated in larger farms. In 2016, 1 percent of farms were larger than 100 ha, however, still 50 percent of farms were smaller than 2 ha. Quite often, family members provide the main source of labour (in total of EU agriculture, family members and non-salaried workers constitute 70 percent of total labour force)[15]. In addition to farm employment, wine production provides jobs in small wineries and cooperative cellars, as well as jobs in trade and marketing of wine, production of oak casks, bottles and labels, promotion of wine tourism, etc.[16] Over the past decade, incomes in the total of EU agriculture remained relatively stable, with the Common Agricultural Policy (CAP) playing an important role in that context. Based on the 2013 reform of wine common market organisation (CMO), wine producing EU countries may offer the sector support of certain measures, including information for consumers about responsible wine consumption and EU quality measures.[17] (It is expected that in 2018-2019 an average per capita wine consumption in the EU will reach 26 litres and will remain close to that level until 2030. The consumption is increasing in the Eastern Member States and decreasing in others, due to health considerations[18])

9 Australian Taxation Office, https://www.ato.gov.au/business/wine-equalisation-tax/ last accessed 5 November 2019

10 Wine equalisation tax rebate: https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/BudgetReview201617/Wine last accessed 5 November 2019

11 Wine Australia: Australian wine sector 2018 at a glance, https://www.wineaustralia.com/getmedia/00b01bfb-69c2-440d-84ec-ceba6a993600/MI_SectorReport_Mar2019_F.pdf

12 Australian Grape & Wine (2019), Pre-budget submission 2019-2020 : https://treasury.gov.au/sites/default/files/2019-03/360985-Australian-Grape-and-Wine.pdf

13 Department of Agriculture, Wine: http://www.agriculture.gov.au/about/commitment/portfolio-facts/wine [accessed on 16 July 2019]

14 South Australian Wine Industry, Employee and industrial relations: https://www.winesa.asn.au/members/advice-information/employee-industrial-relations/

15 European Commission, EU agricultural outlook 2018-2030: https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/farming/documents/medium-term-outlook-2018-report_en.pdf

16 CEEV, "About the EU wine sector": https://www.ceev.eu/about-the-eu-wine-sector

17 European Commission: Wine sector. Overview: https://ec.europa.eu/info/food-farming-fisheries/plants-and-plant-products/plant-products/wine_en [accessed on 30 October 2019]

18 European Commission, EU agricultural outlook 2018-2030: https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/farming/documents/medium-term-outlook-2018-report_en.pdf

Wine production in the EU is fragmented, based on local characteristics of the soil, an impressive combination of vine varieties and yearly influenced by weather conditions. The European wine production is rather an art than an industry – no wine is identical. Therefor the system of Geographical Indications is so important to the European wine sector. In many Member states the daily consumption of wine accompanying meals has evolved to consumption at more specific events. EU wines are appreciated throughout the whole world.

GIs and Winemaking Techniques

The EU has a long-standing IP regime for wines and spirits. In the WTO and in various FTAs this regime has been recognised as a basis for commitments to afford adequate protection to GIs both from the EU and the respective trading partners. On this basis the EU has negotiated a number of trade liberalisation agreements. The most important in terms of winemaking technologies and names is the *Agreement between the European Community and the United States of America on trade in wine* signed on 10 March 2006 in London, after negotiations lasting for almost 20 years. The agreements between the European Community and Australia on trade in wine (1994 and 2010) provide for the mutual recognition of winemaking practices, as well as recognition of certain GIs and traditional expressions. These agreements required Australia to phase-out the use of GI wine names from certain European regions. Another immediate benefit was a simplified European import certificate requiring listing less analytical requirements for Australian wines. The agreements did not provide for any tariff concessions. The 2010 agreement guarantees and improves reciprocal access for Australian wine producers to the EU market and vice versa. It also recognises different winemaking techniques through a commonly agreed list of winemaking practices, and simplifies the requirements covering vast issues from labelling, blending rules and permitted alcohol levels. EU and Australian wine GIs are mutually recognised, with an extension of the protection for traditional expressions (e.g. Bordeaux, Burgundy, Champagne, and Chablis, with more flexible phase-outs for Port, Sherry, and Tokay). The GI commitments of Australia under the original TPP left Australia (and New Zealand) on the regulatory side of the US, where trademarks (including collective marks and certification marks) are the main IP tool for wines. The new CPTPP now in force still provides the relevant provisions for GIs in Article 18, Section E. In line with TRIPS Articles 22-24, it lays down in Article 18.30 that "The Parties recognise that geographical indications may be protected through a trademark or *sui generis* system or other legal means." Articles 18.31-18.36 (with numerous footnotes) contain a number of detailed rules and administrative procedures of possible relevance to the bilateral FTA negotiation. On its side, the EU has concluded several trade agreements with IP chapters, including with "non-GI countries".

Potential FTA effects

The economic modelling does not provide specific results for wine sector, therefore the corresponding analysis relies on approximations based on model results for wider sectors, such as beverages and tobacco (which includes wine) and fruits, vegetables and nuts (which includes grapes, the main raw material for wine). EU exports of beverages and tobacco to Australia are significantly higher than Australia's beverages and tobacco exports to the EU. However, when we look only at wine trade values, EU exports of wine, vermouth, cider and vinegar to Australia are lower than vice versa. They increased between 2014 and 2018 from €207 million to €269 million; in the same period, Australian wine exports to the EU increased from €409 million to €450 million.[19] Australia's average applied tariff for beverages and tobacco products from the EU stand at 3.8 percent. For the EU, total output of beverages and tobacco products would not change significantly for both liberalization scenarios; for Australia, it would increase by about 0.5 percent for both liberalization scenarios. Australia's exports of beverages and tobacco products to the EU could increase by 17.7 percent under both scenarios. EU exports of beverages and tobacco products could increase by about 6.7 percent under both liberalization scenarios. We note that the increase in trade from Australia to the EU comes alongside export increases to other regions in the world also (to a lesser extent than to the EU though) – which is why Australia ends up producing more wine. For the EU, the export increase of 6.7 percent to Australia is significant but comes from trade diversion elsewhere (EU wine exports to Australia increase but they decrease to other regions in the world, which is why there is no wine production effect in the EU). Aggregate average import prices for beverages and tobacco products would not change for the EU and could fall in Australia by about 1.5 percent for both liberalization scenarios. It should be noted, however, that NTMs were not modelled for the agricultural sector, including beverages.

[19] EU Agri Food trade with Australia (2018): https://ec.europa.eu/agriculture/sites/agriculture/files/trade-analysis/statistics/outside-eu/countries/agrifood-australia_en.pdf

Finally, Cardebat and Figuet (2019) have noted that French wines seem to have become less competitive during the 2000s, in relative terms. This is possibly due to rising domestic wine prices in response to the appreciation of the euro against the USD and the GBP. Nonetheless, Bordeaux and other high-priced wine exports from the EU to the world have increased, in response to exchange-rate changes.[20] This is obviously a complex area, with a further dynamic element found in the rapidly evolving structural and regulatory framework, and stakeholder cooperation, especially but not exclusively in the European production and trade. Minuto Rizzo (2019) finds that several European antitrust authorities in recent years intervened in the wine sector by authorising mergers and acquisitions, providing opinions to governments, and ascertaining anticompetitive agreements.[21]

Regarding social impacts, for the fruits, vegetables and nuts sector, the modelling indicates a limited job reduction in the EU of -0.2 percent for unskilled and skilled workers under both scenarios, and a limited job creation in Australia of 0.3 percent for both groups of workers under the conservative scenario and 0.1 percent under the ambitious one. For the beverages and tobacco sector, no changes in employment are foreseen in the EU, and in Australia a job creation of 0.3 percent for unskilled workers and 0.4 percent for skilled ones under the conservative scenario, and 0.2 percent and 0.3 percent respectively under the ambitious one.

A limited job creation in Australia may also increase demand for seasonal workers, including short-term migrants. As one cannot exclude that there will be cases of breach in workers' rights by employers who cut costs and do not respect legislation, it will be important that measures that prevent and tackle such a behaviour are applied (Australian Government, 2019).

The *right to work* in the EU is not likely to be impacted overall because production in the EU does not change, even though exports of wine to Australia grow. In Australia there are concerns that if more GIs are introduced that there are job impacts in some areas in Australia, especially when it comes to wine in relation to prosecco producers.[22] What the economic results do not capture is the potential impact of the SPS textual proposals, where it is made clear that both the EU and Australia have high quality production standards for wine. This means that although there are differences in production systems, no change in the *right to health* because of different quality in wines is expected; also, both Parties have a clear right to regulate (i.e. put in place elements to educate consumers about the benefits and drawbacks on any product). From civil society, we received concerns about labelling issues with respect to wine (and other alcoholic beverages). According to civil society, the EU-AUS FTA could potentially have a negative effect on the *right to health* if supplementary rather than primary labels would be allowed to warn against health risks, the former being viewed as less effective (source: Public Health Association Australia).

Given the expected increase in output in the beverages and tobacco sector of 0.6 percent, the environmental pressures related to wine production are also expected to increase marginally. In terms of the different environmental impact areas, wine production and wine trade have the largest relative impact of all expected sectoral changes on climate change. Following different lifecycle assessments (e.g. Abbott et al., 2016), packaging causes most of the greenhouse gas emissions related to wine production and trade (around 50%), followed by transportation (around 20%), and grape growing and winemaking (both around 18%). Through these impact routes, greenhouse gas emissions are expected to increase marginally, given that the growth in exports of Australian wine is considered trade creation rather than trade diversion.

Policy recommendations

In the bilateral EU-AUS FTA negotiation, namely on the update of the EU-Australia Wine Agreement, we note that tariff concessions mainly by the EU could be pursued as was done in FTAs with Australia's competitors, especially in South America. The trend towards EU high-quality wine exports should benefit, in relative terms, from the impact of exchange-rate variations especially on low-end quality wines. Similarly, the evolving competition policy in the EU wine industry might make such tariff concessions easier.

[20] Jean Marie Cardebat and Jean-Marc Figuet, The Impact of Exchange Rates on French Wine Exports. *in* 14/1 (2019) *Journal of Wine Economics* 71-89.

[21] Andrea Minuto Rizzo, Competition Policy in the Wine Industry in Europe. *in* 14/1 (2019) *Journal of Wine Economics. ibidem*, pp. 90 – 113.

[22] https://www.abc.net.au/news/2018-01-24/king-valley-prosecco-producers-fight-to-keep-name/9357142

Given that a limited job creation in Australia may increase demand for seasonal workers, including short-term migrants, it will be important that the Australian employers in the wine sector offer them decent working conditions and that the Australian government and enforcement bodies, such as labour inspection, develop and apply measures that prevent and tackle breach of workers' rights by employers (for a detailed list of proposed measures, please see the text above).

In addition, we recommend the EU and Australia to carefully assess the effectiveness of alcohol labelling in the EU and Australia and whether the supplementary rather than primary labels would be equally effective to warn against health risks.

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 Australia. Essentially, these are the sectors in which the EU imports significant intermediate inputs from Australia, 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 Australia. 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 Australia's value added in EU final demand for the year 2015, according to the WTO-OECD TiVA's sectoral classification. Australian value added embodied in EU final demand captures the value added that Australian 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 Australia's value added the most in wholesale and retail trade; financial and insurance activities; mining and quarrying of non-energy producing products; and transportation and storage. Mining activities alone contributed 18 percent of Australian value added in EU final demand in 2015.

Table 3.4: Australian value added in EU final demand (€ mln, 2015, top-10 sectors)

Sector	Value added (€ million)	Share (%)
Wholesale and retail trade; repair of motor vehicles	2,008.6	13.0
Financial and insurance activities	1,641.3	10.6
Mining and quarrying of non-energy producing products	1,612.7	10.5
Transportation and storage	1,527.8	9.9
Mining and extraction of energy producing products	1,149.3	7.5
Accommodation and food services	685.0	4.4
Agriculture, forestry and fishing	595.8	3.9
Arts, entertainment, recreation and other service activities	456.2	3.0
Real estate activities	435.9	2.8
Electricity, gas, water supply, sewerage, waste and remediation services	363.8	2.4
TOTAL (for all sectors)	**15,422**	**100**

Source: WTO-OECD TiVA database; authors calculations

The role of EU value added in Australian final demand is even more important (total value of €40.3 billion) as reported in Table 3.5. EU value added embodied in Australian final demand reveals the amount of EU value added present in final goods or services purchased by final consumers in Australia. 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 Australia's value added in the EU - wholesale and retail trade (14.5 percent share in total); and transportation and storage (8.3 percent share) - are also major ingredients in the value added trade story from the EU side. In addition, motor vehicles and chemicals and pharma contributed 7.1 and 6.1 percent, respectively, of total EU value added in Australian final demand in 2015.

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

Sector	Value added (€ million)	Share (%)
Wholesale and retail trade; repair of motor vehicles	5,821.7	14.5
Transportation and storage	3,356.8	8.3
Motor vehicles, trailers and semi-trailers	2,865.6	7.1
Chemicals and pharmaceutical products	2,467.7	6.1
Financial and insurance activities	2,274.7	5.7
Machinery and equipment, nec	1,945.5	4.8
Accommodation and food services	1,180.8	2.9
IT and other information services	1,131.1	2.8
Fabricated metal products	1,099.0	2.7
Other manufacturing; repair and installation of machinery and equipment	1,089.4	2.7
TOTAL	**40,248**	**100**

Source: WTO-OECD TiVA database; authors calculations

Case Study 3.2: Access to critical raw materials: the lithium battery value chain

Current situation

"Australia is the new frontier for battery minerals" (The Economist, November 2017) highlights how a range of raw materials (e.g. lithium, cobalt, manganese and nickel) that serve as input for battery production have been in high demand. Especially with the ambitious goals of electrification to reduce GHG emissions, demand for these minerals – abundantly present in Australia – has skyrocketed. Figure CS3.2-1 shows that for the different types of batteries these materials are needed in different configurations.

Figure CS3.2-1: Li-ion battery types and their key raw material constituents

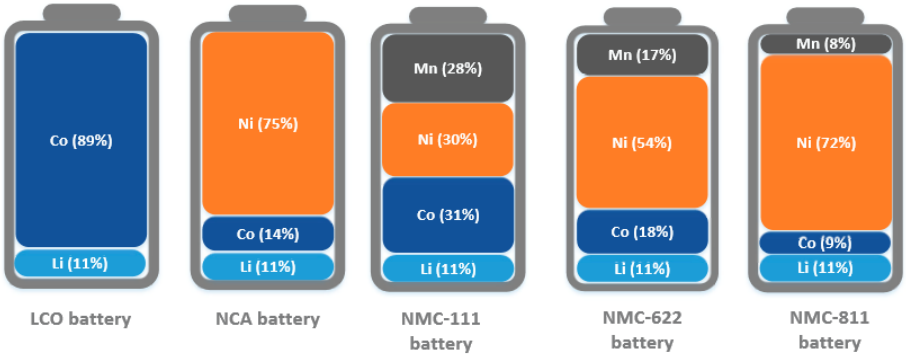


Figure 1 Li-ion battery types and their key constituents (based on figures by Olivetti et al. 2017).

Source: Olivetti et al. (2017)

Depending on what exact type of Li-ion battery type will end up being demanded (in part still subject to technological developments), demand for nickel, cobalt and lithium could increase by 39%, 25% and 26% respectively. In order for the EU to establish, develop and grow an EV industry that includes battery manufacturing (as the strategic energy power source), it is essential to procure sufficient, secure and sustainable long-term supplies of these essential raw materials (Petavratzi, 2018). This would involve overseas investments and long-term supply contracts with miners. From a global perspective, China is far ahead of any other global players in this respect.

In Table CS3.2-1, the current tariffs between the EU and Australia in different metals and non-metallic minerals are shown. They are generally low – lower on the EU side on average – but clearly not zero. That leaves room for potential trade gains by reducing these tariffs.

Table CS3.2-1: Tariffs between the EU and Australia for different (non)metals

	In AUS (%)	In EU (%)
Iron and steel	4.35	0.05
Articles of iron and steel	4.65	1.76
Copper and articles thereof	4.29	3.26
Nickel and articles thereof	0.45	0.79
Aluminium and articles thereof	4.72	6.05
Lead and articles thereof	1.15	1.25
Zinc and articles thereof	1.07	2.50
Tin and articles thereof	0.00	0.00
Other base metals	0.00	3.44
Salt, sulphur, earths & stone	0.85	0.25
Ores, slag and ash	0.00	0.00
Mineral fuels, mineral oils	0.35	0.60

Source: WITS

Impact of the EU-AUS FTA

The EU-AUS FTA could have several potential impacts (noting that any investment liberalisation or strategic partnership beyond tariff and NTM reductions are not included in the economic estimations due to model limitations). From Table CS3.2-2, based on the econometric modelling results of DG Trade, we see that for minerals the production effects are marginal and prices drop marginally in Australia. Australian imports from the EU are expected to increase by 8.0% (from a small base), while Australian exports to the EU are expected to rise by a modest 0.2%. The impact of the EU-AUS FTA on China – reported for comparative purposes – is negligible.

Table CS3.2-2: Economic effects for the minerals and metals sectors (ambitious scenario)

	Minerals			Metals		
	AUS	EU27	China	AUS	EU27	China
Output effects (%)	+0.0	-0.0	-0.0	-0.0	+0.0	-0.0
Price effects (%)	-0.1	-0.0	-0.1	-0.5	0.1	-0.0
Employment effects (%) high-skilled	-0.0	-0.0	-	-0.3	-0.0	-
Employment effects (%) low-skilled	-0.0	-0.0	-	-0.2	-0.0	-
Total exports (%)	+0.0	-0.1	-0.0	+0.0	1.3	+0.0
Imports from EU (%)	8.0	-	-0.1	54.1	-	-0.6
Imports from AUS (%)	-	0.2	+0.0	-	5.4	1.3

Source: UNComtrade; own calculations based on modelling results of DG Trade

For metals, we find that production levels do not change in the EU and Australia, but prices drop by 0.5 percent in the latter. Employment effects are very small, albeit negative for Australia in the sector. Trade increases, especially EU exports of metals to Australia.

The EU-AUS FTA can also have a potential impact beyond the sector-specific effects. First, with tariff liberalisation in metals and mineral sectors (see Table CS3.2-1), more metals and minerals will be traded between the EU and Australia, with degree of trade diversion vis-à-vis other trading partners of the EU and Australia (e.g. China). Second, an effect that is not included in the economic modelling is the investment effect. If the ceiling for pre-screening for investments in the minerals and metals sectors is raised in Australia for EU investors, more investments could flow in to further develop these sectors. Third, if the EU-AUS FTA is flanked by a clear long-term strategic policy of engagement with Australia, the EU and Australia can work to secure supply chains vital for the ongoing and further upcoming energy transition.

From a sustainability perspective, there is one important risk to raise. As the global demand for lithium is rising, potential negative social and environmental impacts from lithium mining are getting more attention. Several environmental threats have been reported. For instance, there is some evidence (from the Salar de Atacama in Chile) that groundwater levels could sink significantly as a result of lithium extraction. The level of ground water affects the water availability in rivers, streams and wetlands in turn. Yet, in Australia lithium is mined in a different manner (using more traditional mining methods) which has a much lower impact on water availability (Petravratzi, 2018).

Despite this relatively small effect on water quality, the lithium battery value chain in Australia impacts the environment as well. For instance, the mining process requires the use of chemicals which can end up in rivers and harm water quality. In the US, where lithium is mined using similar mining techniques, water quality was damaged due to lithium mining which negatively affected wildlife in the rivers around the mining locations. In Australia, the next steps in the commissioning of the Wodgina lithium project were blocked in July 2019 because the Western Australian Department of Water and Environmental discovered that a tailings dam was seeping into groundwater. Moreover, a recent study on lithium recycling showed that Australia only recycles about 2 percent of its 3,300 tonnes of lithium ion battery waste (King et al., 2018), compared to 98 percent of lead acid batteries. As a result of the growing demand for batteries, the lithium ion battery waste in Australia is currently growing by 20 percent per year, which is likely to intensify the issues related to unrecycled lithium ion battery waste (leaking of chemicals in soils and ultimately in water).

Policy recommendations

Given the global increase in the demand for lithium, manganese, cobalt and nickel, the EU and Australia are recommended to use the EU-AUS FTA as a platform to deepen their relationship, not only for the direct economic benefits, but also strategically through the creation of dialogue platforms in the framework of the EU-AUS FTA. We recommend the EU-AUS FTA to include provisions that raise the pre-screening investment thresholds or to abolish them, so that EU investments can benefit Australia and the EU. From an environmental standpoint, both parties are encouraged to minimise environmental impacts from lithium production. In relation to recycling, possibilities could be explored to share knowledge on how to increase recycling rates.

The EU Battery Directive is generally seen an effective legislation in terms of tackling environmental issues related to battery waste. For instance, it sets targets for manufacturers to take back the batteries which they manufactured. This could, potentially, also be implemented in Australia.

3.1.3. Potential effects for Turkey

Results from the economic analysis suggest that the EU-AUS 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. Given these minuscule changes, no effects on prices, total trade, real wages and CO2 emissions are expected for Turkey. This is due to the limited impact of the EU-AUS FTA for the EU – and thus also for Turkey (that has a Customs Union arrangement with the EU).

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 Australian exports increase significantly for some sectors in relative terms (e.g. 21.1 percent increase in Australian exports of non-metallic products to Turkey; motor vehicles 20.9 percent; textiles & clothing by 18.2 percent; and electrical equipment by 12.9 percent), even though in absolute values these changes are modest. The Australian motor vehicles, chemicals and machinery exports do, however, not seem to replace EU exports.

Table 3.7: Changes in EU and AUS 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 AUS-Turkey exports		
Non-metals	20.7	21.1
Motor vehicles	20.1	20.9
Textiles & clothing	18.1	18.2
Electrical equipment	12.6	12.9
Chemicals	9.4	10.1
Machinery	9.7	10.1

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

3.1.4. Potential effects for Least Developed Countries

Results from economic analysis suggest that the EU-AUS 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 be affected. 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. Also, overall trade, consumer prices, and CO_2 emissions are not impacted in LDCs. The welfare of all LDCs combined is expected to fall by a negligible €26 million in the conservative scenario and by €47 million in the ambitious scenario (equivalent to 0.0%). These small effects are driven mainly by trade diversion away from LDCs towards the EU and Australia because of the EU-AUS FTA.

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

The EU currently counts nine ORs located in the Atlantic Ocean, the Caribbean basin, the Amazonian forest and the Indian Ocean. These are the French Guiana, Guadeloupe, Martinique, Mayotte, Reunion Island and Saint-Martin (France), the Azores and Madeira (Portugal) and the Canary Islands (Spain). Despite the thousands of kilometres separating them from the European continent, these regions are an integral part of the EU. Therefore, EU law and all the rights and duties associated with EU membership apply to the outermost regions. EU's OCTs do not form part of the EU territory and the EU single market, yet they are required to comply with regulations and obligations enforced on third countries.

The EU's nine 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 (EC, 2017). Several ORs, such as Réunion Island, 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 sector. 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.

Australia currently has seven OCTs remote from the mainland. These OCTs are Ashmore and Cartier Islands, Christmas Island, Cocos (Keeling) Islands, Coral Sea Islands, Heard and McDonald Islands, Norfolk Island, and Australian Antarctic Territory. The OCTs are very small in population size (or uninhabited) and thus profound bilateral development agreements do not exist. However, they represent an integral part of Australia and it is of high interest to the country to support and improve the process of development and the quality of life in these regions.

The exports of ORs represent the major industries of the regions. As mentioned above, the regions are predominantly active in the agriculture, livestock, farming and fishing sector. Thus, the major exports consist of fruits (bananas, pineapples, sugar canes and melons), vegetables (potatoes and tomatoes), fish (tuna and black scabbard), meat, dairy products (milk and cheese), rum and tobacco (EC, 2017). The exports of EU OCTs are very similar to the ORs. Major exported goods include fruits, vegetables, aloes, livestock, fish and fish commodities, rum, honey, and postage stamps. A few exceptions exist, e.g. Curaçao, which largely exports petroleum products, Aruba, which also exports machinery, transport- and electrical equipment.

Potential impact of the EU-AUS FTA

Overall, the trade volumes between the ORs/OCTs and the EU as well as with Australia are relatively small compared to other EU and Australian trade. Table 3.10 depicts the trade values between the specified regions, the EU and Australia. 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 the Canary Islands with a total of €246.2 million in exports and €2.3 billion in imports, which is followed by Reunion Island and French Guiana. Trade between the EU ORs and Australia is negligible, with exports amounting to less than €1.0 million and somewhat larger imports worth €5.9 million.

Table 3.10: Trade values (exports and imports) between the EU, Australia and the EU's ORs (€ million, 2017)

ORs	Export value to the EU*	Export value to AUS**	Import value from the EU*	Import value from AUS**
Guadeloupe	31.0	0.0	233.3	0.1
Guiana	13.0	0.0	425.4	0.0
Martinique	6.0	0.0	214.4	0.2
Mayotte	0.0	0.0	53.9	1.2
Réunion	80.7	0.0	587.9	4.4
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)*, WITS (2019)**

In the economic model used 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-AUS 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 Australia's exports to the EU due to the relative loss of preferences.

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 Australia. Through matching these identified top sectors with the modelling results of the ambitious scenario of the EU-AUS 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, including the vegetables and fruits sector, the dairy sector, the beef and sheep sector, the beverages and tobacco sector, the fishing sector, the chemicals sector, the metal products sector. Australia's exports to the EU in these sectors will increase. Furthermore, the export of sugar from Australia to the EU is projected to increase by up to 123.0 percent in the ambitious scenario. As all of these industries play an important role in the economies and export structure of the ORs, especially in Guadeloupe, French Guiana, Reunion Island, the Canary Islands, the Azores and Madeira, which export primarily these goods to the EU, the increase in Australia'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 deterioration of the economic situation of these regions, is not quite clear, as specific exports from Australia might not be direct competitors of OR exports. An example would be the beverages sector, in which Australia is a major wine exporter as well as Madeira. However, as the wine types that are exported differ largely, wine imports by the EU from Australia might not affect the wine exports of Madeira, as the demand for that specific wine type will remain after the introduction of the EU-AUS FTA. Nevertheless, the fact that OR's economies depend very heavily on the sectors in question must be taken into account in the negotiations to ensure that the outermost regions 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.

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

ORs	Major export sectors to the EU	Major export sectors to AUS	Major import sectors from the EU	Major import sectors from AUS
Guadeloupe	Food products, beverages, industrial waste, special purpose machines, ships and boats	Food products, fruits and vegetables (bananas, raw cane sugar), agricultural products (wheat, flour)	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	fruits and vegetables (raw cane sugar), fish products/ seafood (frozen rock lobster, frozen fish), rum and tafia	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	-

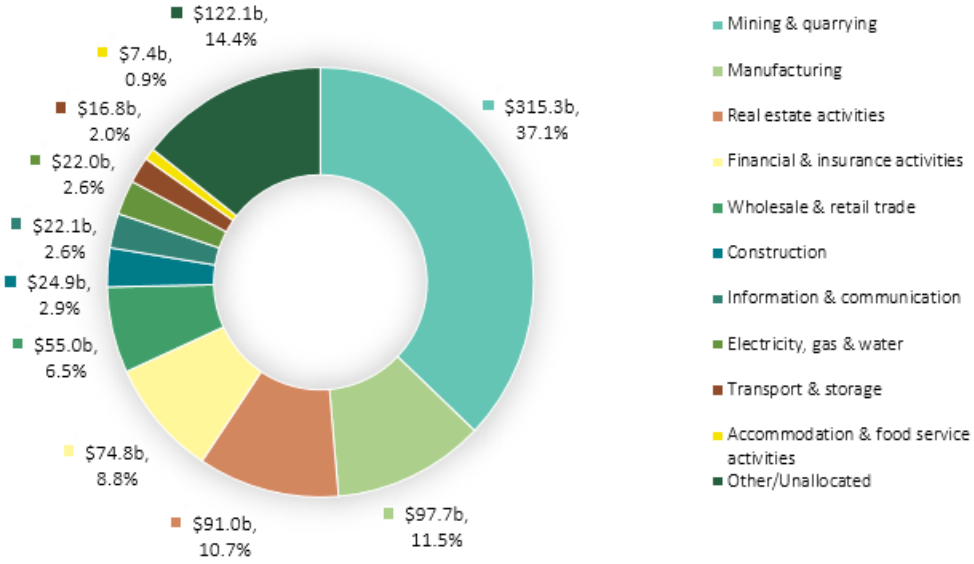
Source: BKP Development Research Consulting (2019) and WITS (2019)

3.1.6. Potential effects for investments

The EU is also Australia's largest foreign direct investment (FDI) partner, with inward FDI flows and stocks in Australia from the EU at €10.3 bln and €130.3 bln in 2017, respectively, amounting to 25 percent and 22.2 percent of total Australian inward FDI flows and stocks (see Table III.1.3). The main foreign investments occur in mining and quarrying, manufacturing, real estate and financial & insurance activities (See Figure 3.1).

The main investment barriers EU investors face in Australia are 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 Australia. Australia's Foreign Investment Policy provides guidance on what factors are typically considered in assessing whether an investment proposal is contrary to the national interest. The concept of national interest includes factors such as national security, competition, the impact on other Australian Government policies (such as tax and environmental policy), the impact on the economy and the community, and the character of the investor. Where a proposal involves a foreign government or a related entity, the Government also considers the commerciality of the investment.

Figure 3.1: FDI in Australia – investment by selected industries (2017)



Source: Australian Department of Foreign Affairs and Trade

In addition to the requirements under the *Foreign Acquisitions and Takeovers Act 1975*, foreign investment in some sectors is also governed by specific legislation. For example, in the banking sector, foreign ownership must be consistent with the *Banking Act 1959*, the *Financial Sector (Shareholdings) Act 1998* and banking policy. Aggregate foreign ownership in an Australian international airline (including Qantas) is limited to 49 percent (see *Air Navigation Act 1920* and *Qantas Sale Act 1992*) and the *Airports Act 1996* limits foreign ownership of some airports to 49 percent, with a 5 percent airline ownership limit and imposes cross-ownership limits between certain airport operator companies. The *Shipping Registration Act 1981* requires a ship to be majority Australian-owned if it is to be registered in Australia, unless it is operated by a foreign resident under a demise charter and is exempted from the requirement to be registered during the term of the charter. With regard to telecommunications, under the *Telstra Corporation Act 1991*, aggregate foreign ownership of Telstra is limited to 35 percent and individual foreign investors are only allowed to own up to 5 percent. Under the Register of Foreign Ownership of Water or Agricultural Land Act 2015, foreign investors are required to report their existing agricultural landholdings and any acquisitions or disposals to the Australian Taxation Office

regardless of the value of that land. If the EU-AUS FTA further aligns the EU and Australia on these NTMs, this would have significant market access consequences.

Against this background, the envisaged EU-AUS FTA would help eliminate or at least significantly reduce the currently existing restrictions for EU investors. Similarly, Australian investors would benefit from such an FTA as the FTA would establish one harmonized level playing field for EU and Australian investors. Besides, the non-application of the pre-screening mechanism for EU investments is likely to result in equal treatment of EU investments with investments coming from countries with which Australia has already concluded FTAs. This should result in significantly more EU FDI into Australia. Restrictions on intra-corporate transferees are also an issue, not allowing them to hire the most appropriate personnel for their investment. 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 liberalization is associated with an 87.2 percent increase in inward FDI flows and a 20.8 percent rise in inward FDI stock. This is the average effect of preferential investment liberalization for the sample countries covered in the analysis and is thus also applicable in the case of the EU-AUS FTA. On average this would translate into average EU-Australia FDI flows in 2017 increasing from €400 million to €748 million and average EU-Australia FDI stock in the same year rising from €3.9 billion to €4.7 billion. As everywhere else in the impact parts of the report, EU refers to EU27.

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	7144	10102
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-Australia procurement using the OECD's Inter Country Input Output (ICIO) database for the year 2015. These data suggest that the total value of Australia Gross Government Final Consumption (GGFC) from the EU is €1.96 billion. The total value of EU public imports from Australia was €155 million. According to WIOD, the share of Australia in total EU28 public imports in 2014 was 0.2 percent while the EU's share in total Australian public imports was a whopping 40.5 percent.

Table 3.13 presents a disaggregated analysis of EU public imports from Australia and vice-versa, using WIOD data for the year 2014. These data suggest that the EU's public imports from Australia were concentrated in sectors like pharmaceutical products and preparations (21 percent), warehousing and support activities for transportation (20 percent), education (17 percent), land transport and transport via pipelines (8 percent), wholesale trade (8 percent) and legal and accounting activities (4 percent). The bulk of Australia's public imports from the EU were in sectors like pharmaceutical products and preparations (51 percent), legal and accounting activities (15 percent), wholesale trade (10 percent) and administrative and support service activities (5 percent). These sectors are likely to gain the most from preferential procurement liberalization under the EU-AUS FTA.

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

Sectors	AUS public imports from EU (€mln)	Share (%)	EU public imports from AUS (€ mln)	Share (%)
Crop and animal production, hunting and related service activities	2.44	0.12	0.53	0.34
Forestry and logging	0.18	0.01	0.02	0.01
Fishing and aquaculture	0.07	0.00	0.00	0.00
Mining and quarrying	0.49	0.03	2.97	1.91
Manufacture of food products, beverages and tobacco products	11.82	0.60	0.52	0.34
Manufacture of textiles, wearing apparel and leather products	1.32	0.07	0.30	0.19
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	0.34	0.02	0.06	0.04
Manufacture of paper and paper products	0.84	0.04	0.15	0.10
Printing and reproduction of recorded media	0.42	0.02	0.22	0.14
Manufacture of coke and refined petroleum products	2.49	0.13	0.04	0.02
Manufacture of chemicals and chemical products	33.80	1.73	0.32	0.21
Manufacture of basic pharmaceutical products and pharmaceutical preparations	1006.64	51.38	32.74	21.12
Manufacture of rubber and plastic products	2.51	0.13	0.16	0.10
Manufacture of other non-metallic mineral products	1.18	0.06	0.08	0.05
Manufacture of basic metals	0.72	0.04	0.30	0.19
Manufacture of fabricated metal products, except machinery and equipment	1.43	0.07	0.29	0.19
Manufacture of computer, electronic and optical products	7.89	0.40	0.53	0.34
Manufacture of electrical equipment	4.80	0.24	0.08	0.05
Manufacture of machinery and equipment n.e.c.	4.20	0.21	0.17	0.11
Manufacture of motor vehicles, trailers and semi-trailers	2.64	0.13	0.12	0.08
Manufacture of other transport equipment	0.79	0.04	0.60	0.39
Manufacture of furniture; other manufacturing	6.98	0.36	0.95	0.61
Repair and installation of machinery and equipment	0.79	0.04	0.00	0.00
Electricity, gas, steam and air conditioning supply	3.57	0.18	0.07	0.04
Water collection, treatment and supply	0.11	0.01	0.01	0.01
Sewerage; waste collection, treatment and disposal activities; materials recovery; other waste management services	0.87	0.04	0.01	0.00
Construction	2.27	0.12	1.54	0.99
Wholesale and retail trade and repair of motor vehicles and motorcycles	19.44	0.99	0.02	0.01
Wholesale trade, except of motor vehicles and motorcycles	211.28	10.78	12.68	8.18
Retail trade, except of motor vehicles and motorcycles	29.87	1.52	2.46	1.58
Land transport and transport via pipelines	10.98	0.56	12.79	8.25
Water transport	1.06	0.05	1.19	0.76
Air transport	0.46	0.02	0.64	0.41
Warehousing and support activities for transportation	17.56	0.90	31.13	20.08
Postal and courier activities	1.01	0.05	0.22	0.14
Accommodation and food service activities	0.98	0.05	0.17	0.11
Publishing activities	3.66	0.19	0.10	0.06
Motion picture, video and television programme production, sound recording and music publishing; programming and broadcasting	16.39	0.84	2.90	1.87
Telecommunications				

Source: OECD ICIO; own calculations

We estimate the effect of preferential procurement liberalization in the EU-AUS 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 liberalization is associated with a 50.4 percent increase in public imports. This is the average effect of preferential procurement liberalization for the sample countries covered in the analysis. Since these effects are average effects, they are also expected to be applicable to the EU-AUS FTA, given that Australia is also an OECD economy like the EU Member States. On average, the estimated effects would translate into average EU-AUS public imports in 2014 increasing from €37.6 million to €56.4 million.

Table 3.14: Estimations on effect of procurement 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

- The tariff and NTM liberalisations in the ambitious scenario show significant sectoral effects. The EU and Australian negotiations should introduce these liberalisations gradually (e.g. tariff liberalisation in ruminant meats) over time in order to minimise negative effects and give workers the time to adjust. For very sensitive sectors only partial liberalisation (such as TRQs) could be envisaged.
- The EU is already open to investments from Australia and therefore – especially given the potential gains for the EU and Australia from investment liberalisation – negotiations should aim at the removal of the thresholds for investments on the Australian side, so that no investments (or only very large ones) will be screened by the Foreign Investment Review Board. The EU should ask Australia at the minimum for EU investors to be treated similar to investors from Chile, New Zealand and United States, meaning that both the threshold for agribusinesses and agricultural land will be set at A$1,154 million.
- The EU-Australian value chain appears to be strong in R&D and business services – with Australian value-added contributing to EU demand and vice versa. The EU and Australian negotiators should explore possibilities to include Australia in the EU's ambitious multi-annual research programmes as this could lead to deeper cooperation between Australian and EU researchers, whereby public-private partnerships could aid to focus research on societal challenges (e.g. climate change, health care innovation) with sufficient funds.

3.2. SME impact analysis

3.2.1. Current situation regarding SMEs in the EU and Australia

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.

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 employment, which amounts up to 90 million employees. 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. Following Eurobarometer's SME survey of 2015 (fieldwork: June 2015), the majority are working in retail (42 percent) or the service sectors (36 percent). About 8 percent are working in manufacturing, with a slightly larger proportion in the industry sector (14 percent). However, the distribution of SMEs across sectors varies significantly across EU Member States.

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 SME value added is estimated to increase by 4.3 percent. SME 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.

The official size class definition of SMEs in the EU differs from that applied in Australia. In Australia, there is no official definition of a small and medium-sized business. However, Australia has traditionally defined SMEs in regulations as businesses with 200 or fewer employees (Australian Bureau of Statistics, 2002).

SMEs are also the backbone of Australia's economy. Based on the definition there were 2.2 million SMEs active in 2017, which represents 99.8 percent of all businesses. SMEs employ approximately 67 percent of the total employment, which amounts up to 7.0 million employees. SMEs also constitute 57 percent of Australia's GDP. Australia subdivides its active businesses into five main categories: zero, 1-4, 5-19, 20-199, and 200 or more employees. In 2017, there were 1.4 million businesses with no employees, 608,700 businesses with 1-4, 203,400 businesses with 5-19, 52,200 businesses with 20-199, and 3,900 businesses with 200 or more employees. Thus, 97.5 percent of the businesses have less than 20 employees. This large number in small SMEs can be explained via the high establishment rate of SMEs, as 50 percent of the firms have existed for less than ten years. SMEs account for 80 percent in the agriculture, forestry and fishing industry, 77 percent in the rental, hiring and real estate services industry, and 69 percent in the construction industry. As of 2011, these industries employed 494,000 people, 360,000 people, and 917,000 people, respectively.

Since 2011, SMEs continued to grow at a strong rate. 26 percent of the micro businesses and 33 percent of the small businesses stated in 2011 that their profitability had increased. Additionally, 22 percent of the micro businesses and 28 percent of the small businesses stated that their productivity had increased. For the following years to come, Australia's government states that predicting the future SME growth rates is difficult as SMEs are subject to the country's current economic fundamentals and their cyclicality. As Australia is currently in a positive economic environment, determined by low interest rates and low inflation, SMEs are facing periods of growth and prosperity. However, rising global economic uncertainties, decreasing demand and rising input costs could affect SMEs negatively.

For a large number of manufactured products ranging from wood products to machinery and electrical components, Australia applies different customs procedures. Although tariffs are already generally low for most manufacturing products, the obligation to fulfil complex customs procedures is a particular obstacle for EU SMEs. In addition, Australian regulators require specific product conditions and requirements for many manufactured products including wood products, textiles, chemical and (electrical) machinery products and such regulations are generally more difficult to fulfil by SMEs compared to large enterprises.

3.2.2. EU-AUS FTA impact for SMEs in the EU and Australia

Results from economic analysis suggest that the EU-AUS FTA is likely to have positive impacts on SMEs. By 2030, compared to the baseline, the main business sectors of SMEs in the EU and Australia are expected to increase.

As mentioned in the SME baseline description, EU SMEs are active in accommodation/ food services, business services, construction, manufacturing, and wholesale and retail trade. Throughout these sectors one can observe increases in outputs under the conservative and ambitious scenario. Under the conservative scenario, motor equipment and dairy sector output are expected to grow by 0.2 percent and 0.1 percent respectively. Several SMEs active in the food industry might be impacted negatively because of the EU-AUS FTA. The output of the EU vegetable and fruit sector, and oil seeds sector are expected to fall by 0.2 percent and 0.1 percent respectively. =

Under the ambitious simulation findings are a little different because of the different agricultural liberalisation scenario assumed. SMEs active in the manufacturing, construction, and energy sectors will benefit as their output is expected to increase: motor equipment (0.3 percent), machinery (0.1 percent), and gas (0.3 percent). SMEs involved in the food industry might suffer largely under the ambitious simulation. The output of the beef and sheep meat sector, vegetable and fruit sector, and the rice sector is expected to decrease by 1.4 percent, 0.2 percent and 0.1 percent respectively.

The same impacts can be observed for Australian SMEs, which are active in the agriculture, forestry and fishing sector, the rental, hiring and real estate sector, and the construction sector. Throughout these sectors one can observe increases in production under the conservative and ambitious scenarios. Under the ambitious scenario, the majority of SMEs active in the agriculture, forestry and fishing sector will benefit from the FTA. The output in the beef and sheep meat, oil seeds, sugar, rice, vegetable and fruit sector are all expected to grow by 4.6 percent, 0.6 percent, 0.8 percent, 0.4 percent, and 0.1 percent respectively. Several SMEs active in the construction and manufacturing sector might see their production decline under the EU-AUS FTA, e.g. motor vehicles and transport equipment production is expected to fall by 1.8 percent and machinery output by 2.2 percent.

Case Study 3.3: Textiles labelling and Rules of Origin

Current situation

The textile sector in the EU and Australia is one where tariffs still matter (see Table CS3.3-1) with tariff hovering around 3-5 percent in Australia on imports from the EU and the EU levying between 3 and 11 percent tariffs on imports from Australia. Because tariffs still matter, the determination and application of rules of origin are also important.

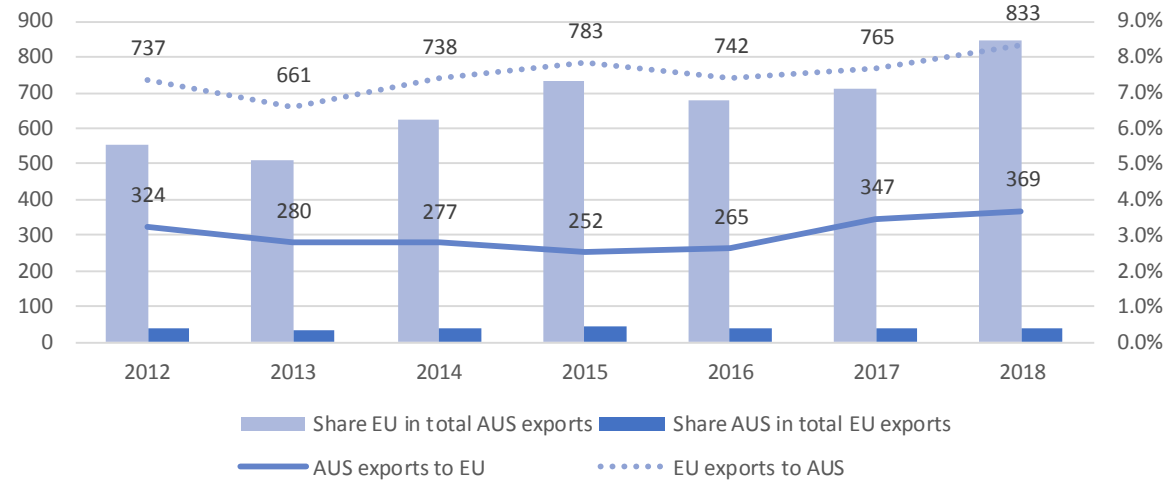
Table CS3.3-1: Tariffs in the EU and Australia for textile and apparel products

Product Name	In AUS (%)	In EU (%)
Silk	0.88	5.23
Wool	4.59	3.39
Cotton	4.98	6.84
Other vegetable textile fibres	0.45	4.80
Man-made filaments	4.75	6.78
Man-made staple fibres	4.45	6.97
Wadding, felt and nonwovens	4.02	6.00
Carpets and other textile floor coverings	3.18	7.45
Special woven fabric	3.94	7.17
Impregnated or coated textile	4.45	6.03
Knitted or crocheted fabrics	5.00	7.86
Knitted articles of apparel and clothing accessoires	4.68	11.67
Non-knitted articles of apparel and clothing accessoires	4.64	11.29
Other made-up textile articles	4.27	10.41

Source: UN Comtrade; WITS

Figure CS3.3-1 shows trade between the EU and Australia in recent years. It shows that two-way trade increased in recent years, with exports from the EU to Australia being more than twice as high (US$ 833 million in 2018) as Australia's exports to the EU (US$ 369 million in 2018), despite the higher tariff lines of Australia. In relative terms, however, the EU is a more (and increasingly) important market for Australia than vice versa: the share of Australian textiles and clothing exports destined for the EU in its total sectoral exports increased from 5.1% in 2013 to 8.4% in 2018.

Figure CS3.3-1: EU-AUS trade in textiles and garments (US$ million)



Source: Calculations by the authors based on UN Comtrade

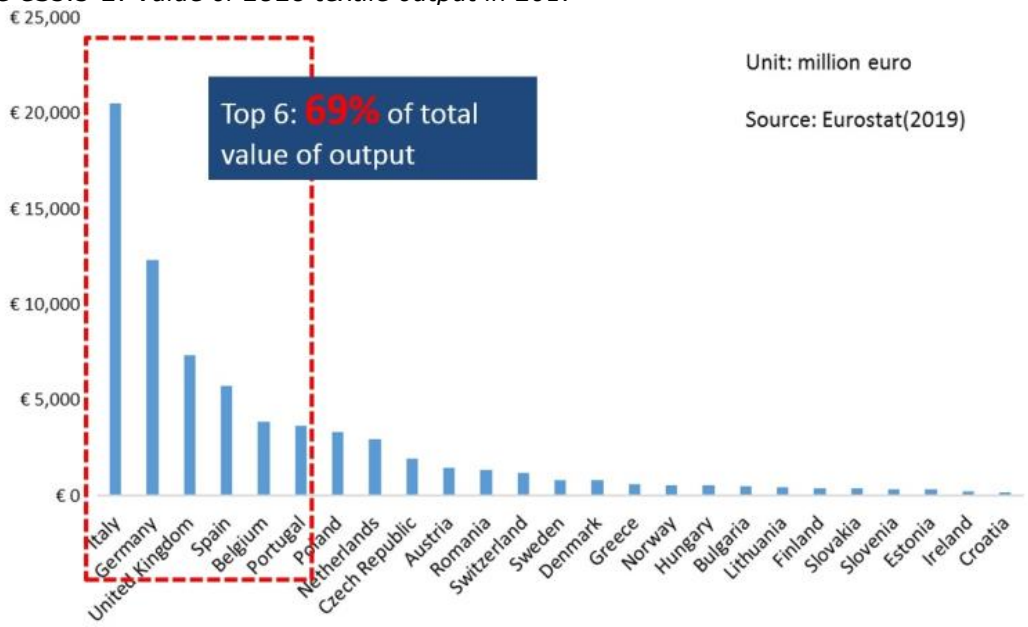
In Australia, the focus of the textile and apparel sector is on collaboration with other countries (in the higher end of the textile market like soft body armour for military and heat retention fabrics), utilise the Australian weather conditions better, and a focus on reducing costs because of high transportation costs and high tariffs, that both reduce profit margins.[23] The Australian textile industry has moved towards industrial textiles, focusing on innovation. For Australia, there is also a strong cultural component to the textile industry because of the importance of aboriginal fabrics and ethnic wear. In 2016, there were just over 25,200 businesses operating in the textiles, clothing and footwear sector, with 85% of them located in New South Wales, Victoria and Queensland. The sector is comprised largely of SMEs with nearly 60% non-employing (i.e. one-person enterprises)

[23] www.australianweaving.com [accessed 18 July 2019]

and another 39% employing less than 20 people.[24] Environmentally, the sector is facing challenges due to amounts of waste generated (e.g. colouring).

For the EU, the textile and apparel industry is an important sector, which is especially the case for Italy, Germany, the UK, Spain, Belgium and Portugal (top-6) who are responsible for 69% of total EU textile output in 2017, as shown in Figure CS3.3-2. In total, the EU textile and clothing industry employs 1.7 million workers, 99% of which are SMEs. The 2018 turnover was €178 billion with household consumption of textiles of €520 billion.[25] One of the historical challenges for the EU textile and apparel industry was the labour costs of production – especially when compared internationally with low-labour cost textile producing countries like China. It is therefore interesting to observe that the labour share of apparel costs dropped in the EU from 30.1% in 2006 to 21.1% in 2016. This also suggests that manufacturing is becoming more capital and technology-intensive.

Figure CS3.3-2: Value of EU28 textile output in 2017



Source: Eurostat (2019)

The environmental impact of the textile and clothing sector is significant. The production of raw materials, spinning them into fibres, weaving fabrics and dyeing require enormous amounts of water and chemicals, including pesticides for growing raw materials such as cotton. Consumer use also has a large environmental footprint due to the water, energy and chemicals used in washing, tumble drying and ironing, as well as to microplastics shed into the environment. Less than half of used clothes are collected for reuse or recycling when they are no longer needed, and only 1 percent is recycled into new clothes, since technologies that would enable recycling clothes into virgin fibres are only starting to emerge.[26]

Rules of Origin (RoO)

Rules of Origin aim to prevent non-agreement parties taking advantage of negotiated preferential tariffs. They are extremely important for the textile sector but can also be cumbersome. Crook and Gordon (2017) show how important and trade restrictive RoO can be, that RoO can differ widely per FTA (even of the same country, adding to complexity), that they differ also per country (creating a complex noodle bowl of RoO difficult to navigate for industry), and that they act as significant – and increasing – trade barriers. Various authors have shown that RoO limit trade significantly:

- Anson et al. (2005) estimated RoO to reduce trade creation effects of FTAs by around two-thirds for 149 countries from 1999 – 2001;
- Augier et al. (2004) looked at cumulation rules, estimating that more restrictive cumulation before the 1997 reform reduced trade by between 10 and 70 percent;

[24] https://nationalindustryinsights.aisc.net.au/industries/manufacturing-and-related-services/textiles-clothing-and-footwear [accessed 18 July 2019]
[25] www.euratex.eu [accessed 19 July 2019]
[26] http://www.europarl.europa.eu/RegData/etudes/BRIE/2019/633143/EPRS_BRI(2019)633143_EN.pdf

- Cadot et al. (2006) looked at the value-content rules and found that utilisation of FTAs is lower the higher the minimum value content;
- Cadot and Ing (2014) looked at ASEAN RoO and estimated the RoO provisions to add an average tariff cost equivalent of 2.4 percent, with increasing costs as tests got stricter;
- Inama (2015) showed that liberalisation of the RoO regimes by Canada (2003) and the EU (2011) increased preference usage to 100 percent.

In order for the EU-AUS FTA to deliver on the expected trade benefits, RoO rules matter.

Potential EU-AUS FTA effects

In Table CS3.3-2, we report the main findings from the economic modelling for the textiles and clothing sector. We find that tariff liberalisation does not have a large effect on production for the EU textile sector, but could affect the Australian textile sector positively (0.4 percent increase) in the conservative scenario. Trade diversion occurs vis-à-vis the Pacific Islands.

Table CS3.3-2: Economic effects for the textiles sector

Variable	AUS	EU	Turkey	China	Pacific	LDC
Output effects (%) – Amb	-0.1	0.0	0.0	0.0	-0.3	0.0
Output effects (%) – Cons	0.4	0.0	0.0	0.0	-0.2	0.0
Price effects (%) – Amb	-0.4	0.0	0.0	0.0	0.0	0.0
Price effects (%) – Cons	-0.2	0.0	0.0	0.0	0.0	0.0
Employment effects (%) unskilled – Amb	-0.4	0.0	-	-	-	-
Employment effects (%) skilled – Amb	-0.3	0.0	-	-	-	-
Employment effects (%) unskilled – Cons	0.2	0.0	-	-	-	-
Employment effects (%) skilled – Cons	0.3	0.0	-	-	-	-
Total exports (%) – Amb	5.2	0.1	0.0	0.0	-1.2	0.0
Total exports (%) – Cons	5.2	0.0	0.0	0.0	-0.6	0.0
Imports from EU (%) – Amb	103.4	-0.3	-0.4	-0.5	-0.8	-0.5
Imports from EU (%) – Cons	47.8	-0.2	-0.2	-0.3	-0.4	-0.3
Imports from AUS (%) – Amb	-	37.9	18.2	0.8	0.5	0.9
Imports from AUS (%) – Cons	-	37.5	18.1	0.7	0.5	0.7

Source: Modelling results provided by DG Trade (2019)

The expected changes to the trade patterns are more interesting. It shows that Australian imports of EU textiles would increase by 103.4 percent in the ambitious and 47.8 percent in the conservative scenario, while Australian exports to the EU would grow by 37.9 percent and 37.5 percent respectively in the two scenarios. While for Australia this occurs at the same time as also exports to third countries increase in the conservative scenario (hence the production increase), for the EU trade diversion is more pronounced.

Because the model does not look at RoO directly, apart from approximating this policy tool via a more general 'NTM' approach, these results could understate the potential effects of the EU-AUS FTA for this sector. If the proposed RoO text that the EU has put forward[27] makes it into the final agreement, the economic effects could be more positive as RoO requirements are more relaxed (hence the trade limiting effect is reduced). From consultations with industry, it has become clear, however, that the EU-Japan text that has led to ambiguity in terms of importer and exporter rights to determine RoO should be avoided and rather earlier EU FTA texts like in the EU-Korea FTA should be used as best practice examples.

From a social perspective, we see that the Australian textile sector is expected to benefit by growing levels of employment, which is a positive effect on the *right to work* – which is in line with the sectors' growth trend over the past years – while for the EU textile sector the employment effect is negligible. This is in part because positive effects of more relaxed RoO provisions are not factored in and because Australia is a relatively distant and small market compared to the EU. Because the sector is dominated by SMEs, the benefits are expected to accrue mainly to small companies both in the EU and Australia. Regionally, the effects could also be more pronounced in the EU (e.g. in Italy, Portugal, German regions) and Australia (e.g. Queensland, New South Wales).

Environmentally, as said, the textile sector has a significant footprint. Based on the above results, we expect a small negative environmental effect in Australia from the conservative scenario. We also see an overall increase in trade in textiles, which could have an impact on the right to a clean environment via more GHG emissions in transport, although the effect is expected to be small.

[27] http://trade.ec.europa.eu/doclib/docs/2018/july/tradoc_157192.pdf [accessed 18 July 2019]

Policy recommendations
Based on the above analysis, we recommend the EU and Australia, when liberalising the textile sectors, to ensure that RoO provisions are negotiated that provide as low barriers for trade for EU and Australian SMEs as possible. We also recommend the EU and Australia to think of how to incentivise recycling for textiles and clothing (for consumers). The EU's adoption of a circular economy package, ensuring that textiles are collected separately in all Member States, by 2025 at the latest, is a good first step and example. Also, technological developments to reduce the environmental footprint of producing textiles in the EU and Australia need to be further supported.

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, beyond what is current practice in EU FTAs in cooperation with the EU Member States, in the EU and Australia to go to with any questions they have on the EU-AUS FTA and how to make use of it. Much of the feedback received from SMEs points to the fact that the EU-AUS FTA is seen as very abstract and distant from every-day concerns, and SMEs do not have the resources to investigate deeply.
- We propose for the EU and Australia 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-AUS FTA and to work with SMEs to reap benefits and become themselves ambassadors to other SMEs. Because awareness raising is a competence of EU Member States this should be aligned carefully between the EU and EU Member States in order to make a positive difference.

3.3. Social impact analysis

3.3.1. Social state of play

A detailed review of the current situation in the EU and Australia regarding social aspects is provided in Annex III.2. Below, we outline only a few selected elements.

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 the skills groups, highly qualified workers enjoy the highest employment rate (85.3 percent). (European Commission, 2017; 2018a) In Australia, the employment rate continued to grow and reached 73.8 percent in 2018. (OECD, 2018a) The unemployment rate fell to 5.1 percent. (Australian Bureau of Statistics, 2018a) Some groups, such as mothers, lone parents, indigenous people and people with disabilities record lower participation rates. (OECD, 2018b) In the first half of 2018, manufacturing was the main driving force for job creation accounting for 60 percent of new job offers (Pickering, 2018).

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 an increase in disposable household income. The share of the population at risk of poverty or social exclusion[28] decreased in 2017 to 113 million people, i.e. 22.5

[28] 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

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 Australia, in 2016, 13.2 percent of the population lived below the poverty line of 50 percent of median income, including 739,000 children (17.3 percent)[29]. Groups facing a higher risk of poverty included children, unemployed people, older people, recipients of social benefits, indigenous people and people with disabilities (ACOSS, 2018a). Measures planned by the Government in the 2018-2019 budget, e.g. a cut in personal income tax and raising the minimum wage level, are aimed at supporting household incomes (Pickering, 2018), although other policy measures have had a negative impact, e.g. changes to the Newstart Allowance – the main income support payment while unemployed and looking for work (ACOSS, 2018).

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.[30] 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, the Australian Government adopted the National Disability Strategy 2010-2020 which includes targeted outcomes in relation to access to employment and decent income, as well as equal access to education among the areas for action (Dep. of Social Services, 2010). In 2015, 53.4 percent of people with disability participated in the labour force, i.e. either were employed or actively looking for a job, compared with 83.2 percent of people without a disability[31]. In 2016, there were over 900,000 migrants in Australia with a right to work (excluding New Zealanders). A survey conducted in 2016 on a sample of short-term migrants having right to work provided insights in the lower pay end jobs in sectors including food services, fruit and vegetable picking, retail trade and cleaning (Berg and Farbenblum, 2017). Regarding rights at work and the ILO fundamental conventions, Australia is among the 16 ILO members (out of 187) who have not yet ratified the ILO Minimum Age Convention No. 138. On force labour, according to the Global Slavery Index 2018, an estimated 15,000 people are living in conditions of slavery in Australia, mainly in agriculture, construction, domestic work, meat processing, cleaning, hospitality and food services. Regarding social dialogue, in 2016, in Australia the rate of trade union membership was at 14.6 percent,[32] recording a decline from 51 percent in 1976 (Parliament of Australia, 2018). Regarding job quality and health and safety at work, the number of fatal accidents at work has been decreasing (Safe Work Australia).

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."

29 In terms of AUS$ figures, the poverty line meant income of $433 a week for a single adult living alone; or $909 a week for a couple with 2 children. (ACOSS, 2018)

30 See: https://stats.oecd.org/Index.aspx?DataSetCode=TUD

31 Australian Human Rights Commission 2016, *Willing to Work Factsheet: Australians with Disability, https://www.humanrights.gov.au/our-work/disability-rights/publications/willing-work-national-inquiry-employment-discrimination* [accessed 26 June 2019]

32 See: https://stats.oecd.org/Index.aspx?DataSetCode=TUD

3.3.2.Social effects of the EU-AUS FTA

Employment levels

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 Australia may influence trade flows between the Parties and what impact this is likely to have on the operation (output) of individual sectors and employment, i.e. job creation and 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 Australia under the two liberalisation scenarios 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 reduction (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 in the EU (up to 1.5 percent for both groups of workers under the ambitious scenario) is estimated for the ruminant meat sector, which may be related with an expected significant increase of Australian exports on the EU market (by 528 percent under the ambitious scenario)[33], albeit from a relatively low level. While these changes at the EU level are likely to be relatively limited, if the ambitious scenario is followed, there will be a need to monitor the situation in some Member States or regions which, due to a higher share of non-dairying cattle farming in the economic activity and employment (e.g. in Ireland, where it has a 2.7 percent share in the total employment), may potentially be more affected (in particular if effects of a few FTAs, including with New Zealand or Mercosur, cumulate).

Sectors recording job creation in the EU 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 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 and if the ambitious scenario is followed, which may not be beneficial for other sectors (see above comments regarding ruminant meat sector).

[33] To illustrate expected changes: in 2018, Australian exports in beef and live animals amounted to 20,868 tonnes compared to 30,884 tonnes in 2015 (Beef and veal market situation, CMO Committee, 17 October 2019): https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/farming/documents/beef-veal-market-situation_en.pdf According to the ex-ante study, between 2011 and 2015, Australian exports of sheep and goats to the EU remained stable, at around 19,000 per year.

Table 3.15: Employment levels in EU and Australia (percentage change)

Sector	Percentage changes							
	European Union				Australia			
	Conservative scenario		Ambitious scenario		Conservative scenario		Ambitious scenario	
	Unskilled workers	Skilled workers	Unskilled workers	Skilled workers	Unskilled workers	Skilled workers	Unskilled workers	Skilled workers
Rice	-0.1	-0.1	-0.2	-0.2	0.1	0.1	0.2	0.3
Cereals	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.1	-0.1
Vegetables, fruits, nuts	-0.2	-0.2	-0.2	-0.2	**0.3**	**0.3**	0.1	0.2
Oilseeds, fats and oils	-0.1	-0.1	-0.2	-0.2	**0.5**	**0.5**	**0.6**	**0.7**
Sugar	0.0	0.0	-0.2	-0.2	0.0	0.0	**0.7**	**0.8**
Plant & animal fibres	0.0	0.0	-0.1	-0.1	0.0	0.0	**-0.3**	**-0.3**
Ruminant meats	0.2	0.2	**-1.5**	**-1.5**	0.1	0.1	**5.0**	**5.0**
Other animal	0.0	0.0	0.0	0.0	**0.3**	**0.3**	0.1	0.1
Other meats	0.0	0.0	0.0	0.0	-0.1	0.0	**-0.3**	-0.2
Dairy products	0.1	0.1	-0.1	-0.1	**-0.4**	**-0.3**	-0.1	-0.1
Wood/paper products	0.0	0.0	0.0	0.0	-0.2	-0.2	-0.2	-0.2
Fishing	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Coal	-0.1	-0.1	-0.2	-0.2	0.0	0.1	**-0.3**	-0.1
Oil	-0.1	-0.1	-0.1	-0.1	0.2	0.2	**0.3**	**0.3**
Gas	-0.1	-0.1	**0.4**	**0.4**	0.2	**0.3**	**-1.5**	**-1.4**
Minerals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other food products	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.2	-0.1
Beverages and tobacco	0.0	0.0	0.0	0.0	**0.3**	**0.4**	0.2	**0.3**
Textiles, apparel, leather	0.0	0.0	0.0	0.0	0.2	**0.3**	**-0.4**	**-0.3**
Chemicals	-0.1	0.0	0.0	0.0	-0.1	0.0	**-0.8**	**-0.7**
Petroleum, coal products	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.1	0.0
Metal products	0.0	0.0	0.0	0.0	0.0	0.0	**-0.3**	-0.2
Non-metallic minerals	0.0	0.0	0.0	0.0	-0.1	0.0	**-0.4**	**-0.3**
Motor vehicles and transport equipment	0.2	0.2	**0.3**	**0.3**	**-1.5**	**-1.4**	**-2.0**	**-1.9**
Machinery	0.0	0.0	0.1	0.1	**-0.5**	**-0.4**	**-2.4**	**-2.3**
Electronic equipment	-0.1	-0.1	-0.1	-0.1	0.2	0.3	-0.2	-0.1
Electricity	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1
Utilities	0.0	0.0	0.0	0.0	**0.3**	**0.3**	**0.5**	**0.6**
Transport	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.2	-0.1
Communication & business services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Finance and insurance	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
Other Services	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1

Source: DG TRADE, the European Commission

Changes estimated for Australia 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 (2.4 percent for unskilled workers and 2.3 percent for skilled ones under the ambitious scenario), motor vehicles and transport equipment (2.0 percent and 1.9 percent respectively), gas (1.5 percent and 1.4 percent), and chemicals, rubber and plastics (0.8 percent and 0.7 percent) sectors. The first two sectors may be affected by job reduction also under the conservative scenario, i.e. machinery (0.5 percent for unskilled workers and 0.4 for skilled ones) and motor vehicles and transport equipment (1.5 percent and 1.4 percent respectively). A few other sectors may experience job reductions in the region of 0.3-0.4 percent. In this context, it is noted that a trend of job loss has been observed in Australia's machinery sector until 2017 (Australian Bureau of Statistics, 2008 and 2018d and Department of Employment, 2015). If this trend continues, then the estimated job reductions resulting from the EU-AUS FTA may add to it, strengthening the negative effect on the workforce. Job reductions in the machinery sector under the EU-AUS FTA in Australia may be related with increased imports from the EU (by 21.1 percent under the conservative scenario and 60.4 percent under the ambitious one).

The results of the economic modelling for the motor vehicles sector, on the other hand, should be interpreted with caution given the lack of productive capacity in the passenger cars segment of the motor vehicles sector in Australia (further to closure of manufacturing plants) and its operation being limited to supporting services, whereas 90 percent of

imports from the EU are passenger cars.[34] Moreover, services, such as research and design (for companies operating on global markets) or repair/maintenance of the existing vehicles fleet are likely to be independent (at least in the next few years) from changes in trade flows between the EU and Australia. Other services, such as sales of vehicles by non-EU brands, may react on increased imports from the EU, however, even if this leads to a job reduction, people with similar skills may be needed by the European brands, which may result in a shift of sales and marketing managers between brands.

The largest job creation in Australia is estimated to take place in the ruminant meat sector (up to 5.0 percent for both groups of workers under the ambitious scenario). Other sectors with potential positive impacts of the EU-AUS FTA include the sugar sector (job creation of up to 0.7 percent for unskilled workers and 0.8 percent for skilled ones under the ambitious scenario), oilseeds, vegetable oils and fats (0.6 percent and 0.7 percent respectively) and utility, including water supply and construction (0.5 percent and 0.6 percent). The oil, other animal products and beverages and tobacco sectors may experience up to 0.3 percent of employment increase. It is noted that in cases where job creation or reduction in a given sector is likely to be different for each group 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-AUS FTA (under the ambitious scenario) may also contribute to increased employment opportunities for migrant workers in Australia, if recently identified staff shortages in the ruminant meat sector are not met by local workers (there was a low interest to work in meat processing plants) and if immigration and visa policies facilitate recruitment overseas. Otherwise, the potential for new jobs and increased sectoral output related to the EU-AUS FTA may not materialise. The processing industry hired migrant workers, who in many cases already had skills required for the job (Australian Meat Processor Corporation, 2015). Given that in the last few years, the majority of workers in the meat processing sector were hired on daily or casual contracts, the same rules may apply also to migrant workers. This may mean higher hourly wages than on permanent contracts combined, however, with lack of certain benefits, such as paid annual leave and lack of job security (daily or casual contract ends at the end of the day or shift – for further details, please see the sectorial part of the analysis).

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) has outlined in its position paper elements of a future EU-Australia trade agreement important from the point of view of consumer rights. Protection of the latter 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, BEUC suggests 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

[34] In 2017, out of 209,796 motor vehicles exported by the EU to Australia,[34] 189,361 were passenger cars[34]. See: [accessed on 5 June 2019] European Automobile Manufacturers Association, "Exports of motor vehicles (2017)": https://www.acea.be/statistics/tag/category/exports-of-motor-vehicles "Exports of passenger cars (2017)": https://www.acea.be/statistics/article/exports-of-passenger-cars

related to online purchases). BEUC advocates upholding high levels of consumer protection, including food, product, health and safety standards, as well as 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, data flow and data protection related provisions should follow the EU and not the CPTPP approach and regarding investment, ISDS should be excluded from the agreement. A dialogue between regulators from the EU and Australia is also suggested, provided it does not impede the work of any Party on preparing and adopting regulations. Transparency of the negotiation process should be warranted. (BEUC, 2018)

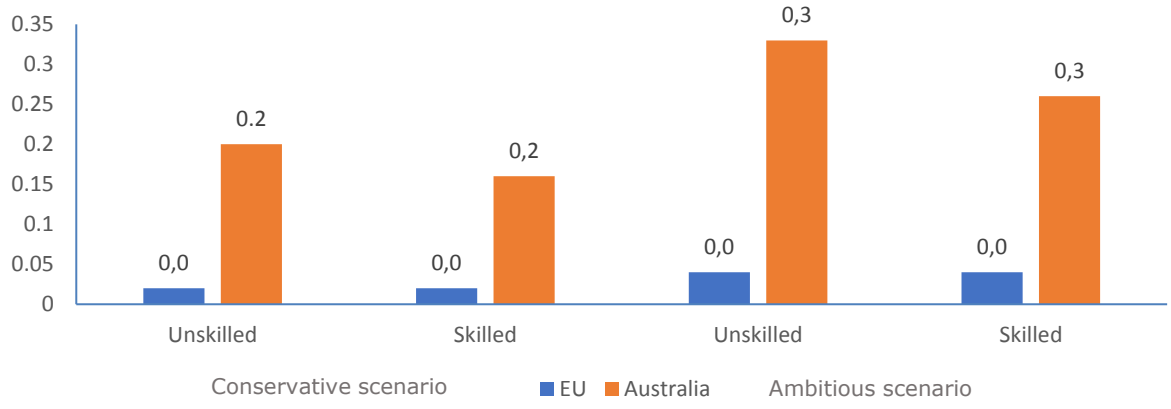
The future FTA is expected to have a positive albeit limited impact on real wages in Australia (increase by 0.2 percent for both unskilled and skilled workers under the conservative scenario and 0.3 percent under the ambitious one). It is to note that even if wages for unskilled workers may rise minimally more than for skilled ones under both scenarios, the estimated differences are too small to bring about a reduction in inequality.

Changes estimated for the EU will be negligible but positive (see rounding off in Figure 3.2). In public consultations, 64 percent of respondents didn't have an opinion or believed a future EU-AUS FTA would not bring about any changes in wage levels for the EU (for 66 percent of respondents, there would be no change wages in Australia). A possible wage increase in the EU was predicted by 28 percent of respondents (25 percent for Australia), while a negative impact on wages was expected by 8 percent of respondents (for the EU) and 8.3 percent (for Australia).

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.

Overall price increases are estimated to be marginal and expected to occur in the long-term only. Because we report real wages that are positive, the price increases do not outweigh changes in nominal wage levels. This means that for both groups of workers in the EU, the EU-AUS FTA leads to increases in disposable incomes (for more details on those groups and wages in the EU, see Annex III.2).

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



Source: DG TRADE, the European Commission

In Australia, under the conservative scenario, prices of vegetables, fruits and nuts, other animal products and fish products will increase (by 0.1 to 0.2 percent), while for other food

products they will decline, e.g. rice and sugar (-0.1 percent), dairy products (-0.3 percent), other food products (-0.2 percent) and beverages and tobacco (-0.4 percent). Other goods and services are likely to become cheaper, e.g. motor vehicles (-0.9 percent), machinery (-0.4 percent) and transport (-0.2 percent). Prices of consumer services will drop by 0.1 percent. This means that on average price increase should not outweigh the expected wage growth resulting from the agreement. On the other hand, it is noted that overall wage increases have been very slow in Australia over the last few years, just keeping pace with the inflation rate, and some social benefits have not been increased for several years. Accordingly, unless this trend changes in the near future, some groups of consumers may be vulnerable to cumulative price increase (given also the rising housing costs in Australia), even if overall the price changes related to the future FTA are expected to be very limited (for details on vulnerable groups, see Annex III.2.).

Under the ambitious scenario, food prices in Australia are likely to increase marginally more than under the conservative scenario, while price decline for some groups of products and services will be more pronounced than under the conservative scenario. Accordingly, food prices will increase, e.g. cereals (by 0.2 percent), vegetables, fruits and nuts (0.3 percent), oilseeds, vegetable oils and fats (0.1 percent), beef and sheep meat (0.5 percent), fish products (0.2 percent), while other goods and services will become cheaper, e.g. motor vehicles (-1.3 percent), machinery (-1.2 percent) and gas (-2.0 percent). Prices of consumer services will drop by -0.1 to -0.2 percent. In other groups, prices may decline by up to 0.6 percent (e.g. chemicals). Given the predicted wage increase for both groups of workers (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, with a limited improvement of accessibility of goods imported from the EU, 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 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-Australia FTA will have a positive impact on welfare in the EU (increase by €2.2 billion under the conservative scenario and by €4.1 billion under the ambitious one). For Australia, the estimated increase in welfare is likely to reach €0.9 billion under the conservative scenario and by €1.4 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. 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 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 very limited, if any at all. 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 demand for new skills and new organisation of work), domestic legislation, its implementation and enforcement, and trade and investment relations with main partners. 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 Australia, the expected job creation in some agricultural sectors (e.g. ruminant meat) should not contribute to an increase in the number of accidents at work. Statistical data from the last decade suggests a decrease in the total number of fatal accidents by 48 percent for the whole economy between 2007 and 2016, albeit an increase was recorded in 2017. In this context, it is noted that this positive trend occurred despite the employment growth in sectors generating high numbers of accidents overall. In addition, the number of non-fatal accidents at work and related claims has decreased over the last decade by 30 percent in agriculture and 20 percent in construction (Safe Work Australia, 2018, 2018a, 2018c and Fatality statistics). Moreover, there have been initiatives taken by farmer associations and industry aiming at improved levels of health and safety at work in the meat and dairy sectors (for details, see Chapter 4). In the construction sector in 2018, the Government of New South Wales developed, in cooperation with the stakeholders, a work health and safety sector plan to 2022 aiming to reduce the number of fatal accidents and serious injuries in the workplace. It can also be expected that further implementation of the Australian Work Health and Safety Strategy 2012–2022 will contribute to the overall improvement of workers' protection (for details, see Annex III.2).

Furthermore, if agreed in negotiations, new 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.

Regarding other job quality indicators, such as types of contracts, it is fair to assume that impacts of the EU-AUS FTA will probably be too limited, both in the EU and in Australia, to be able to influence types of contracts (e.g. increased 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 an absolute increase in the number of temporary (seasonal, casual or day-hire) contracts in sectors where these types of contracts have a relatively high share in the total employment and where the EU-AUS FTA is likely to trigger job creation (e.g. in the ruminant meat sector). In this context, it will be important to ensure that working conditions for these groups of workers (and, for example, for short-term migrant workers), are decent and meet certain established standards, and that cases of workers' exploitation which have been documented in some studies (particularly regarding migrant workers) are prevented, and investigated and addressed when they happen (for details regarding casual and migrant workers in Australia and recent initiatives to improve working conditions see Chapter 4 and Annex III.2).

Worker rights

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 in the labour market. These include e.g. disabled persons and migrant workers. In this context, the effects of a 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 the general and sectoral parts 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 Australia, in 2012 (the latest available data), people with disabilities worked mainly in services sectors, e.g. health care and social assistance (16 percent of total employment of disabled persons), wholesale and retail trade (13.5 percent), utilities, including

construction (9.5 percent), public administration and safety (7.6 percent), education and training (7.2 percent), professional, scientific and technical services (6.3 percent), accommodation and food service (5.5 percent), and transport, postal services and warehousing (5.1 percent). In addition, 8.2 percent worked in manufacturing and 3.5 percent in agriculture. (Australian Bureau of Statistics, 2012) Results of the economic modelling suggest that services sectors will either not be affected or may record limited job reduction in the region of 0.1 to 0.2 percent. However, it is also highlighted that services sectors having the highest employment shares are not modelled separately but included into aggregated sectors (other services), which makes it impossible to estimate the FTA impact for each of them separately. The sector of utilities, including construction, is likely to benefit from the EU-AUS FTA, with job creation estimated at 0.5 percent for unskilled workers and 0.6 percent for skilled ones under the ambitious scenario. Agriculture, forestry and fishing, is likely to record employment growth in most of sub-sectors as a result of the EU-AUS FTA (for details, see Table 3.15). Manufacturing is estimated to experience job losses of a varying scale, notably under the ambitious scenario. The scale will depend on the sub-sector (motor vehicles, machinery, chemicals, rubber and plastics are likely to be the most affected ones). Given that sectors which may experience a positive employment impact of the EU-AUS FTA in Australia have a relatively limited share in employment of all disabled persons (13 percent), one can conclude that positive impacts for people with disabilities as workers are expected to be limited. For the majority of disabled workers (notably those employed in services sectors) no noticeable changes in employment levels are expected. Finally, some 13 percent of disabled people (being employed in sectors which are likely to note job reductions of a different scale as a result of the EU-AUS FTA), may potentially face negative impacts of the agreement (Australian Bureau of Statistics, 2012; DG TRADE, 2019).

Regarding foreign-born Australian residents and migrant workers (for details concerning their employment shares across sectors, see Annex III.2), the future FTA will bring about no changes (or limited job reductions) in services sectors (employing the majority of them), benefits in utilities, mixed (towards positive) effects in agriculture and fishing and mixed (but rather negative) effects in manufacturing (depending on sub-sector). This means that while around 60-70 percent of foreign-born workers may not be affected by noticeable changes in employment levels, only up to 10 percent (utilities and agriculture) will work in sectors likely to experience job creation (which means better prospects for keeping the job or getting a new one) and some 16 percent (manufacturing) may be in sectors facing employment reductions of a different scale as a result of the new agreement.

Freedom of association and the right to collective bargaining

As already indicated in the description of the current situation in Australia (see Annex III.2), declining employment in manufacturing industries, including textiles and car production, was among factors contributing to decrease in trade union membership over the last few decades. The recent closure of car production plants may add to this trend and so may the future FTA with estimated job reductions in most 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). Moreover, it will be worthwhile monitoring whether any strike or boycott action is taken and if so, whether recourse prohibiting such action is sought under the Australian Crimes Act on the grounds that a strike threatens trade or commerce with other countries or among states, or a boycott results in the obstruction or hindrance of the performance of services by the Government or the transport of goods or persons in international trade. In 2017, the ILO Committee of Experts recommended review of both provisions to bring them in full conformity with the ILO fundamental convention No.87 (freedom of association and protection of the right to organise) (CEACR, 2017). On the other hand, it is noted that negotiations of a new trade agreement have the potential to encourage the activity of Australian trade unions. For example, the Australian Manufacturing Workers' Union has engaged in a discussion on the need to preserve workers' rights in the context of trade agreements negotiations (e.g. China-Australia FTA) and to ensure that on one hand,

employers consider local employees before resorting to international labour and, on the other, that migrant workers enjoy the same rights, including payment, as the Australian workers.[35]

Regarding EU, the EU-AUS 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.

At the same time (subject to outcome of negotiations), through the TSD (or Trade and Labour) chapter, the EU-AUS FTA may provide a framework for a dialogue which may include 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 the Commission and civil society representatives (from the EU and partner countries). They are discussed at annual meetings 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 conventions (European Commission 2017e, 2018). This has been reiterated by European trade unions requesting also an effective enforcement mechanism for labour provisions.[36] Implementation of future trade and labour provisions may also provide an opportunity to consider lessons learned from practical application of approaches adopted by Australia in its FTAs (labour-related provisions have been included e.g. into the Australia-Korea FTA, Australia-US FTA, and CPTPP[37] with a different scope and enforcement mechanisms; on the other hand some Australian agreements, e.g. the Australia-Malaysia FTA (in force since 2013) or the most recent one: the Australia-Indonesia FTA signed in March 2019[38] don't include such provisions) (UN ESCAP, 2017).

Child labour

Australia is among the 16 ILO members (out of 187) who have not yet ratified the fundamental ILO Minimum Age Convention No. 138. In this context, it is noted that the European Commission following results of the 2017/2018 debate on implementation of TSD chapters and commitments to improve it, highlighted to Australia a need to ratify that convention. Hence, negotiation and implementation of the EU-AUS FTA may facilitate the process leading to ratification of the convention No. 138 by Australia and contribute to a better protection of children's rights in that country (European Commission, 2019).

The only statistical data identified so far regarding child labour in Australia come from Child Employment Survey carried out by the Australian Bureau of Statistics in 2006. At that time, 6.6 percent of children in Australia aged 5 to 14 years were engaged in a paid work during the previous year. For 51 percent, the main reason was to earn money for own expenses. 74 percent worked for up to five hours a week, after school or over weekends (for further details, see Annex III.2) (Australian Bureau of Statistics, 2007).

Given the time which has elapsed since the survey was carried out, its results may be used only for illustrative purposes. If we assume that the patterns of engagement into paid work by children and teenagers in Australia have largely remained similar to-date, then one can conclude that – given the type of work, motivations and the number of hours worked - it

[35] "Deal on CHAFTA labour provisions does not go far enough", Australian Manufacturing Workers' Union: https://www.amwu.org.au/deal_on_chafta_labour_provisions_does_not_go_far_enough [accessed on 9 May 2019]

[36] "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].

[37] In another agreement, Australia-Chile FTA, the only reference to labour is made in the context of cooperation based on the concept of decent work and considering ILO core labour standards (ILO 1998 Declaration).

[38] The Conversation: "It's more than a free trade agreement. But what exactly have Australia and Indonesia signed?" (5 March 2019): https://theconversation.com/its-more-than-a-free-trade-agreement-but-what-exactly-have-australia-and-indonesia-signed-112853 [accessed on 9 May 2019]

is rather unlikely the EU-AUS FTA would have a direct impact on the number of jobs available to young persons or the share 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, as well as accessibility to basic goods because of the slight increase in the prices of some goods. In this context, it will be important that rules related to work of young persons are observed, i.e. prohibition of work for children under the minimum age, 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 the physical and mental wellbeing of working youth. Moreover, employers will need to respect work health and safety standards, including by providing appropriate training for young employees. It will therefore be important that all States in Australia have relevant legislation and mechanisms of its implementation and enforcement.

Forced labour
As outlined in a description of the current situation (see Annex III.2), both, in the EU and Australia there are cases of people living in conditions of slavery. In Australia this includes reported cases of migrant workers' exploitation in agriculture, construction, domestic work, meat processing, cleaning, hospitality and food services. There are also cases of forced labour or modern slavery related to sexual exploitation and forced marriage. (Global Slavery Index, 2018)

While considering potential impacts of the EU-AUS FTA on the incidence of workers' exploitation in Australia in particular in sectors such as agriculture, meat processing or construction, where the demand for labour is likely to increase, there is a need to note that both the Government and the sector representatives have been taking steps to address the problem of trafficking in persons and exploitation (for details, see Annex III.2.). However, it should also be noted that some sectors are more advanced than others in these discussions.

Therefore, one can conclude that the fact that additional employment may be generated in Australia as a result of the EU-AUS FTA and which may increase also demand for migrant workers (e.g. in the ruminant meat sector, including meat processing industry or in the construction sector) does not necessarily mean that the extent of their exploitation will also increase in those sectors. Given that this risk remains though, care should be taken to monitor the situation and ensure that relevant sectors are responding appropriately. As a result of the introduction of the Modern Slavery Act in 2019, many larger businesses will be required to report on how they assess and address modern slavery risks in their operations and supply chain, which should raise awareness and action, including amongst SMEs. Moreover, if new initiatives, e.g. recommendations of the Migrant Workers' Taskforce are implemented and enforced, the space for workers' exploitation will be further reduced. These are positive steps, but it will remain important to monitor these risks.

Corporate Social Responsibility (CSR) / Responsible Business Conduct (RBC)[39]
As outlined in a description of the current situation provided in Annex III.2, in the EU and Australia, there are diverse frameworks and initiatives encouraging application of CSR /RBC practices in the everyday operation of enterprises. These include e.g. legislative acts, such as national legislation of EU Member States, EU Directives or the Australian Modern Slavery Act, and international instruments, e.g. embedding of the UN Guiding Principles on Business and Human Rights and the OECD Guidelines for Multinational Enterprises, with their National Contact Points (NCPs) network. Further elements include reporting and quality standards (e.g. Global Reporting Initiative or ISO 26000), national strategies and action plans in the area of CSR/RBC, and related to business and human rights, approaches taken by international customers and competitors, engagement with key stakeholders, and others (for further details, see Annex III.2.).

[39] With CSR/RBC we mean responsible business conduct including sustainability.

As a review of companies' surveys and annual reports suggests (e.g. ACCSR Annual Review of the State of CSR in Australia and New Zealand in 2017 and a 2018 report by Deloitte), an increasing number of businesses in Australia is developing CSR/RBC approaches and recognising their benefits (for details, see Annex III.2) (ACCSR, 2017 and Deloitte, 2018).

The EU-AUS FTA has the potential to support this positive trend. Through increased investment, it may open further opportunities for branches of EU companies to pursue their CSR /RBC activities in Australia (and vice versa), as has already been the case. Moreover, the textual proposal tabled by the EU in the 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 promotion of international instruments, such as the OECD Guidelines and UN Guiding Principles on Business and Human Rights.[40]

Furthermore, based on 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. Hence, if a TSD chapter with CSR/RBC provisions is included into a future EU-AUS FTA, it will provide encouragement to pursue CSR/RBC practices by businesses of both Parties to the FTA.

Public policies (education, health care and social protection)
Effects of the EU-AUS FTA for the EU budget related to foregone revenue resulting from tariff reduction are estimated to be limited (€146 million under the conservative scenario and €166 million under the ambitious one) (European Commission, 2017c).

Given the structure of the EU budget (including revenue sources), as well as its separation from budgets of individual Member States, it is expected that the reduction of revenues from tariffs resulting from the EU-AUS 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.

In Australia, 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 their reduction would mean only limited impacts for the budget and the ability to finance public policies.

Outside budgetary considerations, the EU-AUS FTA may have positive effects on public policies, for example health care through specific provisions. For example, commitments under the TBT Chapter or an Annex on medical devices may facilitate trade, opening to health-care providers 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, if the ambitious scenario is followed, some EU Member States or regions having a higher share of non-dairy cattle farming in the economic activity and employment (e.g. in Ireland), may potentially be 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.

[40] See text tabled by the EU: http://trade.ec.europa.eu/doclib/docs/2019/april/tradoc_157865.pdf

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 EU Member State governments 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 in the EU 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. Hence, for the expected job growth to materialise EU institutions and EU Member States should work with industry and training providers to create programmes that would equip (future) workers with the right skills sets 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[41].
- The situation in sectors likely to be negatively affected in Australia by the EU-AUS FTA, e.g. machinery, will need to be monitored (e.g. by trade unions and business associations operating in these sectors) and if job reductions occur (as a result of the EU-AUS FTA), workers should receive support. Examples of targeted measures can be inspired by actions taken by the Australian Government in cooperation with industry following announcement of planned closures of car production plants. Applied measures included dedicated funds, provision of training and career advice, job fairs and support for companies in supply chains to diversify their operations into other sectors (Australian Government, 2017a). However, given potential negative employment consequences (for Australia, but also for the EU in the ruminant meat sector) in the ambitious scenario, the Parties should reflect on its costs and benefits for both sides, and their scale and decide, based on such analysis, whether the ambitious scenario should be pursued at all.
- As indicated in the analysis, the future EU-AUS 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 by Australian farmer associations and industry aiming at improved levels of health and safety at work in the meat and dairy sectors, and initiatives launched in the construction sector e.g. by the Government of New South Wales will need to be implemented and complemented by new ones, if needed. Further implementation of the Australian Work Health and Safety Strategy 2012–2022 should also contribute to the overall improvement of workers' protection.
- If agreed in negotiations, the EU-AUS 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 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. Such cooperation on the EU side would be based on Member State experiences, as well as expertise developed by European Agency for Safety and Health at Work. In the past, such cooperation with partner countries, e.g. Chile (under 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.

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

- Considering the predicted employment growth in some agricultural sectors in Australia, 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 certain established standards. It will be also for labour inspection and other relevant institutions to ensure that cases of workers' exploitation documented in some studies (e.g. regarding migrant workers) are prevented and when they happen, are investigated and addressed. The Taskforce set up by the Australian Government to examine situation of migrant workers in Australia published in March 2019 a report with 22 recommendations outlining how to improve situation of migrant workers in Australia. These included e.g. a need for targeted information for temporary migrant workers and students having the right to work about their rights and related employers' obligations. Other recommendations suggest e.g. legislative changes to increase protection of migrant workers, prevent employers breaching workers' rights from employing migrant workers, prohibit job adverts offering wages lower than foreseen by the law, increase penalties for violation of workers' rights, qualify serious violation of workers' rights as a criminal offence and strengthen enforcement (Australian Government, 2019). If these recommendations are followed and implemented by the Australian Government, they will increase protection of migrant workers and decrease a risk (relevant also for the EU-AUS FTA) that demand for migrant workers in certain sectors may imply new cases of their exploitation.
- While quantitative impacts of the EU-AUS FTA on the respect of rights at work are likely to be limited (e.g. in the case of 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 Australia to ratify the ILO fundamental convention No. 138. The Parties should continue their dialogue in this area during negotiations, with a view to identifying steps to take by Australia towards ratification and effective implementation of this convention, in law and practice.
- Given positive past examples of cooperation on CSR/RBC practices, Australia and the EU should agree to include into the future FTA provisions on trade and responsible supply chain management, and the promotion of 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/RBSC (e.g. in the TSD chapter) provide 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.
- The EU should encourage Australia to agree that cooperation and dialogue under TSD chapter includes seminars to be attended by representatives of NCPs 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. Similar seminars could, be attended by representatives of National Human Rights Institutions.

3.4. Gender impact analysis

3.4.1. Introduction

In this section, the analysis focuses on the effects that the EU-AUS 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 Australia are treated and act on the labour market as workers, 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 an 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-AUS 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-AUS FTA. However, it is also to note that services sectors having the highest employment shares are not modelled separately but included into aggregated sectors (other services), which makes it impossible to estimate FTA impacts for each of them separately. This is an important constraint given that within that category, there are sectors displaying different dynamics, i.e. some facing decline in the number of jobs, e.g. retail trade, others, such as health care, professional services or tourism, growing (the same is true for Australia).

Two sectors for which the economic model foresees slightly higher, but still limited employment increase in the EU are gas (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) (Eurostat, 2018); therefore it is to expect that while workers of both gender employed or interested in work in these sectors may benefit from a potential job creation induced by the EU-AUS 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. 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, where the economic modelling envisages limited job reductions in the EU: beef and sheep and other ruminant meats (-1.5 percent for skilled and unskilled workers under the ambitious scenario), rice, sugar, vegetables, fruits and nuts, vegetable oils and fats (-0.2 percent each) and cereals, plant and animal fibres and other crops (-0.1 percent), men are also more represented than women (2.2 and 0.9 percent share respectively in the 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.[42] While men are therefore more likely to be affected, there may be differences across Member States and sub-sectors, depending on shares in the total employment and job profiles of each gender.

[42] "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

In Australia, the picture is more diversified. In general, sectors having a higher share in employment of men than of women are likely to be more affected by the new FTA, both positively and negatively. For example, utilities, including construction, which has a 17.5 percent share in total employment for men and 3.0 percent share for women, is likely to generate an increase in employment of 0.5 percent for unskilled workers and 0.6 percent for skilled ones under the ambitious scenario (Australian Bureau of Statistics (2018b). On the other end of the scale, the motor vehicles and machinery sectors are likely to experience job reductions ranging from around -2.0 percent to -2.4 for skilled and unskilled workers under the ambitious scenario. However, estimations for motor vehicles sector need to be read with caution given that, following closure of passenger car manufacturing plants in 2016-2017, Australia does not have any production capacity in this market segment (for further details, please see sectoral part of the analysis.).

The services sectors, employing 90 percent of women in Australia, are likely not to face any or only very limited changes in employment under both scenarios, with potential job losses of up to -0.2 for unskilled workers in transport and other services sector under the ambitious scenario. In this context, it is noted that the total share of services sectors in employment in Australia has been growing over the last decade, from 70.7 percent in 1991 to 78 percent in 2018 (for women, the share of services in employment changed in the same period from 83.7 percent to 90.8 percent).[43] Over the period from 2011 to 2016, the total number of people employed in utilities increased by 82,407, in manufacturing decreased by 219,130, in agriculture increased by 17,118 and in services sectors jointly increased by 503,835.[44] If this generally positive trend is maintained in the services sectors in the coming years, then potential negative impacts of a new FTA should be interpreted as more limited employment growth rather than a net job reduction. In manufacturing, the agreement may add to the overall trend of employment decline and shift towards services. In agriculture, impacts resulting from a new FTA for Australia, 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.

Women as entrepreneurs and traders

As outlined in the description of the current situation[45], 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 the ambitious scenarios, which means no changes either for women-led enterprises.[46] 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

[43] World Bank, Australia – employment in services [accessed on 8 June 2019]: https://data.worldbank.org/indicator/SL.SRV.EMPL.ZS?locations=AU

[44] It is to note that there are significant differences in trends and dynamic between individual services sectors, e.g. between 2011 and 2016, the number of jobs in retail and wholesale trade declined by 100,000 while at the same time the number of jobs in health care sector increased by 183,450. See: Australia, industry sector of employment: https://profile.id.com.au/australia/industries [accessed on 8 June 2019]

[45] 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).

[46] As already indicated under the heading dedicated to women as workers, the "other services" sector is very diversified and comprises sub-sectors with different trends and dynamic. This is to bear in mind in interpretation of modelling results which may hide the fact that some sub-sectors contract while others grow and the aggregated effect suggest no changes or very limited ones.

percent. Therefore, while the expected changes (positive or negative) will be limited, also for women-led enterprises, the expected drop in output 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 increase in output of 0.2 percent under the conservative scenario and 0.3 under the ambitious one. The machinery sector is likely to growth 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 increase in output as a result of the EU-AUS FTA.

Regarding women's participation in trade, the latest study[47] of the European Commission and International Trade Centre (ITC) 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, Switzerland and Australia, while imports originate from China, the US and Japan (Australia ranking as the 7th). Outcomes of the economic modelling suggest increase in EU exports to Australia under the conservative scenario for textiles (by 47.8 percent), most of the food and agro-based products (ranging from 0.1 percent for sugar and beef and sheep meat to 47.8 percent for dairy products) and electronic equipment by 12.7 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 Australia and for some of them the growth is expected to be higher, e.g. by 103 percent for textiles, by 58 percent for electronic equipment and by 48.6 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 Australia under the future EU-AUS 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 Australia 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 2011, women-led businesses in Australia operated mainly in the area of professional, scientific, and technical services (13 percent), followed by retail trade (12 percent), health care and social assistance (12 percent), "other services" (9 percent), accommodation and food services (8 percent). Companies operating in agriculture and manufacturing had 6-7 percent each. Businesses led by men operated in construction (26 percent), professional, scientific, and technical services (12 percent), agriculture, forestry and fishing (7 percent), and manufacturing (7 percent). (Australian Bureau of Statistics, 2015) In 2011, Aboriginal and Torres Strait Islander women ran 2890 businesses, representing 0.6 percent of all female business operators. They were active mainly in health care and social services (12 percent), retail trade (11 percent) and other services (11 percent) (Australian Bureau of Statistics, 2015).

[47] 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

The economic modelling suggests no changes in output under the conservative scenario for "other services" sector, and for the remaining ones, an increase of 0.1 percent, hence, for a large part of women-led enterprises, there will be no changes or very limited positive ones. Utilities are likely to grow by 0.3 percent benefitting companies mostly operated by men. In manufacturing, mixed results are expected, with positive ones for textiles and beverages and tobacco (output increase by 0.5 percent and 0.4 percent respectively) and negative ones mainly in motor vehicles and machinery. In agriculture, generally positive estimations, with the dairy sector being the only one with a declining output under the conservative scenario (-0.3 percent), with others growing by 0.1 to 0.2 percent (vegetable oils and fats by 0.5 percent). Hence, for 12-14 percent of women-led enterprises operating in manufacturing and agriculture, the effects of the EU-AUS FTA may be mixed depending on the sub-sector.

Similar patterns are noted for the ambitious scenario, with services sectors growing by 0.1 to 0.2 percent (utilities by 0.6 percent). In manufacturing, most sectors will face decreasing output (beverages and tobacco being the only one growing, by 0.5 percent) and in sectors of agriculture, mixed results are expected, with the ruminant meat sector growing by 4.6 percent. This means again, limited, but positive effects for women-led enterprises operating in services sectors and mixed impacts for those active in manufacturing (mixed towards negative) and agriculture (mixed towards positive), depending on the sub-sector.

As regards women in their role as traders, a survey carried out in 2015 by Women in Global Business[48] and the University of Melbourne revealed that women-led companies already involved in international trade operate mainly in the services sectors, such as education and training (17 percent), business and finance (11 percent), and ICT (10 percent). Sectors related to trade in goods, e.g. food and beverages, consumer goods, agribusiness, and textile, footwear and clothing each represent 5-7 percent in the sample (WIGB, 2015). Based on the results of economic modelling, under the conservative scenario, Australian companies are likely to increase exports in services on average by 9 percent. Exports of other food products, textiles and beverages and tobacco are also likely to grow, by respectively 74.4 percent, 37.5 percent and 17.6 percent. Under the ambitious scenario, these figures will largely remain the same, while exports of agricultural products will increase substantially (e.g. ruminant meat by 528 percent). This means that women-led enterprises operating in these sectors and already trading internationally or considering engagement in exports, may also benefit from additional opportunities likely to be created by the EU-AUS FTA.

Women as consumers

As outlined in Section 3.3, the EU-AUS FTA is likely to have a negligible effect for the 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 Australia, 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 that is below wage growth. The same findings will apply to women as consumers, notably those for whom wages constitute their source of income. However, women belong to groups in Australia, which also include children, single parent's households, unemployed people, old age pension beneficiaries, indigenous people and people with disabilities (ACOSS, 2018, 2018a; Pickering, 2018) 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). This suggests that the impact on women as consumers in Australia may slightly

[48] The Women in Global Business program is a joint Australian, State and Territory government initiative established in December 2010. See: https://www.bulletpoint.com.au/wigb/ [accessed on 18 January 2019]

vary depending on the source of income and sector of employment or economic activity, personal 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-AUS 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, and internationally traded services, given that the recent study with ITC provides insights for women's entrepreneurial activity as international traders in goods), and to a more regular collection of data regarding women entrepreneurs and traders in Australia, 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-AUS 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 2017 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.
- 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-AUS 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 Australia 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.[49]
- The Parties should monitor (in cooperation with social partners) whether women may be disproportionately impacted by price increases in food products in Australia as a result of the EU-AUS FTA.

3.5. Human rights impact analysis

3.5.1. Introduction

This chapter first provides an overview of the state of play of human rights situation in Australia 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-AUS FTA on human rights in both Parties. First, we provide a summary of the human rights state of play, followed by a screening and scoping exercise and then a 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 Australia from a human rights perspective.

[49] 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].

European Union

EU Member States have different records with respect to ratification of international human rights treaties (Table III.3.1 in Annex III.3), but they are all bound by the human rights values enshrined in the EU Charter. All the Member States ratified all the core ILO Conventions (Table III.3.2 in Annex III.3). Based on the 2018 Freedom House Democracy Index, the ranking scores of the EU Member States with respect to democracy vary from 72 to 100 out of 100 (Freedom House, 2018). The 2018 Corruption Perception Index (CPI) scores for the EU countries range from very high (88 for Denmark) to relatively low (42 for Bulgaria) out of maximum 100 (Transparency International, 2018). The 2017 Human Development Index ranks most EU Member States as having very high levels of human development.[50] 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 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). Discrimination against women, national minorities, migrants, inequality, rights of older people, impact of the misuse of anti-terror legislation on freedom of expression have been on the agenda of the Council of Europe's Commissioner for Human rights in 2018.[51] European Union Agency for Fundamental Rights raised human rights issues with respect to discrimination and unequal treatment in general, rights of asylum seekers, immigrants and minority ethnic groups, Roma integration, children's rights, violence against women and domestic violence (FRA, 2018). Many of these issues are of domestic character and are not likely to be directly related to trade relations with Australia. However, the current situation and specific provisions in the proposed EU-AUS 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.

Australia

Cooperation between the EU and Australia in relation to human rights is framed by the EU-Australia partnership framework,[52] which sets out, among other things, a "commitment to advancing the protection and promotion of human rights".[53]

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50 HDI ranking ranges from 4 to 51, with Bulgaria and Croatia being the only two states characterised as states with a high rather than very high level of human development (UNDP, 2017).

51 See website of the Council of Europe's Commissioner for Human Rights at https://www.coe.int/en/web/commissioner/blog-2018

52 Delegation of the European Union to Australia, 2016. Towards a closer EU-Australia Partnership: Joint Declaration of the EU's High Representative for Foreign and Security Policy/Vice President of the Commission and the Australian Foreign Minister, http://eeas.europa.eu/archives/delegations/australia/press_corner/ all_news/news/2015/2015_2304_en.htm.

53 European Parliament non-legislative resolution of 18 April 2018 on the draft Council decision on the conclusion on behalf of the Union of the Framework Agreement between the European Union and its Member States, of the one part, and Australia, of the other part (15467/2016 – C8-0327/2017 – 2016/0367(NLE) – 2017/2227 (INI)), http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P8-TA-2018-0109&format=XML&language=EN

Australia is a party to seven out of nine core international human rights treaties and seven out of eight core ILO Conventions (see Tables III.3.1 and III.3.2 in Annex III.3 for an overview) and has human rights obligations established in these instruments. Based on the 2018 Freedom House Democracy Index, Australia enjoys a high level of democracy with the ranking score of 77 out of maximum 100 (Freedom House, 2018). The 2018 CPI indicates relatively low levels of corruption, with a score of 77 out of 100, ranking it 13th out of 180 countries (Transparency International, 2018). Most recent data of the Human Development Index (HDI) characterises Australia as having a very high level of human development based on such indicators as life expectancy, education and standard of living (UNDP, 2017).

Overall, Australia has a relatively high record on human rights. Main human rights issues relate to the rights of migrants and asylum seekers (Australian Commission for Human Rights, 2017a), discrimination (United Nations 2018, 2017, 2017a, 2017b), rights of indigenous peoples, women's rights, labour rights of migrant workers (Farbenblum & Berg, 2018). Some of the issues related to human rights have already been discussed in the ex-ante study: freedom of expression, right to peaceful assembly and association, right to participate in public and political life, right to health, rights of indigenous peoples, rights of migrants, refugees and asylum seekers, right to a fair hearing and right to privacy. Annex III.3 provides a short overview of the issues.

Both the EU and Australia have a strong overall human rights record, the human rights situation in both parties can be characterised by several issues that need attention, but, at the same time, it demonstrates that there are constant developments in the field of human rights to improve 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.[54]

3.5.3. Screening and scoping of specific human rights

The likely cause-effect relationships between trade and trade-related measures in the EU-AUS FTA and human rights have been developed based on various sources, in particular, 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 onions, 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 Australian stakeholders view the impact of the EU-AUS FTA on human rights. It points out a few impacts of the EU-AUS FTA on human rights. The human rights focused on in the LSE (2017) study are: freedom of expression, freedom of association and peaceful assembly, right to participate in public and political life, right to health, rights of indigenous peoples, rights of migrants, refugees and asylum seekers, right to a fair hearing, right to privacy, right to water, right to an adequate standard of living. 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 which are expected to be impacted in a major way, generating either neutral or positive impact.[55]

The outcomes of the economic modelling are used to see where – at sectoral level especially – human rights impacts can be expected from the EU-AUS 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.

[54] See Annex III.3 for a more detailed description of the state of play.
[55] See Table 47 in LSE (2017).

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

- What trade measures / provisions from the textual proposals are expected to cause the impact on human rights;[56]
- Reference in the textual proposal (upon availability);
- Potentially affected human rights / issues and the normative framework for these rights;
- Short explanation of the impact abased on secondary materials: in particular, nature or the expected impact (both in the short and in the long run, where possible) and possible directions of the expected impact;
- Whether the potentially affected right is an absolute human right or not (yes/no);[57]
- What kind of impact is expected (direct or indirect);[58]
- 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 by the EU-AUS 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 the stakeholder consultations.

[56] Based on the EU textual proposals available on the website of DG Trade: http://trade.ec.europa.eu/doclib/press/index.cfm?id=1865

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

[58] 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 the EU-AUS FTA for effects on enjoyment of human rights

Trade & trade related measures	Textual Proposal reference[59]	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 specialization 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 the population also benefit depends on support from the government and publicly funded programmes as well as the degree to which they are included. It will also depend (particularly in Australia) on how much prices for goods including food may increase, as *the right to an adequate standard of living* may be negatively impacted for some groups of consumers who are vulnerable to cumulative price increases (e.g. Vulnerable Australians, especially those on benefit systems where these benefits have not been increased for a long time). 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 (including the elderly, children, women, persons with disabilities, migrants, persons with low income, etc.) because funds decrease. Because both the EU and Australia have strong mechanisms for the funding of public programmes (although certain shortcomings in Australia were noted, including for those depending on social security (noting that the amounts of certain benefits (e.g. the Newstart Allowance) has been frozen (after inflation) since 1994[60]), those depending on social housing which has experienced shortages[61], as well as indigenous people who continue to experience a range of	No	Direct	Minor*	(+) (-)	EU and AUS 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*	(+) (-)	AUS, vulnerable groups
		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*	(+) (-)	AUS, vulnerable groups
		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		No	Indirect	Minor*	(+) (-)	AUS, vulnerable groups

[59] Upon availability.
[60] ACOSS, 2018.
[61] A/HRC/WG.6 /23/AUS/3, p. 9.

Trade & trade related measures	Textual Proposal reference[59]	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
		(CRPD), Art. 30 (ICMW), Art. 5 (CERD)	inequalities[62]), and tariffs are not a significant part of the budget, 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, negatively affecting vulnerable groups dependent on publicly allocated funds. Moreover, in the EU, this is a domestic EU Member State matter. 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. As a result of tariff liberalisation some competitive sectors both in Australia 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 in different sectors. 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).[63] Where new jobs are created which are filled by migrant workers, there is a risk of labour exploitation. Liberalisation of tariffs in agriculture, in particular, meat and dairy is expected to lead to increase in production and increase in GHG emissions in Australia, thereby potentially affecting the *right to a clean environment* in a minor negative way (see detailed analysis in the Environmental Impact Chapter). Liberalisation of tariffs in the sugar sector can lead to a minor impact on the *right to water*, in particular affecting water quality (see detailed analysis in Section 3.5.4).					
		Right to work Art. 15 (CFR), Art. 6 (ICESCR), Art. 23 (UDHR), Art. 11(CEDAW), Art. 27 (CRPD), Art. 5 (CERD)		No	Direct	Minor* Major* depends on the sector	(+) (-), (--)	EU and AUS workers
		Right to a clean environment Art. 37 (CFR), Art. 14 (CEDAW), Art. 24 (CRC), Art. 25 (UDHR), Art. 12 (ICESCR)		No	Direct	Minor	(-)	AUS population
		Right to water Art. 11(1) (ICESCR), CESCR General Comment No. 15, Art. 14(2) CEDAW, Arts. 24 and 27(3) CRC, Art. 28 (CRPD), Art. 5 ILO Convention No. 161		No	Direct	Minor	(-)	AUS 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 Australia and the EU. Lower costs could have a direct but not very significant impact on *the right to an*	No	Direct	Minor	(+) (-)	EU and AUS population in general

62 CCPR/C/AUS/CO/6

63 Sectoral impacts for selected sectors are covered in Chapter 4.

Trade & trade related measures	Textual Proposal reference[59]	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*	*adequate standard of living* of citizens in both EU and Australia. 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 could go either way but is not expected to be very significant. 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 Australian 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.	No	Direct	Minor	(+) (-)	AUS indigenous populations
		Right to a clean environment Art. 37 (CFR), Art. 14 (CEDAW), Art. 24 (CRC), Art. 25 (UDHR), Art. 12 (ICESCR)	From the perspective of the indigenous people's rights, if a consequence of the EU-AUS FTA is that the number of exploration projects increases, this could put pressure on those rights. In addition, although lithium mining in Australia is performed from hard rock, 'it still requires the use of chemicals in order to extract it in a useful form'.[64] Environmental impact assessment requirements (specified in Art. X.8 of the Textual Proposal) may need to be regularly updated to include requirements that meet further research findings into the impact of lithium mining on human health.	No	Direct	Minor	(+) (-)	EU and AUS population in general
Services liberalisation	Invest-ment liberalisation and trade in services (Chapter 3, Cross-Border	*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 (ICMW), Regulation (EU) 2016/679	EU Negotiating directives for an FTA with Australia state that "The Agreement should have substantial sectorial coverage and should cover all modes of supply," [65] excluding audio-visual services and services supplied and activities performed in the exercise of governmental authority.[66] As a result of liberalisation of some competitive sectors both in Australia 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	No	Direct	Minor	(+) (-)	AUS population in general

64 Katwala, A. (2018), The Spiralling Environmental Cost of Our Lithium Battery Addiction, available at : https://www.wired.co.uk/article/lithium-batteries-environment-impact

65 Council of the European Union, Negotiating directives for a Free Trade Agreement with Australia, 7663/18 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

66 Ibid.

Trade & trade related measures	Textual Proposal reference[59]	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)	*Right to work* Art. 15 (CFR), Art. 6 (ICESCR), Art. 23 (UDHR), Art. 11 (CEDAW), Art. 27 (CRPD), Art. 5 (CERD)	opportunities could for example materialize for the ruminant meat sector in Australia 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).[67] For example, SMEs in the ruminant meat and sugar sectors could benefit. 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 – some stakeholders expressed concern that there could be increased infringements of rights such as *the right to privacy and protection of personal data*, *right to access information*. GDPR Regulation (Regulation (EU) 2016/679), on the other hand, provides an important safeguard. Australian civil society is concerned that existing legislation in Australia is not sufficient to protect the privacy of its citizens and call for improved data protection standards, e.g. through more alignment with the EU rules.[68] Art. 14 of the Textual Proposal, for example, contains cooperation provisions (also specifically in protection of consumers) that may have a positive impact on privacy laws in Australia through exchange of best practices.	No	Direct	Minor	(+) (-)	EU and AUS workers
		Right to an adequate standard of living Art. 11 (ICESCR), Art. 27 (CRC), Art. 28 (CRPD), Art. 25 (UDHR)		No	Direct	Minor	(+) (-)	EU & AUS 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	(+) (-)	AUS 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 (ICMW), Regulation (EU) 2016/679	Digital trade provisions aim to ensure consumer protection in the online environment: the EU-AUS 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 addressing unjustified data localisation requirements, while neither negotiating nor affecting the EU's personal data protection rules and without prejudice to the EU legislation'. [69]	No	Direct	Minor	(+) (-)	AUS population in general

[67] Sectoral impacts for selected sectors are covered in Chapter 4.
[68] E.g. Australian Privacy Foundation.
[69] Council of the European Union, Negotiating directives for a Free Trade Agreement with Australia, 7663/18 Add 1 DCL 1, 25 June 2018, 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[59]	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
		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	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"[70] and Art. 13 sets out provisions on unsolicited direct marketing communications, protecting both EU and Australian citizens from spam. EU GDPR provides context for the Agreement and may be used for possible alignment with Australian legislation on privacy. Australian civil society is concerned that existing legislation in Australia is not sufficient to protect the privacy of its citizens, stating that 'Australian consumers have lower privacy protection than peers in the EU', and call for improved data protection standards, e.g. through more alignment with the EU rules.[71] However, discussions on legally binding provisions in the EU-AUS 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.	No	Direct	Minor	(+) (-)	AUS population in general
		Online privacy Regulation (EU) 2016/679, e-Privacy Directive (Directive 2002/58/EC)		No	Direct	Minor	(+) (-)	AUS population in general
Reduction of non-tariff measures:[72] 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)	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 Australia 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 Australia 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) and 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 Australian consumers. For job creation/reduction, the impact is expected to be	No	Indirect	Minor	(+)	EU and AUS 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 AUS consumers

[70] EU Textual Proposal on Digital Trade Chapter, available at: http://trade.ec.europa.eu/doclib/docs/2018/december/tradoc_157570.pdf
[71] Australian Privacy Foundation.
[72] Based on UNCTAD (2015).

Trade & trade related measures	Textual Proposal reference[59]	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
		Right to clean environment Art. 37 (CFR), Art. 14 (CEDAW), Art. 24 (CRC), Art. 25 (UDHR), Art. 12 (ICESCR)	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 Environment Chapter. According to civil society, the EU-AUS FTA could potentially have a negative effect on the *right to health* if supplementary rather than primary labels would be allowed to warn against health risks, the former being viewed as less effective (source: Public Health Association Australia).	No	Indirect	Minor	(+)	EU and AUS population in general
		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 AUS workers, depends on the sectors
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 Australia 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-AUS 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 AUS leading to possibly more jobs created in those sectors.	No	Direct / Indirect	Minor	(+)	EU and AUS 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 AUS 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 AUS population in general

Trade & trade related measures	Textual Proposal reference[59]	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
		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 AUS workers
Reduction of NTMs: non-automatic licensing, quotas, prohibitions, quantity measures other than SPS or TBT	Trade in Goods Chapter. Chapter National treatment and market access for goods, Art. X.13 and X.14.	*Right to an 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. the Australian dairy sector into the EU; or ruminant meat sector).	No	Direct	Minor overall but larger at sectoral level	(+) (-)	EU and AUS (agricultural) workers
		Right to work Art. 15 (CFR), Art. 6 (ICESCR), Art. 23 (UDHR), Art. 11 (CEDAW), Art. 27 (CRPD), Art. 5 (CERD)	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 exist mostly in the agricultural sector, 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 (see also Annex III.1 on TRQs).	No	Direct	Minor overall but larger at sectoral level	(+) (-)	EU and AUS (agricultural) workers
Reduction of non-tariff measures: intellectual property protection;	Intellectual Property Chapter. Subsection 1. Copyright and related rights. Subsection 4. Geographical Indications	*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)	Australia provides patent protection for pharmaceutical products in line with the TRIPS WTO Agreement. Australia does not have a system of Supplementary Protection Certificates (SPCs) for pharmaceutical (or other) products. Instead, the owner of a patent claiming a pharmaceutical substance may obtain one extension of the term of the patent (EoTerm) if certain substantive and procedural requirements are met (see more detailed analysis in the detailed assessment of the right to health). Extension of patent protection is sometimes necessary to secure innovation for new medicines and their introduction which can lead to lower health 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 Australian	No	Direct			AUS population in general
		Right to take part in cultural life Art. 27 (UDHR), Art. 15 (ICESCR), CESCR General Comment No. 21		No	Direct	Minor	(+) (-)	EU farmers

Trade & trade related measures	Textual Proposal reference[59]	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
		Right to work Art. 15 (CFR), Art. 6 (ICESCR), Art. 23 (UDHR), Art. 11 (CEDAW), Art. 27 (CRPD), Art. 5 (CERD)	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. The goal of the overall system should be to allow patients to get quicker access to both old and new medicines and not only a commercial approach to the sector 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 brand for small and large European and Australian 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.* As per Australian stakeholder feedback, 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. This could also impact on those famers' or producers' income and therefore their *right to an adequate standard of living* (with such impacts likely to be higher in Australia). On the other hand, Australian GIs could be developed in the same vein which would have a potential positive effect in Australia for farmers, including their *right to an adequate standard of living*.	No	indirect	Minor	(+) (-)	EU and AUS farmers
		Right to an adequate standard of living Art. 11 (ICESCR), Art. 27 (CRC), Art. 28 (CRPD), Art. 25 (UDHR)		No	Indirect	Minor	(+) (-)	EU and AUS farmers

Trade & trade related measures	Textual Proposal reference[59]	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
Inclusion of labour and environ-mental standards	TSD Chapter	*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 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.[73] The TSD Chapter contains obligations on effective implementation of domestic labour laws, 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 the ILO Conventions by the parties (e.g. Australia did not yet ratify the ILO Minimum Age Convention (C138)). Overall, this trade-related measure is expected to have a direct positive impact on *labour rights* in both EU and Australia, as well as *the right to clean environment* and, as a consequence, *right to health*. For Australia this would be a step further in terms of its sustainability commitments compared to current ways in which is engages on this topic via FTAs. It is not clear though how specific vulnerable groups (e.g. women, indigenous peoples) are protected under this Chapter which does not include provisions regarding vulnerable groups of the population in its current version. 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	No	Indirect	Minor	(+)	EU and AUS population in general
		Right to clean environment Art. 37 (CFR), Art. 14(CEDAW), Art. 24 (CRC), Art. 25 (UDHR), Art. 12 (ICESCR)		No	Direct	Minor	(+)	EU and AUS population in general
		Labour rights: *Right to work;* *Freedom of association;* *Right to collective bargaining;* *Prohibition of forced labour;* *Prohibition of child labour;*		No	Direct	Minor	(+)	EU and AUS workers

[73] 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

Trade & trade related measures	Textual Proposal reference[59]	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
		Elimination of discrimination at work; Right to just and favourable working conditions of work; Right to form trade unions Art. 15 (CFR), Art. 6 (ICESCR), Art. 23 (UDHR), Art. 11 (CEDAW), Art. 27 (CRPD), Art. 5 (CERD), ILO Conventions	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*.					
		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	Direct	Minor	(+)	EU and AUS 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		N/A	Direct	Minor	(+)	EU and AUS population in general
		Right to information Art. 9 (CFR), Art. 16 (UDHR), Art. 10 (ICCPR), Art. 14		No	Direct	Minor	(+)	EU and AUS population in general

Trade & trade related measures	Textual Proposal reference[59]	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
		(CRC), Art. 12 (ICMW), Art. 5 (CERD)						
Inclusion of provisions on gender balance		*Gender non-discrimination* Art. 23 (CFR), Art. 26 (ICCPR), CEDAW, Art. 3 (ICESCR), Art. 3 (ICCPR)	It is not clear at the time of writing of this report, if gender provisions will be included in the EU-AUS FTA. The option to reference trade and gender issues in this FTA was communicated by the Australian Department of Foreign Affairs and Trade.[74] 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 Australia, putting the importance of gender issues on the 'map' of trade discourse and linking it to the EU's and Australia's international commitments. See also the social analysis on gender effects in Section 3.4 of the report.	No	Direct	Minor	(+)	EU and AUS women
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. To avoid this effect the legal text contains clear provisions to stress the right to regulate. The issue of indirect expropriation may need to be addressed in the investor protection sections (either inside the EU-AUS FTA or flanking it), reducing the risk for governments of possible high bills that will have to be paid to the investors by the national governments.	No	Indirect	Minor	(+)	EU and AUS workers (more for AUS)
		Right to an adequate standard of living Art. 11 (ICESCR), Art. 27 (CRC), Art. 28 (CRPD), Art. 25 (UDHR)		No	Indirect	Minor	(+) (-)	EU and AUS workers, especially in affected sectors
		Government's right to regulate		N/A	Direct	Minor	(+) (-)	AUS population
		CSR/RBC (human rights responsibili-ties of investors) UN Guiding Principles on Business and Human Rights, OECD Guidelines for Multinational Enterprises, the ILO		N/A	Direct	Minor	(+) (-)	AUS workers, vulnerable groups

[74] See website of the Australian Government, Department of Foreign Affairs and Trade, https://dfat.gov.au/trade/agreements/negotiations/aeufta/Pages/aeufta-round-3.aspx

Trade & trade related measures	Textual Proposal reference[59]	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
		Tripartite Declaration of Principles concer-ning Multinational Enterprises and Social Policy, UN Global Compact	Corporate social responsibilities of investors could possibly have an impact on human rights, but it is included in the TSD Chapter to possibly secure CSR/RBC standards based on relevant international instruments.					
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 Australian 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 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-AUS FTA will be based on the rules, procedures and requirements established under the WTO Government Procurement (GPA). 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 Australian Government has an Indigenous Procurement Policy under which the Government has targets regarding sourcing from indigenous-owned businesses. It should be confirmed that additional procurement from the EU will not reduce opportunities for indigenous-	N/A	Direct	Minor	(+) (-)	Australian 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 AUS 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 AUS workers

Trade & trade related measures	Textual Proposal reference[59]	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
			owned businesses, although given the structure of the Indigenous Procurement Program it is not expected to do so.					
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 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*. 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).	No	Indirect	Minor	(+)	EU and AUS population in general
		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 AUS population in general
		Good governance		N/A	Indirect	Minor	(+)	EU and AUS population

(*) Based on modelling results calculated by the European Commission.

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 proposed Agreement. 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-AUS 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 are ratified by Australia.[75] In this section, we consider potential impacts which may result from the EU-AUS 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 Australia that are expected to be affected by the EU-AUS 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 3.3.

Normative framework and current situations in the EU and Australia

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-AUS 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));

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

- The labour market should be open to everyone without discrimination (para. 12(b), Art. 2(1) ICESCR);
- The right to work should be protected, by providing workers 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 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 Australia recognise their international obligations with respect to the right to work and other labour rights through ratification of the relevant international instruments.[76]

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.[77] 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 Australia
Australia is a party to 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) and CRPD (Article 27). These instruments also contain provisions regarding the right to work for specific population groups: women (CEDAW), children (CRC), persons with disability (CRPD). Australia is not a party to the ILO Convention No.169 on the protection of the rights of the indigenous population (although does support the UN Declaration on the Rights of Indigenous Peoples) and is not a party to the ILO Convention No.138 (Minimum Age Convention).

The main domestic legislation that contains provisions on the right to work and rights at work is the Fair Work Act 2009.[78] It provides for terms and conditions of employment, sets out rights and responsibilities of employees, employers and organisations in relation to that employment, provides for compliance with, and enforcement of the Act, and provides for the administration of this Act by establishing the Fair Work Commission and the Office of the Fair Ombudsman.[79]

Other relevant federal legislation includes the Sex Discrimination Act 1984, Age Discrimination Act 2004, Disability Discrimination Act 1992 and Racial Discrimination Act 1975 which prohibit discrimination against employment on the grounds of sex, age, disability, race, colour or national or ethnic origin. The Workplace Gender Equality Act 2012 and Equal Employment Opportunity (Commonwealth Authorities) Act 1987 aim to promote equality for women in the workplace. The Work Health and Safety Act 2011 seeks to ensure

[76] For details, see the inception report.
[77] 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
[78] In particular, the objective of the Act states: "to provide a balanced framework for cooperative and productive workplace relations that promote national economic prosperity and social including of all Australians". See full text of the Act at: https://www.legislation.gov.au/Details/C2018C00512
[79] The Fair Work Act, available at: https://www.legislation.gov.au/Details/C2018C00512

the health and safety of workers and workplaces. Australian States and Territories also have anti-discrimination and occupational health and safety legislation in place.

Australian civil society as well as trade unions take an active part in shaping labour rights in Australia and focusing attention on the existing shortcomings and improvements (although trade union membership in Australia has decreased over the years from 51 percent in 1976 to 14.6 percent in 2016),[80] for example, Australian Council of Trade Unions (ACTU). Australia has a strong record on realising labour rights and protecting the right to work of its population. However, vulnerabilities exist including with respect to prison labour, the labour rights of migrant workers, child labour, human trafficking[81] and certain strike and boycott action[82].

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

Increased trade flows between the EU and Australia triggered by the new FTA could promote economic activity and growth, as well as an increase in employment overall (given the fact that the model indicates increases in wage levels at the overall level). At the sectoral level, however, effects may not always be positive. While some of the sectors for both EU and Australia 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 be negatively impacted in those sectors that decline if economic push factors are stronger than pull factors.[83] Moreover, in some sectors gains and losses may also lead to a broader impact on human rights: e.g. the rights of migrants could be affected in those sectors that actively employ migrants in Australia, or the right to water may be under pressure as a result of growth in water-intensive sectors, especially if there exists a particular vulnerability with respect to this right from the start (see also section 3.3).

In the **EU**, 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-AUS 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 sector and gas sector (0.3-0.4 percent for both groups of workers under the ambitious scenario) – see Table 3.15 in Section 3.3.2 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). This is also reflected in the modelling results that indicate that, in the long run, some other agricultural sectors grow and that growing employment in these sectors assumingly comes from the ruminant meat sector. But modelling has its limitations and the exact situation is difficult to predict. 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. Also, 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 measures that would

[80] See OECD statistics: https://statsoecd.org/Index.aspx?DataSetCode=TUD

[81] As it is reflected in the CEACR Observations in 2018, see full overview at the website of the ILO: https://www.ilo.org/dyn/normlex/en/f?p=1000:13201:::NO:13201:P13201_COUNTRY_ID:102544

[82] See CAECR Observations in 2017: https://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID:3298569:NO

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

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 **Australia**, the relative impact is expected to be larger than in the EU and spread more broadly, affecting more sectors. Thus, a limited negative impact on the right to work could result for workers in such sectors as chemicals, rubber and plastics (with job reduction of 0.7-0.8 percent under the ambitious scenario) and a more profound negative impact is expected for the workers employed in the machinery, motor vehicles and transport equipment, and gas sectors (with job reduction predicted of between 1.9 and 2.4 percent under the ambitious scenario). Because the effects in these sectors depend on regulatory alignment of technical barriers to trade, the rate of change for these sectors is however 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 (for example, women, young workers, persons with disabilities, indigenous people, migrant workers) and specific measures may need to be taken to mitigate possible negative impacts. Tailor-made, specifically directed initiatives, programmes or task forces may need to be created to assist these population groups, for example through training, to help them adjust to new jobs, ensuring that their rights are not violated at any stage of the employment adjustment (as it is in line with para. 4,6, 12(a)(b) and (c) of the General Comment No.18).

A strong positive impact in Australia is expected in such sectors as ruminant meat (with job creation of up to 5 percent for both groups of workers under the ambitious scenario), sugar sector (with the number of jobs rising by 0.7-0.8 percent under the ambitious scenario), oilseeds, vegetable oils and fats (0.6-0.7 percent). Because the drivers for 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).

The labour rights of specific vulnerable groups, such as women, young workers, temporary workers, migrants, people with disabilities and people working in conditions of slavery, could be particularly affected, because changes that are expected to be triggered by the FTA concentrate in the sectors that disproportionately employ these population groups – for example, fruits and vegetables, agriculture in general and meat processing (see also section 3.3.2 in the Social Analysis). They could benefit from the EU-AUS FTA, if Australian authorities and other organisations including businesses ensure the positive effects are shared with these groups, noting the projected sectoral employment opportunities and overall wage rises suggest there would be sufficient growth to allow for additional support for workers in these sectors (farmers, workers on the farms, etc.). It must be noted, though, that with the potential increase in demand for migrant workers, care should be taken to ensure the risks of exploitation for these workers is monitored and managed. For declining sectors, 'adjustment mechanisms' for workers to find new jobs in other sectors (i.e. the pull effect) are less effective for vulnerable groups as they tend to have lower education levels, less flexibility than others, and for a range of reasons may not find it as easy to change jobs. Accordingly, particular attention should be paid to their rights by Australian authorities at different levels (national, state and territory and local).

More generally, it is important to note that although Australia has taken a number of measures to address issues with respect the rights of indigenous people (e.g. Closing the Gap programme), the rights of migrant workers, the rights of people living in slavery, and others (see section 3.3.2 in the Social Analysis Chapter), the level of protection is reported to not always be in line with relevant international standards. Accordingly, ratification and effective implementation by Australia of ILO Convention No.169 on the rights of indigenous people, ILO Convention No. 138 on the rights of children and young workers, and the

International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families will help strengthen protection of these vulnerable groups in the country.

The TSD Chapter that is expected to be included in the EU-AUS 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.[84]

The Textual Proposal of the draft TSD Chapter includes 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). A 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 it is a step in the right direction from the more aspirational texts used by the EU in earlier FTAs. In particular, this provision 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-AUS 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 Australia has not yet ratified the ILO Minimum Age Convention (C138)).

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 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 the EU and Australia. For Australia this would be a step further in terms of its sustainability commitments compared to current ways in which it engages on this topic via FTAs. It is not clear, however, how specific vulnerable groups (e.g. women, indigenous people) are protected under this Chapter which does not include provisions regarding such groups in its current version. Both the EU and Australia have relatively strong human rights records and vulnerabilities mostly lie in the 'specific' – that is, while overall the populations

[84] 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

of both parties enjoy high human rights standards, issues remain mostly for *specific* vulnerable groups (also noted in the state of play analysis in this report). Accordingly, both the EU and Australia could benefit from specific provisions concerning commitments and cooperation on the protection of the rights of vulnerable groups.

3.5.4.2 The right to the 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".[85] 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.[86] 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."[87] 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) and CERD (Article 5(iv)) which cover such vulnerable groups as women, children and persons with disabilities.

Obligations of the states with respect to the 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 though 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 Australia recognise their international obligations with respect to the right to health through ratification of the relevant international instruments.[88]

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 access to health care.

In August 2017 the WHO Regional Office for Europe developed a roadmap to implement the 2030 Agenda for Sustainable Development,[89] 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),[90] 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 ratios have 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

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

and adolescent health is necessary. The tuberculosis incidence rate has been declining by 4.5 percent each year since 2015, even though 20 percent 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 percent and 89 percent respectively, but have dropped recently, which is a concern. Most Member States offer universal or nearly universal health coverage (WHO Regional Office for Europe, 2017).

Issues that remain a concern (independent from the EU-AUS FTA) 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. The Innovative Medicine Initiative (IMI) is the largest life sciences public-private partnership (PPP) in the world with financial support from EU taxpayers (via the EU budget) and the pharmaceutical industry. 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-AUS FTA.[91]

Right to health in Australia
Commonwealth legislation does not have an explicit reference to the right to the enjoyment of the highest attainable standard of physical and mental health. However, the following Commonwealth laws refer to subjects relevant to the right to health (see Box 3.1).

Box 3.1: Commonwealth legislation on the right to health

- *The Health Insurance Act 1973* set the basis for the Medicare scheme (Australia's national healthcare scheme) by providing for payments by way of medical benefits and for hospital services.
- *The National Health Act 1953* makes provision for pharmaceutical, sickness and hospital benefits, and of medical and dental services.
- *The Aged Care Act 1997* is designed to promote a high quality of care and accommodation for the recipients of aged care services and to protect the health and well-being of the recipients of aged care services.
- *The Disability Services Act 1986* is intended to assist people with disability to receive services necessary to enable them to work towards full participation as members of the community and to assist people with disability to achieve positive outcomes, such as increased independence and employment opportunities.

[91] 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

- *The Veterans' Entitlements Act 1986 and the Military Rehabilitation and Compensation Act 2004* make provisions for the treatment for eligible veterans, serving and former members of the Australian Defence Force and their dependants.
- *The Australian Institute of Health and Welfare Act 1987* establishes the Australian Institute of Health and Welfare, whose functions are to collect and provide information and statistics on Australia's health and welfare. The aim of the Institute is to improve the health and well-being of Australians through better health and welfare information and statistics.

Source: Website of the Australian Government, Attorney-General's Department[92]

To ensure safety and high quality of healthcare services, the Australian Commission on Safety and Quality in Health Care developed the Australian Charter of Healthcare Rights that specifies the key rights of patients and consumers when seeking or receiving healthcare services (see Box 3.2).

Box 3.2: Healthcare rights in Australia

- **Access** – I have a right to healthcare
  I can access services to address my healthcare needs.
- **Safety** – I have a right to receive safe and high quality care
  I receive safe and high quality health services, provided with professional care, skill and competence.
- **Respect** – I have a right to be shown respect, dignity and consideration
  The care provided shows respect to me and my culture, beliefs, values and personal characteristics.
- **Communication** – I have the right to be informed about services, treatment, options and costs in a clear and open way
  I receive open, timely and appropriate communication about my healthcare in a way I can understand.
- **Participation** – I have a right to be included in decisions and choices about my care
  I may join in making decisions and choices about my care and about health service planning.
- **Privacy** – I have a right to privacy and confidentiality of my personal information
  My personal privacy is maintained and proper handling of my personal health and other information is assured.
- **Comment** – I have a right to comment on my care and to have my concerns addressed
  I can comment on or complain about my care and have my concerns dealt with properly and promptly.

Source: Australian Charter of Healthcare Rights.[93]

The Australian Healthcare System

Medicare (Australia's universal health care scheme established in 1984) is the public health system that ensures free or subsidised access for all Australians to most healthcare services including medical services and public hospitals (including also physiotherapy, community nurses and basic dental services for children). The Pharmaceutical Benefits Scheme (PBS) (detailed further below) sits alongside Medicare, providing subsidised medicines for all those with a Medicare card. Australian and New Zealand citizens, permanent residents in Australia and people from countries with reciprocal agreements are covered by Medicare. The 'Medicare Benefits Schedule' is a list of all health services that the Australian Government subsidises. This list is updated to ensure safety and best practice.

In addition to the public health system, Australia has an extensive private health system. Over half of Australians have private health insurance[94] (incentivised by Australia's tax system), which allows for access to healthcare services outside the public system and requires contribution towards the cost of the health care. There are two kinds of private health insurance cover: (1) hospital cover for some or all of the costs of hospital treatment as a private patient, and (2) general treatment or 'extras' cover for some non-medical

[92] Available at: https://www.ag.gov.au/RightsAndProtections/HumanRights/Human-rights-scrutiny/PublicSectorGuidanceSheets/Pages/Righttohealth.aspx
[93] Available at: https://www.safetyandquality.gov.au/wp-content/uploads/2012/01/Charter-PDf.pdf
[94] Private Healthcare Australia, https://www.privatehealthcareaustralia.org.au/consumers/faqs/ [accessed 10 July 2019]

health services not covered by Medicare (such as dental, physiotherapy and optical services).

The Australian health system is jointly run at all levels of Australian government – federal, state and territory, and local – sharing responsibilities necessary to maintain the whole system.[95] According to the Department of Health, challenges of the health system include: an ageing population and increasing demand on health services, increasing rates of chronic disease, costs of medical research and innovations, making the best use of merging health technologies and making better use of health data.[96] Australian healthcare is funded at multiple levels: by all levels of government, non-government organisations, private health insurers, individuals when they pay out-of-pocket costs for products and services that are not fully reimbursed or subsidised.[97]

Access to essential medicines

Australia's PBS is a part of Medicare and subsidises certain prescription medications. Australian Government expenditure on the PBS was over A$11 billion for the 2017-2018 year.[98] All consumers also contribute to the cost of their PBS medicine (in the form of co-payments) based on their ability to pay – e.g. retired citizens, veterans and those on social benefit payments pay less than other 'general' patients. The PBS safety net aims to ensure that chronically ill patients and their families are protected from high ongoing costs. When the safety net amount has been reached, no further PBS co-payments are required.

The PBS list of medicines amounts to 790 drugs, in 2,000 strengths and forms, marketed in over 5,300 branded products. Approximately 80 percent of all prescription medicines are dispensed through the PBS scheme (as at 2016).[99] In line with the requirements set out by the Australia's National Health Act 1953, new medicines can only be added to the PBS list on the recommendation of the Pharmaceutical Benefits Advisory Committee (PBAC), an independent expert advisory board of doctors, other health professionals and customer representatives. All listing submissions are considered and evaluated by the PBAC, taking into account the safety, clinical effectiveness and cost-effectiveness of the medicines.

The first objective of the Australian National Medicines Policy is to provide 'timely access to the medicines that Australians need, at a cost individuals and the community can afford'. However, Australia has experienced shortages of medicines, which has worsened over recent years. [100] The causes of medicine shortages are complex, including regulation, manufacturing, global acquisitions and financial viability. Australia imports over 90 percent of its medicines but only accounts for 2 percent of the global market;[101] further, Australia has a unique 'price disclosure policy' making it a less attractive market for launching medicines. [102] Accordingly, Australia is potentially more vulnerable than bigger markets to medicine shortages. Australian authorities have taken a number of measures to address the challenge, including the Therapeutic Goods Administration (TGA) establishing the Medicines Shortage Information Initiative in order to report current shortages of the

95 As reported by the Department of Health, Australian Government, https://beta.health.gov.au/about-us/the-australian-health-system

96 As reported by the Department of Health, Australian Government, https://beta.health.gov.au/about-us/the-australian-health-system

97 As reported by the Department of Health, Australian Government, https://beta.health.gov.au/about-us/the-australian-health-system

98 As reported by the Department of Health, Australian Government, http://www.pbs.gov.au/info/statistics/expenditure-prescriptions/expenditure-prescriptions-twelve-months-to-30-june-2018

99 See https://www.racgp.org.au/afp/2016/december/prescription-drug-abuse-a-timely-update/#9

100 Morris, S. (2018), Medicine shortages in Australia – what are we doing about them? Available at: https://www.nps.org.au/australian-prescriber/articles/medicine-shortages-in-australia-what-are-we-doing-about-them#r4

101 Morris, S, as above.

102 Tan, Y.X., Moles, R.J. & B.B. Chaar (2016), Medicine shortages in Australia: causes, impact and management strategies in the community setting, *International Journal of Clinical Pharmacy*, October 2016, Volume 38, Issue 5, pp. 1133-1141.

medicines, to indicate anticipated shortages, to flag resolved shortages and discontinues products. This initiative was initially voluntary, but recently became mandatory through the introduction of the Therapeutic Goods Amendment (2018 Measures No. 1) Act. While the Australian government continues to look into further solutions to this important challenge, this reporting scheme aims to assist in minimizing the impact of medicine shortages on patients and the Australian health system in general. EU experience could prove useful for Australia as well as some research on medicines shortages.[103] 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 had 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.[104] 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 Poland mean that Gefitinib – for example, is not available.[105] Finally, IMS Health (2015) notes that in Europe parallel trade has caused shortages in countries like Bulgaria, Greece and Spain that were very severe.[106] Theses causes point to broader elements for the Australian government to investigate in order to ensure that essential medicines reach Australian patients.

Potential impact of the EU-AUS 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, for example, from the initial impact on the right to a clean environment or on the right to water. Since impacts on the right to health are related to other rights that are more directly linked to the potential economic impact of the EU-AUS FTA, like the right to a clean environment and the right to water, 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 stakeholders, it is discussed here in more detail.

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-AUS FTA. There are, however, some elements that matter and that we look at for potential impacts – see also Table 3.16. In particular, we cover health and food, access to medicines, and clean water and environment – because all three of these aspects directly affect the right to health for EU and Australian 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 Australia that – though facing challenges as in any other country- are generally showing high levels of standards and regulatory systems.

There is an ongoing debate on whether trade liberalisation causes more trade in, and cheaper prices for, foods tuffs 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 sector is expected to benefit from the FTA, which may be an

[103] 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

[104] 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

[105] 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

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

indication that there could be impacts on consumer health. However, wine is the main product in this sector, which is a different product from a health perspective than tobacco. Moreover, the production in the EU does not change, while in Australia it increases by 0.5 percent. Growth in exports from Australia to the EU (17.7 percent in the ambitious scenario) comes in part from trade diversion elsewhere. Finally, in the SPS textual proposals it is made clear that both the EU and Australia have a clear right to regulate, and a potential increase in trade also does not automatically mean that consumer behaviour will change.[107] An increase in wine exports from Australia to the EU by 17.7 percent amounts to an increase of €67.6 million, which is 0.02 percent of the total EU wine production. That said, some stakeholders have raised concerns about the FTA's potential impact on the likelihood of the future introduction and effectiveness of alcohol health labels in Australia, which would in turn impact on health.

Healthcare policy is developed and implemented at national level, including pricing and reimbursement and health technology assessments for medicine, and competition policy and other related aspects, and so its main components do not depend on the EU-Australia 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 (time periods for regulatory data protection or what supplementary protection certificate (patent term extension) provisions will be part of the EU-Australia FTA), it is not clear if the impact is going to be major or minor, positive or negative. It is noted, however, that the most recent round of negotiations (April 2019) included discussion of patents.[108] A key question this gives rise to is what the effect of RDP and SPC provisions would mean for access to medicines and healthcare costs. EPHA (2018) notes that stronger IP provisions in FTAs would lead to reduced access to medicines and higher prices for longer periods (in case patent term extension – PTE – is covered in the FTA)[109], while an NDP Analytics study (2019) shows that stronger IP provisions in US FTAs (where IP provisions become much stronger than in EU FTAs) have not led to an increase in healthcare costs – rather the contrary.[110] We believe that access to medicines is rightfully a priority issue for the Australian government and further research into the drivers for shortages of medicines is needed, looking at whether Australia is an interesting market to introduce new medicines, and what the effects of IP provisions like RDP and SPCS are but also how parallel trade, pricing & reimbursement policies, formulary availability and other factors influence access.

3.5.5. Policy recommendations and flanking measures

- We recommend that Australia ratify the ILO Minimum Age Convention No.138, the ILO Convention No.169, and 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 international standards.
- Because of the predicted shifts in employment triggered by the Agreement, both parties should consider allocation of special budgets to provide for training programmes and social support of workers – designated to the EU-AUS FTA – that are expected to be negatively affected by the EU-AUS FTA, and monitoring that the right to work of the workers from the affected sectors is not violated.
- Based on the analysis of the impact, we recommend the gradual and step-wise removal of tariffs and TRQs in the agricultural sector (with exception to a very small number of

[107] OECD statistics shows that alcohol consumption in Australia has decreased over the years from 10.2 liter per capita in 2000 to 9.7 liter per capita in 2015, though this is calculated for an average Australian citizen and data per vulnerable groups is not available. Tobacco consumption has decreased even more sharply on average –in 2001 19.6 percent of the population aged 15+ smoked daily, while in 2016 only 12.4 percent – see https://stats.oecd.org/

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

[109] 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

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

highly sensitive sectors where liberalisation could be partial only) – if agreed - with long time adjustment paths, to allow the ruminant sector in the EU and its farmers to adjust slowly. 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, as opposed to partial liberalisation.

- Based on the analysis of the impact, we recommend that Australia considers the introduction of a special TaskForce directed at monitoring the labour rights of workers from the declining sectors to ensure they are protected and that the benefits from the growing sectors are reinforced through use of increased opportunities from the new FTA.
- The EU and Australian negotiators should complement 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 (including indigenous peoples, persons with disabilities, children, women, migrants, refugees and asylum seekers). The EU should – at the level of overall Trade Policy (i.e. the combined EU FTAs) add clear and measurable targets to strengthen their rights within the framework of the FTA – as part of its strengthened monitoring and FTA implementation evaluation.
- 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. The Australian government should be encouraged to develop a National Action Plan on Business and Human Rights.
- We recommend that the Australian government considers launching a separate study to look in depth at the multiple causes of Australia's medicine shortages so that the FTA can be shaped in such a way as to address this issue. While the exact text of the EU-AUS FTA is not available at the time of writing of this report, access to essential medicines may be affected. Increased IP protection may stimulate innovation and contribute to medicines shortages in Australia, but it could also increase pressure on the Australian government via increasing costs for healthcare in the case of new innovative drugs hit the market. Causes of current shortages of medicines in Australia need to be studied in more detail to investigate the reasons for these shortages and see if the FTA may facilitate solutions, or alternatively worsen the situation.
- We recommend including continued monitoring and ex-post evaluation of the impact of the EU-AUS FTA for both the EU and Australia as part of the 'living agreement' element in the FTA, 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.

3.6. Environmental impact analysis

3.6.1.Introduction

This section analyses the potential environmental impacts of the EU-AUS 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-AUS 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, Australia'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. Recent data suggests that Australia could still meet its 2020 Nationally Determined Contribution (NDC) target. However, Australia's NDC was one of the five NDCs from industrial countries which was rated as "insufficient to keep global warming below 2 °C" by Climate Action. Mitigation actions should be intensified to meet the country's 2030 NDC target (also rated as insufficient by Climate Action), according to the government and independent estimates (UN Environment, 2017). Australia committed to a 26–28 percent target of greenhouse gas (GHG) emission reductions below 2005 levels by 2030. 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).

Government projections indicate that emissions are expected to reach 570 Mton CO_2 eq./year in 2030, in contrast to the targeted range of 429-440 Mton CO_2-eq/year (Australian Government, 2017). In 2012, gross *per capita* GHG emissions were about 3 times higher in Australia than in the EU. Gross total GHG emissions were steadily increasing in Australia between 1980 and 2005 and have since plateaued at around 530 Mton CO_2 eq/year (OECD, 2019). This is due to the fact that increases in most sectors were offset by a larger decline of emissions in the agriculture, forestry and fishing sectors (Australian Bureau of Statistics, 2018). In terms of CO_2-equivalents[111], the share of CO_2 in the gross GHG emissions equals 71 percent, CH_4 21 percent and N_2O 8 percent, as shown in Figure 3.3 (Australian Greenhouse Emissions Information System, 2016). In 2012, 49 percent of the CO_2 emissions was caused by public electricity and heat production. Despite the fall in emissions in the agricultural sector, it remains responsible for the majority of the CH_4 (57 percent) and N_2O (82 percent) emissions in Australia (see Table 3.17).

Figure 3.3: Gross GHG emissions in Mton CO_2-eq in 2012 in Australia and the EU27

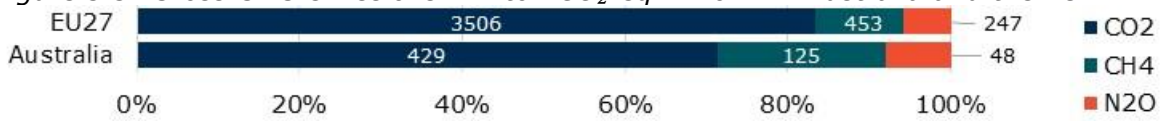


Table 3.17: Sector shares in GHG emissions in 2012 in Australia and the EU27

Sector	AU	EU	AU	EU	AU	EU
Public electricity and heat production	49%	36%				
Road transportation	18%	22%				
Manufacturing Industries and Construction	10%	11%				
Other Energy Industries	7%	4%				
Residential and other sectors	4%	17%				
Enteric fermentation			53%	30%		
Fugitive emissions from solid fuels			25%	13%		
Solid waste disposal on land			9%	19%		
Fugitive emissions from oil and gas			6%	13%		
Manure management			4%	9%		
Manure in pasture/range/paddock					52%	10%
Direct soil emissions					18%	37%
Indirect N2O from agriculture					12%	12%
Production of chemicals					4%	14%
Other	11%	9%	4%	18%	14%	27%

Source: EDGAR

EU-AUS FTA impact on Climate Change

Qualitative assessment

Under the EU proposal for the TSD chapter published in May 2019 the EU and Australia commit to effectively implement the Paris Agreement and the NDCs[112]. As noted above, Australian commitments under its NDC appear insufficient to meet the Paris Agreement goal of 2 degrees warming.

[111] A measure to estimate the impact of different GHGs on global warming using the equivalent amount of CO_2 as a reference. The CO_2 equivalence of CH_4 and N_2O are 25 and 298 respectively.

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

Both Parties commit also to implement the multilateral environmental agreements (MEAs) such as Montreal Protocol and reaffirm the right of each Party to adopt or maintain measures to further the objectives of MEAs to which it is a party. Furthermore, the Parties commit not to lower their domestic environmental (including climate) standards to attract trade or investment.

According to the proposed TSD chapter, both Parties would commit to promoting mutual supportiveness of trade, and climate policies and measures[113]. Finally, each party would commit to facilitating removals of obstacles to trade and investments of products that are particularly relevant for climate mitigation or adaptation, such as renewable energy, energy efficient products and services, for instance through addressing tariff and non-tariff barriers or through the adoption of policy frameworks conducive to the deployment of best available technologies. The parties commit to strengthening their cooperation on trade-related aspects of climate change policies and measures bilaterally, regionally and in international fora, as appropriate, including in the UNFCCC, the WTO, the Montreal Protocol on Substances that Deplete the Ozone Layer and the International Maritime Organisation (IMO).

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.

Based on the economic modelling results, the FTA is expected to affect climate change mostly through its impact on volume of economic activity in the agricultural sector, specifically the beef and sheep meat sector, because it contributes a large share in total GHG emissions in Australia (see Table 3.17). 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 Australia and the EU through CO2 emissions. However, transport sector emissions are dominated by CO2 emissions, the impact of which have already been assessed in the ex-ante study. For this reason, in this analysis we focus on other GHGs.

It should still be noted that because of the large distance between the EU and Australia, increased trade between the EU and Australia can be expected in most cases to create additional GHG emissions due to increased transport flows. In contrast to trade between countries with relatively small distances between one another, increased trade between the EU and Australia 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 Australia will replace trade between two parties with smaller distances between one another in most cases).

[113] The EU proposal lists the areas of potential cooperation that includes for example:
- policy dialogue and cooperation regarding the implementation of the Paris Agreement, such as on means to promote climate resilience, renewable energy, low-carbon technologies, energy efficiency, preparation and adoption of carbon pricing action including Emission Trading Systems, sustainable transport, sustainable and climate-resilient infrastructure development, emissions monitoring;
- supporting the development and adoption of ambitious and effective greenhouse gas emissions reduction measures by the IMO to be implemented by ships engaged in international trade;

Also, despite the fact that we focus on CH_4 and N_2O emissions, it should not be forgotten that the agricultural sector in Australia can also have an important impact on the *net* CO_2 emissions. Increased agricultural production, in particular in the beef and sheep meat sector, is likely to lead to land clearing (i.e. turn natural land into grazing land) which decreases the size of natural CO_2 storage and as such increases the CO_2 concentration in the atmosphere. Land clearing is one of the most pressing environmental issues in Australia, in the context of biodiversity and also in terms of its effect on climate change. In 2015 in fact, the negative effect on climate change from land clearing was almost as significant as the impact from enteric fermentation (i.e. the CH_4 emissions) (Mayberry et al., 2019).

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 on air pollutants, three different potential effects are considered:

- **Scale effect**: the impact resulting from the overall change in production due to the FTA;
- **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
- **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 economic model and environmental data GHG emissions and air pollutants. The methodological note in Annex II provides more details about the calculations and assumptions taken for the analysis.

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 in 2030 compared to the baseline scenario[114] in Australia (in CO_2-eq). In the EU, the scale effect is expected to lead to 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 Australia 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 Australia is likely to be larger than the average distance with main trading partners between the EU and Australia, 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 Australia and in the EU. Figure 3.4 shows the impact of the FTA on CH_4 and N_2O emissions per sector[115] compared to the baseline

[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.

scenario. This figure clearly demonstrates the importance of the combined effect of the impact of the FTA on Australia and the dominant role of the agricultural sector in CH_4 and N_2O emissions: the increase in CH_4 emissions from meat and dairy sector is equal to 93 percent of the total rise in CH_4 emissions and equal to 99 percent of the rise in N_2O emissions in the ambitious scenario. CH_4 and N_2O emissions from the dairy and meat sector differ substantially in the ambitious and conservative scenario. This is because production in the Australian dairy sector falls in the conservative scenario, which outweighs the marginal increases in production in the meat sector.

In the ambitious scenario, the increase in production in the beef and sheep meat sector largely offsets the decrease in production in the dairy sector causing increases in CH_4 and N_2O emissions. The **composition effect** (the sum of all sector effects) shows that the FTA leads to 0.085 to 1.699 mton additional CH_4 emissions and 0.01 to 0.568 mton additional N_2O emissions in 2030 compared to the baseline scenario in Australia (in CO_2-eq). In the EU (as shown in Figure 3.5) on the other hand, the direction of the composition effect depends on the FTA scenario. 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 mton (conservative) to 0.226 mton (ambitious) in CO_2-eq.

In short, in the ambitious scenario (with full trade liberalisation), intensified agricultural activities in Australia increase the 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 Australia is larger than the overall decrease in the EU.

The increase in oil and gas in the EU is driven by the expected increase in output in the gas sector in the ambitious scenario (0.3 percent). As (1) the current CH_4 emissions from the gas sector are higher than the emissions from the oil sector and (2) the gas sector results in relatively high emissions compared to the other sectors, the ambitious scenario results in a change in CH_4 emissions (+0.132 mton CO_2-equivalent).

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

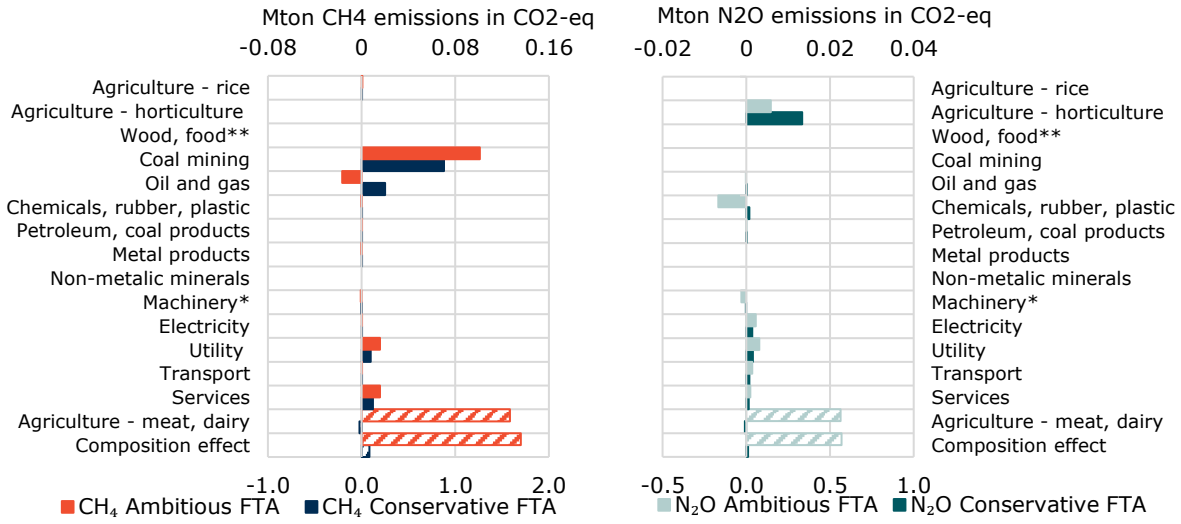
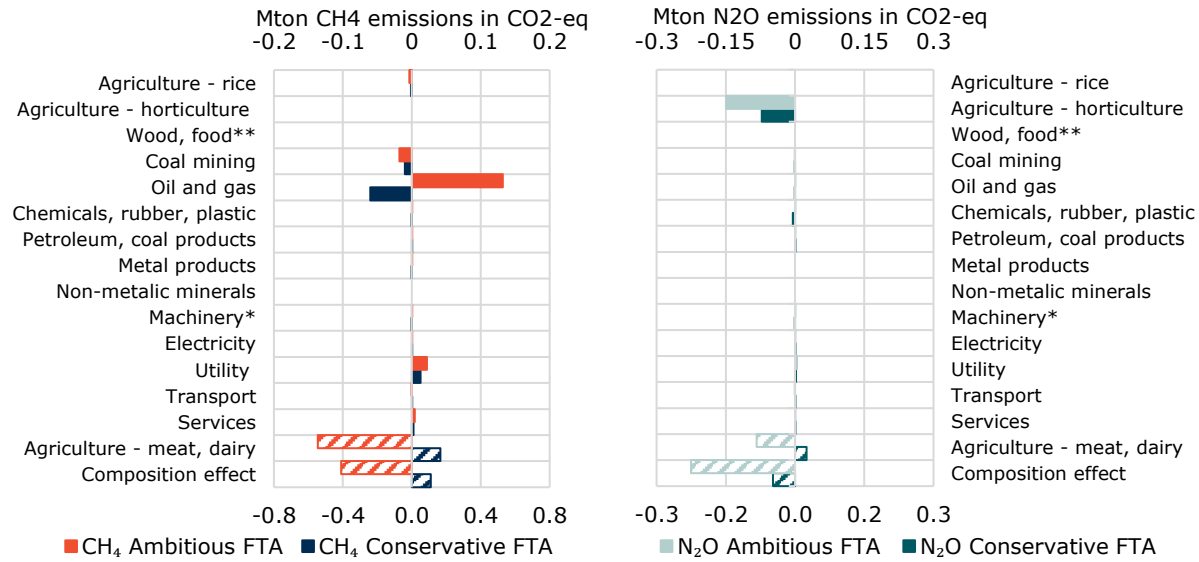


Figure 3.5: CH_4 and N_2O emissions per sector resulting from the FTA in the EU



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

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 captured 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 Australia 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 Australia, CH_4 emissions are expected to only very limitedly increase in the conservative scenario. In the ambitious scenario, they are expected to increase by 1.31 percent (1.699 mton CO_2-eq) per year compared to the baseline scenario. In the EU, CH_4 emissions are expected to increase by a marginal 0.02 percent (0.109 mton CO_2-eq) in the conservative scenario and to decrease by only 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). In Australia, N_2O emissions are expected to increase by 0.02 percent (0.010 mton CO_2-eq) in the conservative scenario and by 1.31 percent (0.568 mton CO_2-eq) in the ambitious scenario. In the EU, the 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.

The 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

[116] * Wood, paper, food beverages and tobacco products; ** Machinery, electronic equipment and other manufactures.
[117] The ex-ante study predicts that the technique effect will results in a small decrease in CO_2 emissions driven by a changed fuel mix and emission factor in Australia (LSE, 2017).
[118] Defined as all countries in the world, except Australia, New Zealand and the EU.

demand and production, along with global emissions. As a result of trade diversion, the expected increase in production in certain sectors in Australia 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

3.6.3.Air quality

State of Play. Australia is ranked as the global leader in overall air quality in the 2018 Environmental Performance Index (EPI, 2019), based on an assessment of hazardous air pollutants (HAPs) from household solid fuels, $PM_{2.5}$ average exposure and $PM_{2.5}$ exceedance. This high rank is partly due to its small manufacturing sector and large distance between primary production (e.g. mining) and major population centres. The Air Quality Index (AQI) for different airborne pollutants measured in most of Australia's airsheds is currently, and has historically, oscillated between 'good' and 'very good' levels[119]. Performance can temporarily (i.e. 24-hour average) deteriorate to unhealthy concentration levels in Australia due to endemic natural events such as dust storms and bushfires (catalysed by the continent's generally dry climate). Exceedance of the National Environment Protection Measures (NEPM) standards in major metropolitan areas up to 2014 are furthermore presented in the Australia State of the Environment 2016 report (Department of the Environment and Energy, 2017) for different pollutants. PM_{10} (50 µg/m^3 24-hour mean), NO_2, and SO_2 standards were consistently met, whereas many of the cities surpassed the NEPM standard $PM_{2.5}$ (25 µg/m^3 24-hour mean) and Ozone (0.08ppm) levels. The National Pollutant Inventory (Department of the Environment and Energy, 2018) provides annual datapoints on nationwide pollution as gathered from industry by sub-national government entities (states & territories). Table 3.19 exhibits the relative air pollutant emissions per sector in 2012. 41 percent of the NO_x emissions resulted from public electricity and heat production. The majority (60 percent) of the $PM_{2.5}$ emissions was the result of agricultural waste burning. In Australia, this relates mostly to the burning of stubble (base of plants and straw residues) and is mostly common in the cotton, rice, sugarcane and wheat sectors[120]. The manufacturing industries and construction sector contributed most of to the PM_{10} emissions of all sectors.

[119] AQI = pollutant concentration/pollutant standard x 100. Scoring: 0-33 (very good); 34-66 (good); 67-99 (fair); 100-149 (poor); >150 (very poor). More information available at: https://soe.environment.gov.au/theme/ambient-air-quality/topic/2016/air-quality-index. Live AQI's can be sourced from: https://aqicn.org/map/australia/#@g/-35.6872/146.5192/7z

[120] See: https://www.epa.nsw.gov.au/~/media/EPA/Corporate%20Site/resources/air/mod3p3agstubble07268.ashx

Table 3.19: Sector shares in air pollutants in 2012 in Australia and the EU

Sector	NO_x				PM2.5				PM10			
	AU		EU		AU		EU		AU		EU	
Road transportation	21%		37%		1%		0%		3%		6%	
Manufacturing Industries and Construction	10%		12%		11%		12%		9%		13%	
Public electricity and heat production	41%		26%		55%		60%		4%		7%	
Manure in pasture/range/paddock	3%		0%		0%		0%		0%		0%	
Direct soil emissions	2%		4%		0%		0%		0%		0%	
Inland navigation	5%		5%		4%		5%		2%		2%	
Residential and other sectors	2%		8%		1%		11%		13%		36%	
Agricultural waste burning	4%		1%		1%		0%		60%		11%	
Production of pulp/paper/food/drink	0%		0%		1%		4%		2%		6%	
Other Energy Industries	5%		2%		8%		5%		1%		1%	
Production of metals	0%		0%		16%		0%		2%		2%	
Manure management	0%		1%		0%		0%		2%		9%	
Other	6%		3%		1%		2%		4%		7%	

Sector	PM10	
	AU	EU
Road transportation	16%	18%
Manufacturing Industries and Construction	35%	19%
Public electricity and heat production	7%	8%
Manure in pasture/range/paddock	0%	0%
Direct soil emissions	0%	0%
Inland navigation	12%	7%
Residential and other sectors	2%	19%
Agricultural waste burning	0%	0%
Production of pulp/paper/food/drink	2%	3%
Other Energy Industries	5%	3%
Production of metals	5%	3%
Manure management	2%	6%
Other	13%	11%

Source: Trinomics based on EDGAR

EU-AUS FTA impact on air quality

Qualitative assessment

No intentions or concrete actions to amend air quality policies are mentioned in the draft TSD chapter tabled by the EU. 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**)[121], is expected to create 1.17 to 2.24 kton additional NO_x, 0.90 to 1.73 kton additional SO_2, 0.05 to 0.09 kton additional $PM_{2.5}$ and 0.29 to 0.55 kton additional PM_{10} in 2030 compared to the 2030 baseline scenario in Australia. In the EU, the scale effect is expected to create 1.03 to 1.58 kton additional NO_x, 0.71 to 1.09 kton additional SO_2 emissions, 0.08 to 0.13 kton additional $PM_{2.5}$ and 0.28 to 0.43 kton additional PM_{10}.

Figures 3.7 and 3.8 show the impact of the FTA on air pollutants per sector compared to the 2030 baseline scenario for Australia and the EU respectively. Figure 3.7 shows that the majority of the FTA's impact on air pollution is expected to be caused by output changes in the machinery, electronic equipment and other manufacture sector, electricity, transport and agricultural sector. The **composition effect** shows that the FTA creates 1.15 to 1.09 kton additional NO_x emissions, -0.02 to 0.61 kton additional SO_2 emissions, -0.14 to 0.00 kton additional $PM_{2.5}$ emissions and -0.09 to 0.08 kton additional PM_{10} emissions in 2030 compared to the baseline scenario in Australia. 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.

[121] The definitions of the scale, composition and technique effects are discussed in the previous chapter (climate change)

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

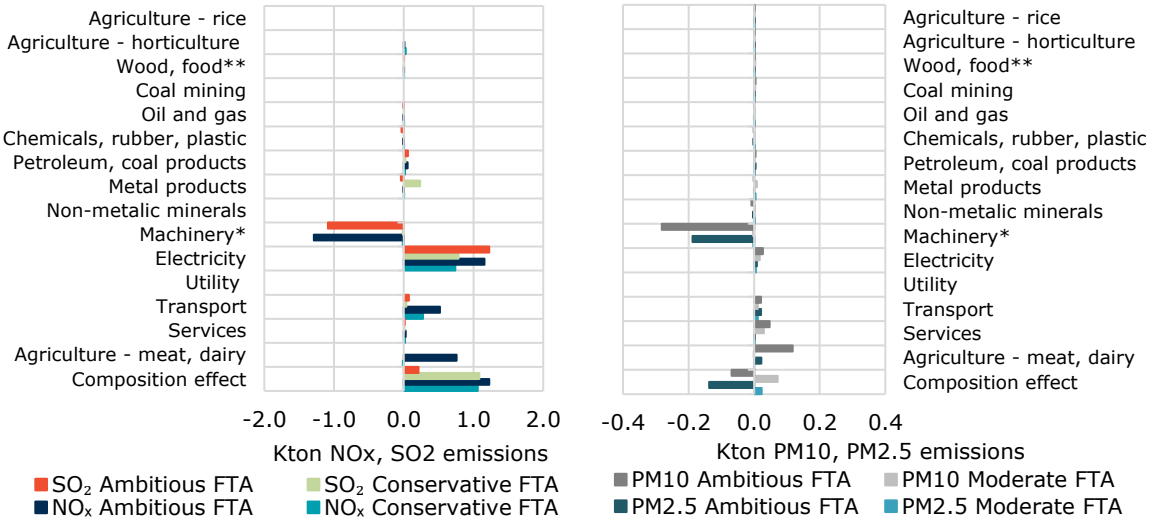
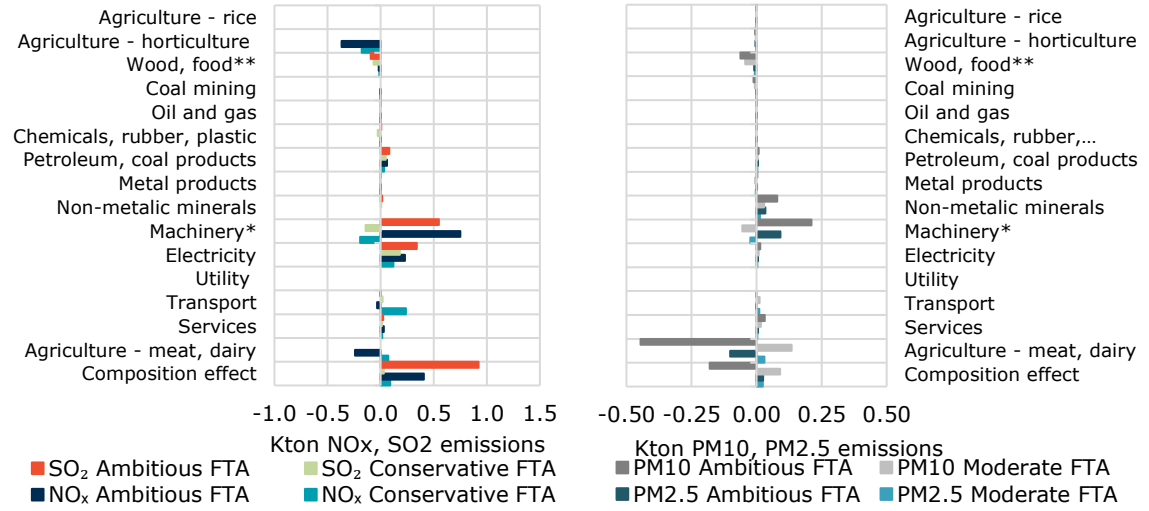


Figure 3.8: Air pollutants per sector resulting from the FTA in the EU



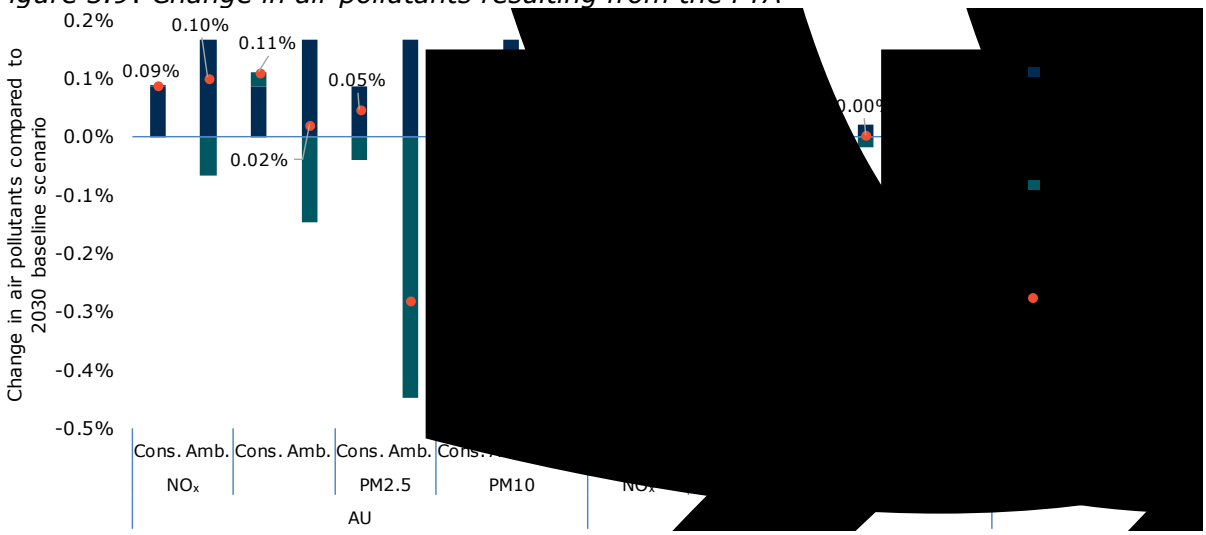
Note: axes differ per graph. The coloured bars refer to the upper x-axes and the patterned (striped) bars refer to the lower x-axes. The composition effect refers to the sum of all sector effects[122]; Source: Trinomics based on EDGAR and economic modelling results

The **technology effect** has not been assessed quantitively since no major differences are expected between emission intensities (of air pollutants) between Australia 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 3.9. In the EU, the effect of the FTA is expected to be negligible (impact is <1 percent of annual baseline emissions for SO_2, NO_x and PM). In Australia, the expected effect of the FTA is also very marginal (impact also <1 percent of annual baseline emissions for SO_2, NO_x and PM). 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 Australia 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 Australia.

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

Figure 3.9: Change in air pollutants resulting from the FTA



Source: Trinomics based on EDGAR and economic modelling results

3.6.4. Ecosystems and biodiversity

Australia's biodiversity was identified as a significant environmental impact area given the country's high levels of biodiversity and endemism (it is considered a 'megadiverse' country, with high biodiversity with significant proportion of species not found elsewhere), and the vulnerability of Australia's ecosystems to pressures associated with economic activity. It is possible that the FTA could impact on Australian biodiversity through changes in agricultural production (particularly through land use change) and through the increased risk of invasive plants and animals caused by increased trade activity. A case study on this topic therefore explores this impact in more detail.

Case study 3.4: Ecosystems and biodiversity and the impact of the EU-AUS FTA

Current situation

Australia has one of the most diverse collections of plants and animals in the world, containing 7-10 percent of all species on Earth, and very high levels of endemism (CBD). Over 17 percent of Australia's terrestrial area and 36 percent of the marine area are under some form of protection (Cresswell et al., 2017). Despite this, Australia is reported to have among the highest species loss in the world (Morris, 2018). Knowledge on the state and trends of species is limited due to a lack of effective monitoring and reporting, but the overall status of biodiversity is considered poor and worsening (Cresswell et al., 2017). The most significant current pressures to Australia's biodiversity are clearing, fragmentation and declining quality of habitat; invasive species; climate change; changing fire regimes; grazing; and changed hydrology (ibid.). Most of these factors exert a high to very high pressure on biodiversity and show worsening trends (ibid.). In February 2019, 79 ecological communities were listed as 'threatened' under the Environment Protection and Biodiversity Conservation (EPBC) Act: 34 as 'critically endangered', 43 as 'endangered', and two as 'vulnerable' (Department of the Environment and Energy, 1999a). As regards species status, 458 fauna species and 1318 flora species were listed as 'threatened', while 54 fauna species and 37 flora species are 'extinct' (Department of the Environment and Energy, 1999b). Invasive species are a key, increasing threat at both national and state & territory levels. Yet, data on the distribution and abundance of invasive species, and on the effectiveness of pest management actions is poor (Cresswell et al., 2017).

Land clearing and grazing

The clearing of native vegetation, especially in the states of Queensland (The Economist, 2018) and New South Wales (Hannam, 2019), mostly for agricultural use (for cropping and livestock), negatively affects biodiversity by removing native vegetation which is also habitat for native fauna. Additionally, the agricultural practices that replace the vegetation create additional environmental impacts that further affect biodiversity. For example, hooved animals remove vegetation cover reducing soil integrity, which increases soil loss from land and increases water pollution loads to waterways (as the soil is more easily transported during rainfall events). Animal wastes also contribute to pollution loads to water. Additional landscape changes for grazing (such as on-farm dam construction) can disrupt natural water flows and cause additional biodiversity impacts, such

as supporting larger populations of kangaroos or pest animals such as goats, which survive in larger numbers where permanent water supplies exist. Where land clearing is for cropping, pesticides and fertilisers can disrupt ecosystem function and contribute to water quality issues in nearby waterways.

Invasive pest plant and animal pressure
Invasive pest plants and animals are a significant threat to biodiversity in Australia, both in terrestrial (on land) areas and in the marine environment (Convention on Biological Diversity, 2014). Invasive pest animals impact on biodiversity through land degradation as well as inhibiting ecosystem function and competing with native animal populations. Introduced plants and animals, pathogens and diseases threaten the survival of many of Australia's native plants through habitat destruction, disturbance to the balance of an ecosystem and land degradation by promoting soil erosion, stream turbidity and modified fire behaviour. Pest plants and animals usually arrive in or on vessels (boats or aeroplanes), either attached to the vessel itself or in the cargo (including items carried by passengers).

EU-AUS FTA Impact on ecosystems and biodiversity
Modelling undertaken for this project by the EC estimates that the most significant percentage change of any economic activity in Australia attributable to the FTA will be an increase in beef and sheep meat, which is estimated to increase by 4.6 percent on current production by 2030 in the ambitious scenario.

Beef production is a significant share of Australian agriculture. In 2016–17 it accounted for around 20 percent ($12.1 billion) of the total gross value of farm production and around 22 percent of the total value of farm export income (ABARES, 2018a). Around 60 percent of production is exported. The national beef cattle herd is 25 million animals and accounted for 55 percent of agricultural farms in Australia (AgriFutures, 2017). Land area dedicated to beef cattle in Australia is estimated at 200 million hectares. Combined, beef and sheep farming covers more than 40 percent of the total land area of Australia (Commonwealth of Australia, 2012).

If the estimated production increase of 4.6 percent was to be achieved at the average land density of current Australian beef production, it would require a significant amount of additional production land.[123] It cannot be estimated what proportion of production growth will be met by increased land clearing or from changed agricultural production (say, from cropping) or increased intensity of current production areas. However, on scale alone it can be expected that a proportion of increased production will come from land clearing under current Australian regulatory frameworks, with negative impacts on biodiversity as described above.

It is notable that grazing itself is listed as a key risk to biodiversity, as noted above, so in addition to associated land clearing, the increase in grazing associated with a 4.6 percent increase in beef can be expected to significantly increase pressure on biodiversity in Australia.

Invasive plants and animals
Invasive plant and animal risk management is notoriously challenging, due to the highly uncertain impact that new threats pose. The impact of a newly arrived species on biodiversity can range from zero (if it cannot establish) to catastrophic (if it becomes established).

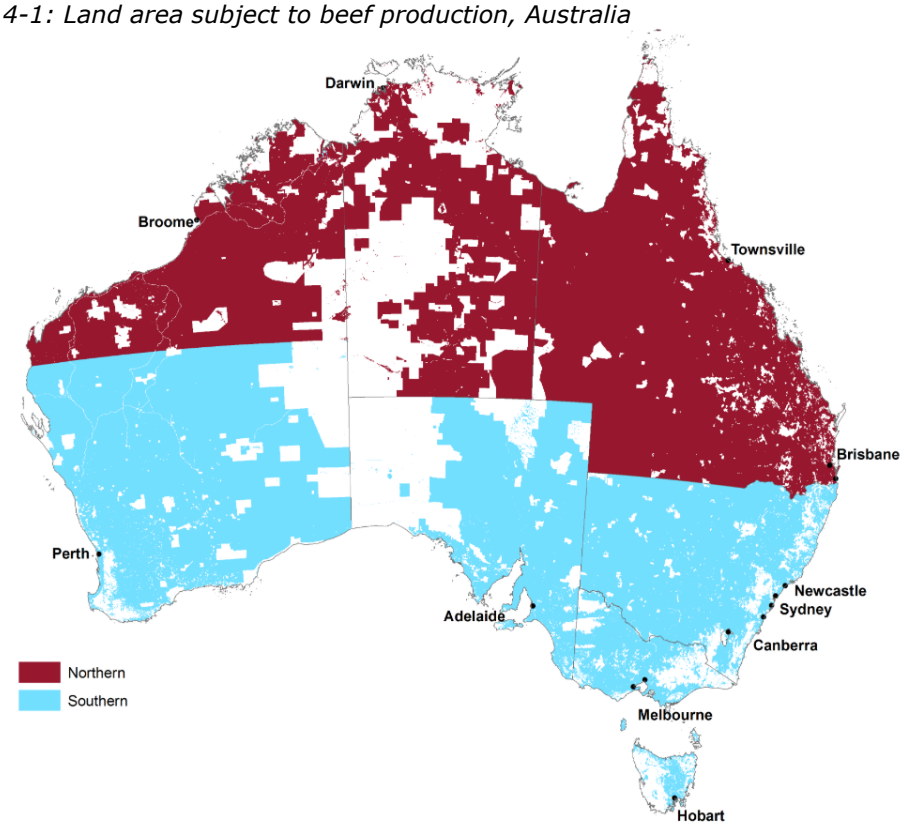
Increased biosecurity risk associated with trade can be caused by new types of imports or new origins of imported goods, which may introduce new risks, as well as a general increase in imports which increases the incidence of activity at pre-existing levels of risk.

The FTA will change the composition of imports into Australia, however, increases of imports from the EU can be expected to replace existing imports from other countries. Without information relating to relative risk profile of the imports from current and future source countries, no credible conclusions can be drawn on risk of invasive plant and animal species based on composition.

However, modelling undertaken for this project also estimates that the FTA will produce a 0.9 percent net increase of imports into Australia. This can be expected to increase the risk to biodiversity of invasive plants and animals, subject to interception by Australia's biosecurity managers.

[123] It is not possible to quantitatively assess the extent of land clearing that would be produced by this FTA.

Figure CS3.4-1: Land area subject to beef production, Australia



Source: ABARES, 2018a

This could be described as a notable but small increase in risk to Australian biodiversity of the proposed FTA.

Given the key pressures threatening Australian biodiversity, and the expected changes to Australian economic activity and trade, the data suggests that the increased production of beef and sheep meat (4.6 percent) associated with the proposed FTA will place the highest pressure on Australian biodiversity, predominantly associated with land clearing and environmental impacts associated with grazing (changes to ground cover, soil health, water quality). If the increase in production was produced at average Australian stocking rates, it would require a significant amount of additional grazing land.

Policy recommendations
Based on the on the combined effect of the expected output growth in agricultural sector (particularly in the beef and sheep meat sector) resulting from the FTA (in the ambitious scenario) as well as the impact from this sector on biodiversity (through land clearing), we recommend to explore measures to mitigate these expected negative impacts. Best practices could be shared between the EU and Australia on how to minimise land clearing for agricultural production and how to minimise the impact of land clearing on biodiversity. A provision in the TSD chapter could cover this.

3.6.5. Water quality and quantity

State of Play. With regard to water quantity, inland water storage levels throughout the country vary considerably. Yet, the national water storage levels have dropped from 80 percent capacity in 2011 to 50 percent in 2015 (Commonwealth of Australia, 2016a). Furthermore, data from sites unaffected by development revealed decreasing streamflow in 35 percent of sites surveyed. The primary consumer of water in Australia is the agricultural sector, accounting for between 50-62 percent of total water consumption (Jackson, 2017). Future rainfall projections show that the frequency and intensity of extreme rainfall events are likely to increase in Northern, Southern, South-Western, South-Eastern regions (Argent, 2017). The inland water quality status throughout Australia is seen as 'poor' in most regions, indicating that water quality has worsened substantially as

a result of human activity. Furthermore, ecological processes and key species populations are regarded in 'poor' condition in the Murray Darling River Basin, 'good' to 'stable' in South-Eastern and South-Western regions, and 'good' for the rest of the nation (Commonwealth of Australia, 2016b). Land management practices, agricultural run-off, infrastructure developments, industrial and urban pollution, invasive species and changing climate conditions are all seen as the major pressures on water quality (Argent, 2017). Improving water quality is seen as a priority issue in the Great Barrier Reef catchment area, as high levels of sediment, nutrient and pollutant run-off threaten the ecological health of the area. Improving agricultural practices (e.g. via Best Management Practice systems) are employed to tackle such issues (OECD, 2019). The textbox below contains a case study on the impact of the FTA on water quality through its impact on sugar production.

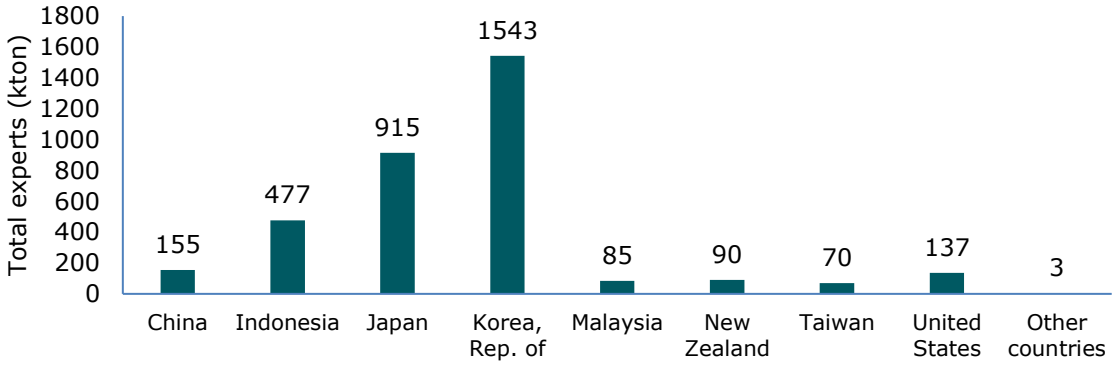
Case study 3.5: EU-AUS FTA impact on water quality from sugar production

Current situation

Sugar is a relatively large agricultural export crop for Australia, with around 80 percent of total product exported. It is Australia's second largest export crop after wheat (Sugar Australia, 2018). In 2017/18, an estimated total production area of 377 hectares produced 4,500 kton of sugar, of which 3,600 kton were sent to export markets (ABARES, 2018b). The export market for sugar is dominated by Brazil and Thailand. Australia's share of sugar on world markets is around 7 percent (Department of Agriculture, 2017).

The EU currently buy a miniscule proportion of Australian sugar exports, which are dominated by exports to Asian countries (see Figure CS3.5-1). EU exports are included within the 'other countries' figure of 3kt per year.

Figure CS3.5-1: *Volume of Australian exports of sugar, by destination (2017/18)*



Source: ABARES, 2018b

The majority of sugar cane in Australia is grown in coastal areas of Queensland, producing 95 percent of Australian sugar, with the remainder produced in neighbouring New South Wales (see Figure CS3.5-2).

Sugar production can cause several environmental impacts. In Australia, sugar cane is largely unirrigated and therefore does not impact water scarcity. It however receives fertiliser and pesticide applications, which impact water quality (and ultimately biodiversity) in the region.

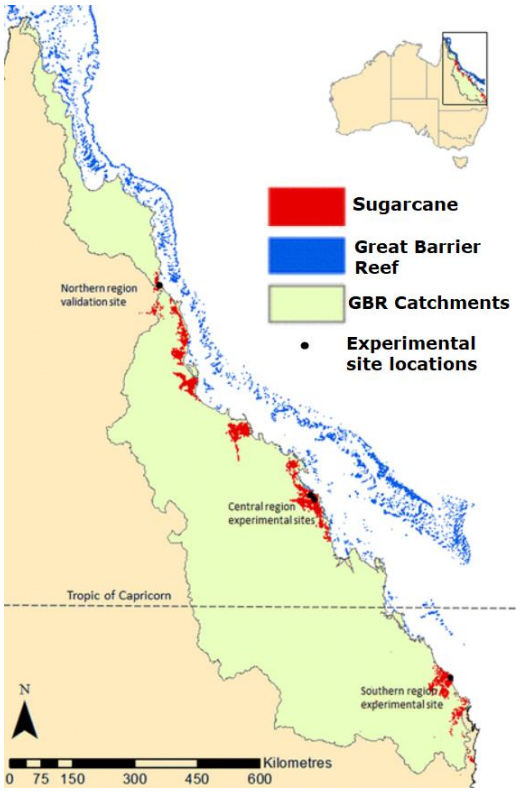
Water quality impacts associated with sugar cane are produced from rainfall run-off from crop area, carrying nutrients from fertilisers (particularly phosphorus and nitrogen) as well as pesticides, into waterways. These can negatively impact aquatic ecosystems within the waterways through eutrophication, as also affecting receiving waters in marine areas. Eutrophication implies that those nutrients cause (excessive) plant growth in waters (e.g. algae), which take away oxygen from waters and thus impact fish and other animal species.

Waterways that discharge from catchments neighbouring the Great Barrier Reef are considered particularly sensitive to water quality, given the impacts on corals and their key predators, such as Crown of Thorns Starfish (CoTS) (Australian Institute of Marine Science, 2013). CoTS are endemic predators in the reef that feed on corals. It is thought that increased sediment and

nutrient flows from waterways increase plankton that their larvae feed on, resulting in their overabundance of CoTS causing excessive damage to reefs. The farming sector is attempting to reduce its contribution to water quality impacts through improved nutrient and pesticide management practices (Department of the Environment and Energy).

In 2018, in Australia there were 4,305 sugar cane growers (in 2012-2018, the number oscillated between 4,100 and 4,600, with periods of growth interchanging with a decline every year of two). In addition, the sector provided direct employment for 16,000 persons in 2012-2017 (the figure was based on estimations of the industry association). The number of jobs calculated based on a survey suggested that there were 9,145 persons employed in the sector in 2018 (including 4,591 jobs in sugar processing (mills) and 4,554 jobs on sugar cane farms).[124] If counted jointly with indirect employment – there were 22,657 jobs in the sugar industry in 2018.[125] Therefore, the figures related to the exact number of jobs should be treated with some caution, given that there were no job reductions which would justify the difference (Australian Sugar Milling Council, 2019).

Figure CS3.5-2: *Australian sugarcane-growing regions that drain into the Great Barrier Reef*



Source: Fraser et al., 2017

The association of cane growers in Queensland (the main sugar cane producing state) is a member of the Workplace Health and Safety Queensland Rural Industry Sector Standing Committee focusing on improvement of health and safety at work standards on farms, with a particular emphasis on poorly performing employers, vulnerable workers, SMEs and main sources of hazards (e.g. electrical infrastructure, transport vehicles or chemicals). There is an expectation that the number of labour inspections in rural areas will increase in the next few years (Cane Growers, 2017). (For details on accidents at work in agriculture and 2018-2028 Health and Safety at Work Strategy, see general social analysis and Annex III.2.)

The association participates also in initiatives supporting skills development in agriculture, with a view of attracting, training and retaining workers, and raising funds for this purpose. The initiatives include estimating demand for certain skills sets, support for transition from school to work in agriculture, as well as training and mentoring for extension officers who will then provide advice to farmers (Cane Growers, 2017). Depending on type of job and level of experience, weekly wages on sugar cane farms in 2018 ranged from A$452.20 (for youth) to A$837.40 (if the same persons worked over the whole year, annual wages would range from A$23,514 to A$43,545).[126]

In the EU, in 2017, there were 145,000 sugar beet growers and around 28,000 direct jobs in the sugar beet processing sector, as well as 8,000 sugar cane growers in the French Overseas Departments, and cane refineries in nine EU countries. The sector provided also indirect jobs

[124] Australian Sugar Milling Council, The contribution of sugar manufacturing to Queensland: https://asmc.com.au/wp-content/uploads/2019/01/ASMC_Multiplier-Project_Qld_web-4.pdf

[125] It is likely that the figures reflect only the employment in Queensland. In such a case, there is a need to add figures for New South Wales to have a picture for the whole country, i.e. 2,200 persons employed in the sector, including 450 mills workers and 600 sugar cane farmers (data of 2015), Parliament of Australia (2015), Current and future arrangements for the marketing of Australian sugar: https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Rural_and_Regional_Affairs_and_Transport/Sugar/Report/c03

[126] Cane growers, Wage rates for workers on sugarcane farms (2018): http://www.canegrowers.com.au/page/resources/industrial-relations

upstream (farm machinery and agricultural inputs) and downstream (food processing, wholesale, retail, transport, and logistics) (European Commission, 2018d).

Potential EU-AUS FTA effects

Through its impact on sugar production, the EU–AUS FTA is expected to generate an environmental impact. Based on the economic modelling undertaken in support of this report, in 2030, the second largest relative impact in output at sector level in Australia is expected to occur in the sugar sector (0.8 percent as shown in Table CS3.5-1 for the ambitious scenario).[127]

Based on interaction with a sector expert in Australia,[128] the characteristics of sugar production in Australia currently imply that increases in water quality impacts associated with sugar production can be expected from increases in crop *area* of sugar production, and to a lesser extent from greater *intensity* of production from existing crop area.

The maximum expected impact of the increase in production as a result of the EU-AUS FTA has therefore been shown in Table CS3.5-1.

Table CS3.5-1: *Impact on sugar cane production resulting from FTA*

	Percentage change compared to base (%)	Volume of production (metric tonnes)	Area of production
Australian sugar production 2018 (metric tonnes)		4,500,000	377,106
Change in production 2030 (Conservative scenario)	0.1	12,247	1,026
Change in production 2030 (Ambitious scenario)	0.8	35,743	2,995

Source: CGE results provided by DG Trade, volume and area of production sourced from ABARES, calculations by project team.

Analysis of this data, combined with discussions with the Australian expert on agricultural production and water quality impacts in Queensland and other stakeholders revealed the following:

- The increase in sugar production stimulated by the FTA can be considered quite modest in terms of scale, given the amount of current exports to the EU. In addition, EU importers are likely to import sugar produced with the Bonsucro certification, indicating that the sugar could be produced in a more sustainable way (the use of fertilizers and pesticides is however also allowed for Bonsucro producers). Moreover, much of the sugar production in Australia is induced by demand from Asian countries and Australia's impact on world market prices is also not large (7 percent).
- Increased sugar production is expected to be produced from a combination of increased yield from existing sugar cane crop area, produced from high fertiliser use; and additional crop area, involving a change from pasture (livestock) to sugar cane.
- It is considered highly unlikely that non-agricultural areas will be cleared for additional sugar cane production, given the higher economic viability of transferring existing grazing land to sugar production. Recent regulations implemented in 2019 also restrict native vegetation clearing in Queensland.
- Sugar production has higher water quality impact than pasture on average[129], however the difference is marginal.

Based on the above points, it can be expected that the water quality impacts of the FTA that derive from changes to sugar import controls are expected to be negative but minimal. These will result from a minor increase in production occurring from increased production on existing crop area and change in production from existing livestock grazing.

[127] Representatives from the Australian sugar sector do not expect the FTA to significantly affect sugar production.

[128] Professor John Rolfe of Central Queensland University: https://spectre.cqu.edu.au/profiles/view/959

[129] Sugar cane production produces nutrient impacts (nitrogen and phosphorus) and pesticide pollution, while grazing produces sediment pollution.

Results of the economic modelling suggest employment creation in Australia, with a growth of 0.7 percent for unskilled workers and 0.8 percent for skilled ones under the ambitious scenario and no changes under the conservative one. If, for illustrative purposes, we take the number of direct jobs in the sugar industry in Australia as a basis, then (based on 2017 figures) between 127 and 146 jobs would be created as a result of a new FTA.

For the EU, the model envisages job reduction of -0.2 percent for both groups of workers under the ambitious scenario and no changes under the conservative one. For both, the EU and Australia, these changes are in line with changes in output and may also be related with the expected increased Australian exports to the EU which are expected to rise by 123 percent under the ambitious scenario, although from quite a low basis. They may add to the predicted trend of a decreasing surface of sugar beet growing in the EU in 2018-2030 combined with a lower sugar consumption in the EU, due to health-related considerations and consumer preferences, which may be compensated to some extent with an increase in EU sugar exports due to growing world demand (European Commission, 2018e).

Given the limited scale of a potential job creation in Australia, the new FTA will probably have no impacts or very limited ones on job quality indicators in the sugar sector, such as wage levels, types of contracts or the number of accidents at work. However, this will be true if e.g. initiatives aiming at improved levels of health and safety at work are continued and labour inspections are conducted. Moreover, new workers should receive appropriate training and those who are hired on casual or seasonal contracts should be offered decent working conditions.

Policy recommendations
Based on the marginal expected output change in the sugar sector as a result of the FTA and the related potential environmental issues resulting from this output change compared to the expected environmental impacts of other sectors, we do not consider the potential environmental effects from the Australian sugar sector the most impactful. Consequently, we do not recommend negotiators to focus on the mitigation of potential effects in this sector. Even though we do not foresee a major environmental impact resulting from the FTA, the effect of the Australian sugar industry on water quality in general remains an important environmental issue and we recommend to closely monitor this.

It is likely that factors such as weather conditions (e.g. drought), levels of sugar world prices and changes in domestic and world demand for sugar (driving EU exports) may have a more substantial impact on the EU sugar industry and its workers than the new FTA with Australia or may balance effects triggered by the new trade agreement. However, the situation in the sector may require monitoring if negative impacts of several factors, including new FTA, cumulate.

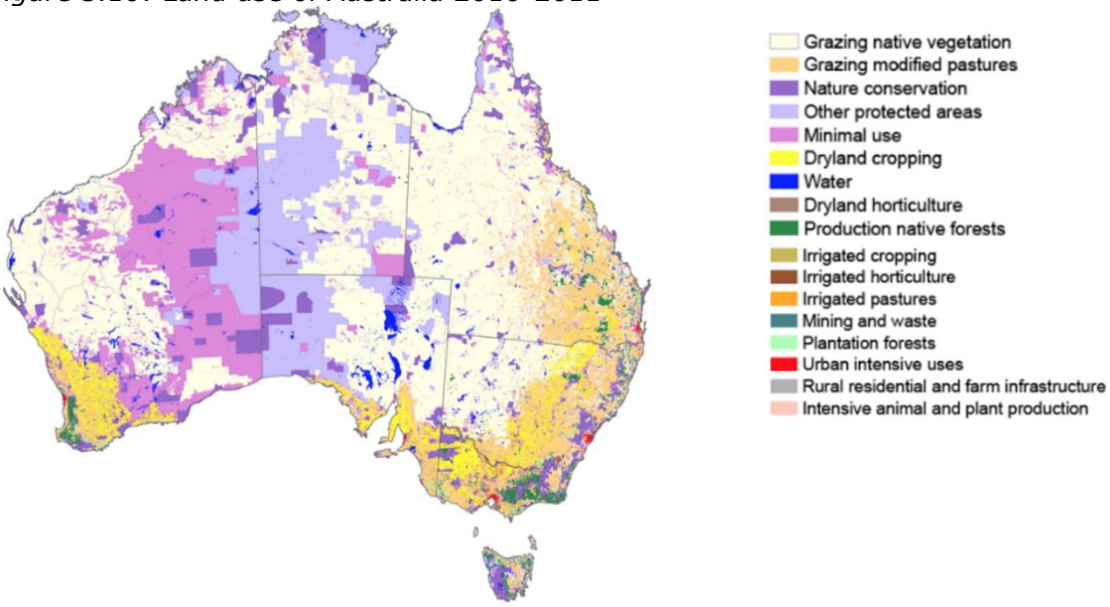
Given the limited scale of potential job creation in Australia, the new FTA will probably have no impacts or very limited ones on job quality indicators in the sugar sector. However, this will be true, provided initiatives aiming at improved levels of health and safety at work are continued and labour inspections are conducted. Moreover, new workers should receive appropriate training, including on health and safety at work, and those hired on casual or seasonal contracts should be offered decent working conditions.

3.6.6. Land use and soil quality

State of Play. Roughly 55 percent of Australian land is currently used for grazing, mainly to fuel the country's large livestock sector (Ministry of the Environment, 2016). Nature conservation areas and indigenous lands comprise a further 23 percent, whereas 15 percent of the land lays almost idle. Urban centres make up only around 0.2 percent of Australia's land cover, as shown in Figure 3.10 (Metcalfe & Bui, 2016). Change of land use has historically been stark, with only 25 percent of the original estimated extent of native vegetation remaining intact (Convention on Biological Diversity, 2012). Native vegetation clearing is a particular challenge in the states of Queensland and New South Wales (due to intensive land conversion for agricultural use). Through inefficient use of nitrogen, agricultural practice has furthermore led to increased soil acidity in major Australian farming regions: 50 percent of the country's agricultural land (roughly 50 million ha) exhibit a pH value that is equal to, or below, 5.5. Of that area, 12 to 24 million ha are estimated to be extremely acidic, with pH levels as low as 4.8. Untreated acidity levels have already led to the more severe 'subsurface acidification', which poses major problems for farmers in New South Wales and Western Australia as acidification can drastically

decline crop and pasture growth due to lower availability of soil nutrients (Soil Quality, 2019).

Figure 3.10: Land use of Australia 2010-2011



Source: Ministry of the Environment (State of the environment 2016)

EU-AUS FTA impact on land use

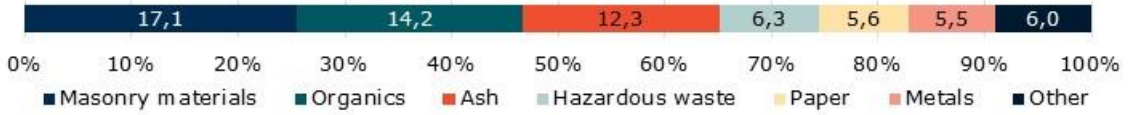
In many countries, large shares of land are used for agricultural practices. As explained in the state of play, about 55 percent of Australia's land is used for livestock grazing. As such, the agricultural sector also has a major impact on land use in Australia, mainly through land clearing (the increased use of natural land as farming land). Soil quality is also heavily affected by agricultural practices. For soil quality, there are two theoretical impact routes. In the first route, intensive fertilizer use and manure production can harm soil quality as it increases the nitrogen and phosphorus concentrations. This impact can be caused by both horticulture (fertilizer use) and by animal farming (manure production). In the second route, grazing negatively affects the soil quality through damaged vegetation, including soil loss through erosion.

As production in the agricultural sector is expected to increase significantly as a result of the FTA, the impacts on land use and soil quality are also expected to be significant. Land clearing in particular could become a more predominant issue since output in the ruminant meat sector is estimated to increase by 4.6 percent in the ambitious scenario. Given the standard practice of cattle farming in Australia (i.e. relatively few animals on relatively large areas of land since the soil is not very fertile nor nutritious), this increase in production is expected to have a major impact on land use in Australia by intensified land clearing. Therefore, under the ambitious scenario it can be expected that this increase in agricultural production will lead to increased net emissions from the LULUCF sector, predominantly through land clearing associated with increased meat production in Australia. Estimating the quantitative impact of this change on the global carbon sink is beyond the scope of this assessment.

3.6.7. *Waste and waste management*

State of Play. Australia generated around 2.7 ton of waste per capita in the time period 2016-2017, which amounted to roughly 67 Mton of total waste in that year (see Figure 3.11 for a more detailed account).

Figure 3.11: Waste profile Australia, 2016-2017



Source: Department of Energy and Environment (2018)

Of that volume, 58 percent was either recycled or recovered (Department of the Environment and Energy, 2018). Being the most populous states, New South Wales, Victoria and Queensland generate the most waste. Solid waste generation (before recycling and recovery) has grown faster (163 percent) than gross value-added (73 percent) and population (27 percent) between 1997-2014 (Commonwealth of Australia, 2016c). There is hence a need to decouple demographic and economic growth from waste generation. From 2009 onwards, predominance of waste fate options switched from disposal to recycling (Department of the Environment and Energy, 2016). Recycling rates have since improved significantly: the 11-year change (2006-2017) of the share of total waste recycled stands at 26 percent. The highest rates are achieved in South Australia (78 percent) and Victoria (68 percent). Australia generally has high rates of 'kerbside' recycling, with recycling rates comparable to Northern European countries. Still, around 21.7 Mton of total annual waste find their way to a landfill in 2016-2017 (Department of the Environment and Energy, 2018). China's ban on the import of a range of recyclates on 1 January 2018 has revealed that much of Australia's recycling has, in fact, been in the form of export of recyclates for processing in China (Department of the Environment and Energy, 2018). Following the ban, there has, again, been an increase in stockpiling of waste and disposal of waste to landfills.

EU-AUS FTA impact on waste and waste management

Most of Australia's industrial waste is generated by the motor vehicles and transport equipment sector and the machinery sector (jointly responsible for 27.7 percent of all industrial waste). In contrast, the sectors which are expected to be most heavily affected by the FTA do not have a large share in the total waste generation in Australia. The meat sector, for instance, is only expected to have a modest impact on the waste and waste management sector as it does not produce significant amounts of hard waste. The potential environmental impacts (e.g. on waste) through the motor vehicles and transport equipment sector and through the machinery sector are incorporated in the corresponding sector studies (see sections 4.2 and 4.3).

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 Australia. 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 TSD chapter could cover this. In terms of global effects, an ambitious FTA (full trade liberalisation) is expected to have a small 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 in case of an ambitious FTA (see sector study in section 4.1 for details). Since the EU-AUS FTA is could challenge progress towards the Paris Climate goals, and because both Australia's and (to a lesser extent) the EU's current climate strategies are insufficient to meet the Paris Climate goals, negotiators are recommended to commit to stimulate further climate action in the context of the FTA in order to 'offset' the negative impact of this increased ambition and to align future climate policies with the stated objectives of the Paris Agreement. Examples of potential mitigation options are improved vegetation management, improved grazing futures (e.g. prevent land clearing/ deforestation) and potential techniques to decrease GHG emissions related to enteric fermentation (Mayberry, 2019).

- Find ways to alleviate the impacts of increased agricultural production on biodiversity. For instance, options to minimise land clearing as such as well as the impact of land clearing on biodiversity could be explored in the light of the FTA. The FTA could exacerbate the pressures on biodiversity in Australia 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.
- Promote information exchange on effective policy making in the field of water quantity and quality between the EU and Australia as flanking measure. 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. An ambitious FTA is likely to create an impact on water quality and quantity in Australia, most importantly through the predicted expansion of the beef and sheep meats sector, which creates nitrogen run-off into freshwaters causing a worsening of water quality through eutrophication. Secondly, the sector requires freshwater as input for production and thus pressures on water scarcity will also increase, ceteris paribus.

4. SECTOR ANALYSES

As part of the Trade SIA approach, we have selected five sectors for detailed analysis: ruminant meat, motor vehicles and transport equipment, dairy, machinery, and communication and business 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 suggestions for policy recommendations and flanking measures.

4.1. Ruminant meat sector

4.1.1. Current situation

Economic aspects

The EU has reduced the traditional deficit in its meat trade with Australia over the 2011-2018 period. According to UN Comtrade, the EU28 exports of all meat and edible meat offal to Australia in value increased from €165,8 million in 2011 (net-weight estimation) to €253.1 million by the year 2018. In the same period, the EU28 meat imports from Australia peaked in the years 2014 and 2015 but remained overall stable (from €292,3 million in 2011 to €293,8 million in 2018).[130] As a percentage of the total bilateral goods trade, EU meat exports (all meat and edible meat offal) to Australia increased from 1.6 percent in 2011 to 2.5 percent in 2018. The share of bilateral meat trade in the EU's total trade with the world has been below 2 percent throughout that period. For Australia, this figure is around 4 percent.

Because the sector chosen for analysis is ruminant meat, data for bilateral trade in ruminant meat only[131] are presented in Figure 4.1. They confirm that Australia enjoys a dominant position especially for red meats: in 2015 it was the world's first beef and sheep meat exporter by volume (#3 in 2016), and in 2016 the first exporter of sheep meat, with exports increasingly directed at Asian markets, thanks to new trade agreements.[132]

Trade policy measures

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 under the WTO.[133] In 2017, the average applied tariff rate on ruminant meat in the EU on imports from Australia was 39.2 percent, higher than the trade-weighted 24.5 percent EU tariff applied on ruminant meat imports from the rest of the world.

For example, according to the WTO tariff data base, the EU offers a (shared) access to a 48,200-ton grain-fed beef quota with a zero percent in-quota tariff. There is an additional TRQ of 7,150 tons specifically for Australian "high quality" beef (HQB), subject to a 20 percent in quota tariff. For out-of-quota imports the tariff is 12.8 percent plus up to €3/kg. A TRQ for hormone free and "grain-fed HQB", established as a "collateral" result of the

130 Accessed on 27 June 2019 at https://comtrade.un.org/db/dqBasicQueryResults.aspx?cc=02&px=HS&r=97&y=2011,2012,2013,2014,2015,2016,2017,2018&p=36&rg=1,2&so=8

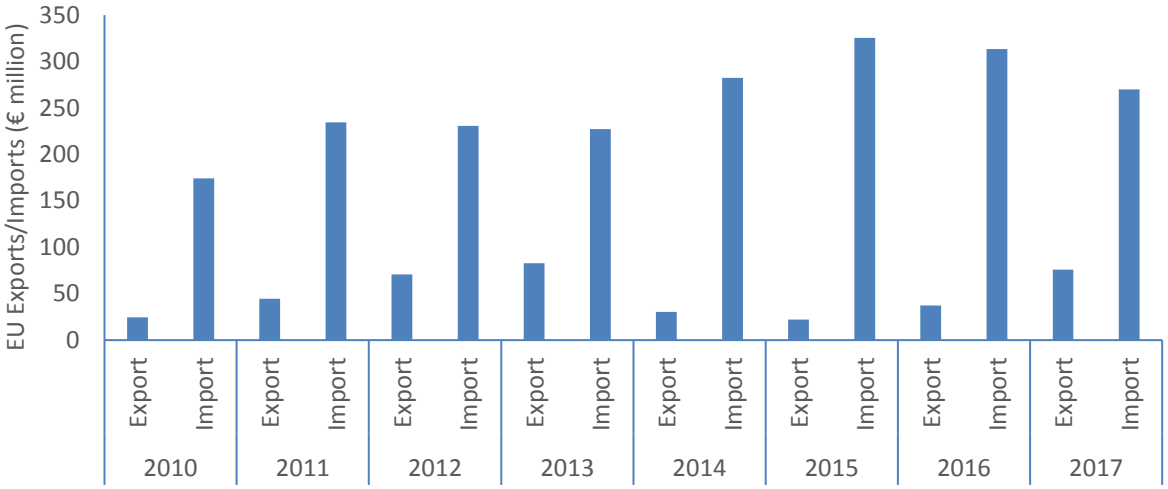
131 UN COMTRADE with GTAP Codes CMT and CTL.

132 ABCIS, Experts filieres animales, 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.

133 Article XIII of the GATT, as applied since 1995 and interpreted namely in EC – Bananas, determines the maximum quantities which can in this way be reserved for country suppliers (and in other words denied to MFN suppliers from outside the FTAs).

WTO dispute on beef hormones, is accessible to Australia but also to the USA, Canada, New Zealand, Uruguay and Argentina.

Figure 4.1: EU-Australia bilateral trade in ruminant meat (value € million)



Source: UNComtrade; own calculations

A recently announced increase of the part reserved for the USA is still to be notified to the WTO. Additional EU TRQs for beef are also open "MFN" i.e. to all other WTO Members, namely a frozen beef quota of 53,000 tonnes p.w. (1 July – 30 June) with an in-quota tariff rate of 20 percent, and a processing beef quota of 63,703 tonnes (1 July – 30 June) with an in-quota rate of between 20 percent and 20 percent plus €994.5/t – €2,138.4/t, depending on the product. These quotas tend to be dominated by lower cost suppliers, which are also able to supply some product at the high out-of-quota tariff. Quantities and fill-rates are contained in the EU's notifications to the WTO Committee on Agriculture.

As for sheep and goat meat, the 19,186 tons country specific quota enjoys a zero in-quota duty; above this quota, duties of 12.8 percent plus up to €3.1/kg apply. In addition, offal, by-products and prepared meat face tariffs of up to 16.6 percent or €3/kg.[134]

Australia (and New Zealand) 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. Moreover, TRQ allocation modalities are an additional access impediment for Australia's meat exports to the EU, such as TRQs with time-limited certificate issuance, and contingent upon preceding supplies.

In contrast, Australia has zero applied tariffs on all ruminant meat exports from the EU as well as from the world. It has no WTO-notified TRQ for meat. The fact that EU beef exports to Australia are so low, despite this low-tariff environment, is due to differences in SPS.

Both the EU and Australia apply stringent SPS measures and technical regulations and related conformity assessment procedures on ruminant meat. Some divergences are motivated by different societal choices, for instance for animal welfare (Box 4.1), for genetically modified feed, or for growth hormones. However, their regulatory autonomy is constrained by the WTO obligation for SPS standards to be science-based. In addition, regulators and standard-setting bodies must follow international standards agreed, for instance, in the Codex Alimentarius. Technical Regulations should follow international standards such as those laid down in the ISO, even though this is not a formal requirement

[134] Australia-EU FTA Red Meat and Livestock Industry Taskforce, Submission to DFAT, Europe Division (February 2016).

like for food safety. The WTO transparency and review mechanisms are frequently called upon to even out divergences affecting trade in ruminant products.

The EU has an elaborate regulatory framework with specific rules for food of animal origin (Regulation (EC) 853/2004), and for the organisation of official controls on products of animal origin intended for human consumption (Regulation (EC) 854/2004). Basically, in respect of third countries, its comprehensive FTAs aim at the establishment of internal market-like conditions of competition, based on the mutual recognition of production standards and controls along the value chain "from stable to stable". In the EU's trade with Australia, such agreements have led to considerable cost reductions from fewer inspections. All regulations are kept up-to-date on the relevant EU websites, allowing operators to better understand the food hygiene rules and how to implement them in specific sectors.[135]

Australia enforces restrictions and complex approval processes on imports, for instance, of beef and sheep meat and products subject to Bovine Spongiform Encephalopathy (BSE). These restrictions may not always be science-based as laid down in Article 2 of the SPS Agreement. Under Australia's Imported Food Control Act 1992, beef and beef products for human consumption are considered a risk food for the likely presence of BSE agents. Such beef can only be sourced from countries that have had their BSE food safety risk assessed, with a BSE risk status deemed satisfactory to the Department of Agriculture and Water Resources of Australia (DA). According to the DA website, only five EU Member States figured on the list of countries approved for trade in beef and beef products for human consumption.[136] Nonetheless, according to the ABCIS study (p.12), Australia's sanitary status in respect of bovine diseases is generally considered satisfactory by the *Organisation Internationale des Épizooties* (OIE), despite the fact that sanitary import requirement are not fully aligned with the BSE requirements of the OIE.

Australia (like New Zealand) also appears to still have some trade-limiting measures in place, such as market-offer concentrations (i.e. Export State Trading) or virtual trade prohibitions by way of SPS measures other than BSE-related ones, or certain technical standards and regulations as well as conformity assessment procedures (mainly covered by "TBT"). Here, the FTA negotiation might benefit from Australia's new trade agreements already concluded with other countries and regions, mainly for approval, tracing and monitoring procedures. The main agreement with such provisions is the CPTPP. It should be pointed out, however, that mutual recognition of sanitary standards based on the CPTPP is "science-based" to the apparent exclusion of societal concerns such as growth-hormone-treatment of beef, or pork (ractopamine).

Hence, sanitary regulations and technical standards and requirements governing the animal sectors in Australia appear to still differ from European requirements. This is not always a problem. For instance, the use of growth hormones and chemical decontamination of carcasses is allowed, but not for products bound for the EU. Yet, 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 beef and sheep are limited to the first six months, and to the first movement of the cattle.

Unlike New Zealand with whom the EU has concluded a Veterinary Agreement (updated in 2015), sanitary measures blocking or restraining EU meat exports to Australia cannot be

[135] "Guidance Platform" https://ec.europa.eu/food/safety/biosafety/food_hygiene/guidance_en (last accessed on 9 July 2019).

[136] Information on Bovine Spongiform Encephalopathy food safety requirements for imported beef and beef products for human consumption available at http://www.agriculture.gov.au/import/goods/food/inspectioncompliance/bse_food_safety_requirements_for_beef#other-countries-not-listed. For BSE protection measures under the Food Standards Code see http://www.foodstandards.gov.au/industry/bse/Pages/default.aspx.

solved in regular expert meetings.[137] Here, only after a cumbersome approval process imports from countries that have reported an indigenous case of BSE are allowed (while all countries should go through the Australian risk assessment procedures with respect to BSE). Under Australia's requirements (since 2010), Food Standards Australia New Zealand (FSANZ) conducts an individual country risk assessment. In addition to this review, the DA conducts a separate import risk assessment for each exporting country to address animal quarantine issues. The risk assessment procedures significantly delay imports of beef and sheep products. Moreover, they are not fully aligned with the BSE risk management and notification requirements of the OIE or the OIE's official status, namely for safe commodities, e.g. deboned meat. For instance, the minimum number of slaughterhouse inspections per culled herd is laid down by the OIE, but Australia's compliance in this respect is not clear.

Consequently, even though Australia applies zero tariffs on EU imports of ruminant meat products, import into Australia is often not possible, or not for all EU Member States. If Australia's regulations were amended, EU market access for fresh/frozen, deboned meat, as well as for numerous specialty meats like Bresaola, would likely improve.

Investment measures
The processing of meat, including ruminant, falls under the category agribusinesses. For this kind of business there is a threshold of A$58 million for investors from countries that do not have negotiated a higher threshold in an FTA. Only if the A$58 million investment gives the investor at least 10 percent of the business or the power to control or influence the business it will be screened by the Foreign Investment Review Board. The Board will check whether the foreign investment is beneficial for Australia and if it is in line with its national interest. For investors from some countries that have an FTA with Australia the threshold has been significantly increased to A$1,154 million (Chile, New Zealand and United States). On the other hand, even though Canada, China, Japan, Korea, Mexico and Singapore all have FTAs with Australia, for them the threshold remains A$58 million. So, there is a difference in the level of the thresholds between the different Australian FTAs.

Besides the threshold for investing in the processing of meat, there is a threshold for buying agricultural land in Australia. Producing meat often goes hand in hand with investing in agricultural land. The level of the threshold for non-FTA countries is A$15 million (cumulative). For Chile, New Zealand and United States the threshold lies at A$1,154 million. For Thailand it is A$50 million. Hence, also in this sector the thresholds vary per FTA.

Social aspects
In the **European Union**, the livestock sector accounts for 4 million workers (Animal Task Force, 2017[138]), out of which the cattle sector employs 2.5 million and a further 1.5 million work on farms specialised in sheep and goat-rearing.[139] 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 the fruits and vegetables sector, it was only around 46

[137] 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. The 2015 amendments of the agreement have helped to further streamline requirements and facilitate trade into the EU including expediting listings of food establishments.

[138] 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

[139] 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

percent, with the rest covered by hired workers) (European Commission 2016a).[140] 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.[141] 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).[142] 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 **Australia**, in 2016, the red meat and livestock sector employed around 404,800 people, including 178,900 direct and 225,900 indirect jobs. Meat production covered 55.6 percent of all (direct and indirect) jobs in the sector, followed by processing (32.1 percent), retail trade (9.5 percent) and wholesale trade (2.8 percent). In 2011-2016, employment in the sector increased in total by 6.6 percent (EY, 2017). In 2014-2015 the majority of people in the meat processing sector were employed either as daily hire or casual workers, which means that in principle their employment contact was over at the end of each day or shift. They might be hired again on the following day and even work throughout the whole year, however, there was no guarantee of employment. Some employers justified the use of this type of a contract as an equivalent to a probation period; others wanted to have a flexibility in workforce to adapt it to changes in supply. Some workers also preferred this arrangement (even if it did not provide certain benefits, such as paid annual leave) as wages paid on an hourly basis were up to 25 percent higher than weekly or monthly wages for a permanent employee. The processing industry also hired migrant workers, who in many cases already had the skills required for the job (and, at the same time, there was low interest among local workers to work in meat processing plants) (Australian Meat Processor Corporation, 2015). The rate of trade union membership has declined in the sector of agriculture, forestry and fishing from 12.3 percent in 1994 to 1.9 in 2016, which is the lowest rate among the sectors in Australia (Parliament of Australia, 2018).

Agriculture has been chosen as one of the priority sectors in the Australian Work Health and Safety Strategy 2012-2022, due to higher indicators related to accidents at work, e.g. 14.6 fatalities per 100,000 workers (with the average for the whole economy in 2017 being 1.5) and without showing much improvement over the last 10 years, and with 8.8 serious claims for non-fatal injuries per million hours worked (with the average for the economy being 5.6 – that has decreased by 30 percent over the last decade). Over the last few years, the sector witnessed increasing employment and ageing of its workforce (39 percent of workers aged 55 or more years in 2016, with persons in this age group representing 57 percent of victims of fatal accidents at work). Actions foreseen in the Strategy cover several sub-sectors, including sheep, beef cattle and grain farming (these have a 63 percent share in fatal accidents in agriculture and 41 percent in compensation claims for injuries; vehicle

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

[141] 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/

[142] We report this overall figures because Eurostat does not provide disaggregated figures for number of accidents at work.

accidents being the main reason of fatalities, while being hit by an animal is the main reason for non-fatal injuries) (Safe Work Australia, 2018a). The sectoral association, Meat and Livestock Australia, has developed online manuals to help producers plan and implement on-farm health and safety initiatives.[143] According to legislation, the average number of working hours per week in the red meat sector is 38.

Human Rights aspects

Both the EU and Australia have frameworks in place to enshrine protection of the different human rights as explained in detail in Chapter 3.5.

As mentioned, the ruminant meat sector is an important sector for the Australian economy, with significant and growing employment, and being one of the most important export sectors. Australian geography and space are naturally well suited for cattle herding and subsequent animal product output. The EU's ruminant meat sector is also significant but spread unevenly across EU Member States (with it being relatively most important in Ireland).

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 Australian 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-AUS FTA on *migrants and vulnerable groups (e.g. indigenous peoples' rights)* needs to be covered, as well as the issue of informal (family) employment. It is also a sector that is not significantly unionised – with only 1.9 percent union membership in 2016 – and one where safety at work is a relative concern (hence it being chosen as one of the priority sectors in the Australian Work Health and Safety Strategy 2012-2022). 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 ruminant meat sector in two ways. First the way meat is being produced is subject to very different regulatory systems in the EU and Australia (see trade policy description in the economics section) – 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 ruminant meat sector on the environment (see also the environmental aspects described below showing the relative size of the environmental footprint of the livestock sector, in particular beef and sheep meat production), because emissions and biodiversity could be impacted, affecting the *right to a clean environment*.

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).

[143] Meat and Livestock Australia: „Occupational health and safety": https://www.mla.com.au/research-and-development/business-management/managing-people/occupational-health-and-safety/#

Table 4.1 summarises the results of a study by Oxford University, showing the relative size of the environmental footprint of beef and sheep meat production. The production of beef and sheep 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 types of typical protein-rich food products. The large amount of GHG emissions largely stems from methane emissions from enteric fermentation by cows. The figure also shows that beef and sheep 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 4.2 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. 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.

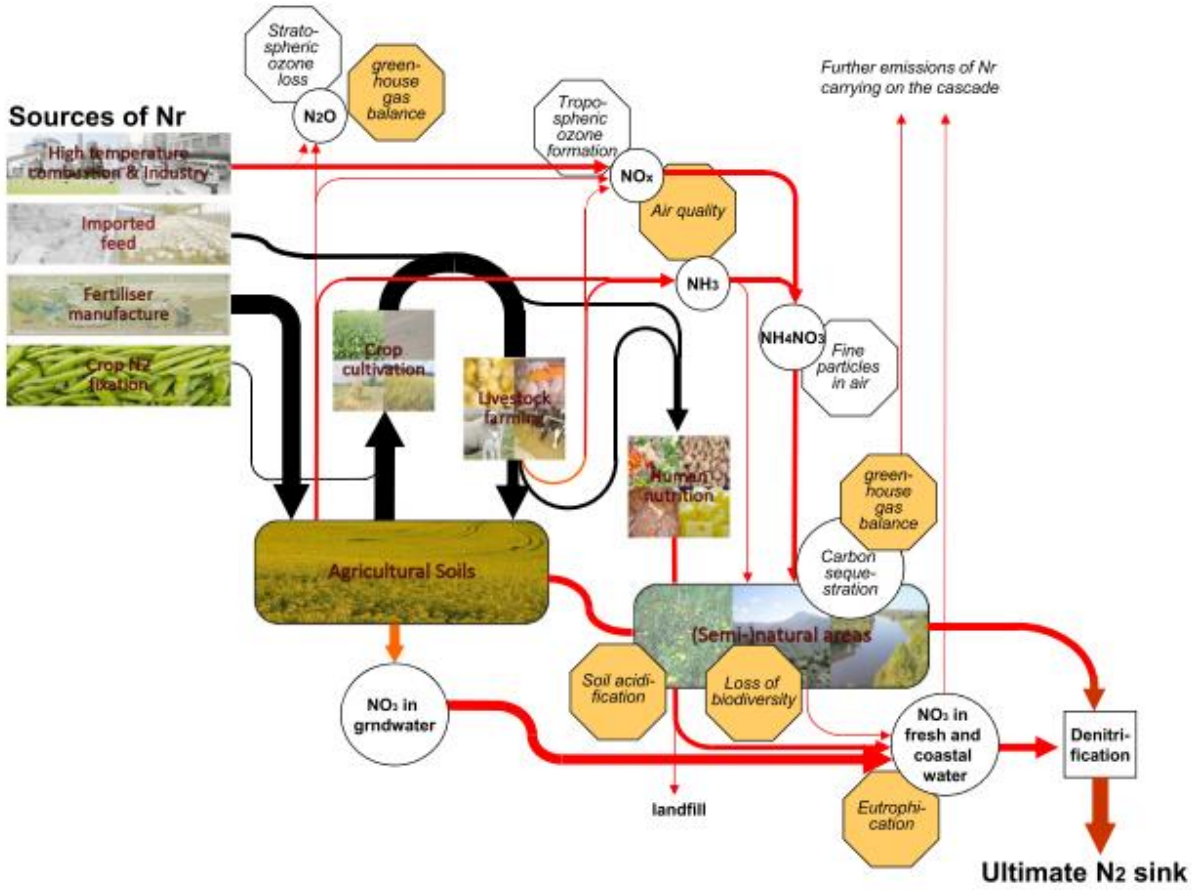
Table 4.1: Mean environmental impact of different food products per 100 grams proteins

Product	GHG Emissions	Land Use (m²)	Acidifying Emission	Eutrophying Emissi 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 gram 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. This is particularly relevant for Australia as beef cattle cover a relatively large area of land for grazing (compared to e.g. New Zealand).

Figure 4.2: Role of nitrogen in agriculture and livestock production[144]



Source: Leip et al, 2015

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 decrease by 1.4 percent under the ambitious liberalization scenario, compared to a no change scenario. For Australia, in contrast, the corresponding estimated change in total output of ruminant meat is a decline of 0.3 percent under the conservative scenario and an increase of 4.6 percent under the ambitious scenario. This is therefore clearly a sector that is of importance for Australia in the EU-AUS FTA negotiations. The increase in Australia's bilateral exports of beef and sheep meat to the EU is large under the ambitious scenario. The increase results from the assumptions underlying the simulations for the ambitious scenario, whereby a relatively high level of protection for EU ruminant meat producers is completely removed. It should be highlighted again that this ambitious scenario is indeed 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 Australia rise by 0.1 percent and 2.5 percent under the conservative and ambitious scenarios respectively, though its total exports of ruminant meat grow by 0.6 percent in the conservative and decrease by 3.5 percent under the ambitious scenario. This suggests that especially in the ambitious scenario, EU producers will face competition from Australian imports.

[144] Note: 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 EU still has a large deficit in its ruminant meat trade with Australia. TRQs and differences in standards are the main NTMs affecting ruminant meat trade between the two partners. Mutual recognition of such standards and removal of TRQs are likely to further increase EU-AUS 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, while not modelling any NTM reductions.

For example, with regard to TRQs, they are not only economically complex. They also have a broader sustainable impact, for example on animal welfare. This is illustrated in Box 4.1 where we look at animal welfare in particular with regard to the EU hormone free beef TRQ with Australia.

Box 4.1: Sustainability effects – Animal Welfare

Current situation

In **Australia**, there is no federal legislation on animal welfare. The competence on animal welfare rests with the states and territories, while the oversight for exports of live animals and export-certified meat and other animal products lies with the Federal Government. Though Australia has anti-cruelty laws, in food production a range of practices still exist that undermine animal welfare: single stalls for breeding pigs, caging of battery hens, and painful procedures such as mulesing and castration without pain relief. In 2016, Australian states adopted the Australian Animal Welfare Standards (AAWS) and Guidelines for Cattle (GfC). This is an important step in the right direction, but translation into state-level regulations is still ongoing and thus enforcement is lacking in practice for the moment. Also, for animal welfare groups, this does not go far enough.[145] In the **European Union**, there is also no binding obligation regarding practices like dehorning, branding, and castration, but the Council of Europe Recommendation Concerning Cattle provides (non-binding) guidance – for example that "procedures in which the animal will or is likely to experience considerable pain" are "carried out under local or general anaesthesia by a veterinary surgeon or any other person qualified in accordance with domestic legislation", adding that "these procedures include spaying, dehorning and disbudding by surgical means or by heat cauterisation on animals over four weeks of age, and should include castration and vasectomy". The EU has regulations pertaining to slaughter practices for products that want to enter the EU market and Directive 2010/63/EU specifies the 3Rs for animal use in research: **R**educing the number of animals; **R**efining experiments to minimize the impact on animals; and **R**eplacing animal experiments wherever possible with alternatives. The importance of this Directive was made clear in the submissions of the EG for Animal Welfare and EFPIA (the latter indicating how the pharmaceutical industry strives to go beyond this directive).[146]

Potential FTA effects: economics and regulatory

From the sectoral analysis, it becomes clear that sectors where animals and animal products are traded are important for the EU-AUS FTA: Australian exports to the EU in beef and sheep meat are expected to increase significantly as a result of the FTA, if the ambitious scenario was applied, and EU-Australia exports in dairy are also expected to increase. We also note that Australian production of beef and sheep meat increases by 4.6 percent while the EU's production declines by 1.4 percent.

These effects matter if we look at animal welfare. With EU beef and sheep meat production (produced with EU animal welfare standards) dropping and Australian production increasing, Australia's regulatory animal welfare system becomes relatively more important because of the EU-AUS FTA. Also, because trade is predicted to increase significantly (i.e. EU imports of beef and sheep meat), through a clear focus on high standards for animal welfare regulation would the EU and Australia be able to create a positive sustainable impact for animals.

Policy recommendations

The EU and Australia could agree to include a consultative process objective in the FTA provisions on animal welfare cooperation, with the goal of making it more sustainable. One could think of equivalence recognition of certain standards, or no preferential trade in products not allowed in the other partner (e.g. beef hormones). A dialogue that could reduce the use of antibiotics in animals would indirectly aid the fight against anti-microbial resistance.

[145] Eurogroup for Animals, submission for the TSIA for the EU-Australia and EU-New Zealand FTAs (2019)
[146] EFPIA, submission for the TSIA for the EU-Australia and EU-New Zealand FTAs (2019).

4.1.3.Social impact

Based on results of the economic modelling, the ruminant meat sector in the **European Union** is likely to be negatively affected by the EU-AUS FTA in the ambitious scenario (not in the conservative one), notably under the ambitious scenario (which is based on the theoretical assumption of full elimination of tariffs and quotas in the agricultural sector). 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. 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. Nevertheless, in case the ambitious scenario was to be followed, there would be a need to monitor situation in Member States or regions, which, due to a higher share of non-dairying cattle farming in the economic activity and employment, may potentially be more affected.

For **Australia**, the economic modelling suggests an increase in employment by 0.1 percent for both groups of workers under the conservative scenario and by 5.0 percent under the ambitious one (the methodological caveats made above apply). The increase in meat production is also likely to contribute to an increase in casual and daily employment in the meat processing sector given that these forms of contracts prevail in this industry. It may also give rise to employment of migrant workers if local workers continue to show little interest in work in the meat processing plants.

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 employment increases in the whole sector of agriculture, including in red meat and livestock in Australia over the last few years, were accompanied by a decreasing number of serious claims related to non-fatal accidents at work, one can assume that the expected employment growth resulting from the EU-AUS FTA will not contribute to a higher number of accidents at work, if the recent trend is maintained and new workers are provided with appropriate training. 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

The trade measures that affect the ruminant meat sector 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 the competitiveness of the competitive ruminant meat sector in Australia and challenge the ruminant meat sector in the EU that is relatively less competitive. This economic impact drives potential human rights effects, given the aforementioned characteristics of the ruminant meat industry (see section 4.1.1 on human rights aspects), and given the human rights frameworks in place in the EU and Australia. The main effects for this sector could relate to the *right to work*, *right to an adequate standard of living*, and *right to a clean environment*.

First, the economic and social effects for the ruminant meat sector are predicted to be positive for Australia and negative for the EU under the ambitious scenario where the opening up of the EU ruminant meat sector by reducing tariffs and enlarging the TRQs is simulated. In the ambitious scenario (removal of tariffs and TRQs), employment is reduced by 1.4 percent in the EU while it goes up by 5.0 percent in Australia (in both cases both for high- and low-skilled workers) for the sector. This is combined with lower prices for consumers for beef and sheep meat in the EU (-0.2 percent) versus a price rise in Australia by 0.5 percent. Therefore, the EU-AUS FTA – under the ambitious scenario – could affect negatively the *right to work* and the *right to an adequate standard of living* for beef and sheep meat producers in the EU and affect these rights positively for Australia. It is important to note that, in the conservative scenario that does not include liberalisation for the ruminant meat sector these effects do not take place – in fact, there are no negative effects for this sector in the EU (but the effects in other sectors in the EU economy, like motor vehicles and machinery, are also less positive).

This means that three important questions need to be asked regarding how these effects work out in practice are. First, what scenario is going to be negotiated? Second, in case of the ambitious scenario, what is the timeframe for liberalisation that is going to be agreed upon? And third, what are the regional disparities of these effects? The first question is a negotiating matter, but it is clear that – in case of the ambitious scenario, longer phasing-in periods for liberalisation allow industries to adjust better and regional effects may differ significantly inside the EU (i.e. what regions get hurt more) and Australia (i.e. what regions benefit most). The potential upside for Australia with respect to the right to work is that this potential positive outlook for the sector could be used as a chance to improve worker rights for migrants and vulnerable groups (as identified by the CEACR observations, 2018) of the population (e.g. least educated) and improve practices with respect to worker contracts. Though the EU-AUS FTA potentially provides for this opportunity, it remains for the Australian government and stakeholders to flank this potential positive effect with appropriate domestic policy actions (e.g. linking this development to the 'Closing the Gap' programme for indigenous populations explicitly; ratifying ILO Core Labour Convention 169; and ratifying ILO Core Labour Convention 138 on the minimum age) to improve the *right to work* and *right to an adequate standard of living* not only on average, but especially for vulnerable groups. average, but especially for vulnerable groups. If the FTA increases demand particularly for migrant workers the risk of migrant worker exploitation should be monitored to ensure the industry is responding appropriately. The potential TSD chapter of the EU-AUS FTA may have a positive effect on the ruminant meat sector by encouraging both parties "to promote the highest standards of labour, safety, environmental and consumer protection".[147]

Second, in the sector there could be an impact via the economic and social effects on the right to health. The EU and Australia have standing commitments via state obligations in international human rights treaties and in domestic law to uphold the right to health. In addition, the Sustainable Development Goals (SDGs) to which the EU and Australia have committed state clearly in SDG3 the objectives and roadmap towards implanting them with respect to Health.[148] A positive effect of the EU-AUS FTA for Australia, but potentially a negative one for the EU in this sector, could be that rising wages in Australia alleviate an existing concern regarding the fact that social inequalities could negatively affect the right to health (i.e. families with lower income levels have poorer health; migrants create health challenges that need to be addressed – WHO Regional Office for Europe, 2017). For the EU, with declining wages, the effect could be opposite.

[147] 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

[148] 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.

Third, the *right to health* could also be impacted in two ways: via the *right to food* and via the *right to a clean environment*. Regarding the *right to food*, ruminant meats in Australia are produced under a regulatory regime that is different from the EU (e.g. hormone beef). As indicated in the economic description, the sanitary status of Australia in respect of bovine and ovine diseases is considered satisfactory by the OIE even though sanitary regulations and technical standards are different from the EU. Often practical solutions are found – hormones and chemical decontamination of carcasses are allowed in Australia, but not for exports to the EU (under the hormone-free TRQ). For this reason, the *right to food* does not seem to be negatively impacted in either the EU or Australia. Australia also applies different animal welfare standards than the EU. For an analysis of the latter, we refer to Box 4.2 because it relates to the way beef and sheep meat is produced. Since animal welfare standards do not have an impact on the final quality of beef and sheep meat, the human *right to food* is not impacted. The impact of the ruminant meat sector on the *right to health* via the *right to a clean environment* is through the emissions effect of cattle. The red meat industry in Australia is an important GHG emitter. Measures reducing emissions in this sector are an important element of Australia's commitments to the Paris Agreement. With the EU beef and sheep meat sector declining GHG emissions are reduced, but in Australia they are expected to increase considerably. The aim of the industry to reduce GHG emissions is therefore even more important (e.g. through changes in land management, application of technologies to reduce enteric methane emissions from livestock). Without these measures being implemented and effective, the environmental analysis (below) shows that emissions are likely expected to increase and biodiversity could be negatively affected (because of land clearing, grazing affecting vegetation, and water quality (i.e. *the right to wate*r) being impacted through eutrophication from the run-off of urine and manure (containing nitrogen). This would negatively affect the *right to a clean environment* and *right to health* in Australia.

4.1.5. Environmental impact

The environmental status quo section described that the environmental impact in relation to beef and sheep meat production is significant in the ambitious scenario (which is based on the theoretical assumption of full elimination of tariffs and quotas): climate change would be 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, biodiversity can be impacted by land clearing for pasture farming and water quality is impacted through eutrophication from the run-off of urine and manure (containing nitrogen). These impacts are potentially aggravated in Australia as a result of the FTA due to the predicted increase in output of up to 4.6 percent in the ambitious scenario.

Under the ambitious scenario, based on the overall environmental analysis, methane and nitrous dioxide emissions in Australia are predicted to increase by 1.699 and 0.568 mton CO_2-eq. respectively per year in 2030 in the ambitious scenario due to the predicted increase in production in the beef and sheep meat and dairy sector. This represents 1.3 percent of Australia's total methane emissions and 1.3 percent of total N_2O emissions compared to the baseline. 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 Australia, 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 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. A recent study by Wiedemann

et al**.** (2015) showed that only 3 percent of the total GHG emissions related to beef and sheep meat produced in Australia and exported to the US is caused by transportation.

Secondly, biodiversity can be negatively affected by intensified land clearing. In Australia, this threat is considered more prevailing than in other countries, such as New Zealand. Beef cattle cover relatively large areas of land in Australia. As shown in the case study on biodiversity, the expected output growth in the beef and sheep meat sector is likely to be associated with significant land clearing, based on current evidence of land clearing for beef production and the scale of growth expected. In addition, vegetation on this land could be harmed. Finally, land clearing also reduces the area of land which currently naturally stores CO_2. As such, land clearing has a negative effect on climate change as it, ceteris paribus, increases the global CO_2 concentrations. The impact on climate change from land clearing is particularly large in Australia. In fact, in 2015 the impact of land clearing on climate change through the increase in net CO_2 emissions was comparable to the impact of enteric fermentation through CH_4 emissions (Mayberry, 2019).

Lastly, the predicted increase in beef and sheep meat production in Australia (in the ambitious scenario) will also lead to increased pressure on water quality in Australia 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. The additional impetus provided by the FTA to increase output in the ruminant meat sector will likely increase soil compaction due to a higher number of cattle on land, potentially increasing the amount of nitrogen run-off into waterways.

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 contribute 47.9 percent. The average size of farms – on top of this – is much smaller in the EU than in Australia.

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-AUS 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 Australia of beef and sheep meat are generally expected to increase – albeit from very low levels so the increase in absolute terms is expected to be limited. Thus, based on the sector structure, the high presence of SMEs and the reduction of trade barriers and regulatory requirements under the EU-AUS 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. 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

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.

For Australia the ruminant meat sector is also largely represented by SMEs. Australia's Department of Agriculture and Food (2011) states that overall the majority of Australian agricultural firms are SMEs. In terms of employment, SMEs in Western Australia and Queensland account for approximately 94.6 percent, whereas large companies in the same area account for only 5.4 percent. Regarding revenues, SMEs account for roughly 84.4 percent and large companies amount to 15.6 percent.

To identify the impact of the FTA on Australian SMEs a matching approach was used as well. The effects of the EU-AUS FTA are modest for Australian SMEs. Same as for the EU SMEs the effects for the Australian SMEs are of direct and indirect nature. The EU currently has relatively low quotas and tariffs on Australian high-quality beef, sheep meat and goat meat. 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 Australian exports to the EU are expected to increase (see Table 4.1). Based on the higher prevalence of SMEs and their high value-added, one is able to predict that Australian 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 output 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 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. Australian SMEs will also face modest increases 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 ruminant meat sector an increase in their employment is require as there will be an overall output increase.

Accordingly, Australian and EU SMEs in the sector 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.

4.1.7. Third country impact

In this section we address the effects of the EU-AUS 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 Australia (ASEAN TPP, Pacific countries), LDCs (to look at impact on poorest countries, and that matter for important EU and Australian competitors (South Korea, Japan, China, US).

Table 4.2 shows the main third country effects for the ruminant meat sector. For Turkey, the ruminant meat output is not affected in the ambitious scenario and neither are prices for ruminant meat. In the conservative scenario, where market opening is significantly lower, Turkeys output is still not affected. The effects for EU FTA partners are negative as expected but only marginally so (with the exception of a 1.4 percent drop in total exports) – because of preference erosion. For the Pacific Countries the EU-AUS FTA is positive in ruminant meat: output goes up, and so do the islands' total ruminant meat exports. Australian exports are replaced by EU meat exports in the ambitious scenario (because

Australian exports are massively exported to the EU and UK in an ambitious opening up, leading to less exports to other countries). From the main EU and Australian competitors, South Korea benefits relatively most (0.4 percent growth in production) while also for Korea, imports of ruminant meats from Australia are replaced by imports from the EU. Korean exports to the world increase by 0.3 percent. The effects for Japan, China and the US are negligible. The most striking result are the Australian exports of ruminant meat in the ambitious scenario: if the EU (and UK) were to open up ambitiously by dropping tariffs to zero percent and removing all TRQs (which is a theoretical assumption in the CGE model), exports to the EU (and UK) would increase strongly, leading to trade diversion away from all other third country destinations – from EU FTA partners to the US. Finally, we find that the EU-AUS FTA in ruminant meat does not affect poorer nations in the world (LDCs, Pacific Countries) negatively.

Table 4.2: 3rd country effects of the EU-AUS FTA, ruminant meat sector

Variable (% change)	Turkey	EU FTA partners	Pacific	LDCs	ASEAN TPP	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	0.1	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	**0.9**	**1.6**	**0.8**	0.5	0.4
EU exports to country – Cons	-0.1	-0.3	0.0	-0.2	-0.2	-0.3	-0.3	-0.2	-0.2
AUS exports to country – Amb	**-2.9**	**-3.0**	**-1.2**	**-3.0**	**-2.1**	**-1.4**	**-2.3**	**-2.3**	**-2.6**
AUS exports to country – Cons	0.3	0.1	0.3	0.2	0.2	0.1	0.1	0.2	0.2
Country total exports - Amb	**--1.6**	**-1.4**	0.4	-0.1	0.4	0.3	**-2.9**	**-0.8**	0.1

Source: CGE results provided by DG Trade (2019)

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 Australia. While the ruminant meat market is moderately concentrated in the case of the EU with a Herfindahl-Hirschman Index (HHI) of 2,230[149], it is among the more competitive sectors in the case of Australia (the four-firm concentration ratio, which consists of the combined market share of the four largest firms in an industry, is 22 percent[150]).

The pre-existing competition and large SME representation suggest that the EU-AUS 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 liberalization 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.

149 http://bruegel.org/wp-content/uploads/imported/publications/WP_2014_07__01.pdf

150 Reserve bank of Australia (2018) "Business Concentration and Mark-ups in the Retail Trade Sector", available from: https://www.rba.gov.au/publications/bulletin/2018/dec/pdf/business-concentration-and-mark-ups-in-the-retail-trade-sector.pdf

4.1.9. Policy recommendations and flanking measures

Based on the analysis done in this sector, we make the following policy recommendations for the negotiators to consider:

- In case the ambitious scenario is followed, there will be a need to monitor the impact in those Member States and regions where the share of non-dairy cattle farming in the economic activity and employment is high (e.g. in Ireland) as these may potentially be more affected by the EU-AUS FTA. 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 of EU Member States and farmers' associations in the EU should continue or step up efforts supporting competitiveness of the ruminant meat sector in the EU, including focus on high products' quality, and 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.
- The growth in meat production in Australia is likely to contribute to increase in casual and daily employment in the meat processing sector given that these forms of contracts prevail in this industry. While they provide a welcome flexibility for the sector, there is a continuous need to ensure that there is also a sound balance of costs and benefits for workers and no increased risks for consumers related to this type of employment. This means e.g. a need to ensure that working conditions offered to workers having this type of a contract are decent and that health and safety at work standards, including provision of training for workers, are observed.
- Future provisions on trade and sustainable development, notably on health and safety at work, may encourage dialogue between the Parties and exchange of good practice in this area. In this context, there will be a need to ensure that the chapter provides an opportunity for cooperation activities, e.g. holding workshops or study visits involving the Parties and sector representatives and that the Parties commit to follow-up recommendations from the sector and the civil society monitoring mechanism. If applied, such measures may help to secure high levels of health and safety at work protection and to reduce the number of accidents at work in agriculture, including in the red meat and livestock and in meat processing sector. The chapter could also contain an information-sharing obligation regarding accidents at work and what was done in response to share best practice solutions.
- For the ambitious scenario, to minimise any negative impact on the right to work and right to an adequate standard of living in the EU and to maximise the potential for Australia to use the potential positive effects to strengthen labour conditions in the sector, we would recommend a phase-out of tariffs and increase in TRQs over a sufficient time period.
- To enhance the sustainability impact of the TRQs, in case they are not entirely removed, we recommend the negotiators to take on board the identified animal welfare effects of the existing TRQs and take animal welfare into account when developing the final TRQ-related negotiation outcomes in the EU-AUS FTA, not only focused on the size of the TRQ but also creating compliance conditions conducive to a sustainable economy in general and animal welfare in particular.
- The impact of the beef and sheep meat sector on climate change is significant. For a large part of the emissions there is no easy way to reduce them; rather in the case of the ambitious scenario, the EU looks like it will 'outsource' the emission creation to Australia by importing more beef and producing less in the EU. In the context of the Paris Climate Agreement's goals and the Copenhagen Accord, the EU and Australia should consider setting up a public-private partnership (PPP) with the ruminant meat

industries in both the EU and Australia to mitigate the extent of these outsourced emissions by EU funding for climate mitigation or adaptation projects in Australia, such as for example contributing to ongoing research on ways to reduce methane emissions in the Australia beef sector, and implementing some of the suggestions made by Mayberry et al. (2019), like changes in land management and application of technologies to reduce enteric methane emissions from grazing livestock.

- Additional output growth (in the ambitious scenario) in the Australia beef and sheep meat sector is likely to require additional land clearing. We recommend to seek options to prevent extensive land clearing taking into account its potential negative effect on biodiversity. In addition, the increased output in the sector is likely to lead to increased eutrophication, impacting water quality and aquatic biodiversity negatively. The EU and Australia could benefit from an exchange of best practices regarding water quality policies on what works and what does not and thus a technical exchange at this level between both countries could be foreseen to help mitigate the impact of the projected growth of the sector on water quality.
- The EU is already open to investments from Australia so it should aim at the removal of the thresholds for agribusinesses and agricultural land investments, so that the investments will not be screened by the Foreign Investment Review Board. If this is not achievable, EU should ask for EU investors are treated similar to investors from Chile, New Zealand and United States, meaning that both the threshold for agribusinesses and agricultural land will be set at A$1,154 million. This would be a substantial improvement compared to the threshold of A$58 million and A$15 million, which is applicable to EU investors now.

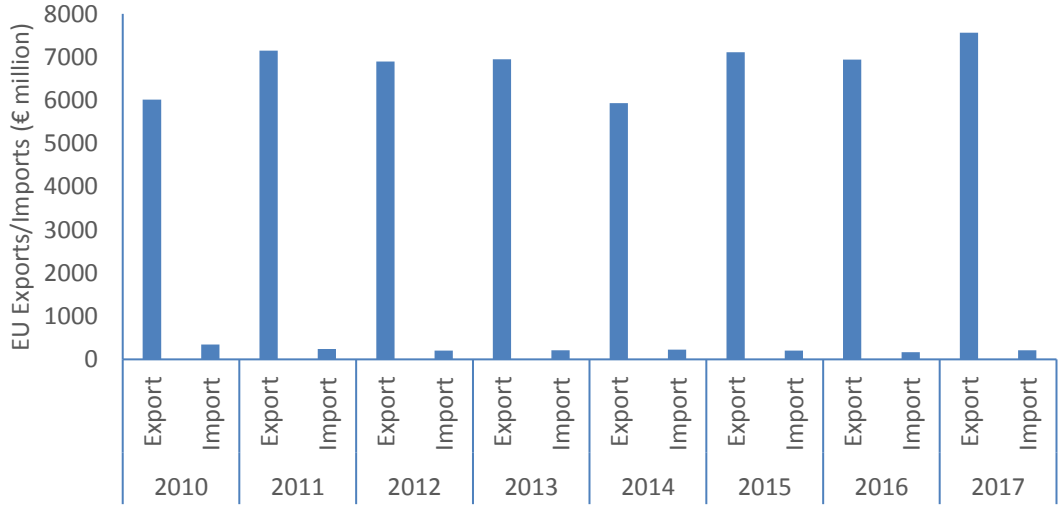
4.2. Motor vehicles and transport equipment

4.2.1. Current situation

Economic aspects

For trade between the EU and Australia, the motor vehicles and transport equipment sector is important. EU exports to Australia are significantly higher than vice versa: the EU has had a large trade surplus in motor vehicles and transport equipment with Australia over the 2010-2017 period. Its bilateral exports to Australia have risen from €6.0 billion in 2010 to €7.6 billion in 2017, while its imports have declined from a value of €342 million in 2010 to €208 million in 2017 (see Figure 4.3). The share of bilateral trade in the sector in EU total bilateral trade with Australia is just under 25 percent, though its share in EU total trade with the world is less than 2 percent.

Figure 4.3: EU-Australia 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 Australian exports was 4.2 percent, compared to 1.7 percent for exports from the world. Meanwhile, Australia has an applied tariff rate of 2.9 percent on motor vehicles and transport equipment exports from the EU, higher than the 1.8 percent tariff on its global imports of motor vehicles and transport equipment. This implies that for the motor vehicles and transport equipment sector there is room for tariff liberalization to enhance two-way trade.

Table 4.3 summarises a number of regulations by Australia and the EU for importers of motor vehicle and transport equipment products. Although tariffs are already generally low for most of these products (see above), the obligation to fulfil regulatory standards in motor vehicles and complex customs procedures are obstacles for EU and Australian companies, in particular SMEs.

Table 4.3: EU and Australian NTMs in motor vehicle and transport equipment products

Sector	Average tariffs	Non-tariff measures (NTMs)
Australia		
Transport equipment	Average MFN tariff on EU: 2.9 percent Average MFN tariff on ROW: 1.8 percent	• Several inspection procedures apply for the import of new and used vehicles • Machinery and parts used in agriculture, mining, earthmoving, construction, animal farming, timber, horticulture, fruit handling and food processing are all subject to specific import conditions • Several fees charged for documentation processing, import permit applications and all inspections
Motor vehicles		• Australia levies a 33% sales tax (25% prior to 01/07/08), known as the Luxury Car Tax (LCT), on all imported and domestically produced cars valued over a specified threshold. This tax is in addition to the duty of 5% and a Goods and Service Tax (GST) of 10% (applicable on all retail sales). A remnant of the old tax system for luxury goods in place since 1986, the LCT was set out under specific legislation A New Tax System (Luxury Car Tax) Act 1999 (as amended). Cars are the only item still subject to a luxury tax in Australia, with the higher rates of sales taxes for all other luxury items (such as jewellery, furs, watches, televisions and radios) ceasing in 2000.
European Union		
Transport equipment	Average MFN tariff on AUS: 4.2 percent	• Specific NTMs are concentrated in the areas of safety and environmental standards, technological R&D support, and security measures
Motor vehicles	Average MFN tariff on ROW: 1.7 percent	• Consumer safety requirements in the EU vary • Differences also in air pollution and noise standards

Sources: LSE Enterprise (2017), ECORYS (2009), and https://www.abf.gov.au/importing-exporting-and-manufacturing/tariff-classification/current-tariff

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. The EU and Australia have also concluded a Mutual Recognition Agreement (MRA) for conformity assessment procedures, covering eight sectors including automotive products, to facilitate trade by reducing technical barriers.

Investment barriers

For countries that do not have an FTA with Australia there is no difference between sensitive and non-sensitive business. Thus, the general threshold applies for foreign investors from countries without an FTA: a foreign investment needs to be screened if the

investor obtains 20 percent or more of a business with a value of A$266 million or more.[151] For all countries that have an FTA with Australia, the corresponding threshold is A$1,154 million, but only for non-sensitive businesses; for sensitive businesses the threshold remains at A$266 million.[152]

There is also a threshold for buying commercial land. When a foreign investor buys vacant commercial land, the threshold is A$0. If the commercial land is already developed, the threshold is A$266 million. For countries with an FTA with Australia, the threshold for vacant commercial land stays A$0, while the threshold for developed commercial land increases to A$1,154 million.

Social aspects

In 2016, the automotive industry in the **European Union** 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[153] (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.[154] The 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, an EU four-year 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, if the current shortage of skilled workers persists, it 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).

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151 Treasurer, Australia's Foreign Investment Policy, https://cdn.tspace.gov.au/uploads/sites/82/2018/12/1-January-2019-Policy_.pdf

152 Sensitive businesses are media; telecommunications; transport; defence and military related industries and activities; encryption and securities technologies and communications systems; and the extraction of uranium or plutonium; or the operation of nuclear facilities.

153 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)

154 European Automobile Manufacturers Association, Employment trends: https://www.acea.be/statistics/tag/category/employment-trends [accessed on 22 May 2019]

For **Australia**, passenger car production came to an end in 2017, when Toyota and Holden closed their factories, following the same move by Ford in 2016. The reasons included the high value of Australian dollar, a competitive market, small production volumes in Australia and the ending of government subsidies. All three brands decided to maintain support services, such as sales and distribution, engineering services and design/product development. In this context, they committed to keep some 2,200-2,250 jobs for engineers, designers and technicians, as well as 1,200 sales and marketing roles. The Government (with contribution from Toyota and Holden) provided funds for workers to transition to new jobs (including advisory services, job fairs and training), open their own businesses or retire. Funds have also been provided for businesses from automotive supply chains to help them to diversify to other industries (Australian Government, 2017a).

The rate of trade union membership among workers declined in manufacturing, of which the motor vehicle sector is a part, from 40.8 percent in 1994 (Parliament of Australia, 2018) to around 12 percent in 2018 placing the manufacturing industry in the middle group among sectors of the Australian economy (the rates in other sectors in 2018 ranged from 33 percent in education and training to around 2 percent in rental, hiring and estate services) (Australian Bureau of Statistics, 2018e). The underlying reasons for this trend included decreasing employment and trade union membership in sectors where traditionally the rate of trade union membership used to be high, e.g. in large scale car manufacturing, textile, clothing and footwear. Removal of compulsory unionism has also played a role (Parliament of Australia, 2018).

Average weekly salaries in manufacturing in 2018 were A$1,100, whereas in other sectors they ranged from A$500 in accommodation and food services to A$2,000 in mining (Australian Bureau of Statistics, 2018e).

Manufacturing has been identified as one of the priority sectors for action under the Australian Work Health and Safety Strategy 2012-2022. The number of fatal accidents at work in the sector (1.4 per 100,000 workers) was in 2016 slightly lower than the average (1.5) for the whole Australian economy, however, the sector recorded the second highest rate of serious claims for non-fatal injuries (8.9 per million of hours worked). This rate decreased by 38 percent over the last decade. Vehicle incidents and being hit by falling objects were the main causes of fatal accidents (18 percent of fatalities each), and muscular stress while lifting, carrying or putting down objects was the main cause of non-fatal injuries (19 percent of serious claims) (Safe Work Australia, 2018b).

Human Rights aspects

Both the EU and Australia have frameworks in place to enshrine protection of the different human rights, as explained in detail in Chapter 3.5.

The motor vehicles and transport equipment sector is very important for the EU and less so for Australia, especially since in 2016 and 2017 the last factories producing automotive in Australia were closed (see social part). The Australian geography and market size are not attractive for reaping economies of scale in the automotive industry. The automotive and transport equipment sector is 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 GVCs. Following the production losses in 2016 and 2017, the Australian government has actively worked to support the *right to work* of those having lost their jobs by offering training programmes, alternative jobs, or possibilities to retire. This has also contributed to the *right to an adequate standard of living*.

Because safety at work is a relative concern, this sector has been chosen as one of the priority sectors in the Australian Work Health and Safety Strategy 2012-2022. In the EU, trade union leaders too 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.

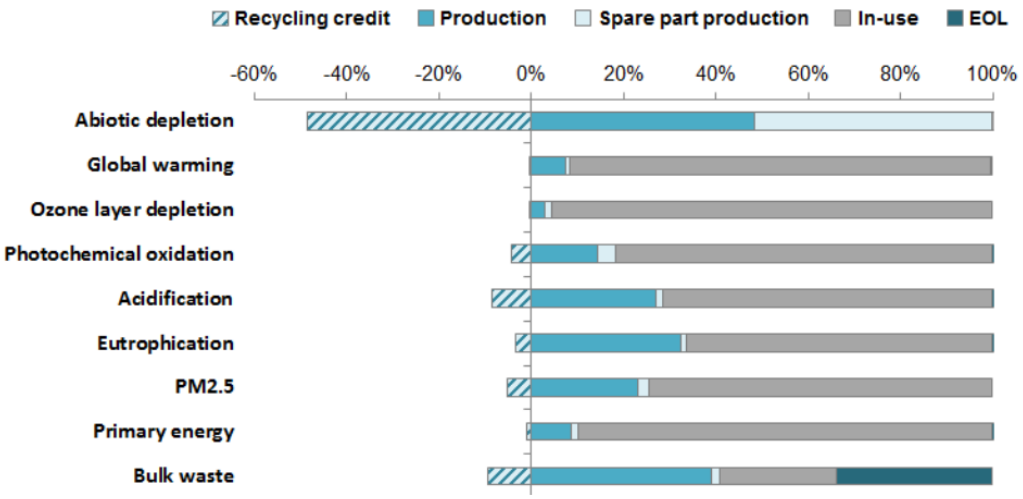
The motor vehicles and transport equipment sector has a large challenge to face when it comes to GHG emissions. As mentioned in the environmental analysis (see below), in 2016 motor vehicle emissions contributed to around 20 percent of total EU GHG emissions, while in Australia in 2017 this share was found to be 15 percent. Increased production, trade and demand for motor vehicles would therefore have the potential to negatively affect the *right to a clean environment*.

Environmental aspects

The motor vehicle sector is the largest EU export to Australia. 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 4.4 (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). For Australia, road transport makes up circa 15 percent of total GHG emissions in 2017 (Climate Council, 2018). Additionally, the sector contributes to resource use, waste production, and water consumption (JRC, 2017) during its manufacturing and end of life stages. It is 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 etc.) play 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, accounting for 5 percent of the sector's total turnover (ACEA). Recently the Volvo Group, along with DAF, Daimler, Iveco, MAN and Scania has 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.[155]

Figure 4.4 – Share of life cycle impacts for a typical petrol car (% per life cycle stage)



Source: JRC (2017) Best Environmental Management Practice for the Car Manufacturing Sector.

Differences between the EU and Australia in their legislative landscapes of motor vehicles and environmental standards are outlined in Table 4.4. Most importantly, there are

[155] For more information on European platooning see https://www.volvogroup.com/en-en/news/2018/feb/truck-platooning-on-european-roads.html.

currently no standards provided by Australia 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[156], whereas for Australia it was 170g CO_2/km (petrol) and 206g CO_2/km (diesel).[157] In the area of waste, contrary to the EU, in Australia there is currently no national legislation on ELV. Due to the current value of metal scraps the private recycling companies have naturally taken up the responsibility and costs. Certain toxic substances from ELV are indirectly covered under voluntary product stewardship arrangements (accreditation schemes). Such voluntary arrangements can lead to lower environmental standards in the handling of ELV waste, due to the competition they create (some recyclers cut costs by avoiding certain environmental standards). When comparing a Belgian (under the ELV Directive) and Australian (under no regulation) recycling plant, the former was seen to provide better environmental standards by 7.9 times.[158]

Table 4.4: EU and Australian motor vehicle environmental legislative landscape

Type of measure	EU	Australia
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.[159]	There are no legislative limitations on CO_2 emissions from cars currently.
Broad vehicle emission standards	Euro 6 for passenger and light vehicles;[160] Euro VI for heavy vehicles.[161]	Australian Design Rules (ADR) for light[162] and heavy vehicles[163]: Euro 5/Euro V; Discussion on whether to adopt Euro 6/Euro VI.
ELV processes	ELV Directive - aims to ensure that 95% of all vehicles on the market are recovered and 85% are reused/recycled by 2015.[164]	Market forces drive ELV waste recycling (voluntary schemes). (Soo et al., 2017)

Source: Compiled by the authors.

4.2.2. Economic impact

For the EU, total output of motor vehicle & transport equipment is estimated to increase by 0.2 percent under the conservative scenario and by 0.3 percent under the ambitious liberalisation scenario (see Table 4.5), amounting to an increase in car production between €3.8 and €5.0 billion. For Australia, in contrast, the estimated percentage change in total output of motor vehicle and transport equipment**,** compared to the baseline, is -1.4 percent in the conservative scenario and -1.8 percent if the FTA is more ambitious. Clearly this is a sector that is of major interest for the EU. The increase in Australia's bilateral exports of motor vehicle and transport equipment to the EU under the two scenarios is considerable: 14.4 percent and 16.0 percent, respectively; the gains in its total exports of motor vehicle & transport equipment are much lower at 1.5 percent and 2.1 percent, respectively. EU bilateral exports of motor vehicle & transport equipment to Australia register much larger gains of 37.8 percent and 52.1 percent under the two scenarios (its total exports of motor vehicle & transport equipment increase by 0.3 percent and 0.4 percent, respectively).

156 See https://www.eea.europa.eu/highlights/no-improvements-on-average-co2.
157 NTC Australia (2018) Carbon Dioxide Emissions Intensity for New Australian Light Vehicles 2017. Available at: https://www.ntc.gov.au/Media/Reports/(F4FA79EA-9A15-11F3-67D8-582BF9D39780).pdf.
158 Soo, V. et al. (2017) Comparative Study of End-of-Life Vehicle Recycling in Australia and Belgium. Procedia CIRP, 61, pp. 269-274.
159 Regulation (EU) 2019/631 setting CO2 emission performance standards for new passenger cars and for new light commercial vehicles.
160 Regulation (EU) No 459/2012 as regards emissions from light passenger and commercial vehicles (Euro 6).
161 Regulation (EU) No 582/2011 with respect to emissions from heavy duty vehicles (Euro VI).
162 Vehicle Standard (Australian Design Rule 79/04 - Emission Control for Light Vehicles) 2011. Available at: https://www.legislation.gov.au/Details/F2012C00284/Html/Volume_1.
163 Vehicle Standard (Australian Design Rule 80/03 - Emission Control for Heavy Vehicles) 2006. Available at: https://www.legislation.gov.au/Details/F2013C00048.
164 Directive 2000/53/EC on End-of-Life Vehicles.

Table 4.5: Effects of EU-AUS FTA on trade and output of motor vehicles and transport equipment

	Bilateral exports	Total exports	Output
Australia			
Conservative (%)	14.7	1.8	-1.4
Ambitious (%)	16.0	2.1	-1.8
European Union			
Conservative (%)	37.7	0.3	0.2
Ambitious (%)	52.1	0.4	0.3

Source: CGE results provided by DG Trade (2019)

The modelling results are based on data from 2011 (GTAP) so do not include yet the fact that since 2016 and 2017, Australia no longer produces cars. Moreover, stringent standards are the main NTM affecting EU motor vehicles and transport equipment exports to Australia, liberalisation of which is likely to further increase EU-AUS bilateral exports in this sector. This is also what is observed in the economic impact analysis especially under the ambitious scenario, which simulates a 10 percent 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 Australia. 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.

As explained above, the motor vehicle and transport equipment sector is a global one that is heavily integrated via supply chains. One crucial input element into cars (and machinery – see next sector) is iron ore (turned into steel). Below we look in Case Study 4.1 at the potential effects of the EU-AUS FTA on iron ore mining. The selection of this case study is explained in Annex V.1.

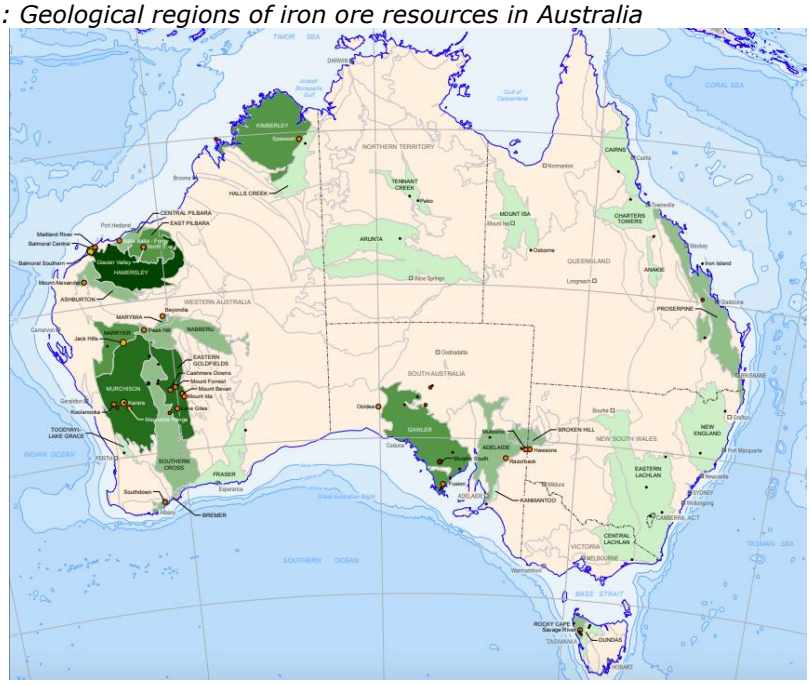
Case Study 4.1: EU-AUS FTA and Iron Ore mining

Current situation

Australia has the largest iron ore reserves in the world, estimated at approximately 52 billion tonnes, which represent roughly 29 percent of the global reserves. 91 percent of Australia's Economic Demonstrated Resources of iron ore deposits can be found in Western Australia, 8 percent in South Australia, and the remaining deposits are distributed among Tasmania, the Northern Territory and New South Wales. Thus, iron ore represents one of the country's major exports. More specifically, the iron ore industry makes up 17 percent of Western Australia's gross state product, 47 percent of Western Australia's merchandise exports, and 54 percent of Western Australia's minerals and petroleum sales. In terms of employment, 53,716 persons are directly employed in the iron ore industry, representing 48 percent of Western Australia's minerals and mining industry. Figure CS4.1-1 below shows the geographical location of Australia's iron ore resources in the country.

In 2017, Australia's iron ore sales were valued at €56.8 billion, which amounted to 790 million tonnes. 719 million tonnes of the total volume were produced in Western Australia, making the area the largest supplier of global seaborne iron ore trade. In 2017, the area accounted for 38 percent of global production and 57 percent of global seaborne exports, making it the largest producer and exporter of iron ore in the world. As a benchmark, the closest competitor to Western Australia is Brazil with a total supply of 391 million tonnes, representing approximately 17 percent of global production and 24 percent in global seaborne exports.

Figure CS4.1-1: Geological regions of iron ore resources in Australia



Source: Australian Government Geoscience Australia (2012)

Iron ore mining operations are linked with a number of environmental impacts. Processing the mined ore into iron and steel products give rise to further environmental impacts (in particular in relation to air quality and climate change) due to the need for high temperature heat in the production process, which his often generated by burning fossil fuels. Those impacts are however not further explored in this case. In relation to the mining operations itself, the main impacts that are created include primarily:

- Waste generation: Non-fuel mining operations create a significant amount of waste. The crude ore is often only a small part of the total material that is mined from a quarry: for surface (open-pit) mining this could be 2-10 as much waste per kg of wanted material. The waste material that is mined along with the ores include waste rocks and materials in grain sizes of fine sand, silt and clay fractions (called tailings). Waste and tailings are often stored on-site.
- Water quality. Beneficiation (the process of increasing the fraction of iron ore concentration in excavated material) can also create chemically polluted mine waters or leaching of heavy metals otherwise occurring in the excavated rocks, both of which can affect the quality of nearby water bodies.
- Climate change. Mining operations create a direct impact on climate change by producing GHG emissions from the operation of equipment running on fossil fuels. Norgate & Haque (2009) estimated the GHG impacts of iron ore mining in Australia to be equivalent to nearly 12 kg CO_2 per t of mined iron ore. As such, it had one of the lowest impacts on GHG emissions compared to other non-fuel mined resources according to the study. Most of the GHG impact is created for loading and hauling of excavated material by trucks in the mine.
- Air quality: Fugitive dust released during the operation of excavation activities can worsen the air quality locally in mining regions. In Australia, though, the mining sites are typically located in scarcely populated areas and away from large cities and towns and therefore the impact on air quality from iron ore mining in Australia is not considered significant.
- Impact on biodiversity: By clearing land and potentially affecting water and soil quality through leaching of heavy metals or chemicals used during the excavation process, mining activities can impact biodiversity locally. However, the direct impact of mining on land-use is small as <1% of Australian land is used for mining. The indirect impact from the related infrastructure can however also impact biodiversity and likely more significantly (CSIRO, 2014).

In Australia, environmental impacts of mining activities are governed by the Environment Protection and Biodiversity Conservation Act 1999, under which for example a minimum of 90% of biodiversity offsets must be acquired in case during the environmental impact assessment it is established that a loss in biodiversity is unavoidable.

Potential FTA effects

Within the framework of the **economic** modelling of DG Trade, we have conducted a Global Simulation (GSIM) analysis (see Annex II for a methodological description) to detail the potential effects for iron ore. We did not reduce tariffs because – except for Brazil – these were already at zero percent, but we did assume a marginal reduction in NTMs due to more alignment between the EU and Australia, including further alignment in other sectors that use iron ore as inputs. We find that the economic effects are positive for Australia and the EU in terms of welfare (see Table CS4.1-1). Whereas in Australia the gains accrue to producers, in the EU the gains are more for consumers of iron ore (in the form of lower prices) – i.e. industries using (processed forms of) iron ore as inputs. The effects are not large, however, in the order of magnitude of €1.5 million gains for Australia and €900k for the EU. Trade diversion mainly hurts Chinese consumers of iron ore. In terms of output not much change is expected. This was expected as the EU and Australia are not each other's main trading partners with respect to iron ore. For Australia, 83 percent of iron ore exports go to China. For the EU, 30 percent of imports come from Brazil.

Table CS4.1-1: Economic effects for the iron ore industry

Variable	AUS	EU	China	Brazil	LDC
Welfare effects (€mln)	1.5	0.9	-1.2	-0.1	-0.0
Consumer surplus (€mln)	+0.0	1.0	-1.2	-0.0	-0.0
Producer surplus (€mln)	1.5	-0.1	-0.0	-0.1	-0.0
Output effects (%)	+0.0	-0.0	-0.0	-0.0	-0.0
Price effects (%)	-0.0	-0.0	+0.0	+0.0	+0.0

Source: Own calculations

Table CS4.1-2 shows changes in bilateral trade in iron ore as a consequence of the EU-AUS FTA. We see roughly that the increase in Australian iron ore exports to the EU is diverted from China, at the expense of Brazilian exports to the EU – who in turn will divert exports to China. The total global trade effect of the EU-AUS FTA on iron ore trade is an increase of €83 million.

Table CS4.1-2: Bilateral trade flow effects for the iron ore industry (€ million)

	EU27	AUS	NZ	China	Brazil	US	LDC	ROW
EU	+0.0	0.3	0.0	1.8	0.0	2.8	0.0	23.5
Australia	381.8	0.0	-0.0	-368.0	-0.0	-0.0	0.0	-117.2
NZ	0.0	-0.0	0.0	0.1	0.0	0.0	0.0	0.0
China	-0.0	-0.0	0.0	0.0	0.0	-0.0	0.0	-0.0
Brazil	-95.4	-0.2	0.0	112.2	0.0	-0.6	0.0	9.9
US	-0.2	-0.1	0.0	0.4	0.0	0.0	0.0	-0.1
LDC	-4.9	0.0	0.0	4.83	0.0	0.0	0.0	0.0
ROW	-150.0	-0.0	0.0	91.2	0.0	-0.9	0.0	101.8

Source: Own calculations

Based on the above economic findings, we do not see much impact from the **social perspective**, because production does not change much. The iron ore 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. However, because total trade does not increase much and trade diversion between Australia, China, the EU and Brazil mainly seem to suggest re-routing of trade not adding much more trade, this effect is considered negligible. Because the increase in Australian iron ore production is marginal, environmental effects around the mining sites are not expected to be impacted by the EU-AUS FTA. There could be a small impact on competitiveness of downstream industries because consumer prices (i.e. prices for iron ore consumers, which is downstream industry) decrease marginally in Australia.

Policy recommendations

Including the iron ore 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 Australia and the EU. Hence further NTM alignment by the EU and Australia would be recommended.

4.2.3. Social impact

Based on the results of the economic modelling, the motor vehicles sector in the **European Union** 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, in line with the estimated changes in sectoral output under both scenarios.[165] While these changes are limited 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 **Australia**, the economic modelling foresees a job reduction of 0.1 percent for unskilled workers (no changes for skilled ones) under the conservative scenario and of 2.0 percent and 1.9 percent respectively under the ambitious one. It also suggests a decline in output of 1.3 percent under the conservative scenario and of 1.8 percent under the ambitious one. However, these results should be interpreted with caution given the lack of productive capacity in passenger cars segment of motor vehicles sector in Australia and its operation being limited to supporting services. Moreover, services, such as research and design (for companies operating on global markets) or repair and maintenance of the existing vehicles fleet are likely to be independent (at least in the next few years) from changes in trade flows between the EU and Australia. Other services, such as sales of vehicles by non-European brands, may react on increased imports from the EU (estimated to rise by 37.7 percent under the conservative scenario and by 52 percent under the ambitious one), however, even if this leads to a job reduction, people with similar skills may be needed by European brands to sell their cars on the Australian market, which may result in a shift of sales and marketing managers between brands. In this context, it is important to note that in 2017, out of 209,796 motor vehicles exported by the EU to Australia,[166] 189,361, i.e. 90 percent of the total, were passenger cars,[167] since October 2017 no longer produced in Australia.

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).

Given the limited effects for the EU and actual/real limited effects for Australia, the EU-AUS FTA is not very likely to bring about changes in job quality in the sector. However, an increasing demand for EU motor vehicles and the need to attract and retain skilled workers may encourage the strive towards better job quality, including wages and professional development opportunities.

4.2.4. Human rights impact

The trade measures that affect the motor vehicle and transport sector are tariff liberalisation as well as regulatory alignment (i.e. reductions in NTMs). These trade measures have the effect of enhancing the competitiveness of the competitive EU motor vehicle sector while challenging the Australian one. It is important to note that the economic modelling is based on 2015 data, which is one / two year(s) before the last car production (90 percent of all Australian imports from the EU) was stopped. Because non-car production services were maintained as they are directly related to selling cars in Australia, the effect is not a direct competitive one between Australian and EU workers in car production. From this perspective, we need to look at the *right to work*, *right to an adequate standard of living*. From the perspective of the environmental footprint of the sector, we have to cover the *right to a clean environment*.

First, the economic and social effects for the motor vehicle and transport equipment sector are predicted to be positive for the EU and more negative for Australia (again: based on

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

[166] European Automobile Manufacturers Association, "Exports of motor vehicles (2017)": https://www.acea.be/statistics/tag/category/exports-of-motor-vehicles [accessed on 5 June 2019]

[167] European Automobile Manufacturers Association, "Exports of passenger cars (2017)": https://www.acea.be/statistics/article/exports-of-passenger-cars [accessed on 5 June 2019]

the 2015 data that still include Australian care production). In the ambitious scenario (removal of tariffs and reductions in NTMs), employment is increasing by 0.3 percent in the EU while it is reduced by 2.0 percent in Australia. But if workers have in 2019 already moved out of the production part of the sector in Australia, the negative employment effect in Australia will not materialise. Hence there will be no negative effect on the *right to work* and *right to an adequate standard of living* in the motor vehicle and transport sector in Australia. For the EU the effects would be positive, improving the *right to work* and *right to an adequate standard of living* – although the size of the effect will be minimal.

Second, the *right to a clean environment* could be impacted by the EU-AUS FTA, but the potential effect is not as clear as may be thought at first. A potential negative factor for the right to a clean environment is the fact that the EU-AUS FTA will lead to a drop in consumer prices for cars in Australia by 1.3 percent. This will lead to more EU car sales in Australia because of higher Australian demand. On the other hand, the environmental regulations regarding motor vehicles are more stringent in the EU (e.g. EURO-6 engines in the EU versus EURO-5 engines in Australia) and hence the environmental footprint of EU vehicles is smaller than the Australian one. If EU cars keep EU standards and replace other cars, the effect of the EU-AUS FTA would be positive. It is hard to say which factor is stronger overall, but – in any case – the potential effect would be very small, despite significant trade flow increases in a post-EU-AUS FTA world.

4.2.5.Environmental impact

The EU-AU FTA is expected to increase production in the EU in both scenarios. This results in increased environmental pressures from the production phase, having minor impacts on abiotic depletion and bulk waste. However, due to the higher level of fuel efficiency (measured in CO_2/km) of EU cars compared to Australian ones, there is potential for the FTA to lower the climate change impact in the road transportation sector in Australia in case car manufacturers in the EU sell the same cars in Australia as in the EU. If this is the case, it can be expected that an increase in EU motor vehicle trade will lead to a minor decrease in Australia's CO_2 emissions (in regard to the products' use phase) from car production. This is similar for the motor vehicle sector's toxic air pollution.

The EU's higher standards (Euro 6/VI) compared to Australia's (Euro 5/V) may influence more exports of EU Euro 5/V standard vehicles to Australia. This would increase the standards of the EU fleet (ideally replacing Euro 5/V vehicles with Euro 6/VI vehicles). It is unclear if this would increase standards in Australia owing to the lack of data on the current fleets by Euro (or equivalent) standards. An impact from the FTA could also be expected if regulatory cooperation between the EU and Australia foreseen in the FTA would lead to a further heightening of any environmental standards in either region, such as for example on Euro, CO_2, or ELV standards. 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.

4.2.6.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.

The effects of the EU-AUS FTA are positive for EU SMEs. 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: under the conservative and ambitious scenario exports of motor vehicles and transport equipment from the EU to Australia are expected to increase (see Table 4.5 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, Australian regulators require specific product conditions and requirements especially for (electrical) machinery products. 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 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-AUS 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 the conservative and ambitious scenario (see Table 4.9). With regard to employment, the 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. 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).

The effects of the EU-AUS FTA are also mixed for Australia's SMEs active in the motor vehicles and transport equipment sector. Here, the expected effects are primarily indirect. 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-AUS FTA, Australia's motor vehicles and transport equipment sector SMEs will benefit primarily through value chain benefits, caused through higher exports under the EU-AUS 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, Australian SMEs will also face slight 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.

4.2.7. Third country impact

Table 4.6 shows the main third country effects for the motor vehicles and transport equipment sector. For Turkey, sector output increases slightly in both scenarios while consumer prices for motor vehicles and transport equipment essentially remain the same,

a consequence of limited tariff liberalisations and some reductions in NTMs between the EU and Australia.

Table 4.6: 3rd country effects of the EU-AUS FTA, motor vehicles and transport equipment

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
AUS exports to country – Amb	**20.9**	**1.9**	**1.4**	**1.9**	**1.6**	**1.6**	**1.8**	**1.9**	**1.9**
AUS exports to country – Cons	**20.1**	**1.2**	**1.0**	**1.2**	**1.1**	**1.0**	**1.1**	**1.2**	**1.2**
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)

Australian exports to Turkey increase by over 20 percent because of liberalisation, but from a low absolute value. EU FTA partners are not affected, except for some trade diversion from the EU to Australia as a consequence of the FTA (total exports are expected to remain unchanged). For the Pacific Countries the EU-AUS FTA is positive in the motor vehicles and transport equipment sector: their output is expected to increase (under the ambitious scenario), and so do the islands' total motor vehicles and transport equipment exports. EU exports are replaced by Australian motor vehicles and transport equipment exports in both scenarios - primarily because of Australia's proximity to the Pacific region, trade diversion of EU exports towards Australia implies that exports originally exported to the Pacific in an opening up of markets are now exported to Australia, leading to less exports coming from the EU to the Pacific. From the main EU and Australian competitors, South Korea suffers relatively most (-0.4 percent reduction in production) while also for Korea, imports of motor vehicles and transport equipment from the EU are replaced by imports from Australia. Korean total exports to the world decrease by 0.7 percent. The effects for Japan, China and the US are negligible. The most striking result is the Australian exports of motor vehicles and transport equipment in both the conservative and the ambitious scenario are expected to increase for all the specified countries and regions. Through opening up the markets by dropping tariffs to zero percent, and having a deeper level of regulatory alignment, including Australia more firmly in Asia's part of the EU's global car value chain, combined with Australia's geographical proximity to other countries in the Pacific and Asia (ASEAN), also vis-à-vis ASEAN whose exports are expected to drop by 0.7 percent. Finally, we find that the EU-Australia FTA in motor vehicles and transport equipment does not affect poorer nations in the world (LDCs, Pacific Countries) negatively: Pacific countries are affected positively while there is no effect for LDCs.

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 shows that SMEs play an important role in this sector both the EU and Australia. While the motor vehicles and transport equipment market is not

concentrated in the EU, with a Herfindahl-Hirschman Index (HHI) ranging from 1,230.65[168] for motor vehicles to 1,640.5 for other transport equipment, it is among the more concentrated sectors in Australia (combined share of the four largest firms is 55 percent[169]).

The high degree of concentration in Australia and large SME representation suggest that the EU-AUS 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 liberalization of this sector via a 10 percent reduction in NTM AVEs on EU's bilateral exports. This could result in more efficient firms in this sector especially in the Australian market facing more effective competition from each other.

4.2.9. Policy recommendations and flanking measures

- Trends in the automotive sector in the EU 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 to materialise, the EU institutions and EU Member States should work with industry and others to create a labour market adjustment programme, which would equip workers with the right skills set and enable them to continue or to start working in the sector, also in the future. 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[170]. Even if the new jobs (to be created as a result of the EU-AUS FTA) are likely to be limited in number, locally they may bring about some relief against the expected job reductions to be caused by technological changes, such as automation.
- In case the car parts industry in Australia is negatively affected by the EU-AUS FTA, as part of the motor vehicles sector, the Australian Government may need to implement support measures similar to those offered to workers and suppliers in the passenger car sector following closure of manufacturing plants in 2017 (for details, see description of social aspects in the sector, above in this section).
- 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 thus an effective way to reduce the environmental impact of cars overall. Australia does not have CO_2 emission standards and lower toxic emission standards than in the EU, so – while recognising Australia's right to regulate – we would recommend starting a bilateral dialogue on how EU car manufacturers or Australian consumers could be incentivised to place the same cars on the Australian market as on the EU market.
- With regard to investment, the EU should aim to be treated equally as the other countries which already have an FTA with Australia, which would mean that threshold should be uncapped or generally rise to A$1,154 million. As an alternative, the EU could try to raise the percentage of ownership in the company from when the threshold starts to play a role, for example 30 percent instead for a business worth more than A$1,154 million. Regarding the thresholds for commercial land, the EU should also try to be equally treated with the other FTA countries.

[168] http://bruegel.org/wp-content/uploads/imported/publications/WP_2014_07__01.pdf
[169] Reserve bank of Australia (2018) "Business Concentration and Mark-ups in the Retail Trade Sector", available from: https://www.rba.gov.au/publications/bulletin/2018/dec/pdf/business-concentration-and-mark-ups-in-the-retail-trade-sector.pdf
[170] DRIVES: https://www.project-drives.eu/en/home

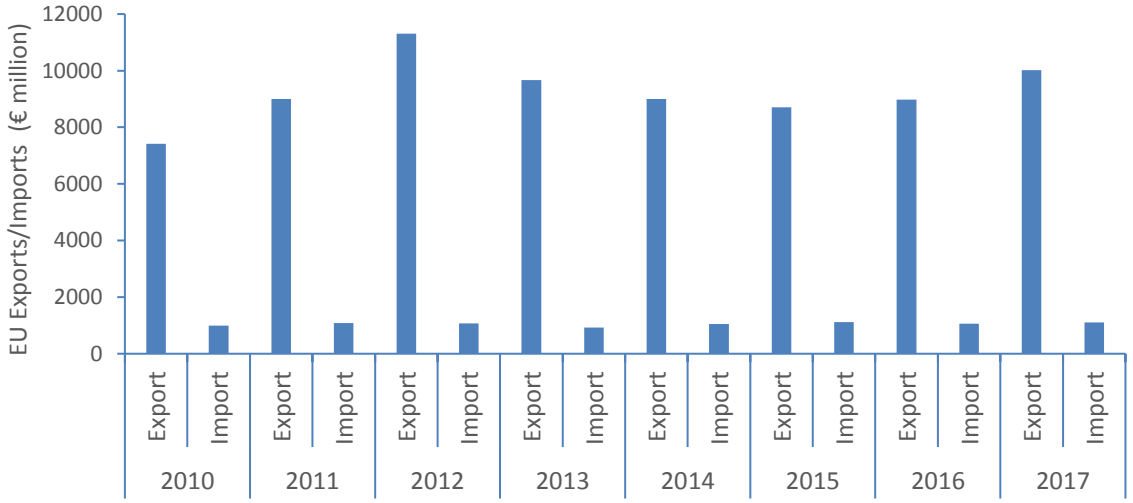
4.3. Machinery

4.3.1. Current situation

Economic aspects

Trade in machinery products is important for both the EU and Australia. At the same time, EU exports to Australia are significantly higher than Australia's exports to the EU. The EU has had a steady surplus in its trade of machinery with Australia over the 2010-2017 period. The EU's bilateral exports of machinery to Australia have risen from €7.4 billion in 2010 to €10 billion in 2017 while its imports increased from €996 million in 2010 to €1.1 billion in 2017 (see Figure 4.5). The share of bilateral trade in the sector in EU total bilateral trade with Australia is high at just under 40 percent, though its share in EU total trade with the world is less than 2 percent.

Figure 4.5: EU-Australia trade in machinery



Source: UNComtrade; own calculations

Trade policy measures

In 2017, the average applied tariff rate on machinery in the EU on Australian exports was 1.9 percent compared to 0.9 percent for exports from the world. Meanwhile, Australia applies a tariff of 2.7 percent on machinery imports from the EU, higher than the 1.8 percent tariff on its global imports of machinery.

Table 4.7 summarises a number of regulations by Australia and the EU for importers of machinery products. Although tariffs are already generally low for most of these products (see above), the obligation to fulfil regulatory standards in machinery and complex customs procedures are obstacles for EU and Australian companies, in particular SMEs.

Table 4.7: EU and Australian NTMs in machinery products

Sector	Average tariffs	Non-tariff measures (NTMs)
Australia		
Non-electrical machinery	Average MFN: 2.9 percent	All goods are subject to bio-security control upon arrival in Australia Machinery and parts used in agriculture, mining, earthmoving, construction, animal farming, timber, horticulture, fruit handling and food processing are all subject to specific import conditions Import permit requirements apply to both break bulk and containerized machinery products Several fees charged for documentation processing, import permit applications, certification and all inspections

Sector	Average tariffs	Non-tariff measures (NTMs)
Electrical machinery & electrical equipment	Average MFN: 2.9 percent	All electrical equipment imported and sold in Australia 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		
Machinery	Average MFN tariff on AUS: 1.9 percent Average MFN tariff on ROW: 0.9 percent	• Third party testing requirements • 100 percent container scanning • The EU's Waste Electric and Electronic Equipment (WEEE) directive • Electromagnetic compatibility requirements

Source: LSE Enterprise (2017) and ECORYS (2009)

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 Australia have also concluded a Mutual Recognition Agreement (MRA) for conformity assessment procedures, covering eight sectors including machinery, to facilitate trade by reducing technical barriers.

Investment barriers

For countries that do not have an FTA with Australia there is no difference between sensitive and non-sensitive business. Thus, the general threshold applies for foreign investors from countries without an FTA: a foreign investment needs to be screened if the investor obtains 20 percent or more of a business with a value of A$266 million or more.[171] For all countries that have an FTA with Australia, the corresponding threshold is A$1,154 million, but only for non-sensitive businesses; for sensitive businesses the threshold remains at A$266 million.[172]

There is also a threshold for buying commercial land. When a foreign investor buys vacant commercial land, the threshold is A$0. If the commercial land is already developed, the threshold is A$266 million. For countries with an FTA with Australia, the threshold for vacant commercial land stays A$0, while the threshold for developed commercial land increases to A$1,154 million.

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, digitization 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

[171] Treasurer, Australia's Foreign Investment Policy, https://cdn.tspace.gov.au/uploads/sites/82/2018/12/1-January-2019-Policy_.pdf

[172] Sensitive businesses are media; telecommunications; transport; defence and military related industries and activities; encryption and securities technologies and communications systems; and the extraction of uranium or plutonium; or the operation of nuclear facilities.

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 **Australia**, despite some recent job creation, employment in manufacturing, including the machinery sector, has been continuously declining from 1,086,700 persons[173] in May 2007 (Australian Bureau of Statistics, 2008) to 885,500 persons in 2017 (Australian Bureau of Statistics, 2018d). The same trend was recorded in the machinery sector, having the second highest job loss in manufacturing in 2010-2015 (14.3 percent), only behind primary metal and metal products (17.4 percent). The main reasons behind it included a high Australian dollar, subdued global growth, competitive pressures, lower consumer confidence (Department of Employment, 2015), and a shift of the Australian economy from manufacturing towards services sectors, with an increasing employment in the latter.

The rate of trade union membership among workers declined in manufacturing, of which machinery is an important part, from 40.8 percent in 1994 (Parliament of Australia, 2018) to around 12 percent in 2018 placing the manufacturing industry in the middle group among sectors of the Australian economy (the rates in other sectors in 2018 ranged from 33 percent in education and training to around 2 percent in rental, hiring and estate services) (Australian Bureau of Statistics, 2018e). The underlying reasons for this trend included decreasing employment and trade union membership in sectors where traditionally the rate of trade union membership used to be high (e.g. in large scale car manufacturing, textile, clothing and footwear). Removal of compulsory unionism has also played a role (Parliament of Australia, 2018).

The share of contractors among all workers, as an indicator of the type of contract and job quality was at 4 percent in manufacturing in 2018, whereas in other sectors it ranged from 26 percent in construction to 1 percent in public administration (Australian Bureau of Statistics, 2018e). Among employees in manufacturing, 85 percent worked full-time and 15 percent part-time, 80 percent had a permanent contract and 20 percent a casual one, i.e. short-term, expiring at the end of the day or a shift (Safe Work Australia, 2018b).

Average weekly salaries in manufacturing in 2018 were A$1,100, whereas in other sectors they ranged from A$500 in accommodation and food services to A$2,000 in mining (Australian Bureau of Statistics, 2018e).

Manufacturing has been identified as one of priority sectors for action under the Australian Work Health and Safety Strategy 2012-2022. The number of fatal accidents at work in the sector (1.4 per 100,000 workers) was in 2016 slightly lower than the average (1.5) for the whole Australian economy, however, the sector recorded the second highest rate of serious claims for non-fatal injuries (8.9 per million of hours worked). This rate decreased by 38 percent over the last decade. Vehicle incidents and being hit by falling objects were the main causes of fatal accidents (18 percent of fatalities each), and muscular stress while lifting, carrying or putting down objects was the main cause of non-fatal injuries (19 percent of serious claims) (Safe Work Australia, 2018b).

[173] The machinery sector employed 234,600 persons in 2007.

Human Rights aspects

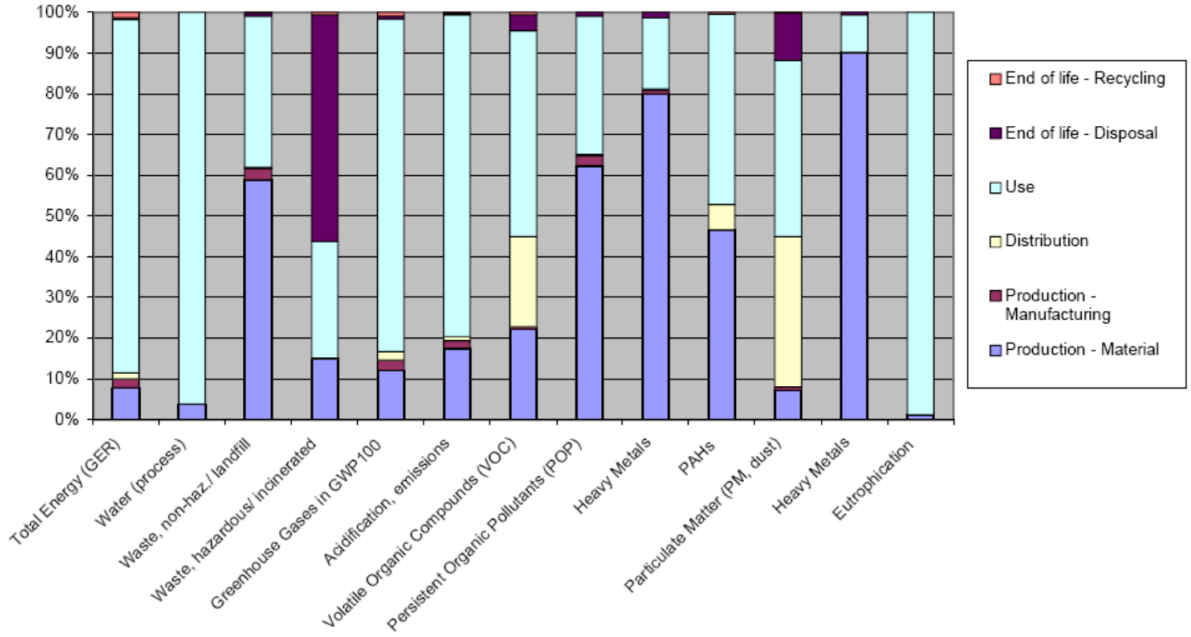
Both the EU and Australia have frameworks in place to enshrine protection of the different human rights as explained in detail in Chapter 3.5.

Because safety at work is a relative concern, related to the *right to work*, this sector has been chosen as one of the priority sectors in the Australian Work Health and Safety Strategy 2012-2022. In the EU, trade union leaders too 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*.

Environmental aspects

The machinery sector is extremely diverse, covering a variety of sub-sectors. For EU-Australia trade the relevant sub-sectors based on 2015 EU exports to Australia (LSE, 2017) include taps, cocks, valves, and similar pipe appliances (HS 8481); machine parts and mechanical applications for pulley tackles, hoists etc. and earth or snow moving, boring or pile-driving machines (HS 8431); turbo jets, turbo-propellers and other gas turbines (HS 8411); and dish washing machines and machinery for cleaning, drying, filling, closing, sealing or labelling containers, bottles, cans, boxes, bags (HS 8422). 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 4.6 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 4.6 – Share of life cycle impacts for a 12-place setting dishwasher (% per 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 Australian one. Examples of this include the Ecodesign Directive which ensures all energy related-products[174] meet quality requirements and indicate their compliance via a CE mark[175] and a Declaration of conformity.[176] The Australian Greenhouse and Energy Minimum Standards (GEMS) cover broad categories of energy-related products such as washing machine, computers, air conditioners. 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[177] of more than 0.1 percent of the product's weight. Australian legislation on hazardous substances focuses more on chemicals. The responsibility of regulating this is on the various State and Territories, and is intended only for health and safety reasons, rather than environmental ones.

4.3.2. Economic impact

For the EU, total output of machinery is not expected to change under the conservative scenario and rise by 0.1 percent under the ambitious scenario compared to the baseline, as shown in Table 4.8. This small relative rise is still significant, making machinery one of the most important sectors for the EU in the EU-AUS FTA. For Australia, in contrast, the estimated percentage change in total output of machinery, compared to the baseline, is -0.3 percent and -2.2 percent, respectively, under the two scenarios. The output decline indicates that the EU machinery sector is more competitive. This is not only the case because of larger market access (i.e. deeper liberalisation) because tariffs were reduced both in the conservative and ambitious scenarios, but also because in Australia, more resources (people, investments) are drawn towards the sectors where Australia is relatively more competitive (e.g. ruminant meats, beverages and tobacco (read: wine), oil products and seeds, and sugar). The increase in Australia's bilateral machinery exports to the EU under the two scenarios is significant: 9.5 percent and 10.1 percent, respectively, under the conservative and ambitious scenarios, though its total exports of machinery rise by a more limited 1.4 percent and 0.9 percent respectively. The EU's bilateral machinery exports to Australia show much greater gains – 21.1 percent and 60.4 percent, under the two scenarios. However, the EU's total exports of machinery do not change under the conservative scenario and increase by a limited 0.3 percent under the ambitious one.

Table 4.8: Effects of the EU-AUS FTA on trade and output of the machinery sector

	Bilateral exports	Total exports	Output
Australia			
Conservative (%)	9.5	1.4	-0.3
Ambitious (%)	10.1	0.9	-2.2
European Union			
Conservative (%)	21.1	+0.0	+0.0
Ambitious (%)	60.4	0.3	0.1

Source: CGE results provided by DG Trade (2019)

Despite stringent technical regulations and conformity assessment procedures applying to machinery imports in Australia, the EU still has a large surplus in its machinery trade with Australia, with exports exceeding € 10 billion. Stringent regulatory standards are the main NTM affecting EU machinery exports to Australia, liberalisation of which is likely to further increase EU-AUS 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.

[174] 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

[175] Simply a symbol of the letters "CE" placed on the product, denoting the French phrase "Conformité Européenne"

[176] As outlined in Directive 2006/42/EC on machinery

[177] Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), and Polybrominated diphenyl ethers (PBDE)

In terms of investments, raising the investment screening ceiling will facilitate EU investments into Australia. 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 **European Union** 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. These are in line with the expected changes in sectoral output.

For **Australia**, the economic modelling foresees a likely job reduction of 0.4 percent for both unskilled and skilled workers under the conservative scenario and of 2.4 percent for unskilled and 2.3 percent for skilled workers under the ambitious one.[178] The EU-AUS FTA is thus expected to add to the decline in manufacturing jobs in Australia observed in the last few years which are due to technological changes (e.g. automation) and a shift in the Australian economy towards services sectors.

For Australia, estimated employment changes go slightly beyond expected changes in output under both scenarios (in this case, more pronounced job reductions compared to a 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, as well as with the continued overall decline in the sector's employment).

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).

The estimated job reductions in Australia in manufacturing may also further contribute to a declining rate of trade union membership, as well as fall in non-fatal injuries at work.

4.3.4. Human rights impact

The trade measures that affect the machinery sector are tariff liberalisation as well as regulatory alignment (i.e. reductions in NTMs). These trade measures have the effect of enhancing the competitiveness of the competitive EU machinery sector while challenging the Australian one, though to a lesser extent than – for example – the motor vehicles sector. EU production does not change, while EU exports to Australia go up, suggesting there is some trade diversion taking place. For Australia, output and employment decline – especially in the ambitious scenario, which means that for Australia, the *right to work* should be looked at, as well as the *right to an adequate standard of living*.

In the ambitious scenario (removal of tariffs and reductions in NTMs), employment is contracting by between 2.4 and 2.5 percent in Australia, while for the EU employment in the machinery sector remains stable. EU exports to Australia increase significantly, while also trade increases the other way around (but from a much smaller base). Unlike the motor vehicles and transport equipment sector, Australia is producing machinery, so the negative employment effects could challenge the *right to work* and *right to a decent standard of living*. This is in particular the case if we look at the broader trends towards automation which leads to a change in the types of jobs in the machinery sector over time. Australia could kill two birds with one stone if any adjustment mechanism – put in place to mitigate EU-AUS FTA effects – would also take these digitalisation trends into account. The share of SMEs is significant in this sector, so the negative employment effects could

[178] Again, the caveats made in section **Fehler! Verweisquelle konnte nicht gefunden werden.** on the simulated employment effects apply.

disproportionately impact SMEs. For the EU the effects would be positive; small in relative terms, but significant in absolute terms because the sector is very large.

Though trade increases, much is trade diversion from other destination markets, so the total transported volumes of machinery equipment do not increase much and as such we do not identify an impact on the *right to a clean environment*.

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 Australia by 2.2 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 Australia. 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 decrease in CH_4 emissions between 0 and 0.0015 mton CO_2-eq per year from 2030 onwards and a decrease in N_2O emissions between 0 and -0.0024 mton CO_2-eq per year from 2030 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 0.0007 mton CH_4 emissions (in CO_2-eq) and 0.0012 mton N_2O emissions (in CO_2-eq) 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, which can be considered negligible.

Beyond this, though, the lowering of tariff and potentially NTBs on imports of machinery into Australia could make EU products preferred more often against third party competitors. This does not per se lead directly to environmental impacts, because Australian standards to minimum energy performance standards or end-of-life treatment of those products will continue to exist (which apply to all imported products). An impact from the FTA could still be expected if regulatory cooperation between the EU and Australia 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, eco-design or waste legislation (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.

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 in the machinery sector, 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 effects of the EU-AUS FTA, both direct and indirect, 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 4.9 above). In addition, Australia's regulators require specific product conditions and requirements especially for (electrical) machinery products (see Table 4.7 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-AUS 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 the ambitious scenario (see Table 4.8) through supplying products to the large companies. Similar as in the motor vehicles and transport equipment sector, the employment of skilled and unskilled workers in SMEs will increase slightly (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 Australia the machinery sector is also a large industry represented by SMEs. According to PriceWaterhouseCoopers (2019) the Australian manufacturing industry, which includes machinery and equipment, has a large number of SMEs and only a limited number of large companies in the manufacturing industry. However, 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-AUS FTA also look positive for the majority of Australian SMEs active in the machinery sector. The calculations project increases in exports but decreases in output under the conservative and ambitious scenario (see Table 4.8 above). Currently, EU regulators require specific product conditions and requirements especially for (electrical) machinery products (see Table 4.7 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 Australian 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 marketplace 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. Similar as in the motor vehicles and machinery sector, Australian SMEs will also face slight 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 4.9 shows the main third country effects for the machinery sector. For Turkey, the machinery output does not change, while the prices for machinery also remain unchanged under both scenarios. As a consequence of tariff liberalisation under the FTA, Turkey (and the EU) will import more machinery from Australia. The effects for EU FTA partners are positive but only marginally so: EU FTA partners will slightly reduce their imports from the EU and increase their imports from Australia, mainly due the country's proximity and more alignment with EU FTA partners because of closer NTM alignment between Australia and the EU. For the Pacific Countries the EU-AUS FTA is slightly negative in machinery: the output goes down marginally, and so do the islands' total machinery exports – a

consequence of the increase in Australia's competitiveness in the region and pull-in power of the motor vehicles sector that is poised to grow. Similar as in the motor vehicles and transport equipment sector, EU machinery exports are replaced by Australian machinery exports in both the conservative and the ambitious scenario (primarily because of divergence of EU machinery exports to Australia because of better market access). The effects for the main EU and Australian competitors (South Korea Japan, China and the US) are negligible. However, the most striking across third countries is the result that the Australian exports of machinery in both the conservative and the ambitious scenario will increase for all the specified countries and regions. Through opening up the markets, by dropping tariffs to zero percent, and aligning on NTMs, Australia becomes globally more competitive and is expected to capture part of the EU's machinery global value chain in Asia, at the expense of other countries in the Pacific and Asia (ASEAN). Thus, we observe the drop in EU exports to the specified countries and regions. Finally, we find that the EU-Australia FTA in machinery does not affect poorer nations in the world (LDCs) negatively.

Table 4.9: Third country effects of the EU-AUS FTA, machinery

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
AUS exports to country – Amb	**10.1**	**1.0**	**0.5**	**1.1**	**1.0**	**0.9**	**1.0**	**1.0**	**1.0**
AUS exports to country – Cons	**9.7**	0.7	0.5	0.7	0.7	0.6	0.7	0.7	0.7
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 Australia. While the machinery sector has a high degree of competition in the EU with a Herfindahl-Hirschman Index (HHI) of 979[179], it is amongst more concentrated sectors in Australia (the combined share of the four largest firms is 55 percent[180]).

The limited level of competition in Australia and large SME representation suggest that the EU-AUS 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 a reduction in NTMs on EU's bilateral exports. This could result in more efficient firms in this sector especially in the Australian market facing more effective competition from each other.

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

[180] Reserve bank of Australia (2018) „Business Concentration and Mark-ups in the Retail Trade Sector", available from: https://www.rba.gov.au/publications/bulletin/2018/dec/pdf/business-concentration-and-mark-ups-in-the-retail-trade-sector.pdf

4.3.9. Policy Recommendations and flanking measures

- Trends in the machinery sector, both in the EU and Australia, suggest that future jobs (whether the 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 EU Member States should work with industry, academia, and training providers to build trainings and work programmes to equip workers with the right skills set and enable them to continue or to start working in the sector. In Australia, a well-designed training offer may help not only to mitigate employment losses in the machinery sector, but also to improve competitiveness of the sector and its future prospects.
- The situation in the machinery sector in Australia will need to be monitored by the Australian Government, Bureau of Statistics, trade unions, and industry (by reporting the number of jobs created and lost over time or the number of workers employed), and if job losses do occur (as a result of the EU-AUS FTA), workers, who have been made redundant or are likely to lose their jobs should receive support from the Australian government (e.g. social security assistance, career advice for a transition to a new job, participation in a job fair or advice on how to set up an own business, and training).
- The most significant environmental impact created of machinery is through its energy use in the use phase. Energy efficiency policy in Australia 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 Australia's energy efficiency policy, while respecting their domestic right to regulate.
- With regard to investments, the EU should aim to be treated equally as the other countries which already have an FTA with Australia, which would mean that threshold should generally be uncapped or rise to A$1,154 million. As an alternative, the EU could try to raise the percentage of ownership in the company from when the threshold starts to play a role, for example 30 percent instead for a business worth more than A$1,154 million. Regarding the thresholds for commercial land, the EU should also try to be equally treated with the other FTA countries.

4.4. Dairy

4.4.1. Current situation

Economic aspects

The EU has shown a steady and rising surplus in its trade of dairy products with Australia though the magnitude of this surplus has declined since a trade surplus peak in 2016 – as shown in Figure 4.7. According to data sourced from UN Comtrade, the EU's bilateral exports of dairy to Australia nearly tripled in value from €106.1 mln in 2010 to a high of €300 mln in 2016 and €276 mln in 2017. In contrast, EU's imports of dairy from Australia have fallen sharply from a value of €21.0 mln in 2010 to only €2.0 mln in 2017 (see Figure 2). The share of bilateral trade in the sector in EU's total bilateral trade with Australia as well as the EU's total trade with the world has been below 1 percent over 2010-2017.

Trade policy measures

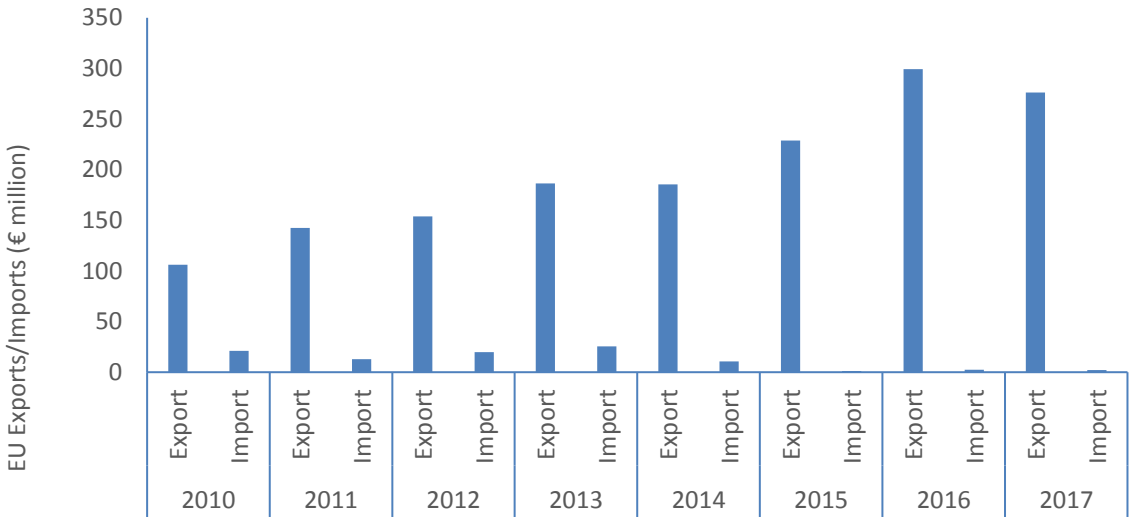
In 2017, the average applied tariff rate on dairy products in the EU on imports from Australia was higher (49.4 percent) than tariffs on (weighted) imports from the world (41.5 percent). In contrast, Australia has an average applied tariff rate of 4.1 percent on dairy imports from the EU.

The EU runs a system of non-ad valorem tariffs for almost all raw and processed milk products (30 HS6 product lines in total), regarded as complex but overall "relatively satisfactory, compared with those of other countries."[181]

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

Australia benefits from two EU export dairy quotas, for cheddar cheese and for cheese for processing. Quotas are made available via an allocation system to Australian companies wishing to export dairy products to the EU. Quotas which are not allocated through this process are made available on a first-come, first-served (FCFS) basis.[182] The TRQ quantities for cheddar from Australia were increased by 750 tonnes as a result of the EU enlargement negotiations under GATT Article XXIV:6, applying as of 1 January 1996.[183]

Figure 4.7: EU-Australia trade in dairy products



Source: UNComtrade; own calculations

In terms of NTMs, Australia has a number of SPS and technical regulations and related conformity assessment procedures in place. For example, Australia applies restrictions on EU exports of raw milk cheeses. All below further NTM examples listed here are general, but they also apply to dairy products.[184]

- The Imported Food Inspection Scheme operates under the Imported Food Control Act 1992 and the Imported Food Control Regulations 1993. This risk-based border inspection program is administered by the Department of Agriculture and Water Resources. For a single consignment made up of multiple food lines subject to the Scheme, the consignment clearance fee is applicable for each separate clearance that is granted.
- The new Biosecurity Import Conditions System (BICON) is also administered by the Department of Agriculture and Water Resources. It foresees a six-month maximum assessment period for permit applications. Additional import conditions, and import permits, may apply for products containing any material of animal, microbial or biological origin (such as meat, egg or milk).
- On 1 March 2016 a new Country of Origin Food Labelling System brought country of origin labelling requirements under Australian Consumer Law.
- The revised Food Standards Code (applying to all food offered for sale in Australia, whether produced domestically or imported) also came into effect on 1 March 2016.

Investment barriers

[182] Australian Department of Agriculture and Water Resources, last accessed on 9 July 2019 at http://www.agriculture.gov.au/export/from-australia/quota. No information on specific problems with EU dairy NTMs is listed here, only for the handling of the EU TRQs for Table Cheddar and Cheese for processing.

[183] Official Journal L 334, 30.12.1995, p. 40–45.

[184] http://www.agriculture.gov.au/import/goods/plant-products/importing-plant-products-forhuman-consumption. For the Imported Food Inspection Scheme see http://www.foodstandards.gov.au/consumer/importedfoods/Pages/default.aspx.

In Australia, dairy production falls under the category agribusinesses. For this kind of business there is a threshold of A$58 million for investors from countries that do not have negotiated a higher threshold in an FTA. Only if the A$58 million investment gives the investor at least 10 percent of the business or the power to control or influence the business then it will be screened by the Foreign Investment Review Board. The Board will check whether the foreign investment is beneficial for Australia and if it is in line with its national interest. For investors from some countries that have an FTA with Australia the threshold is A$1,154 million (Chile, New Zealand and United States). On the other hand, even though Canada, China, Japan, Korea, Mexico and Singapore all have FTAs with Australia, for them the threshold remains A$58 million. So, there is a difference in the level of the threshold between the FTAs.

Besides the threshold for investing in dairy, there is a threshold for buying agricultural land in Australia. Producing dairy products often goes hand in hand with investing in agricultural land. The level of the threshold for non-FTA countries is A$15 million (cumulative). For Chile, New Zealand and United States the threshold lies at A$1,154 million. For Thailand it is A$50 million. Hence, also in this sector the thresholds vary per FTA.

Social aspects

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[185]. 45,000 of 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).

In 2018, in **Australia**, the dairy sector (5,699 dairy farms[186] and companies) provided direct employment to approximately 42,600 persons[187] (an increase from around 40,000 in 2009-2011), with further 100,000 being employed by associated farm services, transport, distribution, and research and development activities (Dairy Australia, 2018). Dairy farms are less labour intensive than e.g. cultivation of vegetables and employ on average four workers (one third of them have two workers or less). The number of farms has been decreasing since 1990s and has been accompanied by a shift towards larger farm size. However, as results of a survey carried out in 2015-2016 with participation of 300 farmers demonstrate, despite a higher degree of automation, larger farms tend to employ more workers, both skilled and unskilled ones.[188] Small farms often rely on family members' work rather than hired workers, while most of the dairy farms, which hire workers, employ local residents and only few of them workers from other areas or foreign workers[189]. Given that milk production has usually a whole-year cycle, 58 percent

[185] 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:

[186] On average, a dairy farm in Australia has 273 cows. (Dairy Australia, 2018)

[187] Other sources, incl. Labour Force Survey of the Australian Bureau of Statistics and a survey carried out by the Australian Bureau of Agricultural and Resource Economics and Sciences provide the figure of 27,000-30,000.

[188] Given the size and organisation of work, large farms tend to employ more skilled workers than other farms, including managers, administrative staff and trained technical staff (machinery operators and animal handlers).

[189] Based on results of a survey carried out in 2015-2016 by Australian Bureau of Agricultural and Resource Economics and Sciences, it was estimated that around 400 foreign workers were employed at dairy farms,

employed at dairy farms have a full-time job and a permanent contract and less than 4 percent are seasonal workers (compared to 40 percent in vegetables sector) (Dep. of Agriculture and Water Resources, 2018).

The rate of trade union membership has been declining in the agriculture, forestry and fishing sector from 12.3 percent in 1994 to 1.9 in 2016, which is the lowest rate among the sectors in Australia (Parliament of Australia, 2018).

Agriculture has been selected as one of priority sectors in the Australian Work Health and Safety Strategy 2012-2022, due to higher indicators related to accidents at work, e.g. 14.6 fatalities per 100,000 workers (with the average for the whole economy in 2017 being 1.5) and no improvement over the last 10 years, and 8.8 serious claims for non-fatal injuries per million hours worked (with the average for the economy being 5.6), with a decrease by 30 percent over the last decade. Over the last few years, the sector witnessed increasing employment and ageing of workforce (39 percent of workers aged 55 or more years in 2016, with persons in this age group representing 57 percent of victims of fatal accidents at work). Actions foreseen in the Strategy cover several sub-sectors, including dairy cattle farming (it has an 8 percent share in fatal accidents in agriculture and compensation claims; vehicle accidents being the main reason of fatalities, while being hit by an animal is the main reason for non-fatal injuries) (Safe Work Australia, 2018a). The sector association (Dairy Australia) has developed (by farmers for farmers) a set of tools to launch, maintain and improve safety standards at dairy farms. They include e.g. a checklist to compare the situation at a farm against the legislation and to create an Action Plan, a checklist to scan the main hazard areas characteristic for a dairy farm and to identify and fix the most important hazards, and tools to record safety improvements.[190]

According to legislation, the average number of working hours per week in the dairy sector is 38 (or 152 in a four-week period). The hourly pay rate as set in July 2018 varied from A$18.93 to A$23.68.[191]

Human Rights aspects

Both the EU and Australia have frameworks in place to enshrine protection of the different human rights. This is explained in detail in Chapter 3.5. The EU has, for example, the Charter of Fundamental rights that recognises explicitly the right to work under its Article 15, while Australia, being party to a number of international human rights treaties also protects this right – albeit in a different way. With regard to the right to health, 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."* The EU and its Member States and Australia have state obligations under this and other human rights treaties to uphold the right to health for their citizens.

The dairy sector is an important one for the Australian economy, though relatively not as important as ruminant meat (analysed in section 4.1), with 300,000 jobs in the EU and 42,600 in Australia. Tariffs in the sector are still quite high and there is a range of NTMs that affect two-way trade between the EU and Australia (see overall description). In the EU, dairy production is spread over 740,000 dairy farms with some concentrations in the EU. The FTA's expected economic impact on the sector is not very strong but also not insignificant. 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*.

most of them backpackers, whereas there were also 49 skilled workers, the latter employed by large farms.

190 Dairy Australia: „Farm safety starter kit": http://www.thepeopleindairy.com.au/farm-safety/safetystarterkitdocs [accessed on 4 June 2019]

191 Dairy Australia, Pay rates (updated - from 1 July 2018): http://www.thepeopleindairy.org.au/engagement-reward/pay-rates.htm#Hours [accessed on 14 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 (noting there have been recent specific claims of migrant worker exploitation in the sector). 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-AUS 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 Australia has not ratified ILO Core Labour Conventions 138 (Minimum Age Convention) and 169 (Indigenous and Tribal Peoples Convention). The focus here is not on Australia ratifying these Conventions or not, as this is a domestic policy matter, but whether not having ratified them, the potential effects of the EU-AUS FTA, especially in case negative, could be less effectively mitigated or prompt less action from the Australian government because it has not made these international commitments.

The same degree of unionisation (1.9 percent) applies to the dairy sector, which is very low. Because safety at work is a relative concern (hence it being chosen as one of the priority sectors in the Australian Work Health and Safety Strategy 2012-2022). 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 Australia – 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.

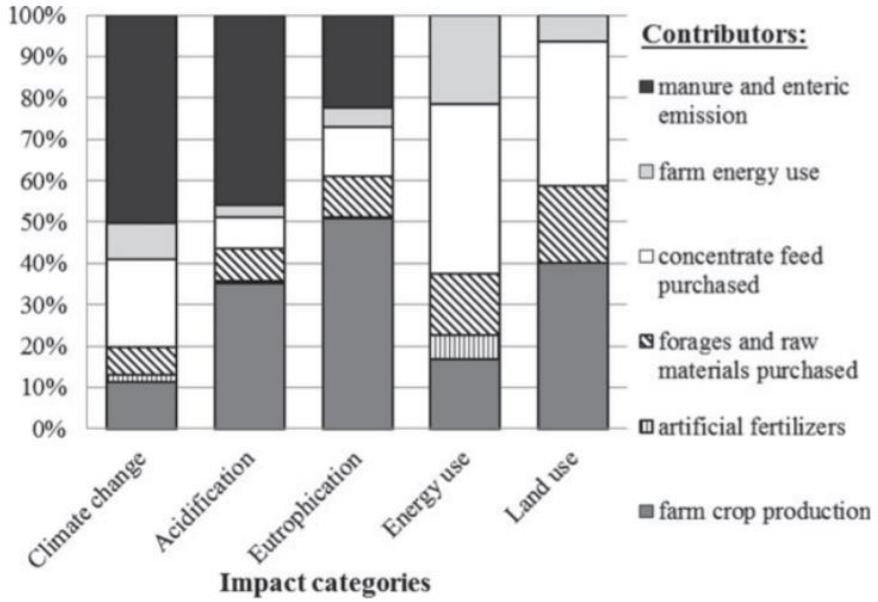
Environmental aspects

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 4.8 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 4.8: Contribution of activities in dairy farming on the environment in Italy



Source: Guerci et al, 2013

In recent years, dairy farming has decreased in size in Australia. In fact, the milk production has shown a decreasing trend ever since 2001 (ABARES, 2018). In the coming years, the Australian dairy herd is expected to shrink further (mainly driven by high input costs).

4.4.2. Economic impact

Table 4.10 shows the quantitative economic impacts from the economic modelling exercise for the dairy sector. For the EU, total output of dairy is estimated to rise by 0.1 percent under the conservative scenario and decline by 0.1 percent under the ambitious liberalisation scenario, compared to the baseline. These effects can be explained in part by the fact that the EU effects are the combination of trade liberalisation for Australia and New Zealand – whereby the effect is driven more by New Zealand's dairy sector competitiveness than Australia's. Also, because liberalisation takes place in other sectors, that impact on competition for finite EU and Australian resources. For Australia, in contrast, the estimated percentage change in total output of dairy is -0.3 percent in the conservative scenario, and no output change in the ambitious one. The increase in Australia's bilateral exports of dairy to the EU, especially under the ambitious scenario, is considerable: 86.2 percent; the increase in Australia's total exports of dairy is much lower at 1.6 percent. The EU's bilateral dairy exports to Australia increase by 47.8 percent and 48.6 percent, respectively, while its total dairy exports increase by only 0.2 percent under the conservative scenario and decline by 0.1 percent under the ambitious scenarios.

Table 4.10: Effects of the EU-AUS FTA on trade and output of the dairy sector

	Bilateral exports	Total exports	Output
Australia			
Conservative (%)	0.8	0.6	-0.3
Ambitious (%)	86.2	1.6	0.0
European Union			
Conservative (%)	47.8	0.2	0.1
Ambitious (%)	48.6	-0.1	-0.1

Source: CGE results provided by DG Trade (2019)

Despite Australia's above-mentioned SPS standards, the EU still has a large surplus in its dairy trade with Australia, with exports exceeding €275 million. TRQs and standards are the main measures affecting dairy trade between the two partners. Mutual recognition of such standards and removal of TRQs are likely to further increase two-way bilateral dairy exports. 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 and full tariff liberalisation in this sector. While standards for basic dairy commodities are regularly addressed and modified in Codex Alimentarius negotiations, specific mutual recognition agreements on production and processing standards would be benefitting especially high-value specialty products from the EU.

In terms of investments, raising the investment screening ceiling will facilitate EU investments into Australia. 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.

4.4.3. Social impact

In the **European Union**, employment effects in the sector are expected to be very 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 Australian exports onto the EU market (by 86 percent under the ambitious scenario).

For **Australia**, the economic modelling suggests a decline in employment by 0.3 percent for both groups of workers under the conservative scenario and by 0.1 for unskilled workers under the ambitious one (no changes under this scenario for skilled workers). This is also in line with estimated changes in sectoral output. However, it is also important to highlight that employment in the dairy sector in Australia has been growing in the last few years. If such a trend was observed in the future, the results of the economic modelling would mean a slower job growth in the sector instead of 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 the former only for the whole economy, i.e. at an aggregated level).

Given limited employment effects of the EU-AUS 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. These will rather continue to be induced by domestic factors, such as the Australian Work Health and Safety Strategy 2012-2022 aiming at a reduction of accidents at work in agriculture, including in the dairy sector. 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-AUS FTA should not have any major impact on the situation of migrant workers in the dairy sector (given its limited impacts, as well as a low number of migrants employed in the dairy sector in Australia). Limited potential job reduction (or a slower job growth) is not very likely to change the situation of migrant workers given the counterbalancing factors, i.e. ageing of the local workforce in the sector, the low attractiveness of work in the dairy sector for some Australians and the expected demand for skilled workers related to the introduction of new technologies.

4.4.4. Human rights impact

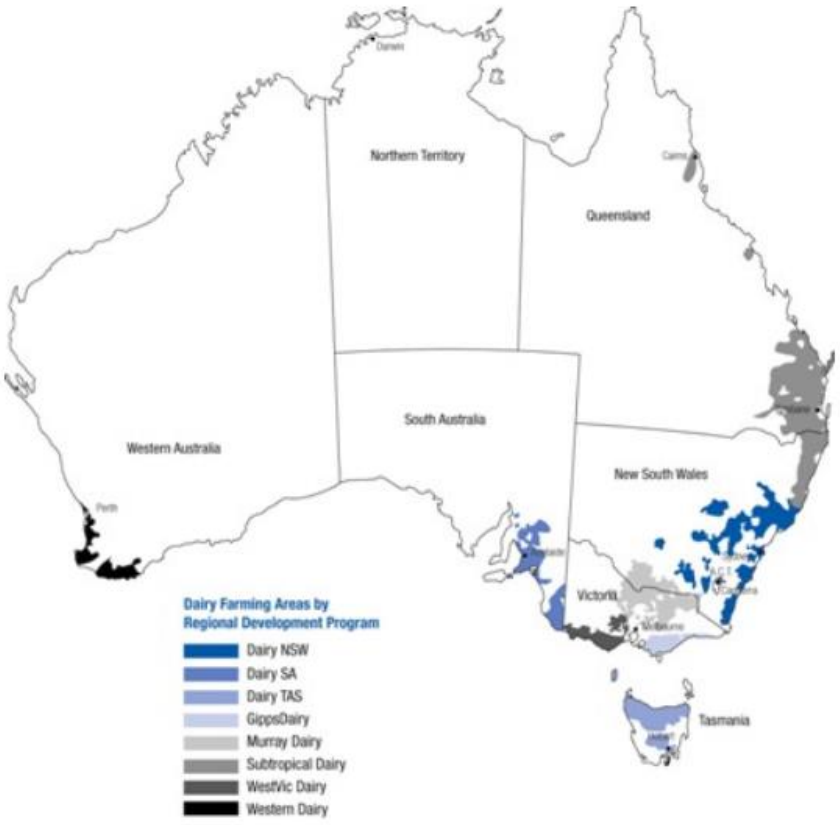
The trade measures that affect the dairy sector potentially are tariff liberalisation (including changes in TRQs) as well as regulatory alignment (i.e. reductions in NTMs). These trade measures will have the effect of enhancing further the competitiveness of sectors that

already are competitive – allowing them to benefit from increased market access. In the dairy sector, the simulations matter to explain the result. In the ambitious scenario, the Australian dairy sector will get very extensive market access to the EU (tariffs reduced to zero percent and not quantity limitations), while in the conservative scenario that is not the case. This is why in the ambitious scenario Australian dairy exports increase by 86 percent but not in the conservative scenario. EU exports to Australia go up by almost 50 percent in either scenario. When we look at production, there is no change in either scenario for both the EU and Australia.

This limited economic impact (only trade effects, but no production effects, nor dairy price effects) is why also the human rights effects are expected to be small, given the characteristics of the dairy industry (see section 4.4.1 on relevant human rights aspects), and given the human rights frameworks in place in the EU and Australia.

When we look at the *right to work* and the *right to an adequate standard of living* for dairy producers in the EU and Australia, we expect negligible negative effects on the *right to work* for Australia in the conservative scenario. This could also translate into very small negative effects on the *right to an adequate standard of living*. This effect will be even smaller if tariff and TRQ liberalisation are phased out over time. One aspect that matters and that could amplify the small negative effect regionally in Australia is the fact that the dairy sector is concentrated in specific regions in Australia (mostly in Southeast Australia as shown in Figure 4.9). For those regions the impact could be more considerable, hidden behind the Australian average. In this case, it would also be important to keep a focus on *indigenous rights* and the *rights for migrants*, who are more often temporarily employed (without long-term contracts), also in the dairy sector.

Figure 4.9: Dairy production locations in Australia[192]



[192] http://www.legendairy.com.au/dairy-farming/our-industry/our-regions [accessed 4 July 2019]

Even though there are no strong human rights impacts expected, the potential TSD chapter of the EU-AUS FTA, including commitments to ratify the ILO Core Labour Conventions to uphold high labour standards, may 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".[193]

The impact of the EU-AUS FTA on the right to health in the dairy sector is considered to be minimal. The export growth of EU milk to Australia (in both scenarios) and Australian milk to the EU in the ambitious scenario warrant an analysis regarding the quality of milk produced, 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 would not have a negative impact on the right to health. Signing a veterinary agreement like is the case between the EU and New Zealand, could further facilitate trade without lowering SPS standards of either trading partner.

Finally, the issue is whether the *right to a clean environment* is negatively affected by the EU-AUS FTA in the dairy sector. The environmental footprint of the dairy industry is about a factor three times lower than that of the ruminant meat sector and because there is no relative change in production – i.e. no increase in production – the environmental footprint of the industry will also not change (see environmental impact below) and the *right to a clean environment* is not affected. One expected impact in the dairy sector could affect this right, however; this is the significant increase in volume of dairy trade between the EU-AUS (48.6 percent in the ambitious and 47.8 in the conservative scenario) and AUS-EU (86.2 percent increase in exports to the EU in the ambitious scenario) – that comes only to a limited extent from less trade with other regions. This leads to some more CO_2 emissions because of increased transport sector emissions between the EU and Australia. The sector-specific effect on the *right to a clean environment* is, however, not large (as the overall CO_2 emission increase is 0.6 percent for the entire EU-AUS FTA in the ambitious scenario).

4.4.5. Environmental impact

As output in the dairy sector is not expected to change much by the FTA, the environmental impact of the FTA through the dairy sector is expected to be very marginal. 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 potential impacts are not likely to occur since the output in the Australian dairy sector is not expected to change much (between 0 and -0.3 percent per year from 2030 onwards). In the ambitious scenario, the EU experiences a similar drop in output of -0.1 percent per year. In the conservative scenario, the effect is reversed and output is expected to increase by 0.1 percent. 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).

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 1.585 and 0.564 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 1.3 percent of Australia's total methane emissions in 2012 and 1.3 percent of total N_2O emissions. However, since this growth is not predicted to stem from the dairy sector, but from the beef and sheep meat sector instead, no

[193] 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

additional GHG emissions are expected to be caused by the FTA through its impact on the dairy sector in Australia (emissions in the dairy sector are in fact expected to decrease slightly). In the conservative scenario, GHG emissions will increase in the EU through expected output growth in the dairy sector. 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. A recent study by Wiedemann et al (2015) showed that only 3 percent of the total GHG emissions related to beef and sheep meat produced in Australia and exported to the US is caused by transportation.

The potential impacts in biodiversity and water quality are considered marginal given the low output change in the sector.

4.4.6.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 the active dairy companies are SMEs. Additionally, the manufacturing of food products sector, which includes dairy, accounts 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, Friesland Campina, 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-AUS FTA are modest for EU SMEs. Currently, EU dairy exports are 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 4.11 above). Thus, based on the sector structure, the high presence of SMEs and the reduction of trade barriers and regulatory requirements under the EU-AUS FTA, one is able to conclude 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 4.11 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 Australia the dairy sector is also a large industry represented by SMEs. PriceWaterhouseCoopers (2011) state that the sector is primarily characterised by small producers, however in recent years there has been an increase in larger farms with larger herds. 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. Additionally, the Senate Economics References Committee (2017) states

that roughly 98 percent of the active dairy farms in in Australia are family-owned businesses. Although, the sector is primarily dominated by SMEs only limited amount of companies accounts for the majority share in exports. According to the Australian Dairy Industry Council Inc. (2008) the top 12 dairy exporting businesses account for approximately 90 percent of Australia's export sales.

The effects of the EU-AUS FTA also look quite positive for Australia's SMEs active in the dairy sector. Regarding exports to the EU, the EU currently has imposed relatively low quotas and tariffs on Australian table 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 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 both scenarios (see Table 4.11 above).

Based on the higher prevalence of SMEs and their high value-added, it is expected that Australian 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 through value chain benefits. Overall, in light of higher exports and a higher level of participation in the international marketplace 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. Australian SMEs will also face slight 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 dairy 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.

4.4.7. Third country impact

Table 4.11 shows the main third country effects for the dairy sector. For Turkey, dairy output does not change and neither do the prices for dairy. EU exports to Turkey do not change much and neither do Australian dairy exports to Turkey (although to a slightly larger extent than for the EU in relative terms). The increase of Australian dairy products to Turkey (and the EU) is the result of ambitious tariff and TRQ liberalisation with respect to dairy products. The effects for EU FTA partners are positive but only marginally so (total exports are expected to increase by 0.3 percent). However, Australian exports to the EU FTA partners is expected to increase marginally under both scenarios, primarily due to recognised dairy standards (MRAs). For the Pacific Countries the effects of the EU-AUS FTA are negligible (total exports decrease by 0.1 percent). Interestingly, both the EU and Australian dairy exports to the Pacific increase under the ambitious scenario. The results for the main EU and Australian competitors (South Korea, Canada, China and the US) are negligible. The output (except for South Korea under the conservative scenario) and the prices remain unchanged for all the aforementioned countries. Similar as in the motor vehicles and transport equipment and machinery sector, the EU dairy exports reduce for the majority of specified countries and regions. Australian dairy exports in both the conservative and the ambitious scenario increase for all the specified countries and regions. Through opening up the markets, by dropping tariffs to zero percent, eliminating TRQs, and having aligned further between EU and Australia in terms of regulatory systems, Australia's dairy sector becomes more competitive, making the country's exports more attractive. Because of these factors and because EU exports increase towards the Australian market, we observe a drop in EU exports to the specified countries and regions. Finally, we find that the EU-Australia FTA in dairy does not affect poorer nations in the world (LDCs) negatively. The overall LDC exports increase by 0.3 percent and dairy imports

from Australia (under the ambitious scenario) are expected to increase by 1 percent. Output and prices in LDCs remain unchanged under the two FTA scenarios.

Table 4.11 Third country effects of the EU-AUS 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
AUS exports to country – Amb	**1.0**	**0.7**	**1.5**	**1.0**	**1.1**	**0.6**	**0.8**	**1.2**	**0.8**
AUS exports to country – Cons	**0.9**	**0.7**	**0.9**	**0.9**	**0.8**	0.4	**1.0**	**0.8**	**0.8**
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)

4.4.8. 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 suggests that this sector is dominated by SMEs in both the EU and Australia. While the dairy sector is moderately concentrated in the EU, with a Herfindahl-Hirschman Index (HHI) of 2,230[194], it is among the least concentrated sectors in Australia (the combined market share of the four largest firms is 22 percent[195]).

The pre-existing competition and large SME representation suggest that the EU-AUS FTA is likely to yield further pro-competitive effects, leading to a fall in mark-ups and industrial restructuring especially in the ambitious scenario that entails more meaningful liberalization of this sector via removal of TRQs and full tariff liberalisation. This could result in 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

- The right to work is not expected to be heavily affected overall. But there could be regional effects that are larger because the dairy sector is concentrated in a small number of areas – hence the regional effects need to be monitored after FTA implementation.
- Provisions on TSD, notably on health and safety at work, should encourage dialogue between the EU and Australia and lead to the exchange of good practices in dairy sector, including on to how to reduce accidents at work. In this context, the Parties negotiating the Chapter and its provisions should ensure that the chapter provides an opportunity for cooperation activities, e.g. holding workshops or study visits involving the Parties and sector (agriculture and dairy) representatives and that the Parties commit to follow-

194 http://bruegel.org/wp-content/uploads/imported/publications/WP_2014_07__01.pdf

195 Reserve bank of Australia (2018) „Business Concentration and Mark-ups in the Retail Trade Sector", available from: https://www.rba.gov.au/publications/bulletin/2018/dec/pdf/business-concentration-and-mark-ups-in-the-retail-trade-sector.pdf

up recommendations from the sector and the civil society monitoring mechanism. If applied, such measures may help to secure high levels of health and safety at work protection and to reduce the number of accidents at work in agriculture, including in the dairy sector.

- The EU and Australia should contemplate signing a veterinary agreement as this would support alignment between the EU and Australian dairy sectors as has been the case with New Zealand.
- The EU should aim at the removal of the thresholds for agribusinesses and agricultural land, so that the investments will not be screened by the Foreign Investment Review Board. If this is not achievable, EU should insist that EU investors are treated similar to investors from Chile, New Zealand and United States, meaning that both the threshold for agribusinesses and agricultural land will be uncapped or set at A$1,154 million. This would be a substantial improvement compared to the threshold of A$58 million and A$15 million, which is applicable now to EU investors. In light of the different thresholds, it is important that the EU does not settle for the thresholds applicable to Canada, China, Japan, Korea, Mexico and Singapore because that would not result in an increased threshold.

4.5. Communication and business services

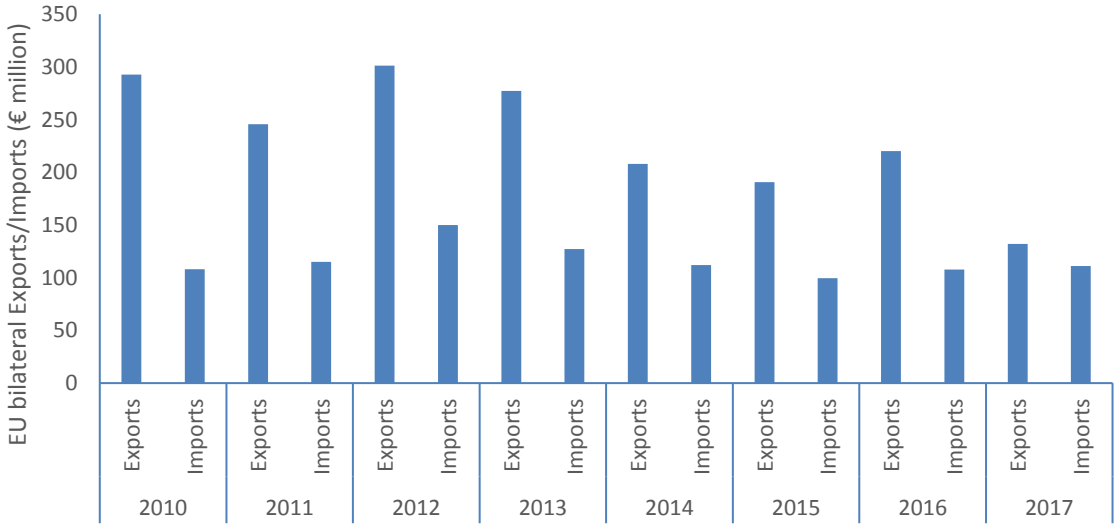
In this section on communication and business services we focus on communication services, in particular telecommunication, and other business services, mainly professional services. The econometric model can only allow us to present the overall sector economic impact results on which we base our subsequent impact analyses. Qualitatively we add more detailed information.

4.5.1. Current situation

Economic aspects

The EU has shown a surplus in its trade of telecom services with Australia over 2010-2017, though the magnitude of the surplus and its bilateral exports to Australia have both fallen, the latter from €300 million in 2010 to €130 million in 2017 (see Figure 4.10). In contrast, the trend of EU imports of telecom services from Australia has been nearly constant, from €108 million in 2010 to €111 million in 2017. The share of the sector in EU total bilateral services trade with Australia was over 1.5 percent until 2013 but has fallen to a little over 1.0 percent since then.

Figure 4.10: EU-Australia trade in telecom services



Source: OECD; own calculations

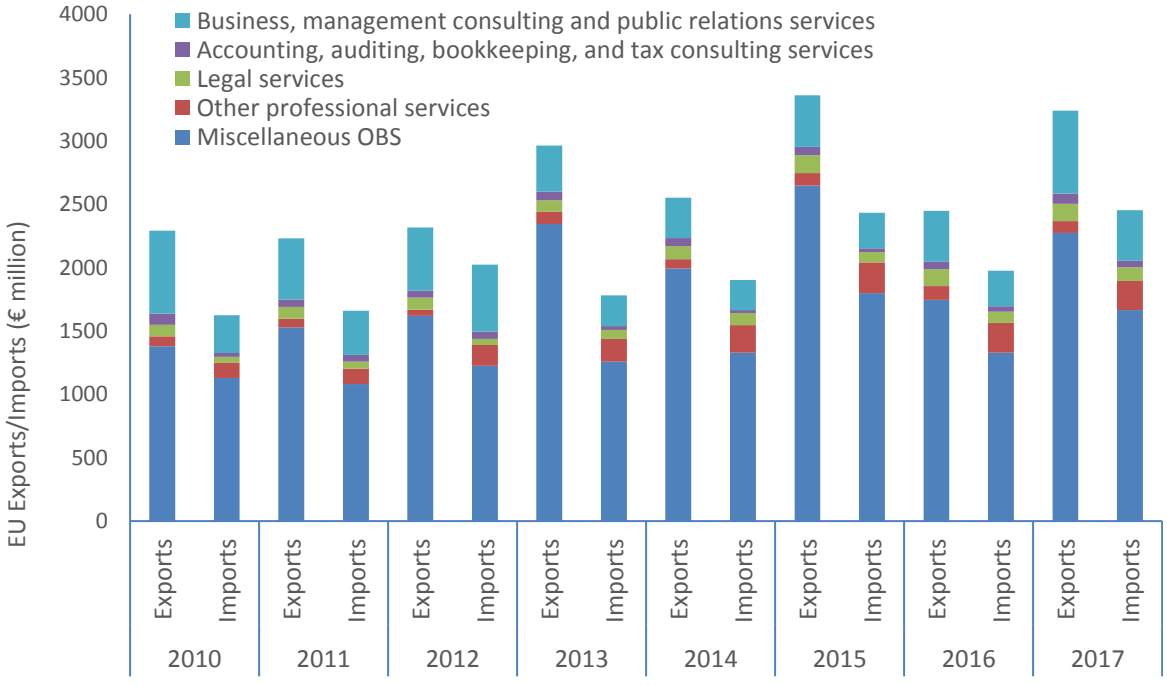
The EU had a surplus in its trade of other business services (OBS) with Australia over the 2010-2017 period, though the magnitude of the surplus and its bilateral exports to Australia have both fluctuated. The EU's bilateral exports of OBS to Australia went up from €2.3 billion in 2010 to €3.2 billion in 2017 while the value of bilateral imports increased from €1.6 billion to €2.4 billion over the same time period (see Figure 4.11). Miscellaneous OBS and business, management consulting and public relations services account for the bulk of OBS traded between the EU and Australia. The share of OBS in the EU's total bilateral services trade with Australia is significant at around 40 percent. In contrast, the importance of bilateral trade in OBS with Australia in the EU's total trade with the world has been low at a share below 1.5 percent.

According to the OECD database on services trade restrictiveness index (STRI), the EU is considerably more restrictive than Australia in accounting, architecture, engineering and legal services but slightly 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 authorization to practice law in one Member State face more burdensome procedures to obtain authorization in another Member State than would a similarly situated lawyer holding EU citizenship.

Figure 4.11: EU-Australia trade in other business services (OBS, value € million)



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 Australia, for investors from countries that do not have an FTA with Australia, a foreign investment needs to be screened if the investor obtains 20 percent or more of a business with a value of A$266 million or more.[196] For all countries that do have an FTA with Australia the threshold is A$1,154 million for non-sensitive businesses, while threshold for sensitive businesses remains at A$266 million.[197] Only when an investment in communication is an investment in media as well, then another threshold applies. For an investment in media the threshold is A$0, which means every foreign investment in the media will be screened.

There is as well a threshold for buying commercial land. When a foreign investor buys vacant commercial land, the threshold is A$0. If the commercial land is already developed, the threshold is A$266 million. For countries with an FTA with Australia, the threshold for vacant commercial land stays A$0, while the threshold for developed commercial land increases to A$1,154 million.

Social aspects
European Union. The information and communication sector employed 7.1 million people in the EU in 2018[198]. According to another classification, 1.1 million people worked in the EU telecommunications sector in 43,000 businesses in 2014.[199] The latter covers activities 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.[200]

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196 Treasurer, Australia's Foreign Investment Policy https://cdn.tspace.gov.au/uploads/sites/82/2018/12/1-January-2019-Policy_.pdf

197 Sensitive businesses are media; telecommunications; transport; defence and military related industries and activities; encryption and securities technologies and communications systems; and the extraction of uranium or plutonium; or the operation of nuclear facilities.

198 EUROSTAT, Labour Force Survey (NACE rev 2): https://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do

199 European Commission, Sectoral social dialogue – Telecommunications: https://ec.europa.eu/social/main.jsp?catId=480&intPageId=1856&langId=en

200 CEDEFOP, Skills Panorama, Professional services: https://skillspanorama.cedefop.europa.eu/en/sectors/professional-services [accessed on 28 May 2019]

Australia. In 2019, the sector of information, media and telecommunications employs 211,600 persons.[201] Until the latest changes in visa categories foreseen for skilled workers, the sector used to grant every year some 4,000 to 7,000 visas for different job categories, including developer programmer, software engineer, analyst programmer, web developer or telecommunications technician, with the total number of this visa holders in the country being of around 9,000, i.e. 4 percent of the total employment in the sector.[202] Changes in visa policy (removing some IMT job categories from the list thus preventing employment of overseas workers) meant the need for companies to search for Australian workers and an encouragement for them to engage with universities and other educational institutions to upskill staff and to develop solutions for a combined class-room and on-the-job training.

The professional, scientific and technical services sector has been growing in Australia over the last decade, as part of the overall shift of the Australian economy from mining and industry towards services. In 2018, professional services sector employed 1.1 million people, having an 8.7 percent share in the total employment (Australian Bureau of Statistics, 2018a). Over the last five years, to February 2019, employment in the sector has grown by 21.9 percent, which means that additional 200,400 jobs have been created. People working full-time made up 77.4 percent workers in the sector, working on average 40 hours a week and earning (also on average) A$ 1,380 per week. It is estimated that the sector will continue to grow and by 2023 will employ 106,600 persons more than in 2019, which would mean an increase of 10.2 percent.[203] In 2016, three top job categories (in terms of the number of people employed) included computer system design and related services (196,899 people or 20.2 percent of total employment in the sector), management advice and related consulting services (156,358 people or 16.1 percent) and engineering design and engineering consulting services (132,498 people or 13.6 percent).

In 2016, the average annual wage in the professional, scientific and technical services sector was A$79,700. However, there was a considerable variation between sub-sectors, e.g. the highest wages were in engineering design and engineering consulting services (A$99,400), computer system design and related services (A$95,700), and scientific research services (A$82,800). The lowest were in professional photographic services (A$41,700) and other professional, scientific and technical services (A$44,700), which include meteorological, translation and interpretation services (Australian Bureau of Statistics, 2017).

According to the Future of Jobs Report of the World Economic Forum, the availability of talent has been the main reason for determining decisions on job locations in professional services sector in Australia (strong local education provision and labour cost came second and third). Regarding responses to shifting needs for skills, 87 percent companies would look to automate work, 84 percent would hire new permanent staff with skills relevant to new technologies and 74 percent would re-train the existing employees (WEF, 2018).

Human Rights aspects

Both the EU and Australia have frameworks in place to enshrine protection of the different human rights as explained in detail in Chapter 3.5. The communication and business services sector is very important for the EU and for Australia – in both economies they are significant contributors to GDP. There are no large human rights issues in this sector, but

201 Australian Bureau of Statistics (2019), Labour Force, detailed, quarterly, August 2019: https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6291.0.55.003Aug%202019?OpenDocument

202 Which industries will feel the impact of the 457 visa changes?: https://www.michaelpage.com.au/advice/management-advice/hiring/which-industries-will-feel-impact-457-visa-changes and Australian Government, Bureau of Communications Research: Leading indicators, 2015.

203 Labour Market information portal, Professional, Scientific and Technical Services: http://lmip.gov.au/default.aspx?LMIP/GainInsights/IndustryInformation/ProfessionalScientificandTechnicalServices [accessed on 7 June 2019]

the following issues are worth noting. First, the current changes in economic structures in EU Member States is uneven, with relative job declines in Spain, versus large growth in services in Romania – which means that without the EU-AUS FTA, adjustments are taking place that affect the *right to work* for employees in this sector. Second, the trend towards automation and further developments of information technology influence the communication and business services sector more and more – leading to job replacements, but also to requirements of different skills sets of employees in the sector.

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 Australia, public electricity and heat production made up 49 percent of all carbon dioxide emissions in 2012. The share of electricity generated from renewable energy sources in Australia was 21 percent in 2018 (Clean Energy Council, 2018). As such, most of the produced electricity and heat is related to significant negative effects on climate change. 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 not estimated to change under the conservative scenario nor under the ambitious liberalization scenario. For Australia, the estimated percentage change in total output of communication services is 0.1 percent and 0.2 percent, respectively, under the conservative and ambitious scenarios. The increases in Australia's bilateral exports of communication services to the EU under the two scenarios are considerable: 9.1 percent and 9.3 percent under the conservative and ambitious scenarios respectively. The rise in the EU's bilateral exports of communication services to Australia is also significant with 7.3 percent for the conservative and 7.2 percent for the ambitious scenarios, though the EU's total exports of communication services decline marginally in both scenarios (see Table 4.12).

Table 4.12: Effects of the EU-AUS FTA on trade and output of the communication services sector

	Bilateral exports	Total exports	Output
Australia			
Conservative (%)	9.1	2.1	0.1
Ambitious (%)	9.3	2.2	0.2
European Union			
Conservative (%)	7.3	-0.0	+0.0
Ambitious (%)	7.2	-0.2	+0.0

Source: CGE results provided by DG Trade (2019)

For the EU, total output of other services (that include OBS) is not estimated to change under the conservative nor ambitious scenarios. For Australia, the estimated percentage change in total output of other services is 0.1 percent under the ambitious scenario (and no change under the conservative scenario). The increase in Australia's bilateral exports of other services to the EU under the two scenarios is considerable: 9.1 percent in both scenarios. The rise in the EU's bilateral exports of other services to Australia is also significant at 7.4-7.5 percent depending on the scenario. For the EU, total exports of other services decline by 0.1 percent under the ambitious scenario. For Australia, other services exports increase by 1.6 percent in both scenarios.

Table 4.13: Effects of the EU-AUS FTA on trade and output of other services

	Bilateral exports	Total exports	Output
Australia			
Conservative (%)	9.1	1.6	+0.0
Ambitious (%)	9.1	1.6	0.1
European Union			
Conservative (%)	7.5	-0.0	+0.0
Ambitious (%)	7.4	-0.1	+0.0

Source: CGE results provided by DG Trade (2019)

Stringent regulation and regulatory heterogeneity have led to fluctuating EU-AUS trade in both communications and business services. The EU is considerably more restrictive than Australia in accounting, architecture, engineering and legal services but slightly less restrictive in telecom services. Liberalization of these restrictions is likely to further increase EU-AUS bilateral exports in both sectors. This is also what is observed in the economic impact analysis under both scenarios, which simulates a 3 percent reduction in AVEs on all services.

In terms of investments, raising the investment screening ceiling will facilitate EU investments into Australia. 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.

4.5.3. Social impact

Based on results of the economic modelling, there will be no changes in employment levels in the **European Union** communication and business services sector (which includes telecommunications as well as professional, scientific and technical services) under the conservative scenario and no changes either under the ambitious one.

For **Australia**, the economic modelling foresees no changes in employment levels under the conservative scenario for either skilled or unskilled workers and an increase of 0.1 percent for skilled workers under the ambitious scenario (no changes for unskilled workers).

For the EU, employment effects are in line with the expected lack of changes in the sectoral output and for Australia they slightly lag behind the estimated increase in output (which is predicted to be of 0.1 percent under the conservative scenario and 0.2 under the ambitious one). This may be related to increasing automation of certain services, such as accounting.

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 textual proposal tabled by the EU, the EU-AUS FTA has also 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 Australia. 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 MRA – Mutual Recognition Agreement and the compatibility of the respective regimes of both Parties: 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.[204]

[204] Textual proposal tabled by the EU (Investment liberalisation and trade in services): http://trade.ec.europa.eu/doclib/docs/2018/december/tradoc_157572.pdf.

4.5.4. Human rights impact

The trade measures that affect the communication and business services sector are tariff liberalisation as well as regulatory alignment (i.e. reductions in NTMs). The total effect of these measures is small in terms of output changes in the EU and Australia, which is in part due to the fact that the EU and Australia are not each other's largest partners in these sectors. We also note, however, that the small relative change can still be sizeable because of the large absolute sizes of these sectors. The trade effects are larger, showing that the EU and Australia have the potential for further integration in communication and business services.

From these effects, we can infer that human rights impacts for the sector are not likely. The *right to work* is not – if marginally positively – affected in both the EU and Australia – in the ambitious scenario. The contextual challenge for the sector is information technology. There is no evidence that the EU-AUS FTA could have an effect to speed up or slow down this effect, however.

4.5.5. Environmental impact

The communication and businesses services sectors cause their most significant environmental impact 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 high in Australia. 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.).

Since output is expected to increase in Australia'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 Chapter 3) showed that the impact on CH_4 and N_2O emissions and other non-GHG air pollutants in Australia 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 expected effects of the EU-AUS FTA are positive for EU SMEs. The expected effects are both of direct and indirect nature. 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 4.12 and Table 4.13 above).

Thus, based on the sector structure, the high presence of SMEs and the reduction of trade barriers and regulatory requirements under the EU-AUS FTA, one is able to predict that 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 customs 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 4.12 and 4.13). In light of higher output and a higher level of participation in the international marketplace, 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).

For Australia the communication and business services sector is also a large industry represented by SMEs. However, Reserve Bank of Australia (2013) states that the industry's exports are mainly dominated by large companies, which have the ability to fully exploit economies of scale and business trends and innovations, as mining. The effects of the EU-AUS FTA also look positive for Australia's SMEs active in the communication and business services sector. Here, the expected effects are also of direct and indirect nature. The country's communication and business services industry is one of the largest gaining sectors, in terms of output and bilateral exports, under both scenarios (see Table 4.12 and Table 4.13). 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-AUS FTA, including the obligation to meet various testing, certification and documentation procedures, Australia's communication and business services sector SMEs will benefit primarily through value chain benefits, caused through higher exports of large companies under the EU-AUS 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 no effects in regard to the employment of skilled and unskilled employees (see Table 3.15).

4.5.7. Third country impact

Table 4.14 shows the main third country effects for the communication services sector. Overall, the effects of the EU-AUS FTA for 3rd countries in this sector are negligible. Output and prices are not expected to change in both scenarios, except in the Pacific, however these changes are marginal and do not have a strong impact. Throughout the specified regions and countries, one is able to identify a similar trend as in the other sectors. Generally, the EU's exports of communication services to the regions and countries reduces. The Pacific Countries see the largest increase in communication services exports to the EU (0.6 percent) under the ambitious scenario, but this is from a very small base value (€ 27.8 billion; 50 percent of Australia's communication and business services). The EU's exports are – to a limited extent – replaced by Australian communication services exports. The largest increase in Australian communication services imports can be observed with Turkey, with 0.4 percent under the ambitious scenario and 0.4 percent under the conservative scenario. The effects for EU FTA partners, the main EU and Australian competitors and the poorer nations in the world (LDCs, Pacific Countries) are negligible as well.

Table 4.14: Third country effects of the EU-AUS FTA, communication services

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
AUS exports to country – Amb	**0.4**	0.3	0.0	**0.4**	0.3	0.2	0.3	0.3	0.3
AUS exports to country – Cons	**0.4**	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3
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 4.15 shows the main third country effects for the other services (other business services – OBS) sector. Similar as in the communication services sector, the effects of the EU-AUS FTA for 3rd countries in the business services sector are negligible. The output and prices do not change under both scenarios except for the Pacific, where under the ambitious scenario the output reduces by 0.1 percent. Same as in the communication services sector, the EU's exports of business services reduce throughout the regions and are replaced – to a limited extent – by the Australian business services exports. The Pacific Islands will increase their exports by 0.6 percent. The effects for EU FTA partners, the main EU and Australian competitors and the poorer nations in the world (LDCs, Pacific Countries) are negligible as well.

Table 4.15: Third country effects of the EU-AUS FTA, other services

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
AUS exports to country – Amb	0.3	0.2	-0.2	0.3	0.1	0.1	0.2	0.2	0.2
AUS exports to country – Cons	**0.4**	0.3	0.1	0.3	0.2	0.2	0.3	0.3	0.3
Country total exports	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 Australia. For communication services, however, market concentration in both the EU and Australia is much higher. While the communications services market is competitive in the case of the EU with a concentration ratio ranging from 8 percent[205] to

[205] ECB (2019) "Concentration, market power and dynamism in the euro area", Working Paper Series No. 2253.

13 percent, it is also amongst the more competitive sectors in the case of Australia (the four-firm concentration ratio, which consists of the market share of the four largest firms in an industry, expressed as a percentage is 24 percent[206]).

The relatively competitive market structure and large SME representation suggest that the EU-AUS FTA is likely to yield further pro-competitive effects, leading to a fall in mark-ups and industrial restructuring especially in the ambitious scenario that entails more meaningful liberalization 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

- Trends in the professional services sector, both in the EU and Australia are positive 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 contribute to job creation expected as a result of the EU-AUS 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 the sector. A well-designed training offer may help to maintain or improve sector's competitiveness and support employability of local workers and their competitiveness.
- 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 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 the EU-AUS FTA.
- The EU should aim to be treated equally as the other countries which already have a FTA with Australia, which would mean that threshold should generally be uncapped or rise to A$1,154 million. As an alternative, the EU could try to raise the percentage of ownership in the company from when the threshold starts to play a role, for example 30 percent instead for a business worth more than A$1,154 million. Regarding the thresholds for commercial land, the EU should also try to be equally treated with the other FTA countries.

[206] Reserve bank of Australia (2018) "Business Concentration and Mark-ups in the Retail Trade Sector", available from: https://www.rba.gov.au/publications/bulletin/2018/dec/pdf/business-concentration-and-mark-ups-in-the-retail-trade-sector.pdf.

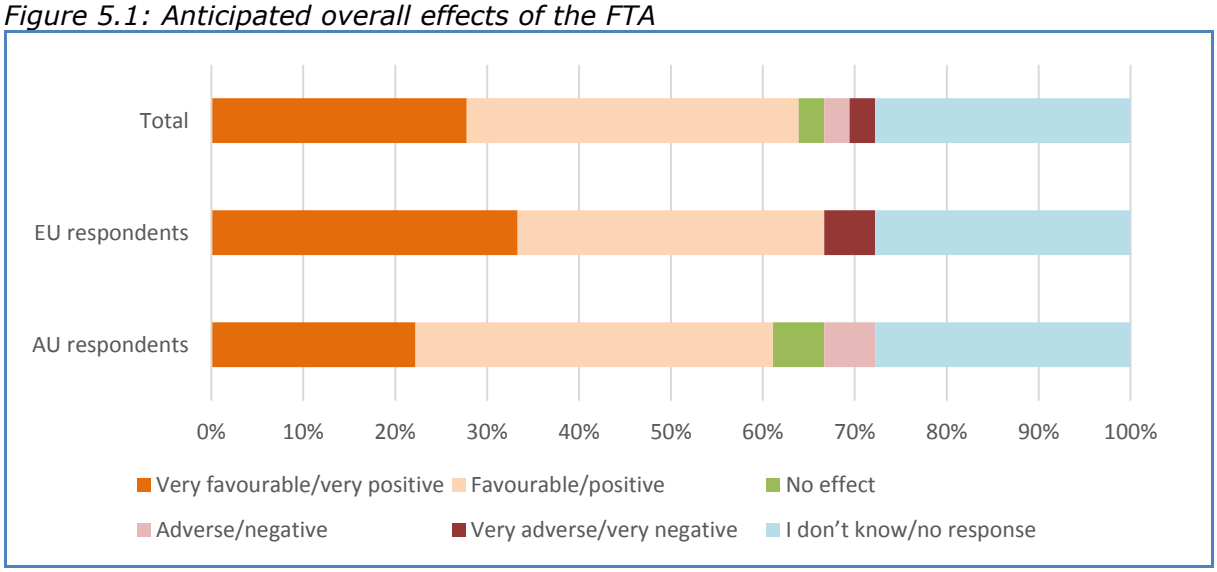
5. CONSULTATIONS

Consultation and communication activities were undertaken in line with the consultations plan presented in the inception report. In total, more than 400 stakeholders (organisational entities) - 96 in Australia 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, 36 respondents participated across the two surveys, of which 32 in the general one and 4 in the business/SME survey. Half of the respondents are based in Australia, and the other half located in the EU. 78% of respondents represent organisations, and 11% each businesses and 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). 64% of respondents stated that the overall effect of the Agreement would be positive or very positive, while 6% anticipated a negative overall impact of the Agreement (28% did not know or provided no response). The pattern of responses was very similar when asked about the overall effects in Australia and in the EU, and across respondents in the EU and in Australia (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 both-ways goods trade between Australia and the EU, effects for consumers in both the EU and Australia, and services trade. Conversely, the most limited positive effects of the new Agreement are expected for the incidence of corruption, good governance, and SMEs in Australia. EU respondents are clearly more optimistic about the Agreement than Australian respondents. The largest differences in views are with regard to protection of intellectual property rights including geographical indications, which EU respondents consider as one of the most important benefits but where Australian survey participants see no benefit at all from the FTA, as well as the Agreement's effects on SMEs both in Australia and the EU. Australian respondents are also less positive about the potential of the Agreement to increase Australian exports to the EU. Both in the EU and in Australia, agriculture, meat production

and the dairy sector are considered among the most influenced sectors, and respondents expect a more positive impact of the FTA on sectors in the EU than in Australia.

Responses regarding the FTA's social impact show a generally positive perception of the effects in Australia across all types of social indicators, with varying degrees: The most limited/neutral effect is expected for wealth inequality. Conversely, the strongest positive effect of the Agreement is anticipated for consumers, employment levels, and the rights and protection of migrant workers.[207] Similar, although more limited social effects of the Agreement are expected in the EU. Both in the EU and in Australia, consumers are considered as the social group on which the FTA will have the strongest effect by far. However, 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. The same applies to the anticipated environmental effects, but the few respondents who answered this question (10) are rather critical: For Australia, on balance some net positive effects are expected regarding use of renewable energy and natural resource exploitation. For the EU, a positive effect is expected only for the former. The most negative effect expected in Australia is on GHG emissions, and in the EU on GHG emissions and water quality.

Finally, in terms of FTA negotiation topics, the three issues considered most important overall by all respondents regardless of their location are the removal of remaining tariffs, simpler rules of origin especially for SMEs, and the removal of TRQs for agricultural goods. Preferences vary however considerably between Australian and EU respondents for some issues. For example, Australian respondents consider TRQs, rules on subsidies and state aid, services trade liberalisation, investment liberalisation and dispute settlement as more important than EU respondents. Conversely, for EU survey participants, rules on competition, environmental protection, and protection of IPRs and GIs are more important than for Australian respondents.

[207] Generally, EU respondents have a more sceptical view, expecting no or rather limited social impact of the Agreement in Australia. This result may appear slightly puzzling, as EU respondents were more positive than Australian ones regarding the expected economic effects. However, it should be noted that questions on economic effects were mostly answered by business representatives, and questions on social and other non-economic effects by civil society representatives.

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 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-AUS FTA works through the economies and impacts the EU, Australia or others.

6.1. Main Policy Recommendations

Main economic and SME policy recommendations

- The tariff and NTM liberalisations in the ambitious scenario show some significant sectoral effects. These liberalisations, in order to minimise immediate adjustment effects and give workers the time to adjust, could be introduced gradually. This pertains especially to liberalisation in ruminant meats for the EU and motor vehicles and machinery for Australia.
- The EU and Australia should aim at the removal (or increase) of thresholds for investments in Australia for EU investments, so that no investments (or only very large ones) will be screened by the Foreign Investment Review Board. The EU should ask Australia at the minimum for EU investors to be treated similar to investors from Chile, New Zealand and United States, meaning that both the threshold for agribusinesses and agricultural land will be set at A$1,154 million.
- The EU Member States and Australia should agree to establish a one-stop-shop for SMEs in the Member States and Australia - much of the feedback received from SMEs points to the fact that the EU-AUS FTA is seen as very abstract and distant from their every-day concerns, and SMEs do not have the resources to investigate deeply. Even though this is not an EU competence, it should nonetheless be recommended for the EU Member States.

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, if the ambitious scenario is followed, some EU Member States or regions having a higher share of non-dairying cattle farming in the economic activity and employment (e.g. in Ireland), may potentially be 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 farmer 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.
- While quantitative impacts of the EU-AUS FTA on the respect of rights at work are likely to be limited (e.g. in the case of 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 Australia to ratify the ILO fundamental convention No. 138. The Parties should continue

their dialogue in this area during negotiations, with a view to identifying steps to take by Australia towards ratification and effective implementation of this convention, in law and practice.

- If agreed in negotiations, new 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 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, as well as expertise developed by European Agency for Safety and Health at Work. In the past, such cooperation with partner countries, e.g. Chile (under 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. Also, in the case of EU-AUS FTA, it will be important that these activities engage sector representatives and other relevant stakeholders from both Parties.
- If agreed in negotiations, new 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.
- Cooperation and dialogue under TSD chapter could also include seminars to be attended by representatives of NCPs 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.
- To enable monitoring of impacts of the EU-AUS 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, and internationally traded goods and services), and to a more regular collection of data regarding women entrepreneurs and traders in Australia. 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-AUS FTA or other relevant chapters, e.g. on SMEs, and within other bilateral or multilateral initiatives, e.g. follow-up to the 2017 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 (based on an example of a survey by Women in Global Business and the University of Melbourne) and – in multilateral forums – examples of recent Chilean studies identifying barriers to trade, as well as goods and services exported by women-led enterprises.
- The Parties should monitor (in cooperation with social partners) whether women may be disproportionately impacted by certain price increases in Australia as a result of the EU-AUS FTA.
- To enhance the sustainability impact of the TRQs, we recommend the negotiators to take on board the animal welfare effects of the existing TRQs identified by civil society and take animal welfare into account when developing the final TRQ-related negotiation outcomes in the EU-Australia FTA, not only focused on the size of the TRQ but also creating conditions conducive to a sustainable economy in general and animal welfare in particular.

Main human rights policy recommendations

- The FTA should include a commitment for Australia to ratify the ILO Minimum Age Convention No.138, the ILO 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 international standards.
- Based on the analysis of the impact, we recommend the EU – if agreed – to only gradually remove tariffs and TRQs in the agricultural sectors, to allow the ruminant sector in the EU and farmers to adjust. Given the potential negative employment consequences of the ambitious scenario for the ruminant meat sector in the EU, the EU may need to reflect on costs and benefits from full liberalisation in this sector. The same applies for motor vehicles and machinery, where gradual tariff liberalisation would give Australian workers more time and Australia may need to reflect on costs and benefits of full liberalisation in these sectors.
- 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 (not at individual FTA level, but including the EU-AUS FTA).
- We recommend to include continued monitoring and ex-post evaluation as part of the FTA text, as was the case in the EU-Mexico FTA, 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 TSD could cover this. Since the EU-AUS FTA is expected to challenge progress towards the Paris Climate goals, and because both Australia's and (to a lesser extent) the EU's current climate strategies are insufficient to meet the Paris Climate goals, negotiators are recommended to commit to stimulate further climate action in the context of the FTA in order to 'offset' the negative impact of this increased ambition. Examples of potential mitigation options are improved vegetation management, improved grazing futures (e.g. prevent land clearing/deforestation) and potential techniques to decrease GHG emissions related to enteric fermentation (Mayberry, 2019).
- Consider ways in the negotiation on how to promote information exchange on effective policy making in the field of water quantity and quality between the EU and Australia. 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. The FTA is likely to create an impact on water quality and quantity in Australia, most importantly through the predicted expansion of the beef and sheep meats sector, which creates nitrogen run-off into freshwaters causing a worsening of water quality through eutrophication. Secondly, the sector requires freshwater as input for production and thus pressures on water scarcity will also increase, ceteris paribus.

6.2. Main Flanking Measures

Main economic flanking measures

- The EU-Australian value chain appears to be strong in R&D and business services – with Australian value-added contributing to EU demand and vice versa. Exploring possibilities to include Australia in the EU's ambitious multi-annual research programmes could lead to deeper cooperation between Australian and EU researchers,

whereby public-private partnerships could aid to focus research on societal challenges (e.g. climate change, health care innovation) with sufficient funds.

- We recommend the EU and Australia to carefully assess the effectiveness of alcohol labelling in the EU and Australia and whether supplementary rather than primary labels would be equally effective to warn against health risks with regard to alcohol consumption.
- The EU and Australia should contemplate signing a veterinary agreement as this would support alignment between the EU and Australian dairy sectors as has been the case with New Zealand.
- Establish one-stop-shops for SMEs in the EU Member States and Australia providing information and support in relation to bilateral trade and solving SME issues.
- We propose for the EU and Australia 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-AUS FTA and to work with SMEs to reap benefits and become themselves ambassadors to other SMEs.
- In addition to the one-stop-shop, we propose for the EU and Australia flank the FTA with a public-private cooperation 'SME task force' in each of the Parties, linking Chambers of Commerce and SME representatives with the relevant ministry departments to develop and execute a 3-year action plan to explain to SMEs the potential of the EU-AUS FTA and to work with SMEs to reap benefits and become themselves ambassadors to other SMEs.

Main social flanking measures

- Trends in the motor vehicles sector in the EU 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. Hence, for the expected job growth to materialise, EU institutions and EU Member States should work with industry and training providers to create programmes that would equip (future) workers with the right skills sets 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 likely to be negatively affected in Australia by the EU-AUS FTA, e.g. machinery, will need to be monitored in Australia (by Australian government and stakeholders) and if job reductions occur as a result of the EU-AUS FTA, workers should receive support via domestic flanking policies. Examples of targeted measures can be inspired by actions taken by the Australian Government in cooperation with industry following announcement of planned closures of car production plants. Applied measures included dedicated funds, provision of training and career advice, job fairs and support for companies in supply chains to diversify their operations into other sectors.
- We recommend to flank the EU-AUS FTA with clear programmes to reduce the number of accidents at work – especially in agriculture and construction – in order 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 the recent initiatives.
- Based on results of the economic modelling with predicted employment growth in some sectors of agriculture in Australia, it seems likely that at least part of the additional jobs may be filled 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 certain 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. An example of a course of action heading into that direction is provided by the taskforce set up by the Australian Government to examine situation of migrant workers in Australia. In March

2019, it published a report with 22 recommendations, including a need for targeted information for temporary migrant workers and students having the right to work about their rights and related employers' obligations. Other recommendations suggest e.g. legislative changes to increase protection of migrant workers, prevent employers breaching workers' rights from employing migrant workers, prohibit job adverts offering wages lower than foreseen by the law, increase penalties for violation of workers' rights, qualify serious violation of workers' rights as a criminal offence and strengthen enforcement (Australian Government, 2019).

- 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-AUS 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-AUS 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 related conformity assessment procedures (given participation of women-led SMEs in exports to Australia 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.

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-AUS FTA, and monitoring that the right to work of the workers from the affected sectors is not violated. In the EU the European Social Fund and European Globalisation Fund are already available to implement this recommendation.
- Based on the analysis of the impact, we recommend that Australia considers introduction of a special taskforce directed at monitoring that the labour rights of the workers from the declining sectors are protected and the benefits from the growing sectors are reinforced through use of increased opportunities from the EU-AUS 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.
- While the exact text of the EU-AUS FTA is not available at the time of writing of this report, access to essential medicines may be affected. Increased IP protection may stimulate innovation and contribute to medicines shortages in Australia, but it can also certain pressure on the Australian government via increasing costs for healthcare in case new innovative drugs hit the market. Causes for current shortages of medicines in Australia need to be studied in more detail to investigate the reasons for these shortages and see if FTA may facilitate solutions. In this respect, we recommend that the Australian government considers launching a separate study that can look in depth into the shortages of medicines and reasons behind it so that the FTA can be shaped in such a way as to facilitate this issue.

Main environmental flanking measures

- 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 TSD could cover this. Since the EU-AUS FTA is expected to challenge progress towards the Paris Climate goals, and because both Australia's and (to a lesser extent) the EU's

current climate strategies are insufficient to meet the Paris Climate goals, negotiators are recommended to commit to stimulate further climate action in the context of the FTA in order to 'offset' the negative impact of this increased ambition. Examples of potential mitigation options are improved vegetation management, improved grazing futures (e.g. prevent land clearing/deforestation) and potential techniques to decrease GHG emissions related to enteric fermentation (Mayberry, 2019).

- Find ways to alleviate the impacts of increased agricultural production on biodiversity in Australia. For instance, options to minimise land clearing as such as well as the impact of land clearing on biodiversity could be explored in the light of the FTA. The FTA is likely to exacerbate the pressures on biodiversity in Australia 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.

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