



# **Ex-ante Study of a Possible Modernisation of the EU-Chile Association Agreement**

## **Final Report**

Prepared by ECORYS - CASE  
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Modernisation of the EU-Chile  
Association Agreement**

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## LIST OF ABBREVIATIONS

AA	Association Agreement
AGOA	African Growth and Opportunity Act
ASOEX	<i>Asociación de Exportadores de Frutas</i>
AVE	Ad valorem Equivalent
BIT	Bilateral Investment Treaties
BPLEG	Good Labour Practices with Gender Equity Programme
BRC	British Retail Consortium
BSE	Bovine Spongiform Encephalopathy
CAFTA-DR	Central American- Dominican Republic Free Trade Agreement
CASEN	National Socio-Economic Characterization Survey
CCA	Central Competent Authority
CCCLC	Canada-Chile Commission on Labour Cooperation
CCFTA	Canada-Chile Free Trade Agreement
CEACR	Committee of Experts on the Application of Conventions and Recommendations
CEPII	<i>Centre d'études prospectives et d'informations internationales</i>
CETA	Comprehensive Economic and Trade Agreement
CFA	Committee on Freedom of Association
CGE	Computable General Equilibrium
CJEU	Court of Justice of the European Union
Codex	Codex Alimentarius Commission
CONUPIA	Small and Micro-Enterprises of Chile
COMACOES	Chilean-Spanish Chamber of Commerce
CPC	Confederation of Production and Commerce
CPV	Common Procurement Vocabulary
CUSFTA	Canada-U.S. Free Trade Agreement
CV	Compensating Variation
DAG	Domestic Advisory Group
DDA	Doha Development Agenda
DIRECON	Dirección General de Relaciones Económicas Internacionales
DSGE	Dynamic Stochastic General Equilibrium
EBOPS	Extended Balance of Payments Service Classification
ECHP	European Community Household Panel
ECLAC	Economic Commission for Latin America and the Caribbean
EFTA	European Free Trade Area
ENIA	Chilean Annual National Industrial Survey
EPA	Economic Partnership Agreement
EU	European Union
EV	Equivalent variation
FAITC	Foreign Affairs and International Trade Canada
FESUC	Trade Unions Federation of CODELCO Chile Supervisors and Professionals
FDI	Foreign Direct Investment
FMD	Foot-and-Mouth Disease
FOB	Free On Board
FRESHFEL	European Fresh Produce Association
FTA	Free Trade Agreement
GAP	Good Agricultural Practices
GATS	General Agreement on Trade in Services
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIA	Gender Impact Assessment
Global G.A.P.	Global Good Agricultural Practices
GMM	System-Generalized Method of Moments
GOC	Government of Chile
GPA	WTO's Agreement on Government Procurement
GRASP	Global G.A.P. Risk Assessment on Social Practice

GTAP	Global Trade Analysis Project
GSP	Generalised System of Preferences Service
GTAP	Global Trade Analysis Project
HACCP	Hazard Analysis and Critical Control Points
HS	Harmonized System
IACHR	Inter-American Court of Human Rights
ICRG	International Country Risk Guide
IDA	Index Decomposition Analysis
ILAB	Bureau of International Labor Affairs
ILO	International Labour Organisation
IMF	International Monetary Fund
INE	<i>Instituto Nacional de Estadística</i>
IPPC	International Plant Protection Convention
ISDS	Investor-State Dispute Settlement
ISIC	International Standard Industrial Classification
ITC	International Trade Centre
JETRO	Japan External Trade Organization
LDCs	Least Developed Countries
MEMA	Middle East Mediterranean and Africa
MERCOSUR	Southern Common Market
MFN	Most favoured nation
MINTRAB	Chilean Ministry of Labour
NACE	Statistical Classification of Economic Activities in the European Community
NAFTA	North American Free Trade Agreement
NTB	Non-Tariff Barriers
NTM	Non-Tariff Measure
OAS	Organization of American States
ODEPA	<i>Oficina de Estudios y Políticas Agrarias</i>
OECD	Organisation for Economic Cooperation and Development
OHCHR	Office of the High Commissioner for Human Rights
OIE	World Organisation for Animal Health
PABCO	<i>Planteles bajo Certificación Oficial</i>
PTA	Preferential Trade Agreement
RoW	Rest of World
RTA	Regional Trade Agreement
SACU	Southern African Customs Union
SADC	Southern African Development Community
SAG	<i>Servicio Agrícola y Ganadero</i>
SENADIS	National Disability Service
SENCE	National Training and Employment
SERNAM	Servicio Nacional de la Mujer
SIA	Sustainability Impact Assessment
SME	Small and Medium Enterprises
SOE	State-Owned Enterprises
SPS	Sanitary and Phytosanitary
TARIC	<i>TARif Intégré Communautaire</i> - Integrated Tariff of the European Communities
TB	Tariff Barriers
TBT	Technical Barriers to Trade
TDCA	Trade, Development and Co-operation Agreement
TED	Tenders Electronic Daily
TFEU	Treaty on the Functioning of the European Union
TPP	Trans-Pacific Partnership
TRAINS	Trade Analysis Information System
TRQ	Tariff-Rate Quotas
TTIP	Transatlantic Trade and Investment Partnership
UECBV	European Livestock and Meat Trading Union
U.S.	The United States of America
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
WTO	World Trade Organization

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## ABSTRACT

This study provides an ex-ante impact assessment of the possible modernisation of the EU-Chile Association Agreement. Since the current Agreement entered into force in 2003, Chilean exports of agricultural/food products and services to the EU have nearly tripled while EU exports to Chile have doubled in most sub-sectors. Going forward, simulation results provided by the European Commission shows potential growth in bilateral exports with the EU, especially for goods belonging to manufacturing sub-sectors, with modest positive effects on the macroeconomic variables in both partners. This includes increased opportunities for small and medium sized enterprises and general consumer welfare gains. Trade redistribution may also occur among the main trading partners of the EU and Chile. Furthermore, there are decided advantages to a single EU-wide comprehensive investment chapter to facilitate foreign direct investment flows, while gains from easing market access and regulatory barriers to public procurement in both Chile and the EU are more muted. Overall, limited environmental, employment and labour market impacts are expected in both partners. However, potential exists for reinforcing labour standards in Chile and increased environmental cooperation through a modernised Agreement. The net impact of increased trade on human rights is unclear but likely to be marginal.

## Executive summary

### *Major Changes in EU-Chile Trade Flows since the Entry into Force of the Association Agreement*

1. The economic relationship between the European Union (EU) and the Republic of Chile is an important one for both partners, albeit one affected by the 2007-08 global financial crisis and economic conditions in Chile. In absolute terms, bilateral trade of all goods has grown for both parties between 2003 and 2015 (9% annual nominal rate of EU's exports to Chile and 2% of EU's imports from Chile), with a marked difference for EU's imports from Chile between 2003-2007 (24% annual nominal increase) and 2007-2015 (4% decrease). During the same period, bilateral trade in agricultural and food products has also grown (14% annual nominal rate of EU's exports to Chile and 5% of EU's imports from Chile), with a much greater increase in EU's exports between 2009-2015 than between 2003-2009 (19% versus 7% annual nominal increase) and a much lower increase in EU's imports between 2007-2015 than between 2003-2007 (2% versus 12% annual nominal increase). However, in relative terms, when compared with trade with the rest of the world, there is a clear erosion in bilateral trade since 2003 in favour of third parties. The picture for agricultural and food products is more nuanced, with Chile's exports improving in relative terms until 2009 and deteriorating thereafter, and EU's exports deteriorating until 2008 and improving since 2014.
2. In absolute terms, bilateral trade in all services has grown at a similar rate between 2004 and 2014 for both parties (7% of annual nominal rate) with a much lower increase in EU's exports between 2007-2012 than between 2004-2007 (3% versus 24% annual nominal increase) and a decrease in EU's imports between 2008-2012 (3% annual nominal decrease), which contrasts with an overall increase between 2004-2008 (18% annual nominal increase). In relative terms, EU's exports of all services to Chile and, to a lesser extent, EU's imports of all services have both improved relative to other suppliers.
3. The Association Agreement appears to have had no consistent effect on EU-Chile investment flows, and the composition of these flows into Chile has remained rather stable, with copper mining receiving approximately 45% of all inflows and financial services and retail divvying up the rest. For public procurement, Chilean firms have not benefitted particularly from the EU procurement market, with a single Chilean winner of all EU bids from 2009 to 2015. From the Chilean side, an analysis of winners of Chilean tenders from 2009 to 2016 shows a similar result, with foreign bidders making up 0.001% of all successful bids. Increased liberalisation of public procurement is not expected to alter these trends substantially, given difficulties in transportation costs and administrative discretion in Chile.

### *A Review of Previous Studies Shows that Chile Generally Benefits from More Open Trade*

4. A review of previous studies assessing Chile's free trade agreements (FTAs) shows that Chile has largely benefited from more open trade. In general, deeper trade integration with the EU has led to gains in Chile's key macroeconomic variables (welfare, gross domestic product, consumption, and capital stock) in the range of 0.2% to 1.8%. Its gains in trade are twice as large, ranging from 1% to 3%. Wages and wage bills of unskilled labour generally increase by more than those of skilled labour, but not by more than 1%. The few studies on the effects of the EU-Chile Association Agreement for the EU point to very small effects, which reflect the small market size of Chile and the size of its trade in comparison to the EUs. In these studies, total EU trade typically grows by less than 0.1%. The EU unskilled labour wage bill declines by 0.1%, as a result of losses in unskilled labour-intensive EU sectors.

*The Importance of Agricultural and Food Product Trade between the EU and Chile*

5. In 2015, agricultural and food products reached 35% of the total value of EU imports from Chile, but only accounted for about 6% of the total value of EU exports to Chile. EU imports of agricultural and food products from Chile are concentrated in a few categories, such as edible fruits and nuts, beverages, and fish and seafood. In contrast, EU agricultural and food exports to Chile are more diversified, including beverages, waste from food, edible preparations, preparations of vegetables and fruits, oilseeds and oleaginous fruits and preparations of cereals. Since 2010, EU agricultural and food imports from Chile have stabilized at EUR 3.0 billion while EU agricultural and food exports to Chile have continued to grow, reaching EUR 0.5 billion in 2015.
6. Market access for Chilean agricultural and food exports to the EU has improved thanks to the Association Agreement, mainly by gradually opening import quotas and reducing barriers for about 400 tariff lines (or 17% of the total) in key agricultural and food products. There are still some 500 tariff lines (or 21% of the total) of agricultural and food products that are excluded from this gradual import liberalisation. In addition to its traditional exports, Chile has further export potential to the EU, but only under a progressive or complete liberalisation schedule for beef, pork and poultry meats, olive oil, fruit juices, and some specific dairy and fishery products. Tariff rate quotas granted by the EU that have not been fully utilized for beef and pork meats since 2013, and for poultry products and garlic since 2014, are mainly due to Chile's better opportunities and fewer uncertainties in third markets. Despite Chile's low tariffs applied to imports of agricultural and food products from the EU, market access for some specific EU's agricultural and food exports, such as exports of beef, and fresh fruits and vegetables, has been denied due to sanitary and phytosanitary-related issues and other specific requirements. The potential for EU exports to Chile are concentrated in fruits and vegetables for the Chilean off-season marketing period, as well as beef and pork meat products, in addition to current exports.

*The Advantages of a Single Investment Chapter*

7. A comparative examination of existing international treaties on investment signed by the EU, its Member States and Chile, in particular the bilateral international treaties (BITs) signed between individual EU Member States and Chile, leads to two major conclusions. First, the number of discrepancies among these BITs is sufficient to suggest that replacing these individual BITs with a single EU-wide comprehensive investment chapter within a modernised Association Agreement is appealing for providing similar opportunities to investors from both EU Member States in Chile and Chile in EU Member States. Second, an EU-wide investment chapter in a modernised EU-Chile Association Agreement would bring the additional advantage of extending investment protection to those two EU Member States that have signed a BIT with Chile but that is still not in force (Hungary and the Netherlands), and to those ten EU Member States that have not yet signed a BIT with Chile (Bulgaria, Cyprus, Estonia, Ireland, Latvia, Lithuania, Luxembourg, Malta, Slovakia and Slovenia).
8. The identification of EU and Chilean barriers to investment shows that these measures are few and tend to be concentrated in the sub-sectors of transport, culture, audio-visual, and communications.

*Room for Improvement in Public Procurement*

9. Although Chile is not a member but an observer of the Agreement on Government Procurement (GPA) of the World Trade Organisation, the 2002 EU-Chile Association Agreement applies the complete 1994 GPA framework to the procurement practices of the two parties for issues such as coverage, national

treatment, transparency, contract award procedures, contract award criteria, technical specifications, regulatory safeguards, bid challenges, and technical cooperation.

10. However, comparing the legal frameworks of the existing EU-Chile Association Agreement with more recent agreements concluded separately by the EU and Chile shows that some market access, regulatory, language and information barriers to public procurement still exist. On the one hand, Chile could improve the procurement for public works and the access to the legal framework, guidelines, procurement statistics, case law and other related documents by using other languages than Spanish. It also could ease restrictions in the qualification of suppliers that presently affect their access to the public procurement market. On the other hand, the EU could clarify important developments of the Court of Justice of the European Union (CJEU) case law with respect to public procurement, notably with respect to land development agreements, in such a way that they can be understood by third parties, and further promote a greater use of its advanced online procurement system (TED), which will be mandatory to all contracting authorities by October 2018. In a modernisation of the EU-Chile Association Agreement, both parties could also aim to achieve a more comprehensive coverage of procurement from state-owned enterprises and entities with special or exclusive rights.

*The Costs and Benefits of Reducing Trade Barriers in Goods, Services, Investment and Procurement*

11. According to the computable general equilibrium (CGE) simulation results provided by DG Trade for trade liberalisation in goods and services, percentage gains in gross domestic product are 0.001% in a conservative scenario and 0.002% in an ambitious one for the EU, and 0.09% and 0.175% for Chile in the two respective scenarios, by 2025. The growth in total exports respectively amounts to 0.011% and 0.024% for the EU, and 0.151% and 0.209% for Chile, while growth in bilateral exports amounts respectively to 9.91% and 21.46% for the EU, and 0.72% and 1.60% for Chile, in 2025. The largest increases in the EU's exports to Chile are generally found in the trade of goods belonging to the manufactured sub-sectors, whereas the largest increases in Chile's exports to the EU are found in the agricultural and food sub-sectors. Within the agricultural and food sub-sectors, the largest increases in Chile's exports are found in dairy products, followed by oilseeds, vegetable oils and fats.
12. In terms of investment flows, the existing literature uniformly finds a positive effect of investment clauses or investment treaties on foreign direct investment (FDI). Based on previous empirical research, a modernisation of the Association Agreement could generate an approximate increase of 25% in European FDI inflows to Chile in the following years. However, this number is tempered by the fact that the size of the Chilean market is small and the largest EU economies have already been linked to Chile via investment protection treaties for the past twenty years. In contrast, a modernisation of the Association Agreement could lead to a modest increase of approximately 2% or 3% in FDI inflows to the EU from Chile. If the modernisation of the Association Agreement could result in more certainty in investor dispute mechanisms and in the investment climate, it is possible that gains to Chile could result in a doubling of Chilean FDI into the EU.
13. Quantitative evidence on the effects of liberalising public procurement to foreign bidders under a trade agreement, either on overall volumes of procurement or on welfare, is scarce. Given this lack of empirical evidence, it is more instructive to examine sub-sectors where the EU and Chilean firms may benefit from opportunities in a modernisation of the Association Agreement. The health sub-sector, especially medical equipment and consulting services, may remain a potential source of contracting for EU firms, with the advantage that tenders for such procurement may be available to small- and medium-sized suppliers. Public procurements for equipment, infrastructure, and associated services may prove

to be an opportunity for EU firms. A high demand in Chile for consulting and professional services will also continue to be an area where EU firms may have a decided comparative advantage.

*Employment and Labour Market in the EU and Chile Expected to see Limited Impacts*

14. Overall, the CGE simulation results show very small changes in the Chilean labour market, and negligible changes in the case of the EU, as a result of an expanded Agreement. A limited regressive decrease in the purchasing power of household income is predicted in Chile, while a progressive, albeit negligible, decrease is predicted for the case of the EU. As for labour income in Chile, real wages increase on average in the two alternative scenarios between 0.35% in the conservative scenario and 0.61% in the ambitious scenario for unskilled workers and between 0.19% and 0.37% for skilled workers. This positive effect in both scenarios is also pro-gender. Among sub-sectors the pro-gender bias of the modernisation of the Agreement is particularly noticeable, as in almost all sectors the increases for unskilled workers are higher for women than for men. In the case of the EU, the effects are close to zero, with a slight pro-skill bias and gender neutral effects. As for inequality, there are no changes in the EU and a slight increase in the share of income captured by the highest quintile in Chile.

*Increased Opportunities for Small and Medium Enterprises in both the EU and Chile*

15. Empirical research shows that SMEs with greater participation in international markets tend to report higher turnover and growth, and are more productive than their counterparts; these same SMEs are likely to be most affected by the modernisation of the Agreement. In the EU, there is large SME participation in total employment in the sub-sectors that are forecasted to expand by the CGE simulation scenarios although, the impact of the modernisation is expected to be negligible. In Chile, the three sub-sectors with the highest increase in export values (fruits, vegetables, and nuts, beverages and tobacco, and other food products) are also the sub-sectors with the highest participation of SMEs in 2014 Chilean exports to the EU. Additionally, it is also important to note that a moderate export increase is also predicted in the ambitious scenario for recreational and other services, a sector that alone accounts for half of the number of SMEs existing in the country, and whose internationalization the Chilean government has tried to incentivize in recent years. This points to an important opportunity to increase Chilean SME exports to the EU brought about by the modernisation of the Association Agreement.

*Consumer Welfare Should Increase in the EU and Chile, but Some Groups Could Remain Vulnerable*

16. In each scenario of the CGE simulation results provided by DG Trade, both conservative and ambitious, overall aggregate consumption is expected to increase substantially for both the EU and Chile over the long term. Further, overall changes in aggregate consumer economic welfare could increase by more than EUR 268 million, over the long term, in both the EU and Chile. In large part, these results are due to overall changes in consumer prices and labour incomes, but does not consider less quantifiable factors, such as a greater choice of quality products. Nonetheless, there are cultural and socio-economic differences between the EU and Chile that could result in some segments of society being more negatively affected than some others by the modernisation of the EU-Chile Association Agreement, such as low-income earners and young single parents.

*The Modernisation of the EU-Chile Association Agreement Could Create New Trade Patterns for Rest of the World*

17. In addition to enhanced trade and investment relations between the EU and Chile, the modernisation of the EU-Chile Association Agreement could also carry implications for economic interactions with the

rest of the world. This includes the changes in trade dynamics between the EU and Chile with third countries as well as those between third countries themselves. The shape of these new trade patterns is mainly influenced by current trade agreements signed by the EU and Chile with other third parties, current trade agreements among third countries themselves, and the current composition of trade between both the EU and Chile with third countries. Overall, the EU and Chile's top trading partners (e.g., China, the United States, and Japan) are expected to be among the most affected by the modernisation of the EU-Chile Association Agreement.

*There is Potential for the Modernisation of the Association Agreement to Reinforce Labour Standards*

18. Quantitative and qualitative studies have suggested that increasing trade volumes can be associated with the weakening of labour rights, especially in developing countries, but that the adoption of trade-based labour clauses has helped in some cases to mitigate erosion of labour protection. Studies also show that positive externalities for labour can arise from their inclusion. Following the pattern established by the “new generation” of EU agreements, this would mark an improvement over the existing Agreement.

*Limited Environmental Impacts are Expected, but Greater Cooperation Opportunities Could Arise*

19. The environmental effects of the changes in trade and sectoral composition in the conservative and ambitious scenarios are likely to be limited in the EU and Chile. Without mitigating action, CO<sub>2</sub> emissions are likely to increase somewhat in both regions due to scale and technical effects, as well as a projected increase in transportation. While policies to mitigate CO<sub>2</sub> emissions in the EU are well-developed, Chile's policy framework is still under development. Estimates indicate that increases in CO<sub>2</sub> emissions related to international transport are likely to be more important than those due to domestic emissions. Other environmental issues that may require attention are potential increased pressures on water, land and related impacts on biodiversity that may be associated with the projected expansion of Chile's agricultural sector linked to increased export opportunities in both scenarios.
20. The modernisation of the EU-Chile Association Agreement also offers opportunities for the EU and Chile to strengthen their cooperation on technical and policy cooperation in key environmental areas, including CO<sub>2</sub> emissions in international transport, the conservation of biodiversity under the Convention of Biological Diversity, and sustainable production and consumption (where deeper trade integration may help stimulating the adoption of greener technologies). In the past decade, European companies have already become major investors in renewable energy projects in Chile. A comprehensive investment chapter could harness this trend. Other areas where increased cooperation could prove beneficial would include energy efficiency, efficiency in irrigation/water distribution, and efficiency in the application of fertilisers and pesticides. While not strictly speaking an environmental issue, the modernised Agreement would also provide opportunities to improve animal welfare in Chile.

*Studies Show that Increased Trade Could Positively Affect Human Rights Protection*

21. The few studies that directly examine the effects of trade on human rights conclude that trade can generally have a positive effect on human rights practices, such as lower measures of state repression of human rights and greater respect for civil liberties. In particular, an increase in exports can be associated with a lower level of human rights abuses. Studies also show that one third of states improve their practices in preparation for signing a free trade agreement with the EU, and states that belong to FTAs with enforceable standards are more likely to improve their human rights practices over time than states that do not belong to agreements with social clauses. In sum, both quantitative and qualitative studies show tendencies for an overall positive relationship between trade and human rights protections.

*However, Increased Trade Could also Increase the Risk of Exacerbating Some Human Rights Issues*

22. Among the current human rights issues in Chile - use of force by police, gender discrimination, the rights and recognition of indigenous peoples, and the rights of sexual minorities - all but two are essentially questions of domestic legislation with no linkage to international trade. Both gender discrimination and the rights and recognition of indigenous peoples are two areas where the intensification of trade and investment with the EU through a modernised Association Agreement could increase the risk of impacting human rights panorama, at least at the margins. Specifically in relation to gender discrimination, the major issue at hand is the equal participation of women in the workforce, and a significant gap in equality of opportunity between men and women, which in turn has an important effect on wage inequality. That said, despite disparities in contracting and utilisation in seasonal employment across genders, the impact of trade on gender inequality would be minimal, and it could also be monitored through labour cooperation mechanisms. As for the rights of indigenous peoples, the impact of the modernised Agreement is likely to be minimal and so is not expected to exacerbate land conflicts.

*Chile has made Progress in Complying with Human Rights Standards*

23. Chile has signed and ratified sixteen of eighteen international human rights treaties of the United Nations (UN) and has participated in the Universal Periodic Review by the Human Rights Council of the UN in 2009. The latest of these reviews commend Chile for the work the government continues to do in addressing the human rights violations of past governments, while also recognizing ongoing challenges, such as the rights of women, sexual minorities and indigenous peoples. In terms of labour rights protection, Chile has ratified the core conventions that make up the International Labour Organisation's 1998 Declaration on Fundamental Principles and Rights at Work, but still faces issues in consistently implementing them in domestic labour law and practices. Discrimination against women at the workplace is also still widespread, and in some cases backed by law. Continued engagement by Chile on promotion and protection of human rights in these areas would further minimize any potential risk of negative impacts on human rights from increased trade.



# 1 Introduction

## 1.1 Background of the Study

The economic relationship between the European Union (EU) and the Republic of Chile remains an important one for both partners, and one that has been steadily improving in recent years. For example, in 2014, the EU was the third leading source of imports in goods (14%) for Chile, after China (21%) and the United States (U.S.) (20%), while the EU was also the second-ranked export market for Chilean goods (14%), after China (24%) but before the U.S. (12%). The EU is also the largest foreign investor in Chile. Running the other way, Chile ranked 36<sup>th</sup> for both sources of imports (0.5% of EU import share) and exports (0.4% of EU export share) in goods for the EU (European Commission, 2015). The main imports of Chile from the EU include machinery and electric equipment, transport equipment, chemical products, and fuel. The key imports of the EU from Chile include mining products such as ores and non-ferrous metals, mostly copper which has represented 46% of total imports of the EU on average between 2013 and 2015. The agricultural sector contributes up to a quarter of the total EU imports from Chile, notably as wines, fruits and vegetables, fish and wood products (European Commission, 2015).

Chile imports from the EU increased at an annual rate of 5.2% between 2010 and 2014, while Chile exports to the EU decreased at an annual rate of 2.1% during the same period (European Commission, 2015). These contrasting growth rates should, however, be framed in the context of a longer-run annual average growth rate of 11% in trade flows between 2003 and 2013. In fact, much of the initial growth in EU-Chile trade can be attributed to the conclusion of an Association Agreement (AA) in 2002, which included a trade part that has been provisionally applied since February 2003. At the time of its conclusion in 2002, the EU-Chile Association Agreement was regarded as being the most comprehensive agreement that the EU had signed with a third country up to that time. The trade component of the Association Agreement embraced a wide set of provisions, several of which had never been included into previous trade agreements: important and prompt tariff concessions except for some sensitive agricultural, food and fishery products, liberalisation commitments for trade in services and foreign direct investment, innovative provisions for facilitating trade, provisions for sanitary and phytosanitary (SPS) measures that surpass rules agreed upon at the World Trade Organisation (WTO), access to government procurements, and protection of intellectual property rights (including names of geographical indications) among others. This was also the first agreement to go through the sustainability impact assessment (SIA) procedure to identify the implications of trade measures for the long-term economic, social and environmental development of both parties. It was likely a combination of factors, such as the economic openness of Chile and the structure of its economic relations with the EU that enabled this kind of agreement to go beyond deals with other third parties. The fact that there were fewer sensitive agricultural products in the EU-Chile relationship to exclude from the negotiations also helped (de Andrade Correa, 2013:147-148).

Since this milestone, there have been several trade agreements that the EU and Chile have independently concluded with third countries to facilitate trade in new areas and enhance investment. The EU in particular has moved towards 'new generation' free trade agreements (FTA), focusing on economies of high exporting potential. These new FTA are ambitious in eliminating tariffs as well as facilitating trade in services, liberalising and protecting investment, and overcoming non-tariff barriers among other aims. In Asia, the first of these new FTA was concluded with South Korea in 2009 (but without covering

Investment protection) and the second with Singapore in 2012 (which already covered this area). More specifically in the Americas, the EU also concluded comprehensive free trade agreements with Colombia and Peru to which Ecuador acceded in 2017, as well as an association agreement with Central America (Costa Rica, Guatemala, El Salvador, Honduras, Nicaragua and Panama) in 2012. More recently in February 2017, the European Parliament voted in favour of the Comprehensive Economic and Trade Agreement (CETA) with Canada, concluding the ratification process of this deal at the EU level. Since 2013, the EU has also been negotiating with the U.S. the so called Transatlantic Trade and Investment Partnership (TTIP) that could cover new areas including technical standards in addition to trade in goods, services, and investment as in CETA (European Commission, 2017).

Meanwhile, Chile has joined in 2011 the Pacific Alliance which currently includes in addition Colombia, Mexico and Peru with the aim of reducing trade barriers and fostering regional integration. Chile also signed, in February 2016, the Trans-Pacific Partnership (TPP) agreement with other eleven Pacific Rim countries with the aim of promoting economic growth and employment, enhancing innovation, productivity and competitiveness, raising living standards, reducing poverty, and promoting transparency, good governance, and enhanced labour and environmental protections. The TPP agreement also contains measures to lower trade barriers such as tariffs, and establish an investor-state dispute settlement mechanism.

Chile also has other free trade agreements with several trading partners: Canada since 1997, Mexico since 1999, the European Free Trade Area (EFTA), South Korea and the U.S. since 2004, China and New-Zealand since 2006, India and Japan since 2007, and Australia, Colombia, New-Zealand, and Peru since 2009 among others (DIRECON, 2016). The possibility that some of these free trade agreements, in particular with the U.S., could crowd out some EU exports from Chile's imports has also been considered as an important motivation for the EU to conclude an ambitious Association Agreement with Chile.

Since these current and eventual new agreements go beyond the current provisions of the trade component of the 2002 EU-Chile Association Agreement, trade preferences between Chile and the EU are most likely to be at risk of losing progressively their relevancy and attractiveness and, hence, be subject to trade erosion in the years to come. This is the main reason why the EU and Chile are now considering revising and upgrading the trade component of their 2002 Association Agreement. To properly revise the agreement, however, evidence regarding possible ways forward is necessary, in order to inform policymakers correctly. The current piece of evidence outlining the possible effects of such a revision is the 2012 ex-post assessment of the economic, social and environmental impacts of the trade component of EU-Chile association agreement (ITAQA, 2012), a work that did not have optimistic prospects for the future. The report suggested that EU imports from Chile would be 15% lower in 2009 if the Generalised System of Preferences (GSP) regime was applied to Chilean imports instead of the trade part of the Association Agreement, while Chile's imports from the EU would be 20% lower in 2009 if the Most Favoured Nation (MFN) regime was applied to European imports instead of the Association Agreement (disregarding effects on prices, incomes and outputs).

The 2012 ex-post assessment (ITAQA, 2012) was flawed, however, notably by the fact that it did not provide statistical counterfactual evidence that the non-tariff provisions of the 2002 Association Agreement facilitated bilateral trade. Indeed, the main difficulties in obtaining these counterfactual estimates from gravity equations consist in estimating *ad valorem* equivalents (AVE) for non-tariff barriers, generating a plausible counterfactual trade situation without the 2002 Association Agreement, and accounting for the many trade agreements concurrently implemented by both parties.

Using a Computable General Equilibrium (CGE) model of the Chilean economy, the 2012 ex-post assessment (ITAQA, 2012) calculated that exports of Chile to the EU are around 20% higher and the exports of the EU to Chile are more than 60% higher compared with a counterfactual state of the Chilean economy, thanks only to the tariff cuts of the 2002 Association Agreement. On the Chilean side, it is mainly the fruit, winery and fishery sub-sectors that benefit while, on the EU side, it is mainly the machinery, transport equipment and chemistry sub-sectors that benefit from the agreement. That bilateral trade liberalisation and facilitation benefit EU exports relatively more than Chilean exports reflects the reality that EU exports to Chile are likely more sensitive to tariff cuts than Chilean exports to the EU, as a result of an asymmetric initial structure of tariffs and trade between both trading partners. It also reflects that the traditional EU exports to Chile that are concentrated in the secondary sector face more international competitiveness, particularly from the U.S., than the Chilean exports to the EU that are concentrated in the primary sector. This apparent trade diversion in favour of both partners' needs, however, to be put in perspective, considering that both partners have in parallel concluded other similar trade agreements with third partners. Again, this illustrates the methodological challenge of not only integrating non-tariff cuts but also measuring the bilateral trade effects of two trading partners that concomitantly implement other similar trade agreements with third partners.

Notwithstanding the methodological challenges in this assessment, these approximate economic results support the motivations to the necessity of upgrading the trade component of the 2002 EU-Chile Association Agreement. In particular, such a revision would be necessary to at least counterbalance trade diversion to the benefits of third competitors and for generating additional trade to the benefits of both partners. Of course, it is also a methodological challenge to add to these static trade effects the dynamic effects on innovation, investment, employment, consumption, competitiveness and industrial structure as well as the non-market effects on environmental protection, training and education, culture, governance and policy dialogue. This challenge is the purpose of this current project.

## **1.2 General Objectives and Methods of the Study**

Given this background, the objective of this study is to provide a comprehensive *ex-ante* study of the effects of a possible modernisation of the EU's Association Agreement with Chile, overcoming the shortcomings on the previous assessment and taking into account the new world of trade relations. Based on DG Trade's own CGE simulations and supplemented with real-world data, this study provides a holistic look at deepening integration between the EU and its partner in Latin America. While this analysis is similar to other impact studies analysing free trade agreements, and thus many of the same tools applied to this study are also carried over to Chile, the specific circumstances of Chile require additional and particular methods to understand the future of the trade relationship. We believe that this analysis points the way to better policymaking for future trade and investment liberalisation talks with Chile.

Methods consist of literature reviews, data analyses, legal analyses, econometric modelling, computable general equilibrium modelling, face-to-face interviews with representatives of key professional organisations and public administrations, and case studies where they are relevant for this study. They are assembled in a cross-disciplinary manner.

## **1.3 Structure of the Report**

This study is organised in seven themes and each theme is developed in one to four different sections. First, major changes in trade flows of goods, services, investment and public procurement are presented and analysed since the application of the trade part of the 2002 Association Agreement. Second, existing

barriers for trade in agricultural and food products, flows in investment, and participation in public procurements are identified and analysed. Third, the potential costs and benefits of reducing barriers to trade in goods and services, flows in investment, and participation in public procurement markets are assessed. Fourth, the potential impact of modernising the EU-Chile Association Agreement on the overall economy of both partners is estimated, in particular for employment, small and medium enterprises, and consumers. Fifth, the potential impact of modernising the EU-Chile Association Agreement is assessed for third countries. Sixth, the potential social and environmental impacts of modernising the EU-Chile Association Agreement is analysed, in particular on workers, labour standards, environment, and consumers. Seventh, the potential human rights impacts of modernising the EU-Chile Association Agreement is analysed, in particular for Chile. Annex 1 maps the research tasks of the terms of reference with the sections in the text.

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## 2 Major Changes in Trade Flows since the Entry into Force of the Association Agreement

### 2.1 Descriptive Analysis of EU-Chile Trade Flows of Goods and Services, Investments and Public Procurement

#### 2.1.1 Introduction

The purpose of this section is twofold: one, to understand the effects of the 2012 EU-Chile Association Agreement (AA), and two, to confirm that the main conclusions reached by the 2012 ITAQA ex-post evaluation report are still valid. To this end, this chapter will analyse three separate developments:

- An analysis of the *evolution of trade in goods and services, investment, and public procurement flows* between the EU and Chile beginning from 2000 until as recently as possible.

This section of the chapter will provide an overview of the broader trade patterns between the two partners, making reference to the earlier literature on the factors driving trade, including changes in policy and/or legal frameworks. In particular, Chile has shown remarkable continuity in its legal and policy frameworks for trade policy since 1973, with negotiations of bilateral trade and investment agreements consistently used to secure access to foreign markets, and optimize Chile's own unilateral broad and deep liberalisation policy. On the other hand, the shift of the EU post-2006 to ever-more ambitious bilateral negotiations has resulted enlargement of the scope of the EU's trade policy to foreign direct investment. We will set the stage for understanding these policy and legal changes involving trade in services and investment in this chapter, but these issues will be explored more in-depth below, in chapter 3.

Beyond the policy background, and as a quantitative exercise to understand trade flows, this chapter also calculates absolute and relative trade indices calculated at the sectoral level (as suggested in the 2012 ITAQA ex-post evaluation report), to identify changes in the composition of trade and investment flows between the EU and Chile. This exercise relies on data from Eurostat, the *Instituto Nacional de Estadística* (INE) in Chile, and other trade and investment databases such as UN Comtrade, UNCTAD, the International Trade Center (ITC) of the World Bank, and the ESCAP database of the World Bank and the Trade Analysis Information System (TRAINS) database of UNCTAD on trade costs.

- *A comparison of EU-Chile bilateral trade in goods and services, investment, and public procurement flows* with a group of comparator countries.

We have selected comparator countries to Chile to understand a counterfactual of trade for the country, in the absence of or in the presence of different trade agreements. The countries selected below were chosen in two tranches: the first were selected for their similarities to Chile in terms of economic development, sectoral structure, trade patterns, and transportation costs, and, as noted below, the comparator countries are South Africa, Argentina and Peru. The second tranche, on the other hand, was selected precisely for their *divergence* from Chile in terms of their formal trade relations with the EU (i.e., the lack of new generation trade agreements between the comparator and the EU), and includes partners such as the U.S., Japan, and China (all major trading partners with Chile). This diversity of comparator countries will allow for placing the bilateral EU-Chile trade relationship in its proper context.

- A brief analysis of the impact of recent negotiations/conclusions of *recent trade agreements with third countries* that the EU and Chile have entered into since the provisional application of the trade part of the EU-Chile Association Agreement in 2003.

This final section will attempt to tease out the effects of recent trade agreements on both the EU and Chilean side. Much less involved than the work done in the CGE modelling presented by DG Trade and the quantitative analysis encapsulated in chapter 4 for investment and procurement, this section will nonetheless point to some conclusions about the effect of new generation trade arrangements now prevalent around the world. From the Chilean side, this exercise will focus on the Chile-U.S. Free Trade Agreement (in force since 2004), but will also include the agreements of Chile with EFTA (in force since 2004), China (in force since 2006), Japan (in force since 2007) and Australia (in force since 2009) among the main trading partners of Chile. On the EU side, this will focus on the free trade agreements of the EU with countries comparable to Chile such as with South Africa (in force since 2000) and Peru (in force since 2013).

As noted above, this chapter sets the stage for the in-depth analysis to be found later in this report, especially the legal and quantitative analyses regarding investment (section 3.2) and public procurement (section 3.3) and the more analytical work of sections 4.5 and 4.6. As such, this section will not update the counterfactual econometric analysis of the impact of the EU-Chile Association Agreement on trade in goods as reported in the 2012 ITAQA ex-post evaluation report but will instead validate or raise concerns about the conclusions reached in that report.

## **2.1.2 Evolution of Trade in Goods and Services, Investment, and Procurement**

### **2.1.2.1 Policy and Legal Framework**

The history of both the EU's and Chilean evolution in their policy and legal frameworks of trade and investment are well-known and will not be described in-depth here (Schiff [2002] provides an excellent overview of Chile's move towards regional integration, while *inter alia* Woolcock [2011] offers a similar review of the EU's path in trade policy). However, it bears noting two specific points regarding the evolving trade relationship between the two partners, especially related to the relevant policy and legal frameworks: in the first instance, Chile's trade policy, as well as its attitude towards investment, has been remarkably consistent since the 1970s. After 1973, Chile eliminated quantitative restrictions and unified its tariff rate at a low level, one that rose slightly during the macroeconomic crises of the 1980s but which settled down at a rate of 15% thereafter (Rodrik 1992). These trade policy changes occurred as part of a larger framework of liberalisation, capital account openness, privatisation, banking restructuring, and even procurement reform, meaning that not only was trade in goods and services a key component of Chile's growth strategy, but attraction of investment and the development of supporting institutions were also integrated into the trade reforms (Bergoing *et al.* 2002). Thus, Chile pursued a unilateral strategy of liberalisation well before it undertook negotiations in regional integration (as with Mercosur in 1996) or bilateral trade agreements (as with the EU Association Agreement in 2002 or the U.S.-Chile FTA in 2004). Importantly, the success of liberalisation also vitiated domestic opposition to free trade, with each additional agreement reducing the power of protectionist interest groups in the country and eventually side-lining them (Capling and Ravenhill 2011).

The second major point to note is that Chile's unilateral liberalisation did not mean that it had nothing to gain from bilateral trade agreements, as the emergence of "new generation" trade agreements gave the Chilean government a new avenue for liberalisation. According to Saez (2005:19), Chile had already

begun a shift to regionalism by the 1990s as a way to supplement its already-advanced legal framework, and saw regional and bilateral agreements as a way “to re-insert Chile in the international community [rather] than a trade policy strategy aimed at promoting exports.” Indeed, despite the relatively liberal trade and investment regime set up years previously (supplemented by Chile’s status as the first country in Latin America to enact patent law and its extensive revamp of environmental law in 1994), Chile entered into “new generation” agreements with gusto. Since 2005, Chile has entered into agreements with no fewer than 12 separate partners, including Australia, China, Japan, the U.S., and a myriad of Asian and Pacific nations, and has been an avid participant in the negotiations for the Trans-Pacific Partnership (TPP).

On the investment side, and apparently contrary to its trade experience, Chile had been an avid partner in signing bilateral investment treaties (BITs) up to the signing of the EU-Chile Association Agreement, but only has concluded one since 2002 (with Iceland, signed in 2003 but not in force until 2006). The reason for this is deceiving, however, as Chile has shifted away from BITs towards including investment provisions directly in its trade agreements, with no fewer than 17 FTAs, cooperation agreements, and protocols signed since 2003 including investment provisions. These agreements, such as the Chile-Australia FTA, have included investor dispute resolution mechanisms and arbitration, a clause which was missing from the EU-Chile Association Agreement (Wu 2012). With the institutional framework in place in Chile, such a move towards inclusion of Investor-State Dispute Settlement (ISDS) in an expanded Association Agreement would not be a difficult adjustment, as some of the most difficult legal adjustments have already occurred (Dolzer 2005).

From the EU side, the move towards World Trade Organization (WTO)-plus and WTO-extra agreements over the past ten years has been driven by the reality of the slowdown in multilateral trade talks under the WTO aegis, and “by 2006, the EU recognised that success at the multilateral level was unlikely and switched to bilateral negotiations with major potential markets” (Woolcock 2011:3). This approach allowed for a more flexible and strategic use of trade policy, especially as a way to protect market access and avoid possibly discriminating actions by trade partners (Dür [2007] makes this argument specifically in the context of the Mexican and Chilean trade agreements). The Association Agreement with Chile was one of the first EU instruments to expand the remit of these agreements. In fact, as Garcia (2011) notes, the pursuit of the Association Agreement with Chile went against the EU’s own policy at the time of focusing on multilateral negotiations at the expense of regional and bilateral ones. But “Chile’s economic openness and the economic structure of its relations with the EU are circumstances that enabled the [Association] Agreement to go beyond deals with other parties,” meaning the transition to WTO-plus and WTO-extra agreements was much easier (Garcia 2011:519). Starting with the EU-Chile Agreement, successive “Economic Partnership Agreements” (EPA) and trade agreements with countries such as South Korea and Colombia and Peru began this shift to more ambitious arrangements, including elaborate investment provisions and a focus on non-tariff barriers, in addition to trade (Horn *et al.* 2010). More recently, agreements such as the signed (but not yet ratified) treaty with Ecuador promise commitments on the liberalisation of government procurement, while agreements such as the Stabilisation and Association Agreement with Serbia contain explicit instructions on how to reform the partner country’s procurement preferences.

In addition to Chile’s amenability to a more expansive agreement, other policy/institutional shifts within the EU enabled the proliferation of WTO-plus and -extra agreements in a more formalized manner than the *ad hoc* way in which Chile came to be (Garcia 2011). In particular, the accession of the states of Central and Eastern Europe to the EU in 2004 and 2007, and the success of fashioning comprehensive agreements with these states pre-accession (Egger and Larch 2011), created a need for the European

Commission to have broader powers in negotiating treaties across a wide range of subjects (Wu 2012). Although such negotiations were already occurring and, as noted above, were part of EU strategy as early as 2006, the institutional shift that allowed for the EU to ramp up its involvement in the next generation of FTAs came with the signing of the Lisbon Treaty in 2007, shifting competency for FDI from Member States to the EU. With both trade and investment (and further guidance on creating an EU-wide external investment policy) under the purview of Brussels, the EU has been better placed to not only increase trade volumes with partners, but to allow for a transfer of regulatory standards and institutional arrangements in strategic partners (Zelazna 2012). In this sense, the use of expanded agreements has allowed the EU “to achieve in FTAs what it has failed to achieve in multilateral negotiations” (Woolcock 2007:4). Moreover, relevant for this study, is the fact that the shift prevalent in the EU’s most recent agreements has already created the institutional and legal arrangements to underpin any revision of the EU-Chilean Association Agreement in the future.

### 2.1.2.2 Patterns in Trade Flows in Goods and Services

The move of both Chile and the EU towards new-generation FTAs, and the desire to expand the current Association Agreement into a more comprehensive agreement, has occurred in a context of increased trade between the two partners. This section examines these trade flows. To the extent to which it is feasible with the available data, this analysis is conducted in both absolute and relative terms. It also cautiously identifies some factors that may have been at play in this evolution.

In regards to the evolution of total trade in good, it is important to observe both overall volumes as well as disaggregating trade into agricultural and food products, mainly because this is the only sector within which high tariff and non-tariff barriers applied by the EU still prevail for many specific products imported from Chile (and no import barriers of this size exist for the other sectors, see ITAQA, 2012). The agricultural and food sectors combined are also an important sector for the Chilean economy, comprising 8% of the Gross Domestic Product (GDP) in 2011 according to the Banco Central de Chile and about 10% of total employment in 2013, and 28% of total exports in 2014 according to the World Bank.<sup>1</sup> Moreover, one-fifth of its exports of agricultural and food products goes to the EU in 2014, according to the UN Comtrade database. Tariff and non-tariff barriers applied by Chile to agricultural and food products imported from the EU are generally low, while tariff and non-tariff barriers applied by the EU to the same product category can still be very high for some products (ITAQA, 2012). Non-tariff measures such as those related to sanitary and phytosanitary measures can also impede trade flows between Chile and the EU for specific products.

Since applying provisionally the trade part of the Association Agreement between the EU and Chile in 2003, total exports of the EU to Chile grew at an annual nominal rate of 9.4%, while total imports of the EU from Chile grew at an annual nominal rate of 1.6% through 2015 (see Figure 2.1).<sup>2</sup> There are, however, clearly two periods discernible for EU’s imports from Chile: a first period from 2003 to 2007, during which EU’s imports grew at an annual nominal rate of 23.7%, and a second period from 2007 to 2015, during which EU’s imports declined at an annual nominal rate of 3.6%.

One possible reason for this decline in EU’s imports from Chile could be the economic crisis of 2007-08 and the following Euro crisis, which hurts Chile disproportionately more in its export capacity to the EU (particularly during the global financial crisis) and in EU demand (from 2011-2015, see Figure 2.2). Another possible reason for the decline, one which will be explored below, is a diversion of Chilean

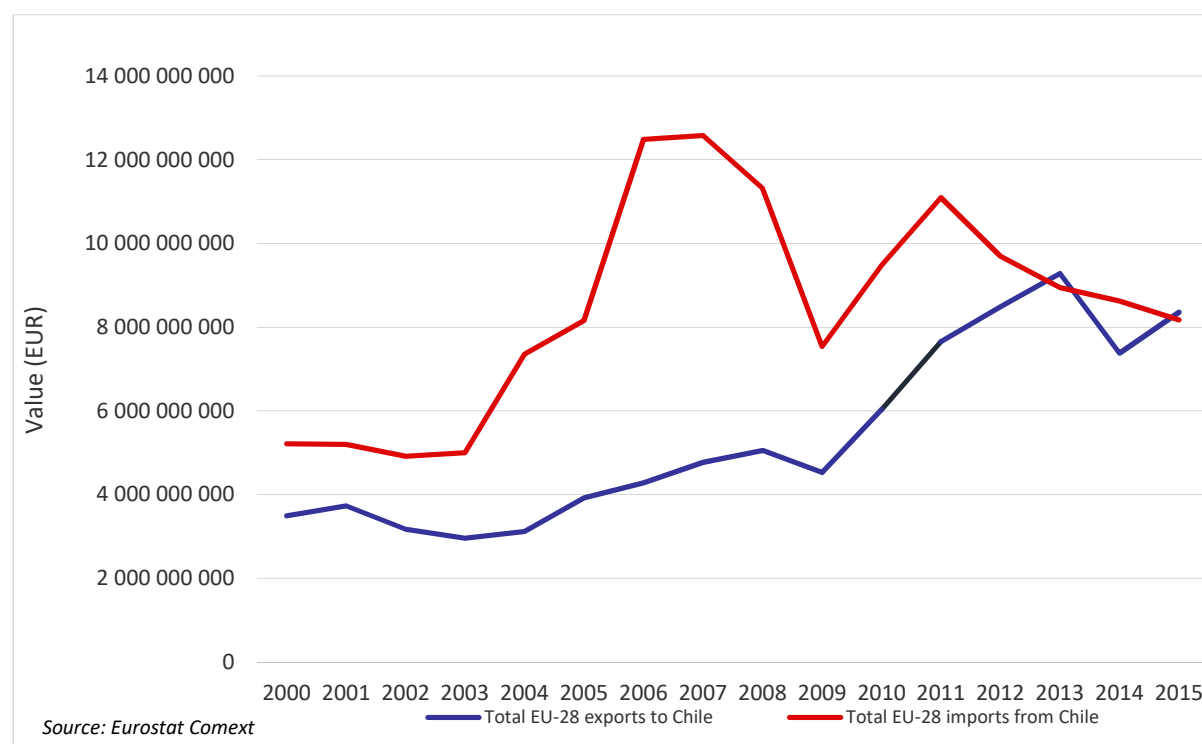
<sup>1</sup> Including agricultural, forestry, fishery, food, beverage and tobacco products.

<sup>2</sup> As these annual rates are nominal, annual inflation rates should be discounted from them to obtain annual real rates.

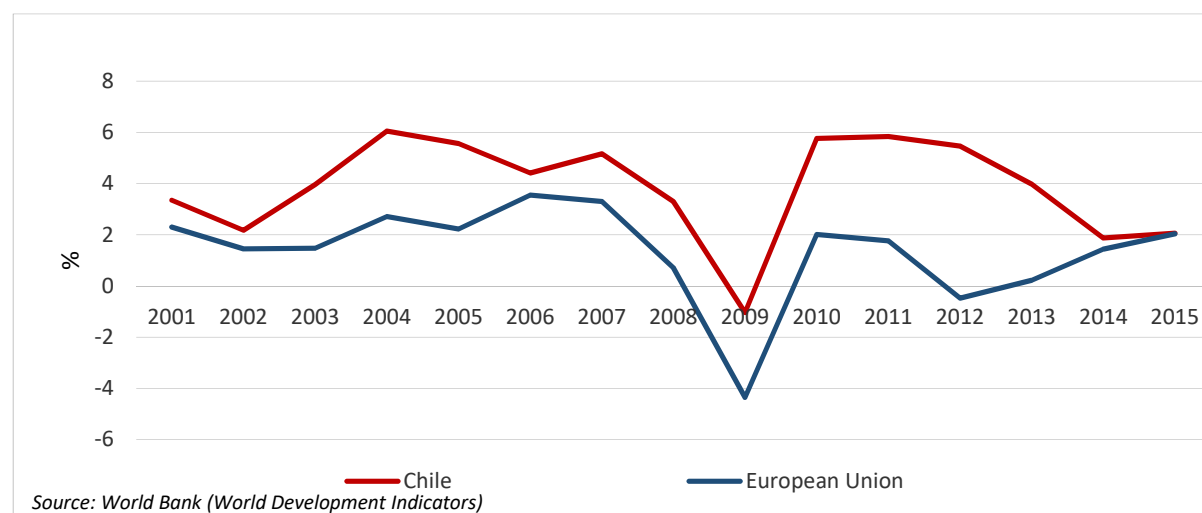


exports to third markets precipitated by other developments during the ensuing years (i.e. the conclusion of third-party, new-generation trade agreements). The EU's volatile imports from Chile during the entire period could also be partly traced down to the fluctuation of the nominal exchange rate between European currencies and Chilean Pesos. In fact, the increase in the EU's imports during the 2003-2006 and 2009-2011 periods correspond to periods of an appreciation of the Chilean Pesos with respect to the EUR, while the declines in EU's imports during the 2007-2009 and 2011-2015 periods correspond to periods of depreciation of the Chilean Pesos with respect to the EUR (see Figure 2.3). An appreciation of the Chilean Peso tends to magnify EU's imports denominated in EUR, while a depreciation tends to contract EU's imports denominated in EUR.

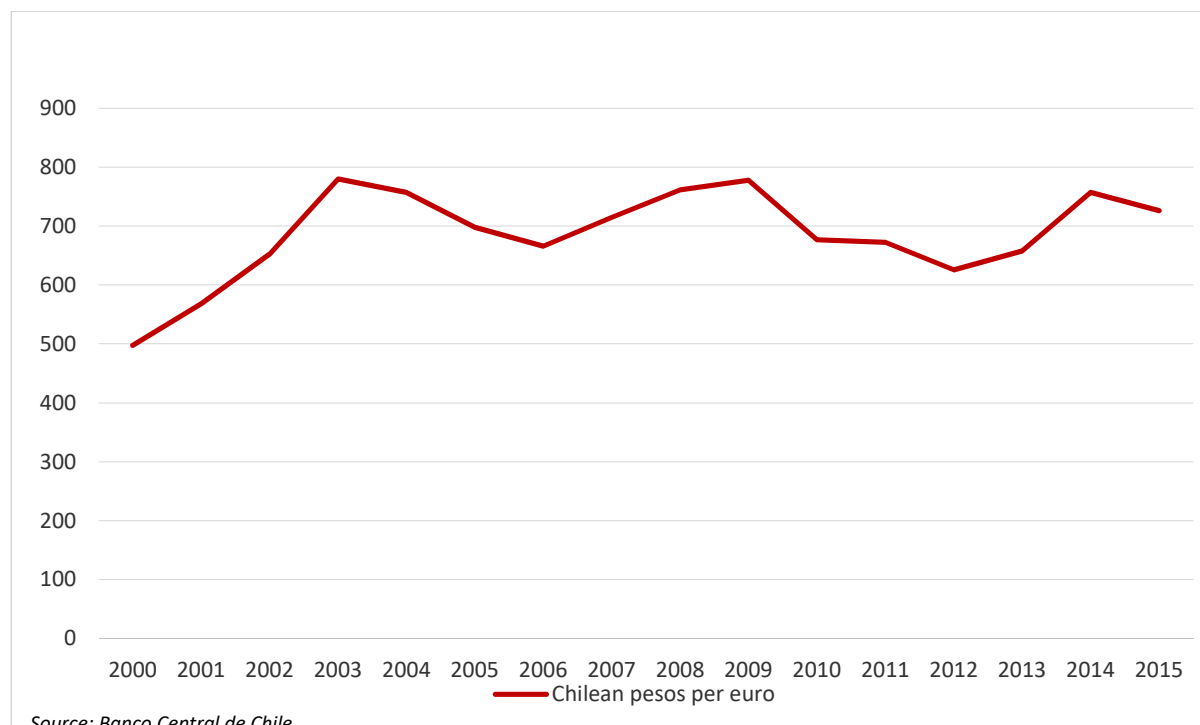
**Figure 2.1: EU-28's Total Imports and Exports of Goods with Chile, 2000-2015**



**Figure 2.2: Gross Domestic Product Growth Based on Purchasing-Power-Parity (PPP), 2000-2015 (constant 2011 international dollars)**

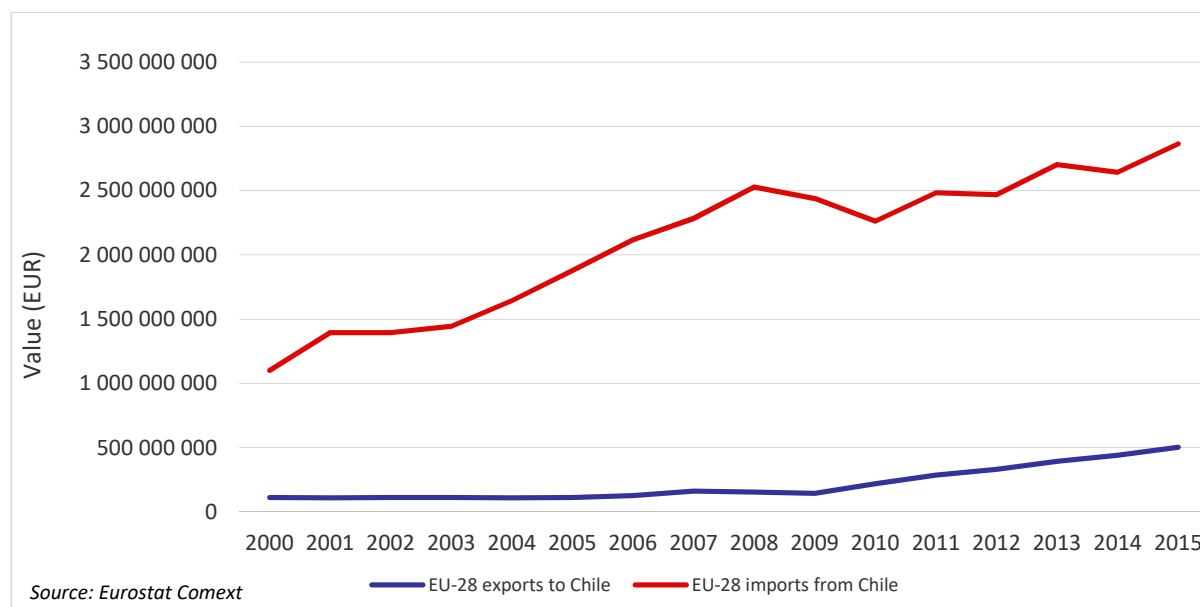


**Figure 2.3: Nominal Exchange Rate between the EUR and the Chilean Pesos, 2000-2015**



Moving beyond these broad aggregates, trade in agricultural and food products (Harmonized System (HS) 01-24) did not exactly follow the same pattern. Exports of the EU to Chile of agricultural and food products grew at an annual nominal rate of 13.9%, while imports of the EU from Chile of agricultural and food products grew at an annual nominal rate of 4.6% between 2003 and 2015 (see Figure 2.4).

**Figure 2.4: EU-28's Agricultural and Food Imports and Exports with Chile, 2000-2015**



There are also here two distinct periods for both EU's exports and imports in agricultural and food products:

- A first period from 2003 to 2009 during which the EU's exports to Chile rose at an annual nominal rate of 6.5%, and a second period from 2009 to 2015 during which the EU's exports rose at a larger annual nominal rate of 19.4%, resulting in a recent stronger expansion in the EU's exports of agricultural and food products to Chile.
- A first period from 2003 to 2007, during which the EU's imports from Chile rose at an annual nominal rate of 11.7% and a second period from 2007 to 2015 during which EU's imports rose at a smaller annual nominal rate of 2.2%, resulting here in a recent weaker expansion in the EU's imports of agricultural and food products from Chile.

Possible reasons invoked above for explaining the fluctuations in EU's total imports from Chile may also be at play for EU's imports of agricultural and food products from Chile. The slowing of the growth rate of EU's imports of Chilean agricultural and food products after 2007 is likely related to lower economic growth and an associated slower growth of demand for these products in Europe. A second possible factor influencing the slowing of import growth into the EU from Chile is the still relatively more-limited openness of EU's domestic markets to imports of agricultural and food products from Chile compared to Chile's relatively more open markets to imports of these products from the EU. This relative difference is reflected in the evolution of the average effective ad valorem equivalents (AVE) paid on imports flowing between both trading partners. Since 2008, the difference between import-weighted averages of AVE on EU imports from Chile and Chilean imports from the EU ranges between 3 and 4 percentage points (see Figure 2.5). These average AVEs reported in Figure 2.5 do not, however, capture all barriers of the EU and Chile to each other's imports for some specific categories of agricultural and food products, in particular the non-tariff measures (NTM) such as those related to sanitary and phytosanitary questions.<sup>3</sup> These NTM are addressed in section 3.1.4.

Those import-weighted averages of AVE for preferential rates may also hide high tariff rates for some good categories. For example, in 2013, import-weighted averages of AVE applied to imports from Chile by the EU for a few selected product categories are (UNCTAD TRAINS):

- 34% for the meat and edible meat offal category (HS 02),
- 30% for the sugar and sugar confectionery category (HS 17),
- 17% for the cereal, flour, starch, milk preparations and products category (HS 19),
- 11% for the animal or vegetable fats and oils category (HS15), and
- 8% for the vegetable, fruit, nut, etc. food preparations category (HS 20).

Note, the above reported preferential rates for Chilean products were even higher before 2013.

On the Chilean side, not a single good category shows an import-weighted average of AVE for preferential rates applied to imports from the EU by Chile that is greater than 6% according to the same statistics source.

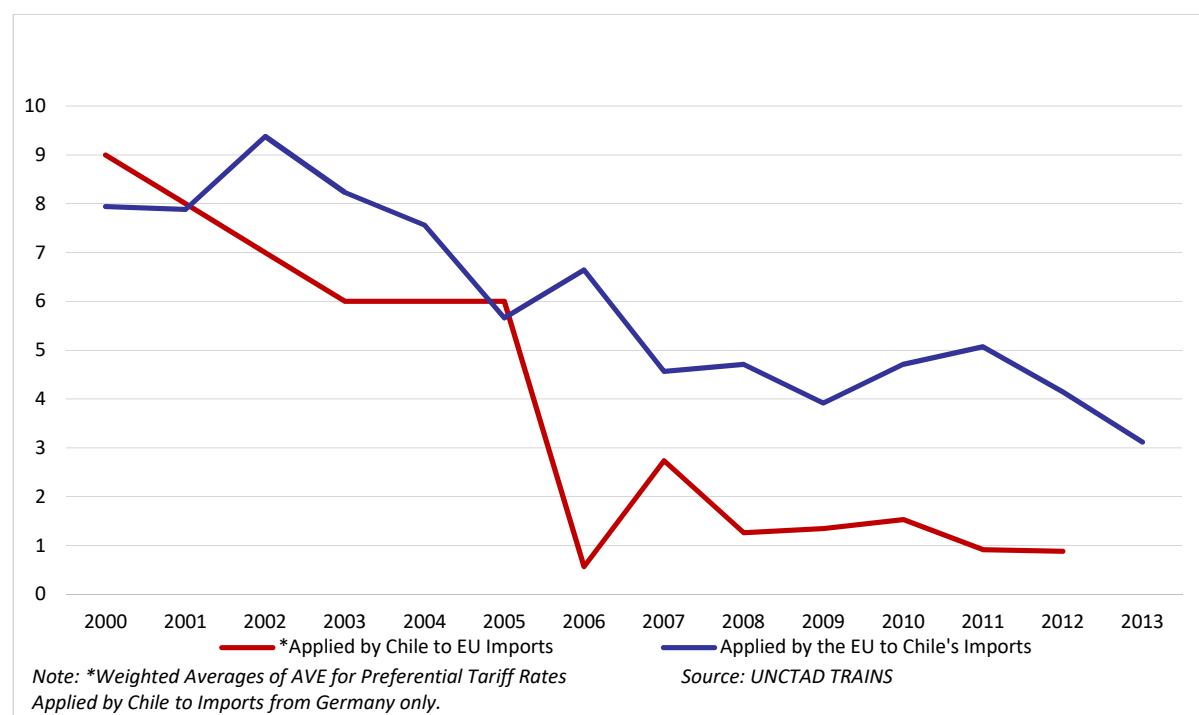
The reader should note that import-weighted averages of AVE are for observed imports and so do not reflect some very high tariff rates for some categories of products with little or no imports due to high tariffs. For instance, in 2013, the highest AVE tariff rates at the tariff line level within the indicated HS 2-digits product category (maximum tariff rates) applied to imports from Chile by the EU are the following (according to the UNCTAD TRAINS database):

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<sup>3</sup> According to the World Integrated Trade Solutions (WITS) documentation, AVE tariffs include ad valorem tariffs, specific tariffs, mixed tariffs, compound tariffs and tariff rate quotas. Import-weighted averages refers to the average of AVE tariffs across tariff lines, weighted by the share of the imports from each other country.

- 156% in the meat and edible meat offal category (HS 02),
- 12% in the fish and crustaceans, molluscs and other aquatic invertebrates category (HS 03),
- 51% in the dairy products, eggs, edible animal product not elsewhere specified category (HS 04),
- 82% in the edible vegetables and certain roots and tubers category (HS 07),
- 34% in the edible fruit and nuts, peel of citrus fruit or melons category (HS 08),
- 42% in the cereals category (HS 10),
- 65% in the products of the milling industry, malt, starches, inulin, wheat gluten category (HS 11),
- 126% in the animal or vegetable fats and oils category (HS 15),
- 81% in the preparations of meat, of fish or of crustaceans, and other aquatic invertebrates category (HS 16),
- 73% in the sugar and sugar confectionery category (HS 17),
- 26% in the cereal, flour, starch, milk preparations and products category (HS 19),
- 91% in the vegetable, fruit, nut, etc. food preparations category (HS 20),
- 23% in the beverages, spirits and vinegar category (HS 22), and
- 144% in the residues and waste from the food industries, prepared animal fodder category (HS 23).

**Figure 2.5: Import-weighted Averages of Ad Valorem Equivalents for Preferential Tariff Rates Applied by the EU and Chile for the Agricultural and Food Sector, 2000-2013 (%)**



On the Chilean side, the highest AVE tariff rates at the tariff line level within the indicated HS 2-digits product category (maximum tariff rates) applied to imports from the EU by Chile are 6% according to the same statistics source.

Some of these very high AVE tariff rates still imposed on imports from Chile by the EU could limit and even prohibit some EU's imports from Chile and, thus, bias downward the reported import-weighted averages of ad valorem equivalents for preferential rates by good categories. Some 502 tariff lines among the 2,354 tariff lines of agricultural and food products (or 21.3% of the total) are still excluded from the EU's tariff concessions, mostly in the category of other agricultural and food products (meat, dairy products, cereals, and sugar) (ITAQA, 2012, Table 1, p. 33). Some 110 tariff lines (or 4.7% of the

total) are under a partial liberalisation, mostly in the category of other agricultural and food products (fruits and vegetables, dairy products, sugar and cocoa products, and some preparations based on agricultural products). Finally, 283 other tariff lines (or 10% of the total) are under a tariff rate quota (TRQ), mostly in the category of other agricultural and food products (meat, cheese, fish, sugar, flour and transformed agricultural products).

On the Chilean side, the situation is rather different: only 105 tariff lines among the 1,428 tariff lines of agricultural and food products (or 7.4% of the total) are excluded from the Chile's tariff concessions, mainly for milk and dairy products, vegetable oils, sugar, wheat flour and specific fish fillets (ITAQA, 2012, Table 2, p. 35). Only 28 tariff lines (or 2.0% of the total) are under a tariff rate quota (TRQ) for cheese, olive oil, and fishery products. In sum, concessions of the EU and Chile to each other in the agricultural and food sector are highly asymmetric at least in terms of customs duties.

Another possible explanation for the slower growth in EU's imports from Chile since 2008 could also be a deceleration of the growth in the EU's import demand for the type of agricultural and food products imported from Chile since this slower growth is also observed for EU's imports of the same type of agricultural and food products from other similar exporting countries as illustrated in section 3.1. Applying the same possible explanation but for the greater growth in EU's exports to Chile since 2009 could also be an acceleration of the growth in the Chile's import demand for the type of agricultural and food products exported to Chile as a consequence of changes in preferences and incomes.

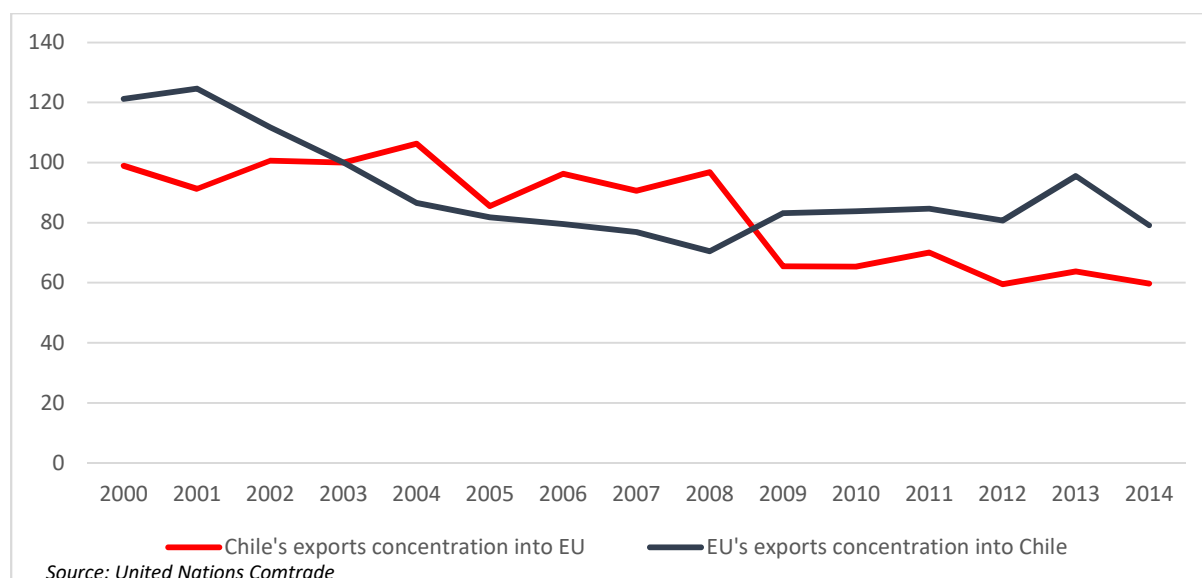
Actually, to control for the effects of the importer's and exporter's characteristics, and to better understand the flows of trade, we construct here relative trade indices (RTI), comparing them since the inception of the provisional application of the trade part of EU-Chile Association Agreement. The construction of these RTIs follows the same approach as in the 2012 ITAQA *ex-post* evaluation report, except that the control group is chosen here as the rest of the world (RoW) to wash out indiscriminately the effect of possible changes in the characteristics of the importers on import flows and the effect of possible changes in the characteristics of the exporters on export flows. This technique of difference-in-differences is standard in counterfactual evaluations, allowing us to suppress any effect due to possible changes in the characteristics of the economic entities on the economic outcome. Annex 2 of this report gives a more complete explanation of the construction of these RTIs.

RTIs plotted in Figure 2.6 show that the proportion of Chile's total exports in the EU with respect to the RoW's total exports to the EU relative to the proportion of Chile's total exports in the RoW with respect to the RoW's total exports to the RoW has steadily declined from a basis of 100 in 2003 to 60 in 2014. This is mainly because of a steady increase in the proportion of Chile's total exports in the RoW with respect to the RoW's total exports to the RoW, rising from 0.30% in 2003 to 0.48% in 2014. The proportion of Chile's total exports in the EU with respect to the RoW's total exports in the EU and the proportion of Chile's total exports in the RoW with respect to the RoW's total exports in the RoW have both reached about 0.50% since 2012. This implies that the EU is not a relatively favoured market for Chile's total exports compared to the rest of the world since 2012.

The same Figure shows that the proportion of EU's total exports in Chile with respect to the RoW's total exports in Chile relative to the proportion of EU's total exports to the RoW with respect to the RoW's total exports to the RoW has also declined steadily from a basis of 100 in 2003 to 79 in 2014. This is mainly because of the steady decrease in the proportion of EU's total exports in Chile with respect to the RoW's total exports to Chile declining from 21% in 2003 to 15% in 2014. The proportion of the EU's total exports to Chile with respect to the RoW's total exports to Chile became similar in 2004 and then declined lower than the proportion of EU's total exports to the RoW with respect to the

RoW's. This implies that Chile has progressively become a less-important destination for EU total exports compared to the rest of the world since 2005.

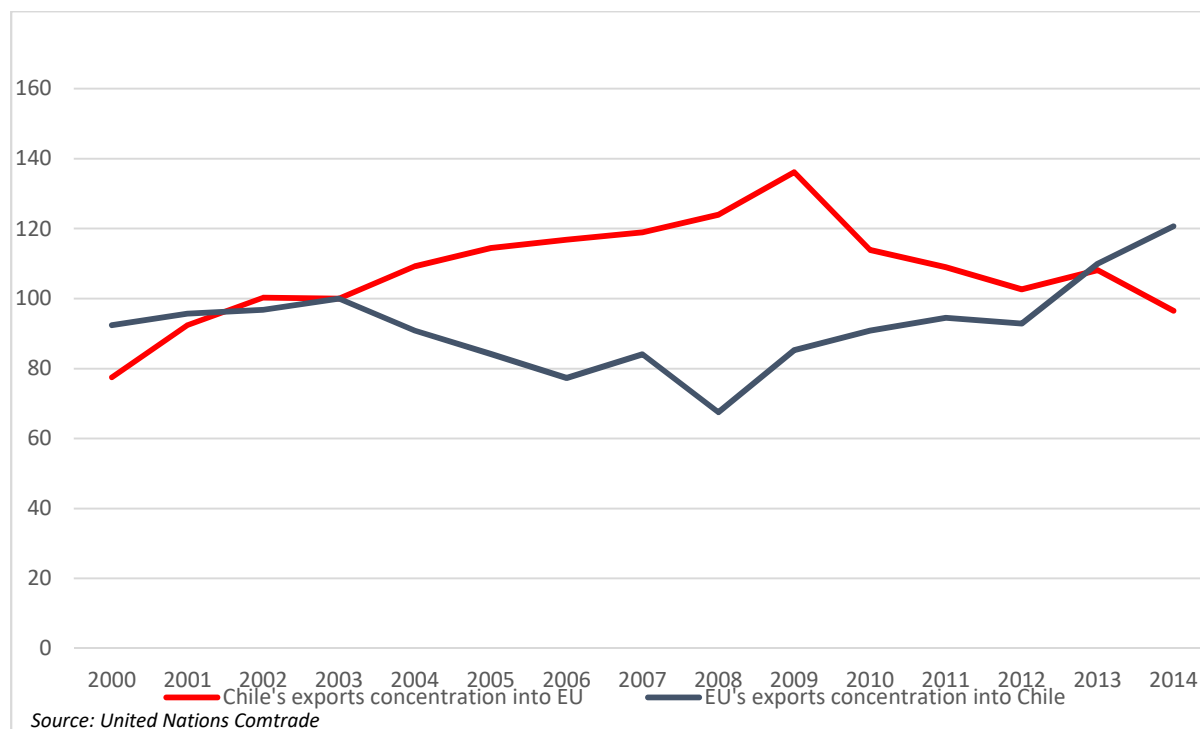
**Figure 2.6: Relative Trade Indices for Goods between the EU and Chile, 2000-2014 (basis=2003)**



RTIs plotted in Figure 2.7 show that the proportion of Chile's exports of agricultural and food products to the EU with respect to the RoW's exports of agricultural and food products to the EU, relative to the proportion of Chile's exports of agricultural and food products to the RoW with respect to the RoW's exports of agricultural and food products to the RoW, has steadily increased from a base number of 100 in 2003 to 136 in 2009, declining then below 2003 levels (to 97 in 2014). This result is mainly because of a similar evolution of the proportion of Chile's exports of agricultural and food products to the EU with respect to the RoW's exports of agricultural and food products to the EU. The proportion of Chile's exports of agricultural and food products to the EU with respect to the RoW's exports of agricultural and food products to the EU is still double the proportion of Chile's exports of agricultural and food products to the RoW with respect to the RoW's exports of agricultural and food products to the RoW since 2010. This implies that the EU is a much more sought-after destination for Chile's exports of agricultural and food products compared to the rest of the world, but this has declined since 2010.

The proportion of EU's exports of agricultural and food products in Chile with respect to the RoW's exports of agricultural and food products in Chile, relative to the proportion of EU's exports of agricultural and food products to the RoW with respect to the RoW's exports of agricultural and food products to the RoW, has declined from a basis of 100 in 2003 to 68 in 2008 but then rebounded to 121 in 2014. The evolution of the RTIs for the EU's exports of agricultural and food products in Chile is here in the opposite direction as the evolution of the RTIs for Chile's exports of agricultural and food products to the EU. This decline and subsequent recovery are due to a similar evolution of the proportion of EU's exports of agricultural and food products in Chile with respect to the RoW's exports of agricultural and food products in Chile. The proportion of EU's exports of agricultural and food products in Chile with respect to the RoW's exports of agricultural and food products in Chile has evolved from 40% in 2008 to 75% in 2014 of the proportion of EU's exports of agricultural and food products to the RoW with respect to the RoW's exports of agricultural and food products to the RoW in 2014. This implies that Chile has recently become a less important destination for EU's exports of agricultural and food products compared to the rest of the world.

**Figure 2.7: Relative Trade Indices for the Agricultural and Food Sector between the EU and Chile, 2000-2014 (basis=2003)**



This analysis suggests two preliminary conclusions:

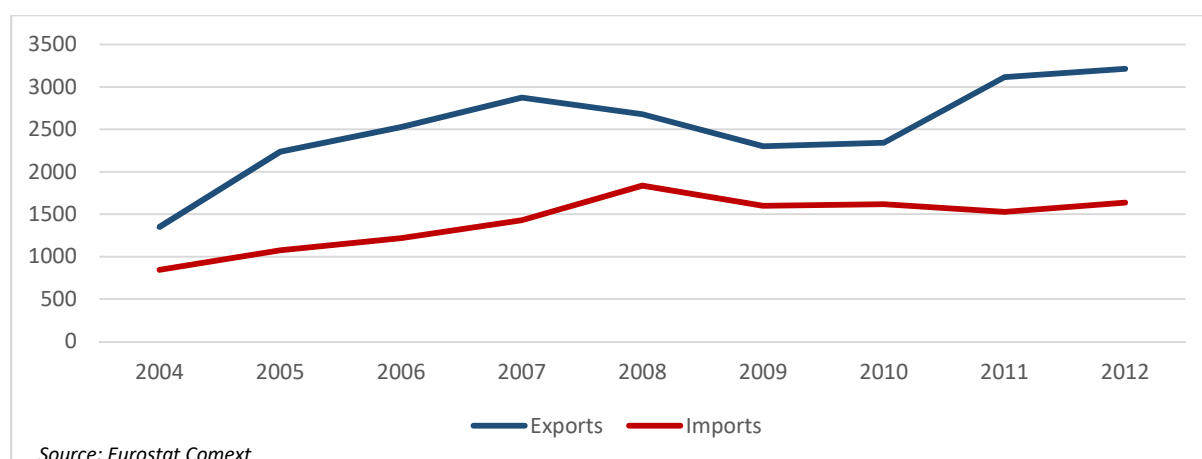
1. In contrast to the apparent positive expansion of trade in goods since the inception of the provisional application of the trade part of the EU-Chile Association Agreement in 2003, Chile's total exports of goods to the EU has deteriorated, a fact we can see when we wash out the effects of any possible change in the characteristics of the importers on import flows and the exporters on export flows. The EU's total exports of goods to Chile has also deteriorated but to a lesser extent than Chile's exports when, again, washing out the effects of any possible change in the characteristics of the importers on import flows and the exporters on export flows. The erosion in trade of goods between Chile and the EU has actually been occurring since the inception of the provisional application of the trade part of the EU-Chile Association Agreement in 2003. Whether this Association Agreement could have prevented a greater trade erosion than the one actually observed, a suggestion made in the 2012 ITAQA (pp. 16-17) ex-post evaluation report, is a question out of the scope of this section but remains an interesting topic for researchers.
2. Since the inception of the provisional application of the trade part of the EU-Chile Association Agreement in 2003, when washing out country-specific effects, we can see that Chile's exports of agricultural and food products improved until 2009 then deteriorated until 2014. In contrast, the EU's exports of agricultural and food products to Chile deteriorated until 2008 and then improved until 2014 when, again, washing out the effects of any possible change in the characteristics of the importers on import flows and the exporters on export flows. The erosion of trade in agricultural and food products between Chile and the EU is also a pre-existing condition, predating the inception of the provisional application of the trade part of the EU-Chile Association Agreement in 2003. By contrast, trade creation in agricultural and food products between Chile and the EU has actually been ongoing since the inception of the

provisional application of the trade part of the EU-Chile Association Agreement, divided into two periods: the early period of 2003-2009 for Chile's exports, a suggestion made in the 2012 ITAQA ex-post evaluation report (p. 52), and the later period of 2008-2014 for EU's exports. Similarly, whether this Association Agreement could have prevented this trade erosion or facilitated trade creation is a question out of the scope of this section.

### 2.1.2.3 Analysis of the Evolution of International Exchanges of Services between the EU and Chile

Since the provisional application of the trade part of the EU-Chile Association Agreement between the EU and Chile in 2003, EU's exports or credits of total services to Chile grew at an annual nominal rate of 6.8%, while EU's imports or debits of total services from Chile grew at an annual nominal rate of 7.3% until 2012 (see Figure 2.8).<sup>4</sup> There are also here clearly two periods discernible for the EU's imports of services from Chile: a first period from 2004 to 2008, during which the EU's imports of services grew at an annual nominal rate of 18.4%, and a second period from 2008 to 2012 during which EU's imports of services declined at annual nominal rate of 2.8%. EU's exports of services to Chile followed a greater increase of 23.9% per year from 2004 to 2007, then a decrease until 2009 and finally a resumption from 2010, resulting in an overall increase of 2.9% per year between 2007 and 2012.

**Figure 2.8: EU-27's Total Imports and Exports of Services with Chile, 2004-2012, EUR million**



This slowdown in the annual growth rate in both EU's exports and imports of services since 2007 and 2008 respectively could result from the global financial crisis of 2007-08 and thereafter (see Figure 2.2). As noted above, and will be discussed below, such a result could also be due to diversion of EU and Chilean exports of services (from 2007 and 2008 respectively) to third markets. Also, as noted above, fluctuations of the nominal exchange rate between the European currencies and the Chilean Pesos (see Figure 2.3) can also be another possible reason for this performance, but is more difficult to trace out here than in the case of trade in goods (due to difficulties in understanding the sensitivity of various service sectors to exchange rates).

In placing this performance in context of international exchanges of services with the rest of the world, we come upon a data issue: international exchanges of services between third countries is sparsely reported in the UN Comtrade database, even for large countries such as the U.S. and Japan, between

<sup>4</sup> Although commitments of the EU-Chile Association Agreement deal with all modes of trade in services, these statistics do not cover trade in services through commercial presence (mode 3). The corresponding statistics related to direct investment are dealt with foreign direct investment in both manufacturing and services. Hence, statistics in sections on international exchanges of services concern services under mode 1 (cross-border supply), 2 (consumption abroad) and 4 (presence of natural persons) taken from the balance of payments of Eurostat.



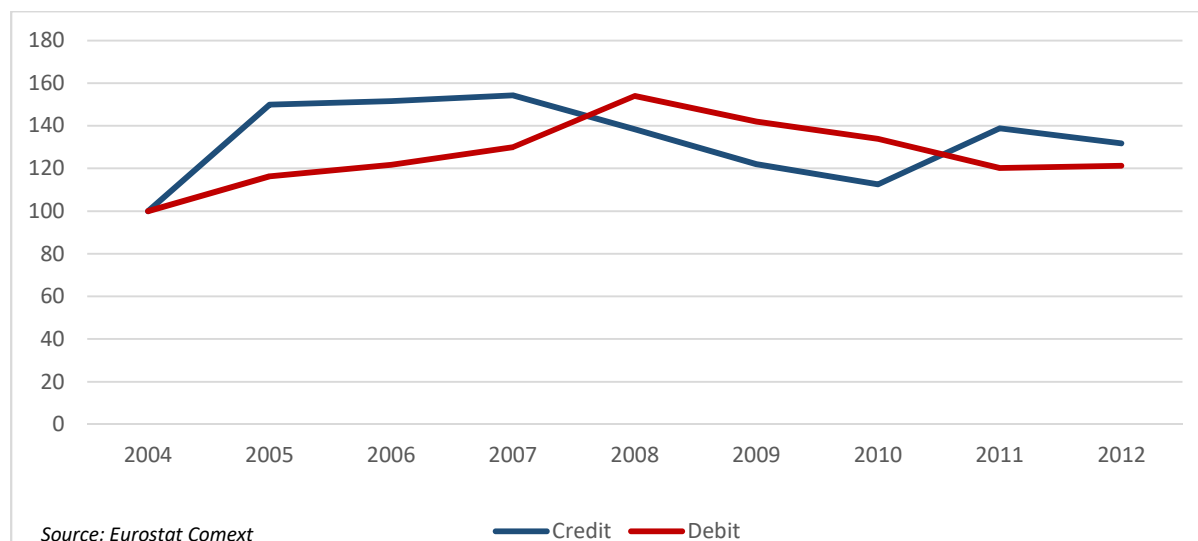
each other and with Chile. We need to rely on the Eurostat database, limiting our trade analysis to a smaller group of countries. For the purposes of this analysis, we utilise Argentina and South Africa, for which Eurostat provides service flows with the EU, and only calculate simplified relative trade indices. A simplified RTI is here defined as being the share of the EU's imports of services from Chile in its total imports of services and the share of the EU's exports of services to Chile in its total exports of services. The evolution of those two shares is then traced out during the 2004-2012 period with respect to their respective shares in 2004. This implies that we only wash out the effect of possible changes in the EU's characteristics as either importer or exporter on its import or export flows of services respectively but not the effect of possible changes in the Chile's characteristics as either importer or exporter on its import or export flows of services respectively.

The results of this simplified RTI are plotted in Figure 2.9, showing that the proportion of the EU's total imports or debit of services from Chile with respect to the EU's total imports of debit of services from the RoW has steadily increased from 2004 to a peak of 154 in 2008 compared to its basis of 100 in 2004. From this peak, it steadily declined to a level of 121 in 2012. This implies that, since 2008, the EU has steadily imported relatively less services from Chile compared to its other suppliers, but still imported relatively more services from Chile than in 2004 compared to its other suppliers.

The same Figure shows that the proportion of the EU's total exports or credit of services in Chile with respect to the EU's total exports or credit of services to the RoW has increased from 2004 to a peak of 154 in 2007 compared to its basis of 100 in 2004, once again declining to a level of 132 in 2012. This implies that, since 2007, the EU has exported relatively less services to Chile compared to its all other customers but still exported relatively more services to Chile than in 2004 compared to its all other customers.

This short analysis suggests that, in line with an apparent positive expansion of international exchanges of services since the inception of the provisional application of the trade part of the EU-Chile Association Agreement in 2003, EU's total imports of services from Chile and, to a greater extent, EU's total exports of services have both been improved when considering only EU's imports from the RoW and EU's exports to the RoW until the period of 2007-2008 and then slow down but still at a higher level in 2012 than in 2004. That international exchange creation or erosion in services between Chile and the EU has been at play since the inception of the provisional application of the trade part of the EU-Chile Association Agreement in 2003 cannot be concluded without additional data on third country exporters and importers of services. Whether this trade part of the EU-Chile Association Agreement could facilitate this positive evolution of international exchanges of services, a cautious suggestion made in the 2012 (p. 18) ITAQA ex-post evaluation report, is a question out of the scope of this section.

**Figure 2.9: Relative Credit and Debit Indices of the EU-27 with Chile for All Services, 2004-2012 (base=2004)**

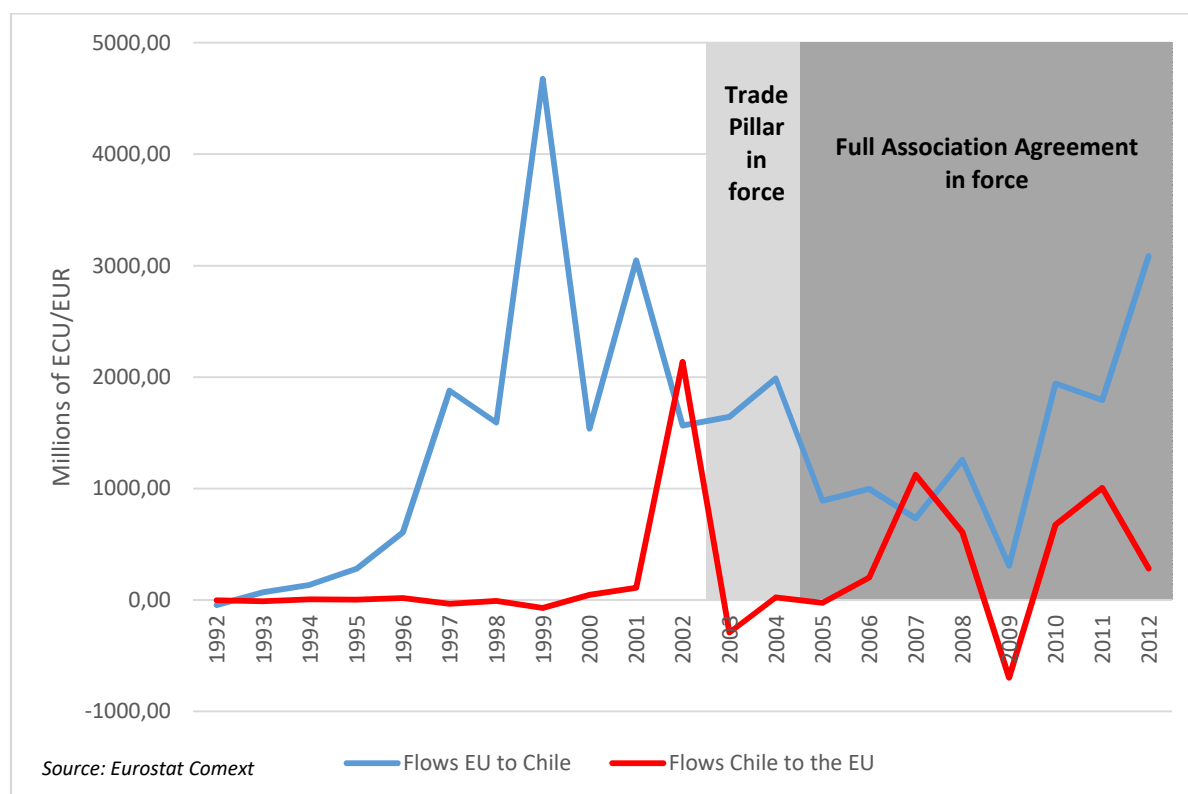


#### 2.1.2.4 Evolution of Foreign Direct Investment Flows

As noted by Agosin (1998), foreign investment has been a crucial driver of the Chilean economy since the early 1990s, but this reality has accelerated in the past decade, as FDI to the country averaged 8.4% of GDP from 2006 to 2015. Moreover, as Fernandes and Panuov (2012) show, not only has investment contributed to Chile's economic growth, but it also has spurred on productivity gains and helped to reinvigorate competition in the country's markets. Finally, all of this has occurred despite Chile's tiny size, compared to other competitors for investment, an indication that the institutional and policy framework in Chile was fundamental for investment attraction (Ramirez 2006).

In regards to investment trends between the EU and Chile, investment has been much more sporadic than the trade relationship, with the peak of EU investment into Chile coming in the late 1990s (driven by the acquisition of Chilean utilities company Enersis by Spanish firm Endesa), falling as a result of the global recession of the early 2000s, and only approaching the heights of 1999 again in 2012 (the latest year available, see Figure 2.10). In fact, the Association Agreement appears to have had no consistent effect on EU-Chile FDI flows, with investment flows seeing an uptick once the Agreement's trade provisions came into force but declining steadily until the global financial crisis, when it began to pick up again. From the Chilean side, the run-up to the signing of the Agreement saw a marked increase in outward FDI flows to the EU (an increase of over 1,800% in one year!) but came crashing back to earth throughout the 2000s, showing an uptick once again before the global financial crisis and afterwards. At two points, in 2002 and immediately pre-crisis (2007), Chilean outflows to the EU actually exceeded EU inflows, although, as of 2012, stocks of EU FDI were 13.72 times higher than the reverse.<sup>5</sup>

<sup>5</sup> According to data from Eurostat, EU FDI stocks in Chile have always exceeded Chilean stocks in the EU.

**Figure 2.10: EU-Chile Bilateral Foreign Direct Investment Flows**

The composition of FDI into Chile has remained rather static, with the service sector, in particular financial services and retail, consistently being a main recipient of FDI (Alatorre and Razo 2010), while on the industry side, mining and in particular copper mining outshine all other sectors in terms of FDI performance. Indeed, according to Invest Chile, mining accounted for 45.4% of all FDI in Chile in from 2009 to 2014 (the latest year available), a reliance which has also been to blame for the overall vacillations in Chilean FDI over the years. As the Spanish bank Santander notes, with so much of FDI flows tied into mining, project cycles of the mining industry drive when investment is needed and when it is not, creating similar patterns in Chilean inflows.<sup>6</sup> The United States has been the main single-country source of FDI for Chile over the same time period, with 20.4% of all investment, but the U.S. has held this position even before the U.S.-Chilean FTA. Regardless, the EU makes a strong showing as well, comprising a further 30% of Chilean inward FDI.

### 2.1.2.5 Evolution of Procurement in the EU and Chile

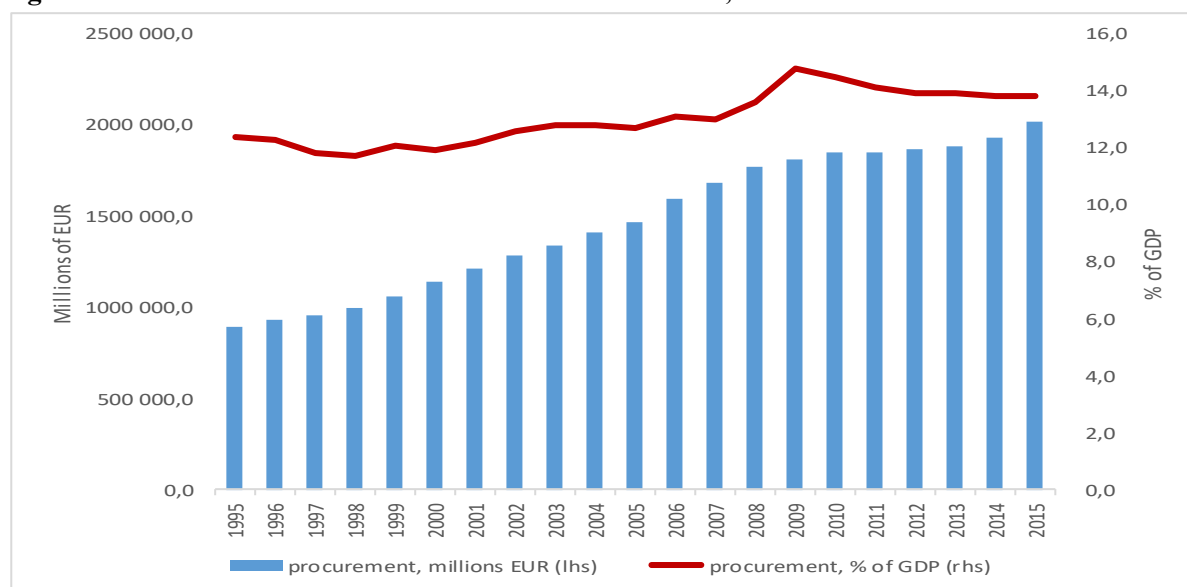
Given the evolution of the new generation of trade agreements in the past decade, on both the EU and Chilean side, a final nod must be made in this introductory chapter to the issue of public procurement markets. As noted above, some of the latest EU agreements contain provisions on liberalising the government procurement markets of partner countries, phasing in reductions of preferences for domestic companies (as in the agreements with Bosnia and Serbia) or setting standards on procurement and tenders (as in the EU-Central America Association Agreement or the Colombia and Peru Trade Agreement). These specific examples and sections of the agreements are explored more in section 3.3 below, but suffice it to say at this point that the focus has shifted to procurement simply because

<sup>6</sup> See “Chile: Foreign Investment,” on Santander’s on-line “Trade Portal,” <https://en.portal.santandertrade.com/establish-overseas/chile/foreign-investment>. Accessed August 31, 2016.

government procurement itself is becoming more important. As Figure 2.11 shows, the procurement market in the EU has stabilised as a percentage of GDP since 2009 at roughly 14%, but the absolute value of procurement has increased to a high of over 2 billion EUR in 2015.<sup>7</sup> Amongst Member States, Germany, the UK, and France continue to lead the pack in 2015, with procurements at 22.9%, 17.4% and 15.7% respectively of the EU total procurement (see Table 2.1).<sup>8</sup> As DG Grow (2016) notes, while relative shares of overall EU procurement have remained stable across Member States, absolute values of procurement have increased dramatically in smaller EU Member States, including 86% growth in Croatia from 2013 to 2014 and 53% in Ireland over the same time frame.

Despite this increase in absolute procurement spending, Chilean firms have not benefitted particularly from the EU procurement market. An analysis of winning firms listed on the Tenders Electronic Daily (TED) database from 2009 to 2015 showed a single solitary firm from Chile amongst successful bidders, Equitas Foundation from Santiago, who won a consulting bid in 2011 (value not noted).<sup>9</sup> This performance fits with the analysis of Pîrvu and Bâldan (2013), who found that foreign contractors have the easiest time in EU procurement markets in construction, equipment, and consulting services. However, it also puts Chile on par with Côte d'Ivoire in the number of open procurements won within the EU, and it should be noted that the EU only has an Economic Partnership Agreement (EPA), with no procurement provisions, with Côte d'Ivoire. Against other countries with similar Association Agreements (or trade agreements incorporating public procurement), Chile also fares poorly: South Korea has had 11 winning firms on EU tenders since 2009, while Serbia has had 7 winning bids (2 since its Association Agreement was signed) and Algeria has had 4 (all coming after its Association Agreement was implemented).

**Figure 2.11: General Government Procurement in the EU, 1995-2015**



Source: CASE calculations based on Eurostat data. Data for 1995-1999 are EU-27, from 2000 onward are EU-28

<sup>7</sup> Procurement numbers are calculated from Eurostat data on the basis of the methodology created by DG Grow. This includes a summation of components of Eurostat series “gov\_10a\_main,” including aggregates P2 (intermediate consumption), P51G (Gross fixed capital formation) and D632PAY (social transfers in kind purchased market production, payable). Our calculations comport with their numbers as published in the annual “Public Procurement Indicators”.

<sup>8</sup> CASE calculations based on Eurostat data.

<sup>9</sup> Even more ironically, the tender that was won by the Chilean firm was not even implemented in an EU Member State, but was instead awarded for assistance to the Norwegian Centre for Conflict Resolution.

From the Chilean side, procurement has also generally been on an upward path, albeit with some erratic moves from specific Ministries and a large decline in 2015. Figure 2.12, derived from ChileCompra, shows data across the Chilean government including the Ministry of Public Works (*Ministerio de Obras Públicas*). The steep drop-off in 2015 is attributable to the 74% drop in procurement from the Ministry of Public Works from 2014 along with a decline in the Ministry of Defence (traditionally one of the largest sources of procurement) of 50%. Apart from a general fall in government spending, the sudden freezing of procurement was precipitated by much slower economic conditions in the country.

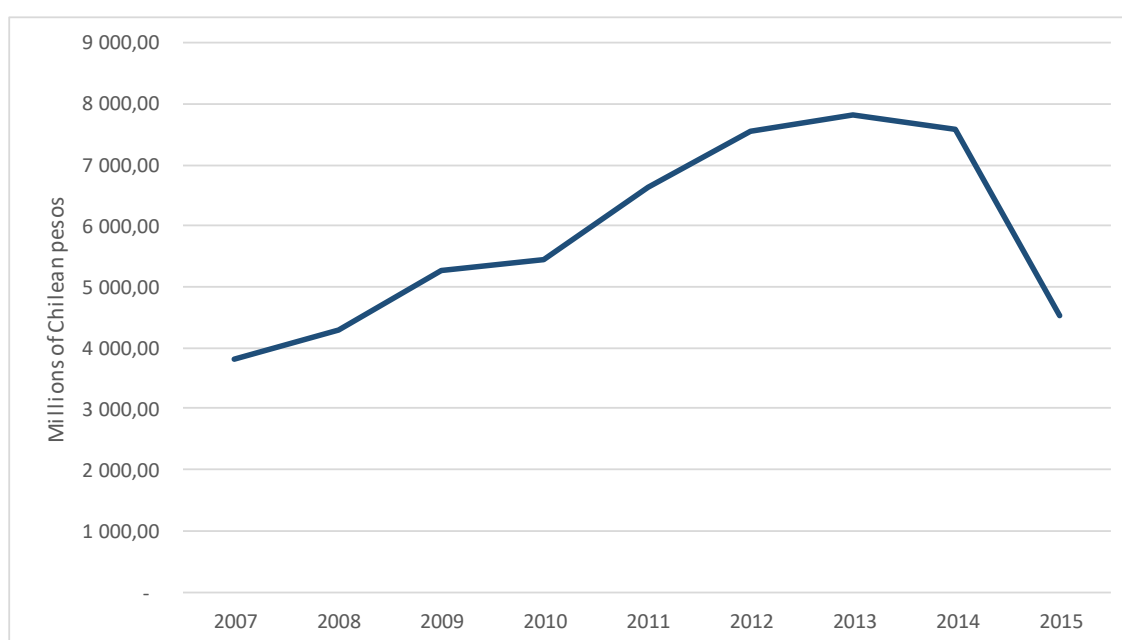
While overall procurement trends will be dependent on the economic environment that the Chilean government faces, procurement markets should stabilise and resume in 2016, given that there were major changes to the legal framework at end-2015 meant to encourage small and medium sized enterprises to better access government procurement. The amendments enacted in 2015 relaxed guarantee requirements, allowed for consortia of smaller suppliers, set more inclusive criteria (including social impact) for some tenders, and attempted to strengthen transparency in dealings with government ministries. Moreover, the fall in government spending in 2015 did not fall evenly on all departments, with the Ministry of Finance seeing its procurement more than double, and the Ministry of Agriculture saw spending fall by only 3%. Across all Ministries, the Ministry of Health remained the governmental agency with the largest procurement volume, despite a fall in spending of 50% from 2014 to 2015.

In terms of the bilateral procurement flows between the EU and Chile, data is scarcer for understanding the development of these flows. From the Chilean side, geographic classifications for bidders who have won tenders is broken down by territory within Chile or a single “foreign” (*extranjero*) category, making it difficult to understand where winning bids have come from without a procurement-by-procurement analysis, which is beyond the scope of this study. Table 2.2 shows the data obtained from ChileCompra of winning bids over 2009 to 2016, as well as a comparison of the percentage of winning bids from specific locales. As can be seen, foreign bidders only made up 0.001% of all successful bids over a seven-year span, while, perhaps unsurprisingly, the largest number of winners came from the Santiago metropolitan region. As noted above, this distribution includes Ministry of Public Works data, which is also collected separately by the Ministry but which does not have publicly-available geographic distribution of tender winners. Using a sample of bids won from April to September 2016 available on the Ministry’s website, the number of foreign winners appeared to be zero, based solely on the names of the winning bids (cross-checked against publicly-available information regarding the firms). Part of the reason for this, as will be explored in section 3.3.4.3 below, is due to the language barriers and difficulties in bidding in Chile, while it is conjectured (here and elsewhere, see Polanco, 2016) that transportation costs, the need to have local representation, and *de facto* local preferences and bureaucratic discretion (Woolcock, 2012), also act as a deterrent to EU firms.

**Table 2.1: Procurement Spending by EU Member State as % of Total**

Member State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Germany	19.69 %	19.26 %	19.43 %	20.29 %	20.60 %	21.39 %	21.89 %	22.63 %	22.87 %	22.91 %
United Kingdom	17.28 %	17.19 %	15.78 %	14.68 %	14.92 %	14.61 %	15.55 %	15.18 %	16.17 %	17.35 %
France	16.32 %	16.09 %	15.83 %	16.18 %	16.25 %	16.47 %	16.79 %	16.94 %	16.40 %	15.74 %
Italy	10.19 %	9.94%	9.88%	10.22 %	9.73%	9.58%	9.19%	9.12%	8.75%	8.45%
Netherlands	6.93%	6.91%	7.07%	7.36%	7.28%	7.29%	7.22%	7.12%	6.98%	6.73%
Spain	7.34%	7.69%	7.90%	8.15%	7.73%	7.11%	6.05%	5.63%	5.43%	5.53%
Sweden	3.10%	3.06%	3.00%	2.79%	3.21%	3.53%	3.71%	3.82%	3.66%	3.58%
Belgium	2.56%	2.53%	2.63%	2.75%	2.77%	2.95%	3.04%	3.04%	3.03%	2.95%
Poland	2.11%	2.31%	2.70%	2.27%	2.72%	2.77%	2.59%	2.52%	2.66%	2.58%
Austria	2.07%	2.05%	2.13%	2.16%	2.15%	2.18%	2.20%	2.26%	2.24%	2.24%
Denmark	1.77%	1.74%	1.80%	1.85%	1.89%	1.90%	2.01%	1.98%	1.98%	1.92%
Finland	1.56%	1.59%	1.67%	1.73%	1.74%	1.84%	1.92%	1.99%	1.95%	1.89%
Czech Republic	1.22%	1.23%	1.41%	1.39%	1.36%	1.29%	1.19%	1.14%	1.11%	1.20%
Greece	1.99%	1.96%	2.01%	2.03%	1.58%	1.21%	1.07%	1.01%	0.98%	0.94%
Romania	0.74%	1.01%	1.13%	0.86%	0.83%	0.90%	0.84%	0.86%	0.85%	0.93%
Ireland	1.22%	1.36%	1.37%	1.15%	1.05%	0.96%	0.91%	0.88%	0.93%	0.91%
Portugal	1.10%	1.11%	1.16%	1.22%	1.29%	1.09%	0.92%	0.88%	0.88%	0.88%
Hungary	0.86%	0.81%	0.78%	0.72%	0.73%	0.72%	0.70%	0.76%	0.84%	0.86%
Slovakia	0.39%	0.41%	0.47%	0.52%	0.51%	0.53%	0.53%	0.54%	0.56%	0.67%
Luxembourg	0.24%	0.25%	0.25%	0.27%	0.29%	0.29%	0.30%	0.30%	0.30%	0.31%
Bulgaria	0.21%	0.26%	0.29%	0.25%	0.25%	0.24%	0.24%	0.26%	0.29%	0.31%
Croatia	0.36%	0.38%	0.40%	0.37%	0.31%	0.31%	0.31%	0.32%	0.31%	0.29%
Slovenia	0.24%	0.25%	0.27%	0.27%	0.27%	0.27%	0.25%	0.26%	0.26%	0.26%
Lithuania	0.18%	0.21%	0.23%	0.18%	0.20%	0.20%	0.19%	0.19%	0.19%	0.20%
Latvia	0.13%	0.16%	0.17%	0.12%	0.12%	0.14%	0.14%	0.14%	0.14%	0.14%
Estonia	0.11%	0.13%	0.13%	0.12%	0.11%	0.12%	0.14%	0.14%	0.14%	0.14%
Malta	0.03%	0.03%	0.03%	0.03%	0.03%	0.04%	0.04%	0.04%	0.04%	0.05%
Cyprus	0.08%	0.08%	0.08%	0.09%	0.09%	0.09%	0.07%	0.06%	0.05%	0.05%

Source: CASE calculations from Eurostat data

**Figure 2.12: Procurement spending by the entire Chilean Government, 2007-2015**

Source: CASE calculations obtained from ChileCompra

**Table 2.2: Geographic Distribution of Winning Bidders in Chile, 2009-2016**

Origin of Winning Bidder	Total amount of offers won 2009-2016 (Chilean Pesos)	As percentage of total offers won
Arica y Parinacota	11,162,127,583.00	5.17%
Tarapacá	332,011,549.00	0.15%
Antofagasta	464,691,668.00	0.22%
Atacama	92,338,611.00	0.04%
Coquimbo	7,639,114,564.00	3.54%
Valparaíso	14,498,283,369.00	6.71%
Metropolitana (Santiago)	79,243,975,020.00	36.69%
Lib. Gral. Bdo. O'Higgins	488,357,509.00	0.23%
Maule	19,799,254,021.00	9.17%
Bío-Bío	13,173,153,989.00	6.10%
Araucanía	22,027,754,497.00	10.20%
Los Ríos	44,795,469,620.00	20.74%
Los Lagos	1,890,416,623.00	0.88%
Aysén	35,450,807.00	0.02%
Magallanes y Antártica	276,004,183.00	0.13%
Foreign bidders	1,980,899.00	0.001%
No information	49,130,304.00	0.02%
<b>TOTAL</b>	<b>215,969,514,817.00</b>	<b>100%</b>

Source: CASE calculations from ChileCompra data

### 2.1.3 EU-Chile Flows and Relevant Comparator Countries

#### 2.1.3.1 Determination of the Reference Groups of Countries for Chile and for the EU

We believe that the purpose of this comparison is to examine the extent to which the preferential margins created by the trade part of the EU-Chile Association Agreement actually generated relatively more bilateral trade between them than with third countries. However, possible parallel FTAs between these third countries and either the EU or Chile can erode these bilateral preferential margins and, hence, reduce the potential trade creation of the Association Agreement between the EU and Chile. Moreover, possible parallel FTAs between these third countries and some other third countries can also strengthen these bilateral preferential margins between the EU and Chile and, hence, augment the potential trade creation of the Association Agreement between the EU and Chile.

To examine these trade effects, we have chosen reference countries for Chile in two tranches: the first were selected for their similarities to Chile in terms of economic development (per capita GDP), sectoral structure (sector value added shares in GDP), trade pattern (sector import shares in total imports and sector export shares in total exports), and transportation costs (geographic distance to the EU). The second tranche, on the other hand, was selected precisely for their *divergence* from Chile in terms of trade agreements with the EU. For example, South Africa, Argentina and Peru are relatively similar to Chile in economic terms but dissimilar in terms of trade agreements with the EU.<sup>10</sup> On one hand, South Africa has concluded the Trade, Development and Co-operation Agreement (TDCA) with the EU in 1999 and completed it in 2012. Peru has concluded a FTA with the EU that is applied since 2013. Nothing substantial has been yet concluded between Argentina and the EU within the on-going negotiation between the EU and the Southern Common Market (MERCOSUR). On the other hand, South Africa has been a party of the African Growth and Opportunity Act (AGOA) with the U.S. since 2000 and of Free Trade Agreements such as the Southern African Development Community (SADC) since 1996 and the Southern African Customs Union (SACU) since 2002. Peru has concluded many Free Trade Agreements, in particular with the U.S. in 2006, China in 2009, and Japan in 2011. But, Argentina has not concluded any FTAs during this time frame, except the MERCOSUR agreement member states signed in 1991.

We also resort to reference countries for the EU that are also relatively similar to the EU in economic terms (here, transportation costs are measured as geographic distance to Chile) but dissimilar in terms of trade agreements with Chile. The U.S. and Japan are relatively similar to the EU in economic terms. Although not similar to the EU in economic terms, China needs to be considered since it has become the main trading partner of Chile since 2009. The U.S., China and Japan have all concluded a FTA with Chile but their implementation has differently lasted since 2003, 2006 and 2007 respectively. The U.S. and Japan have concluded many FTAs with third countries, notably with Peru in 2006 and 2011 respectively. China has also concluded many FTAs with third countries, in particular with Peru in 2009.

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<sup>10</sup> The sectoral structure and the trade pattern of Argentina are different from those of Chile, South Africa and Peru with less importance to mineral products (HS section V) and base metals (HS section XV). The economy of Argentina has also been less stable than the one of Chile and Peru. Inflation and exchange rate of Argentina have also been erratic. These structural and conjectural features would need to consider when comparing trade performance of Chile and Argentina with respect to the EU.



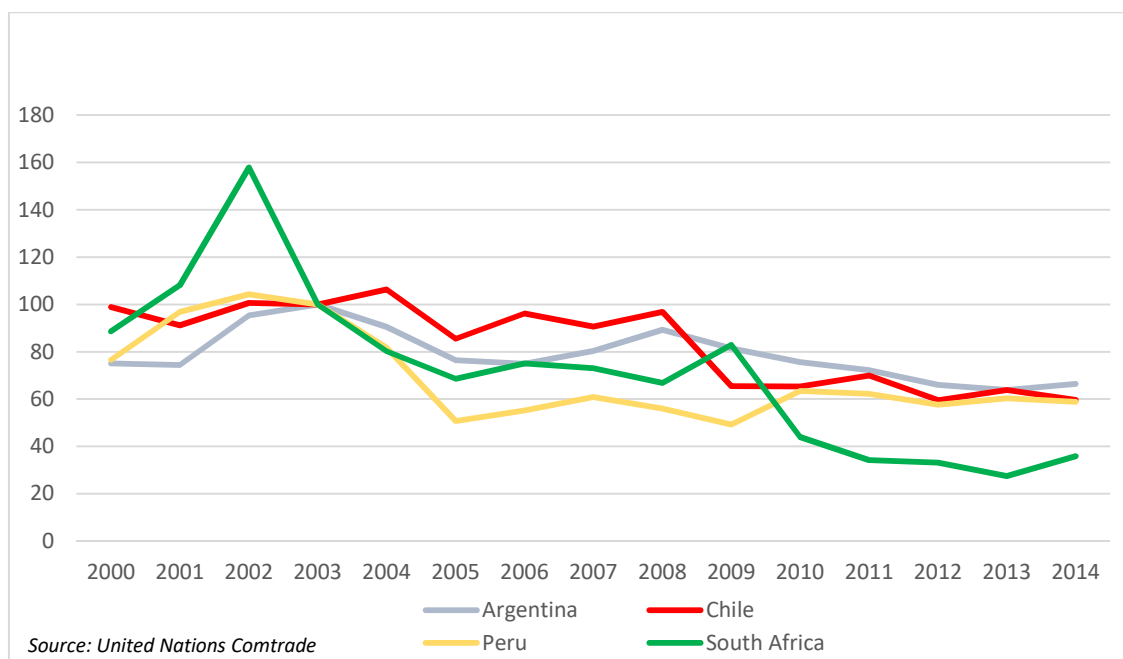
### 2.1.3.2 Comparison of EU-Chile Bilateral Trade in Goods with a Reference Group of Countries

RTIs plotted in Figure 2.13 show that the export concentration of Chile to the EU market, relative to its concentration in other importing markets, has increased compared to the concentration in Peru and South Africa since 2003 (a trend that abated in respect to Peru since 2010). These calculated RTIs also show that the export concentration of Chile into the EU, relative to its concentration in other importing markets has increased since 2000, only to decrease in 2009 and 2010 but then resuming growth in 2011 at the same trend as with Argentina. At this point, it is important to note that it may be imprudent to relate this evolution to FTAs that have been concluded with the EU or third countries, as, in absence of a FTA between the EU and Argentina, the relative position of Argentina compared to the relative position of Chile in the EU's importing market has temporarily improved since 2009. Moreover, the FTA between the EU and Peru in force since 2013 has most likely not yet generated any trade effect that could be discerned in 2014. But this analysis confirms that the relative export concentration of Chile into the EU has not significantly differed than patterns occurring in the absence of an Association Agreement since 2010-2011.

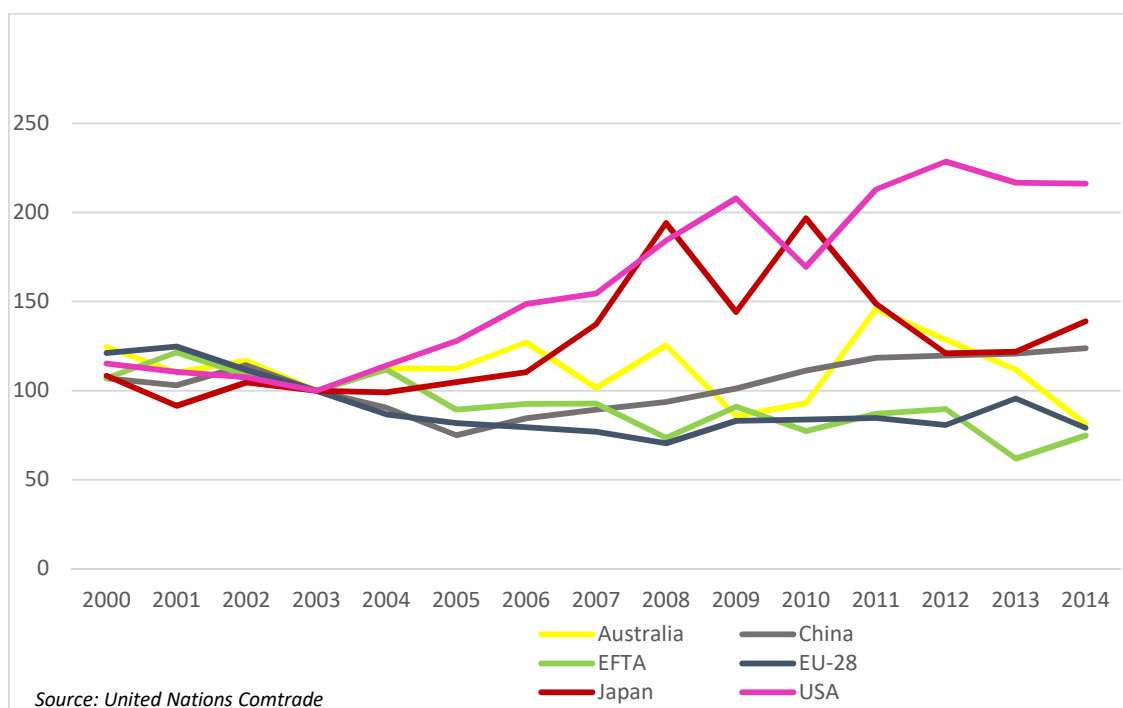
Our calculated RTIs, plotted in Figure 2.14, show that the export concentration of the EU to Chile, relative to its concentration in other importing markets, has decreased compared with all other reported exporting countries (except the EFTA in 2013 and 2014). This effect has been particularly pronounced with respect to the U.S. and Japan since 2003 and, to a lesser extent, with respect to Australia since 2003 and China since 2007. It would be here again imprudent to relate this evolution to FTAs that have been concluded with Chile or third countries, as the relative position of China compared to the relative position of the EU in the Chile's importing market has coincidentally improved since 2007, one year after the entry in force of the FTA between Chile and China. But our analysis once again confirms that the relative export concentration of the EU to Chile has deteriorated with respect to other countries except the EFTA since 2003 for the U.S., Japan and Australia and since 2007 for China. This confirms our previous preliminary conclusion that the EU's total exports of goods to Chile deteriorated when washing out the effects of any possible change in the characteristics of the importers on import flows and the exporters on export flows.

In summary, on one hand, the relative export concentration of Chile to the EU has followed a path evolved better than that with South Africa between 2003 and 2014, better than the Argentina and Peru between 2003 and 2008, but fairly similar to Argentina and Peru since 2010. On the other hand, the relative export concentration of the EU to Chile has deteriorated comparably to the path of the U.S., Japan, Australia, and recently China, but has tracked the progress of EFTA.

**Figure 2.13: Exports Concentrations of Argentina, Chile, Peru and South Africa into the EU, 2000-2014 (basis=2003)**



**Figure 2.14: Exports Concentrations of Australia, China, EU-28, Japan, EFTA, and U.S. into Chile, 2000-2014 (basis=2003)**



### 2.1.3.3 Comparison of EU-Chile Bilateral exchanges of Services with a Reference Group of Countries

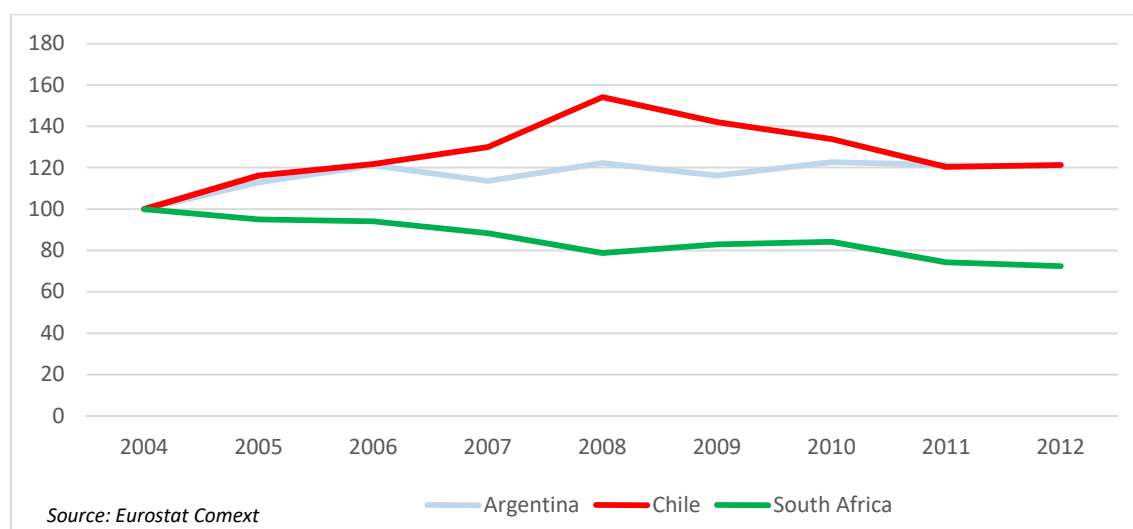
As noted above, because international exchanges of services between third countries are sparsely reported in the UN Comtrade database and not available from the Eurostat database, we need to

limit this trade analysis to a smaller group of countries. As above, we limit ourselves to Argentina and South Africa, and only calculate simplified relative trade indices using the Eurostat database.

Simplified RTIs plotted in Figure 2.15 show that the proportion of the EU's total imports of services from Chile relative to the EU's total imports of services from the RoW increased compared to the proportion from South Africa during the entire period from 2004 to 2012 period and from Argentina during 2007 to 2010. Chile has therefore improved its relative position in services in the EU importing market with respect to South Africa between 2004 and 2012 and with respect to Argentina between 2007 and 2010. Whether the Association Agreement between the EU and Chile is responsible for this positive trend is a question that we may not answer definitively in this project, but appears to be the case superficially.

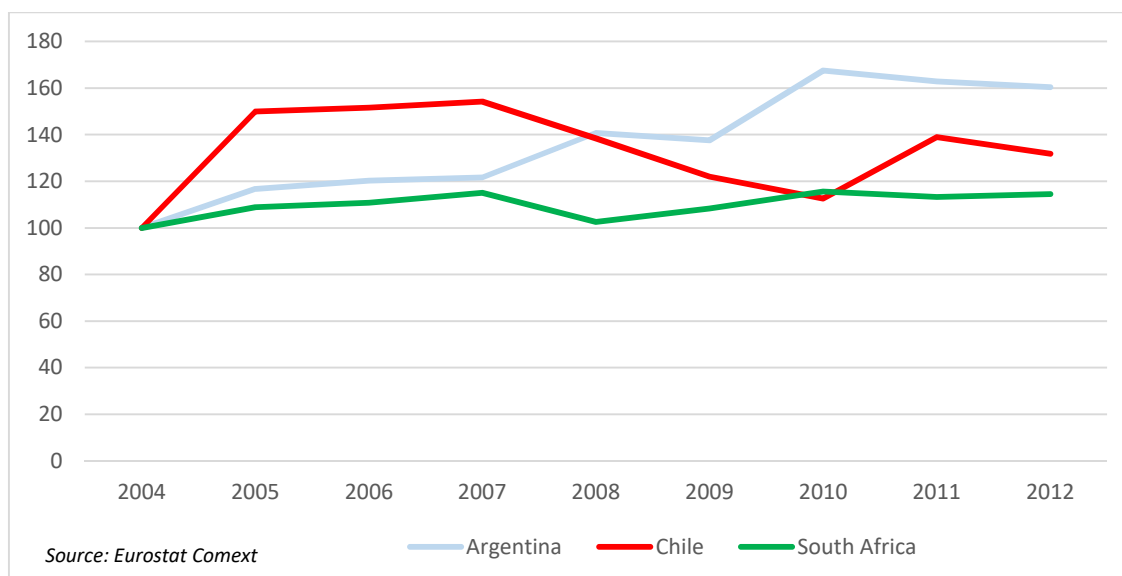
Simplified RTIs plotted in Figure 2.16 show that the proportion of the EU's total exports of services to Chile with respect to the EU's total exports of services to the RoW declined compared to Argentina since 2009. In contrast, the proportion of EU's total exports of services to Chile with respect to EU's total exports of services to the RoW has increased compared to South Africa during the entire period examined here.

**Figure 2.15: Relative Debit Indices of the EU-27 with Argentina, Chile and South Africa, 2004-2012 (basis=2004)**



This analysis shows that, on one hand, Chile has improved its relative position in services in the EU importing market with respect to South Africa between 2004 and 2012 and with respect to Argentina between 2007 and 2010. On the other hand, the EU has increased its exports of services to Chile relatively less than to Argentina since 2009 and relatively more to South Africa during the whole period under examination here.

**Figure 2.16: Relative Credit Indices of the EU-27 with Argentina, Chile and South Africa, 2004-2012 (base=2004)**



#### 2.1.4 Identification of Changes in the Nature of Trade in Goods and Services between the EU and Chile

To delve deeper into the changes on trade in goods and international exchanges of services, this section utilises the trade decomposition in good and service categories made in the 2012 ITAQA ex-post evaluation report (Tables 5 and 6 in pages 40 and 43 and Tables 22 and 25 in pages 93 and 98). This approach allows us to tailor the trade decomposition in good categories to the structure of the Chilean exports to the EU, as it is relatively concentrated in a few sectors (copper and its products, wood and its products, ores, fruits, and fish and crustacean products). Similarly, the structure of the EU's exports to Chile is also relatively concentrated in few sectors (machinery, vehicles, chemical products, and precision instruments). Utilising this approach, we may also use the EU AVE tariffs applied to Chile and Chile AVE tariffs applied to the EU and selected other partners, as well as reported EU's and Chile's commitments under the EU-Chile Association Agreement that are already calculated in the 2012 ITAQA ex-post evaluation report.

##### 2.1.4.1 Identification of Changes in the Nature of Trade in Goods between the EU and Chile

Figure 2.17 below shows the evolution of EU exports of goods to Chile by broad goods categories. Between 2003 and 2015, the EU's exports of mineral products to Chile grew the most quickly, at a rapid annual nominal rate of 25%, followed by EU exports of agricultural and food products (13.9%) vehicles (12.2%), precision instruments (9.9%), chemical products (8.1%), and machinery (7.9%). These trends have been consistent through the whole period, except for a slight dip between 2008 and 2010 corresponding to the global financial crisis.

From the other side, Figure 2.18 shows the evolution of EU imports of goods from Chile by the same broad goods categories. Between 2003 and 2015, the EU's imports of other agricultural and food products from Chile have grown most rapidly at an annual nominal rate of 6.9%, followed by EU imports of fruits (5.5%), wood and its products (4.7%), beverages (4.6%), fish, crustaceans, meat, fish and seafood products (0.5%), and other manufactured products (0.02%). The EU's imports of ores, copper and its products from Chile have actually declined at an annual nominal rate of 0.2%. These trends have been consistent through the whole period, except with the same

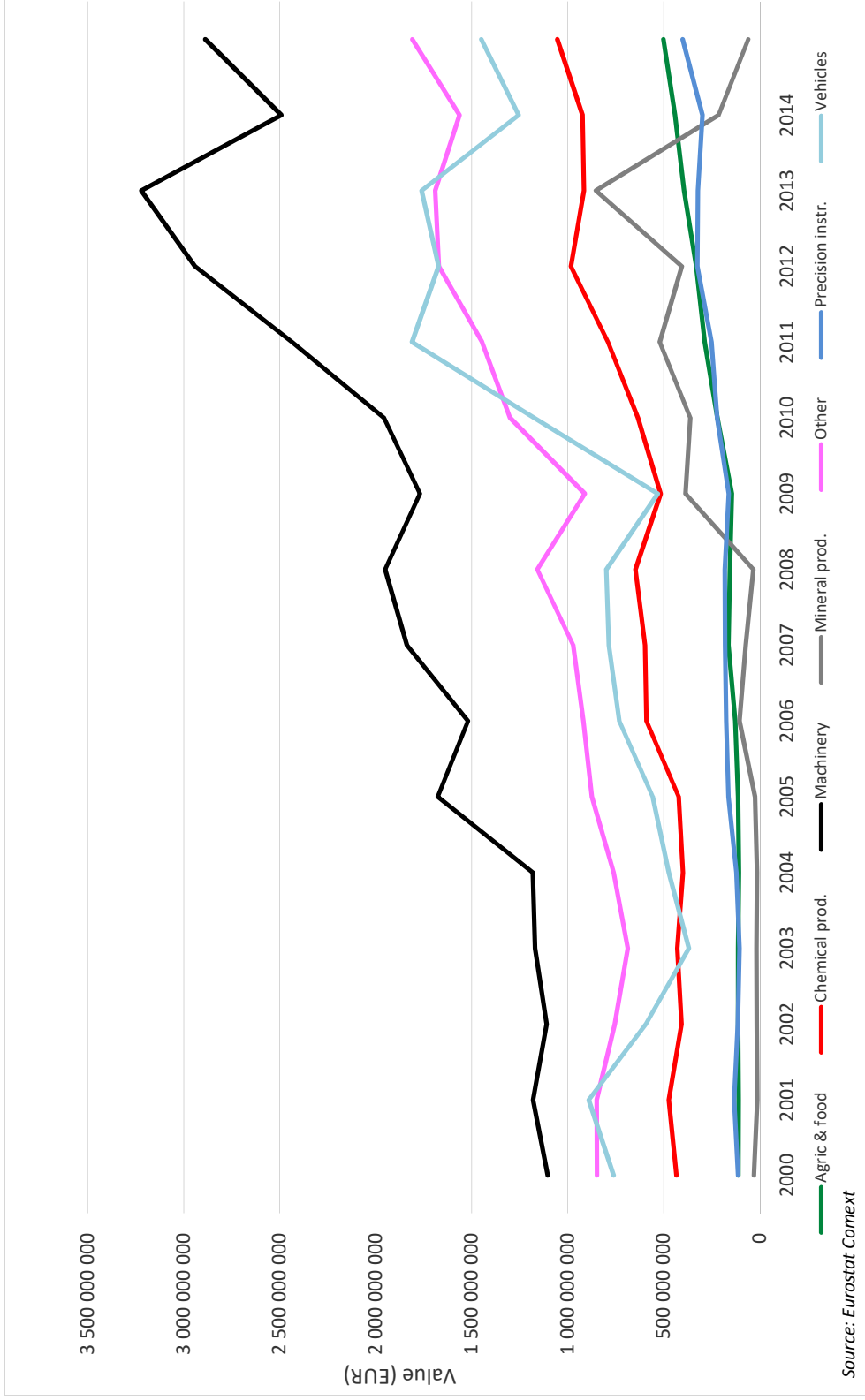
dip between 2008 and 2010 corresponding to the global financial crisis, especially in regards to the EU's imports of fruits, wood and its products, and other manufactured products. Since 2009, the EU's imports of fish, crustaceans, meat, fish and seafood products from Chile have stagnated.

From the UNCTAD TRAINS database, it is also possible to extract the import-weighted averages of ad valorem equivalents (AVE) for the preferential tariff rates applied by the EU on Chilean imports at HS 2-digits category level, then aggregating them by broad product category. Figure 2.19 shows these preferential AVE tariff rates from 2000 to 2013. Since the inception of the provisional application of the trade part of the EU-Chile Association Agreement in 2003, these rates have declined at an annual rate of 25.1% for fish, crustaceans, meat, fish and seafood products, 20.2% for fruits, and 6.3% for beverages, but increased at an annual rate of 1.2% for the other agricultural and food products. This increase is due to the fact that these AVE tariff rates are import-weighted averages, and could then reflect greater imports in agricultural and food products with greater AVE tariff rates. It is also for this category of agricultural and food products that we find the highest proportion of tariff lines that are excluded from the EU's tariff concession (27.8%), under a partial liberalisation (5.1%), or are under a TRQ (16.1%) (ITAQA, 2012, Table 1, p. 33). As already indicated, we must be very careful in interpreting those declining rates at the broad product category, since these preferential AVE tariff rates may still hide large and even prohibitive tariff rates at the product level.

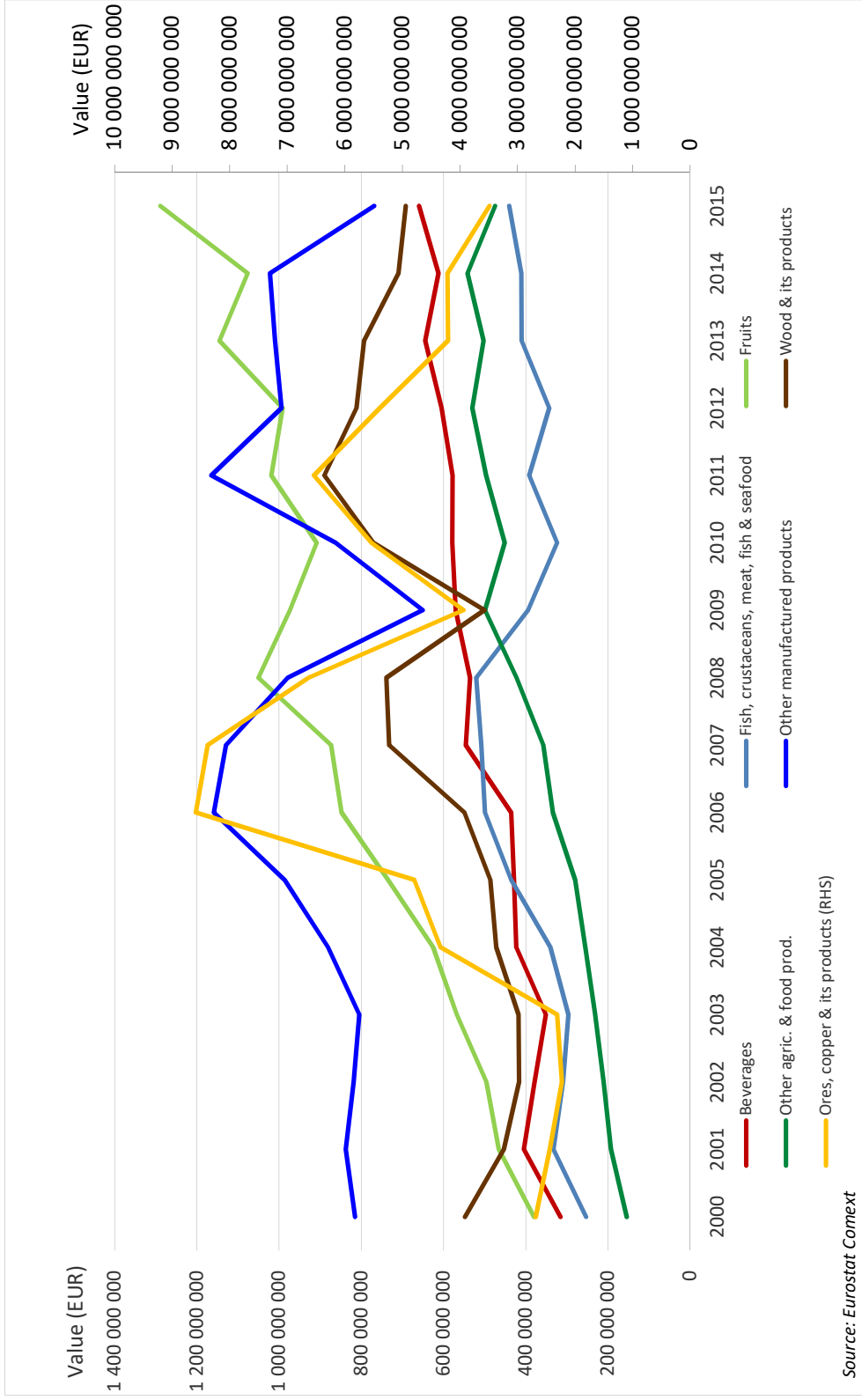
The drop in the AVE tariff rates of 20.2% for fruits and 6.3% beverages corresponds with an increase of 5.5% and 4.6% in the EU's imports of their respective category from Chile. However, the drop of 25.1% in the AVE tariff rate for fish, crustaceans, meat, fish and seafood products did not precipitate an increase in their exports from Chile to the EU, and the increase of 1.2% in the AVE tariff rate for the other agricultural and food products has paradoxically resulted in an increase of 6.9% in EU imports from Chile. This variegated performance makes it very difficult, at this superficial level, to link any change in the EU's preferential tariff rate at a broad category level to a corresponding change in the EU's imports from Chile. Such a causation analysis should occur at a much more disaggregated product level. Also, many other determinants can be at play, starting with the variations in the exchange rate and economic situation as shown above, but also changes in the EU's domestic demand pattern as suggested in the 2012 ITAQA (pp. 48-49) ex-post evaluation report. Using RTIs, however, washes out the effect of possible changes in those determinants on import flows, as explained above.

The UNCTAD TRAINS database does not provide the import-weighted averages of ad valorem equivalents (AVE) for the preferential tariff rates applied by Chile to EU's imports at the HS 2-digits category level, only providing them at the EU Member State level. This reality means that the structure of the Chilean imports from each individual EU Member State may be influenced differently. However, Table 6 of the 2012 ITAQA (p. 43) ex-post evaluation report indicates that these AVE tariff rates, calculated at the broad product category level, went from less than 2.9% in 2003 to less than 1.1% in 2010. These same AVE tariff rates, applied to imports from the U.S. rather than the EU, went from slightly less than 6.1% in 2003 to less than 1.8% in 2010, while those applied to imports from the Latin American countries went from less than 2.3% in 2003 to less than 1.8% in 2010. In 2010, AVE tariff rates at the broad product category level applied by Chile to imports from the EU, the U.S., and Latin American countries are all very similar, ranging from 0% to 2.1%.

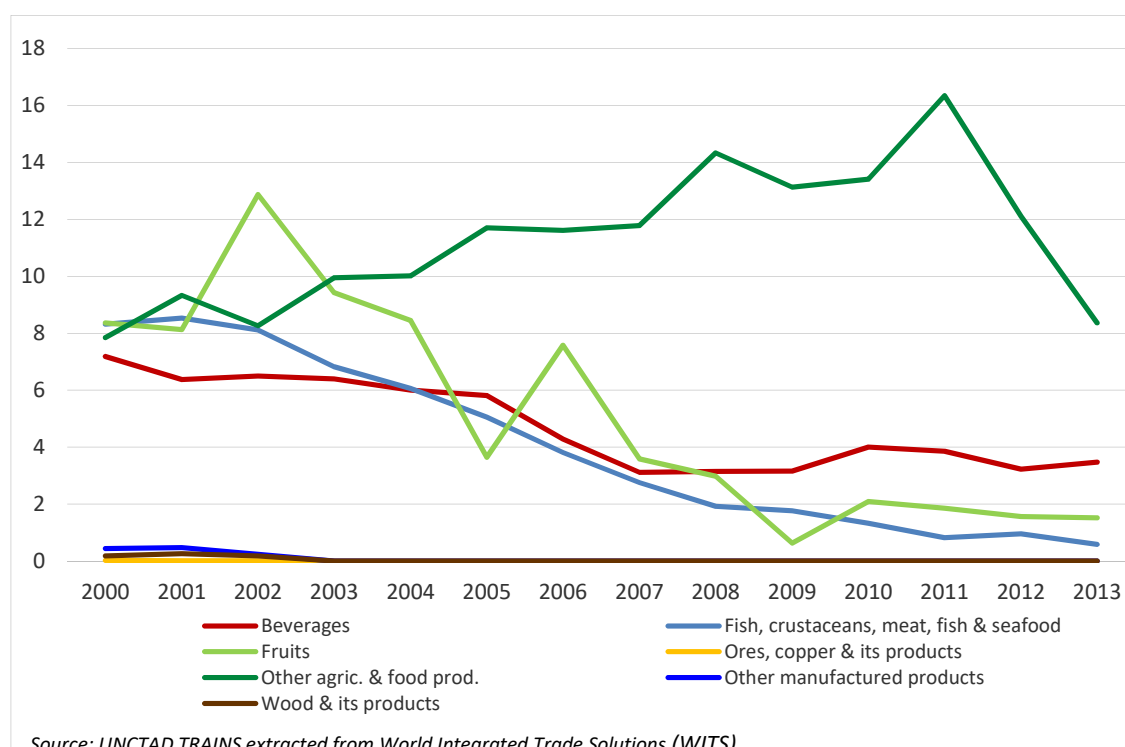
Figure 2.17: EU-28's Exports of Goods to Chile by Sector, 2000-2015



**Figure 2.18: EU-28's Imports of Goods from Chile, 2000-2015 (excluding ores, copper & its products)**



**Figure 2.19: Import-weighted Averages of Ad Valorem Equivalents for the Preferential Tariff Rates Applied by the EU to Chilean Imports by Sector, 2000-2013 (%)**



It is probably here even less relevant to link any change in the Chile's preferential tariff rate at a broad product category level to a corresponding change in the Chile's imports from the EU, given that Chile's protection does not vary much across broad product categories. However, as Chile is a small open economy which has concluded many bilateral trade agreements with different partners, the evolution in the EU's exports to Chile by broad product category may be affected more by whatever liberalisation schedule is applied by Chile to EU imports by product category (as shown in the 2012 ITAQA ex-post evaluation report).

Further RTIs plotted in Figure 2.20 show how the proportions of Chile's exports to the EU with respect to the RoW's exports to the EU, relative to the proportion of Chile's exports to the RoW with respect to the RoW's exports to the RoW, have evolved by broad product category between 2000 and 2014. These relative proportions for ores, other agricultural and food products, and fruits have changed for the better since 2003, while relative proportions for copper and its products and other manufactured products have evolved negatively since 2003. In the midst of the global financial crisis, the relative proportion for wood and its products has evolved positively since 2009, but the crisis harmed the relative proportions for beverages, and fish, crustaceans, meat, fish and seafood products from the same year. These trends show that the EU has become a more-favoured destination for Chile's exports of ores, other agricultural and food products, and fruits since 2003 and, to a lesser extent, of wood and its products since 2009 compared to the rest of the world. But, it also shows that the EU became less-favoured for Chile's exports of copper and its products, and other manufactured products since 2003 and, to a lesser extent, of beverages, and fish, crustaceans, meat, fish and seafood products since 2009 compared to the rest of the world.

In regards to how changes in tariff rates correspond to changes in trade flows, it is only the drop of 20.2% in the EU's AVE tariff rate for fruits that effectively corresponds an increase in Chile's relative exports to the EU. Despite a drop in the AVE tariff rates of 25.1% for fish, crustaceans,



meat, fish and seafood products and 6.3% for beverages, Chile's relative exports of these two broad product categories to the EU have decreased since the signing of the Association Agreement. Additionally, despite an increase of 1.2% in the AVE tariff rate for other agricultural and food products, Chile's relative exports of this broad product category to the EU have increased. This suggests that other factors, unable to be captured by simply comparing trade volumes and tariff rates, may be at play here.

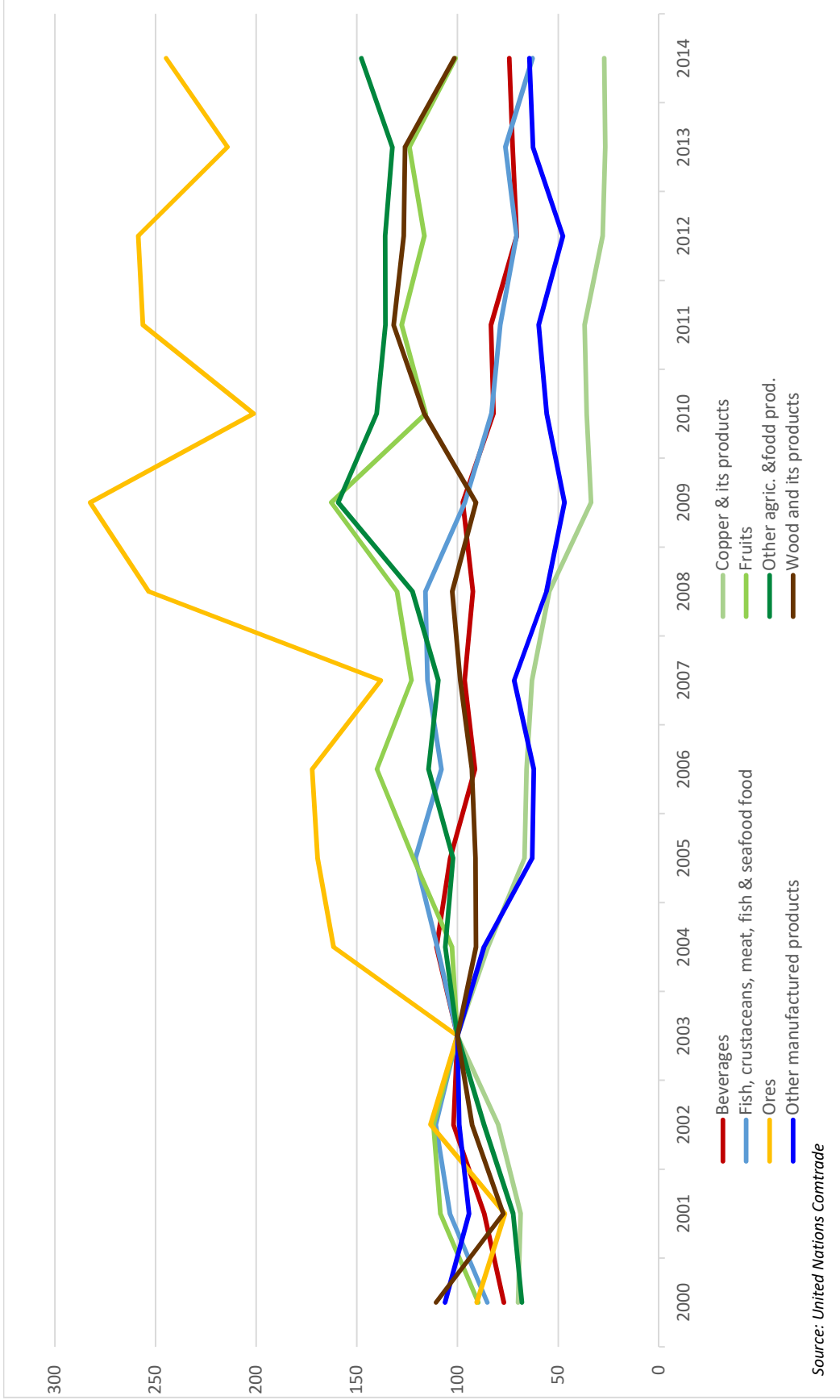
Similarly, the RTIs plotted in Figure 2.21 show how the proportions of EU's exports to Chile with respect to the RoW's exports to Chile and relative to the proportion of EU's exports to the RoW (with respect to the RoW's exports to the RoW) have evolved between 2000 and 2014. The relative proportion for precision instruments has evolved positively since 2003, while the relative proportion for chemical products has deteriorated since 2003. After a negative performance of the relative proportions of agricultural and food products until 2008 and machinery until 2010, the evolution of these relative proportions has rebounded since 2009 and 2011 respectively, and have even become positive for agricultural and food products in 2013.

Finally, RTIs plotted in Figure 2.22 show how the proportions of EU's exports to Chile with respect to the RoW's exports to Chile relative to the proportion of EU's exports to the RoW have evolved for mineral products and vehicles between 2000 and 2014. The relative proportion for mineral products surged to 1,020 in 2009 compared to the base year of 2003 and remained very high afterwards, at approximately 600. The relative proportion for vehicles stayed constant at an average of 85 since 2004 compared to a base of 100 in 2003.

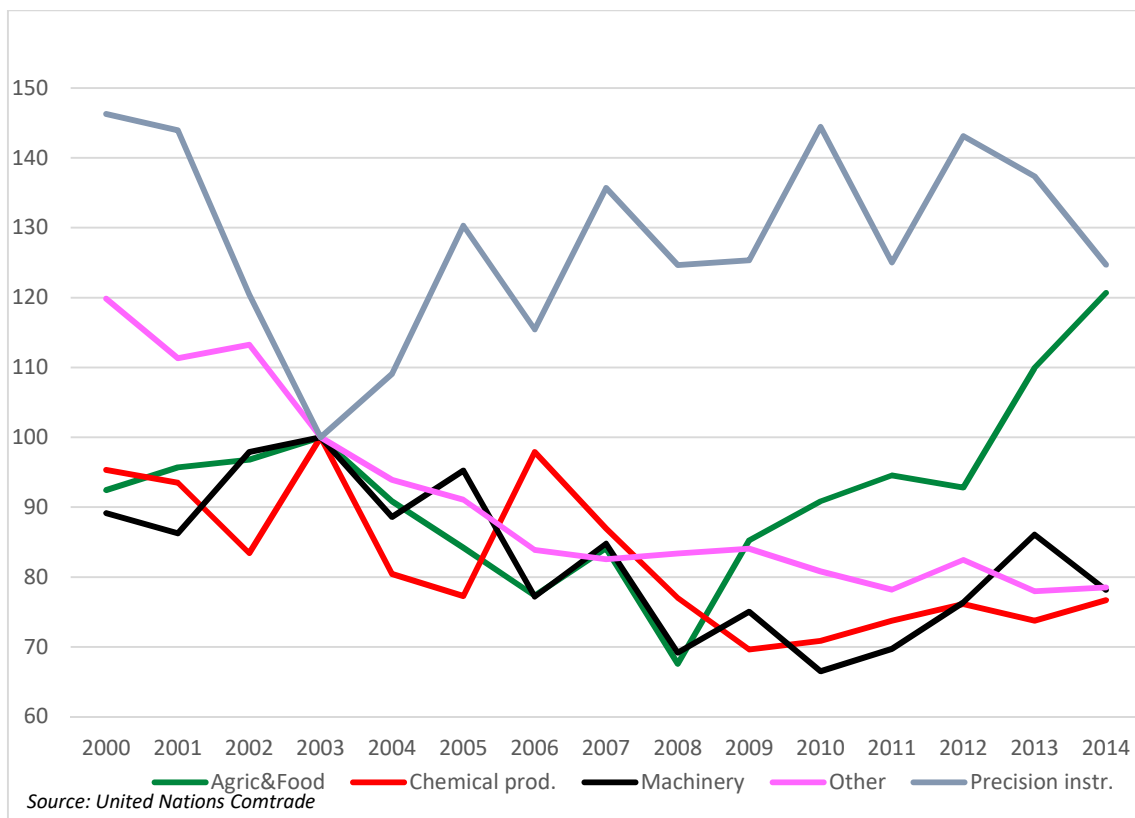
Given the disparate performance of trade as matched up against AVE tariff rates, it is also not appropriate to link any change in Chile's preferential tariff rate at a broad category level to a corresponding change in the EU's relative exports to Chile. What could be more important as a driver is competition from other trading partners in specific sub-sectors such as chemical products, vehicles, and machinery. It is also probable that the bilateral trade agreements that Chile has concluded with third countries, in particular large countries such as Australia, China, Japan and the U.S., since the signing of the Association Agreement may exert an influence.

In sum, on one hand, the EU became a more-favoured destination for Chile's exports of ores, other agricultural and food products, and fruits since 2003 and, to a lesser extent, of wood and its products since 2009, compared to the rest of the world. On the other hand, the EU was less-favoured for Chile's exports of copper and its products, and other manufactured products since 2003 and, to a lesser extent, of beverages, and fish, crustaceans, meat, fish and seafood products since 2009 compared to the rest of the world. From the Chilean side, Chile became a much more attractive destination for the EU's exports of mineral products and precision instruments since 2003, and agricultural and food products since 2013. However, Chile saw less success in importing chemical products, vehicles, and machinery from the EU since 2003.

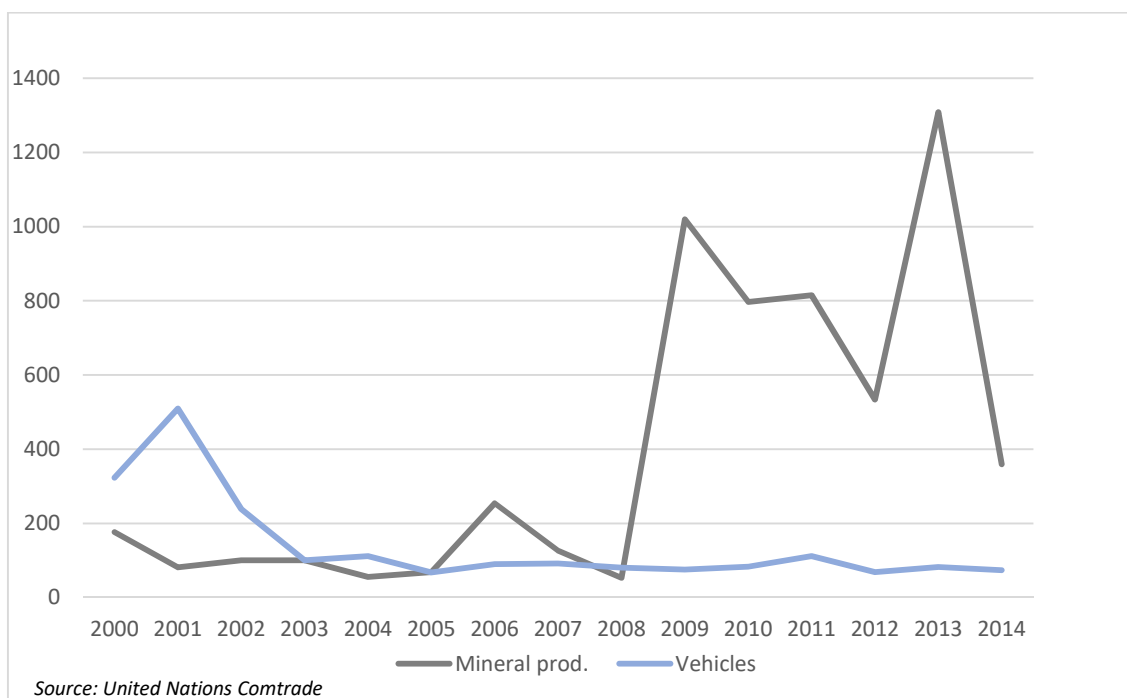
Figure 2.20: Chile's Exports Concentrations into the EU by Sector, 2000-2014 (basis=2003)



**Figure 2.21: EU's Exports Concentrations into Chile by Sector Excluding Mineral Products and Vehicles, 2000-2014 (base=2003)**



**Figure 2.22: EU's Exports Concentration into Chile for Mineral Products and Vehicles, 2000-2014 (basis=2003)**



### 2.1.4.2 Identification of Changes in the Nature of International Exchanges in Services between the EU and Chile

Shifting our focus to services, within the EU's export of services to Chile, EU's exports of other services unrelated to transportation and travel services have grown at the fastest annual nominal rate of 8.2% since the Association Agreement, with the EU's exports of transportation services (6.5%) and the EU's exports of travel services (3.3%) following closely behind (see Figure 2.23).<sup>11</sup> The EU's exports of travel services have been the most affected by the global financial crisis in 2008 and 2009, peaking in 2007, but all three types of exports of services have been hurt in a similar way during the financial crisis, particularly in 2009 and 2010, as already shown for EU's exports of total services to Chile.

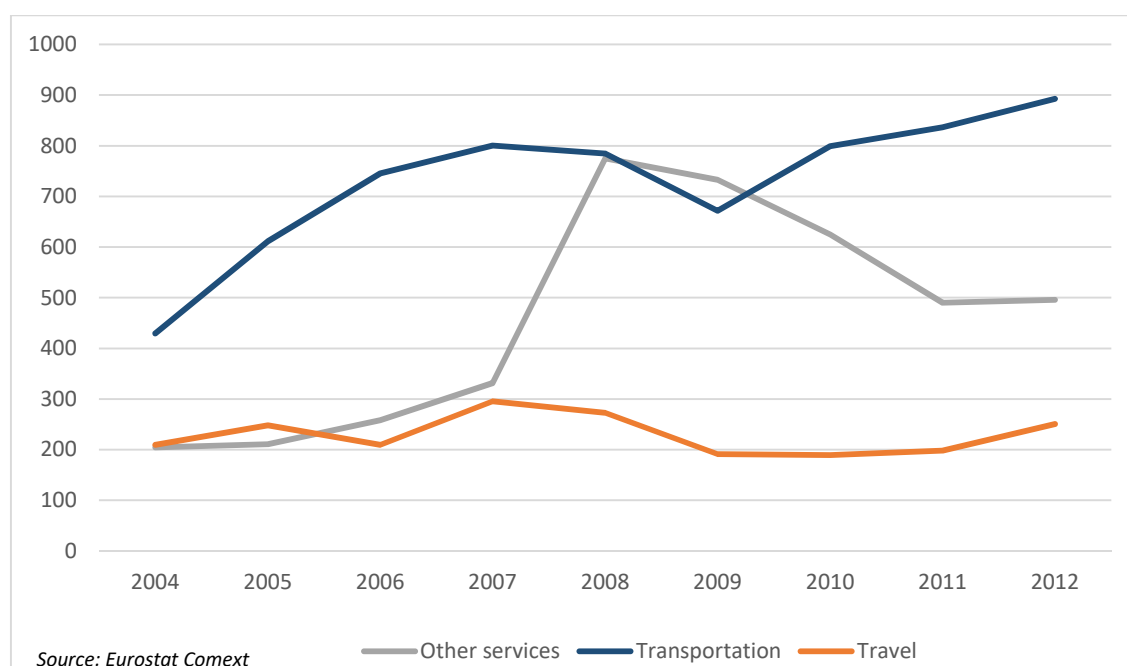
**Figure 2.23: EU-27 Exports of Services to Chile by Main Sector, 2004-2012, EUR million**



Within the EU's imports of services from Chile, the EU's imports of other services unrelated to transportation and travel services have grown at a nominal rate of 14.4%, followed by imports of transportation services (see Figure 2.24). The EU's imports of travel services have, however, slightly declined at an annual nominal rate of 3.3% since 2004. The EU's imports of other services and travel services have been the most affected by the global financial crisis in 2008 and 2009 after their peak in 2007 and 2008, compared with EU's exports of transportation services to Chile. It is only in 2011 that the EU's imports of other services have started to stabilise and, earlier, in 2009 that EU's imports of travel services also started to stabilise.

<sup>11</sup> Other services include business services, insurance services, financial services, royalties and license fees, computer and information services, construction services, and communication services, government services, and personal, cultural and recreational services.

**Figure 2.24: EU-27's Imports of Services from Chile by Main Sector (EUR Million), 2004-2012**



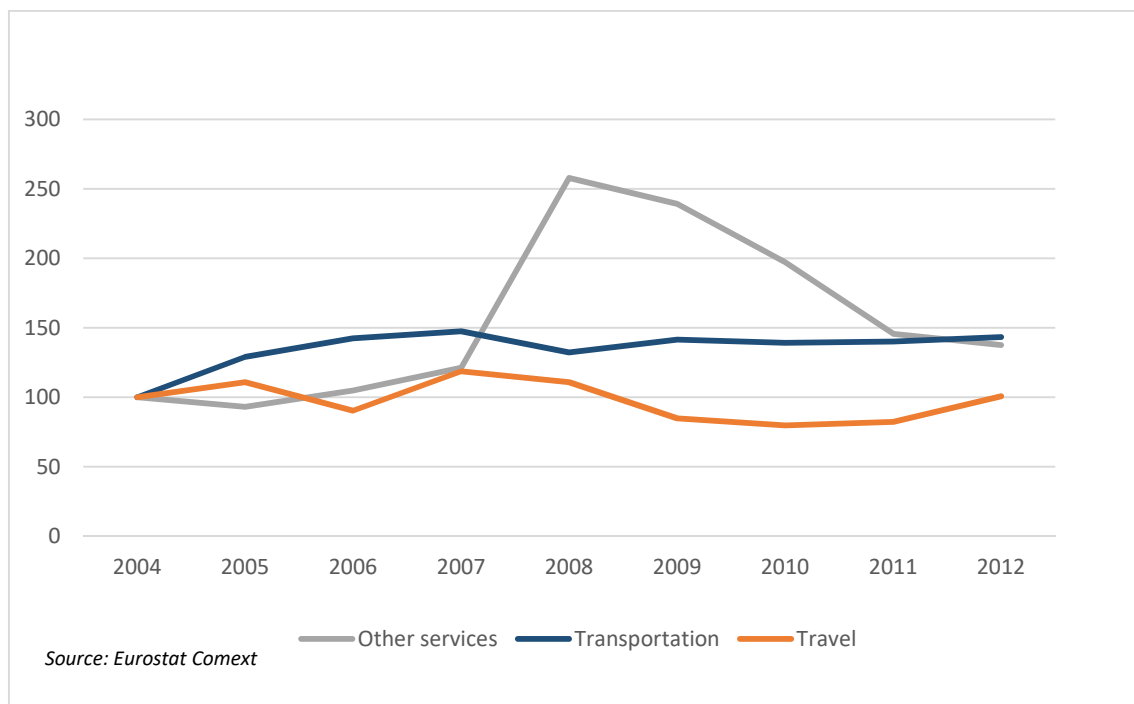
The simplified RTIs plotted in Figure 2.25 shows that the proportion of the EU's imports of transportation services from Chile, with respect to EU's imports or debit of transportation services from the RoW, increased since 2004 and then stabilised since 2007 at a level of approximately 150. The EU's imports of other services from Chile increased since 2007, peaking in 2008 at 258, then decreased to 150 in 2011 and 2012. The EU's imports or debit of travel services from Chile with respect to EU's imports of travel services from the RoW has fluctuated at around its basis of 100 in 2004 between 2004 and 2012. From these trade indices, we can conclude that the EU has imported relatively more other services and transportation services from Chile compared to its all other suppliers, in particular since 2007. The EU has, however, imported relatively less other services from Chile from its peak in 2008. Finally, the EU has seen its imports of travel services from Chile compared to its all other suppliers during 2004-2012 remain fairly stable.

The additional commitments of the EU made under the Association Agreement resulted in a very high level of commitments for most types of services in all service sub-sectors, outside health related, cultural or recreational, and transport services (ITAQA, 2012, p. 106). These additional commitments of the EU may help explain the dramatic relative increase of the EU's imports of the other services unrelated to transportation and travel services from Chile until 2008.

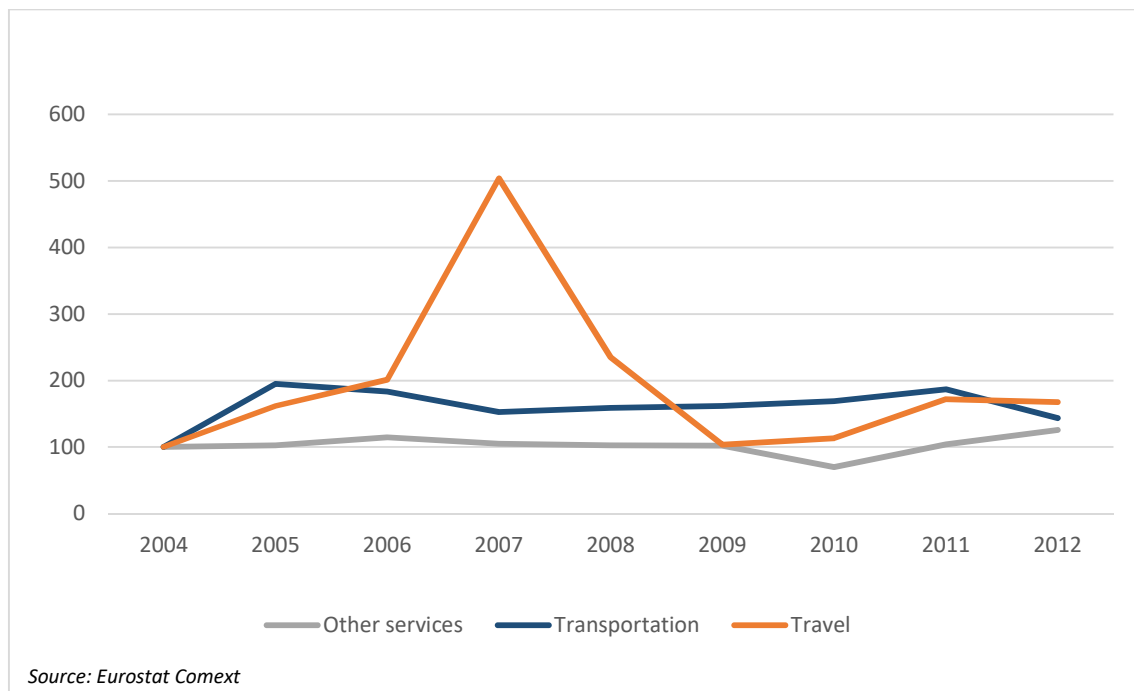
The simplified RTIs plotted in Figure 2.26 show that the proportion of EU's exports or credit of transportation services to Chile, relative to the EU's exports or credit of transportation services to the RoW, increased sharply in 2004 and then stabilised in 2005 at around 170, compared to its basis of 100 in 2004. The EU's exports or credit of travel services to Chile, with respect to the EU's exports or credit of travel services to the RoW, also increased from the signing of the Association Agreement to the global financial crisis, peaking in 2007 at a level of 504, decreasing rapidly during the crisis to 104 in 2009, and finally stabilising at 170 in 2013 and 2014. Unlike this positive (but volatile) trend in travel, the EU's exports of other services to Chile has stagnated around its original level between 2004 and 2012. Our conclusion from this analysis is that the EU has exported relatively more transportation and travel services to Chile compared to its all other

customers, except for its relative exports of travel services to Chile in 2009 and 2010. The EU has, however, stabilized relatively its exports of other services to Chile compared to its all other customers during the 2004-2012 period.

**Figure 2.25: Relative Debit Indices of the EU-27 with Chile by Main Service Sector, 2002-2012 (base=2004)**



**Figure 2.26: Relative Credit Indices of the EU-27 with Chile by Main Service Sector, 2004-2012 (base=2004)**



The commitments of Chile made under the trade provisions of the Association Agreement remain limited in several sub-sectors (construction, educational, environmental, and health related

services) and are only intermediate in communication and financial services (ITAQA, 2012, p. 106). Additional commitments of Chile were, however, more significant in distribution, recreational, tourism, business, and transport services. These more limited commitments of Chile in other services unrelated to transportation and travel services may explain the relative stagnation of the EU's exports of these other services to Chile over 2004-2012. In contrast, the additional commitments of Chile in travel and transportation services may explain the dramatic increase of the EU's exports of travel services until 2007 (before that the financial crisis), as well as the more modest increase of the EU's exports of transportation services since 2004. This suggestion, cautiously put forward in the 2012 ITAQA (p. 106) ex-post evaluation report, seems to have some validation from our analysis.

To summarize, over the period 2004 to 2012, the EU tended to export relatively more transportation and travel services to Chile than to its all other customers, while it imported relatively more services and transportation services from Chile than from all of its other suppliers.

### **2.1.5 Impact of Recent Trade Agreements with Third Countries**

Finally, the trade/investment/procurement patterns noted above are in some sense not exogenously-generated, but have a large measure of endogeneity related to the conclusion of other trade agreements by both the EU and Chile. As noted in the introduction, over the 14 years since the conclusion of the EU-Chile Association Agreement, both partners have entered into a number of third-party trade agreements, many including more elaborate provisions and covering broader topics than those in the Association Agreement (see section 2.2 for a more in-depth investigation of Chile's trade liberalisation policies before the Association Agreement).

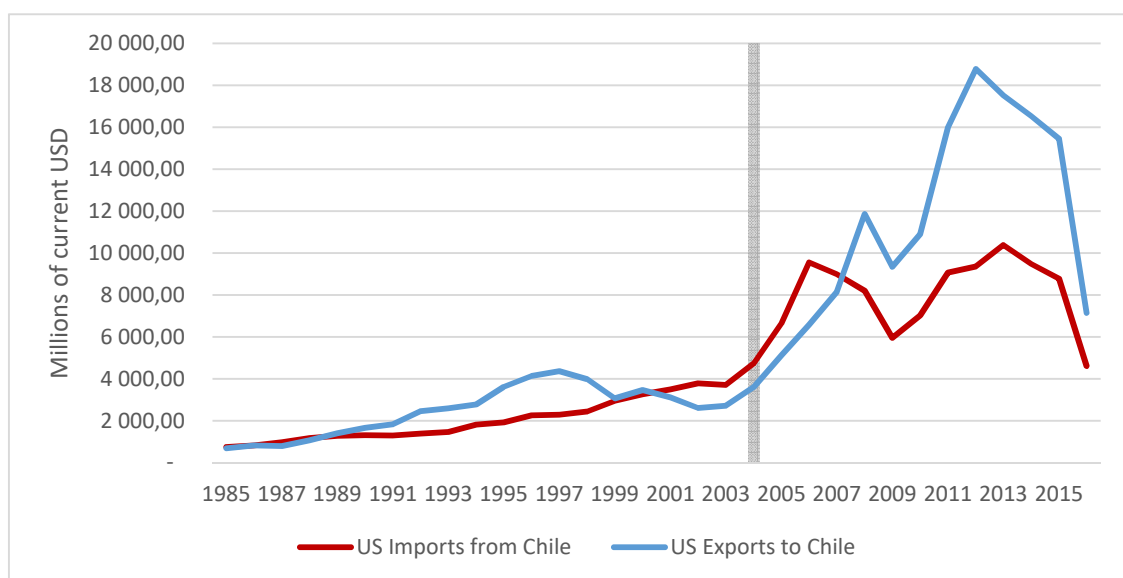
From the Chilean side, the most consequential agreement concluded since the Association Agreement has been the U.S.-Chilean FTA, which entered into force in January 2004. A wide-ranging agreement, the FTA covered issues such as technical barriers to trade (TBTs), sanitary and phytosanitary (SPS) regulations, procurement, investment, and labour and environmental provisions, as well as extensive details on market access (although, as Weintraub [2004:85] noted at the time, the tariff reductions were the "least significant aspect" of the agreement). With the hindsight of twelve years of existence, a surprisingly little number of econometric studies have emerged to document the effect of the FTA on trade between the partners (Table 2.5 in the next section gives a complete list). Cipollina and Salvatici (2010) conduct a meta-analysis of several RTAs and note that, as of 2010, there were only five studies done on the U.S.-Chile FTA after the fact. Chumacero *et al.* (2004) provided immediate estimates on the purported effects of the FTA with the U.S., using a dynamic stochastic general equilibrium (DSGE) model, finding that the trade effects were likely to be modest on overall welfare, estimating that TFP gains would be high but overall gains would be on the order of 1% per year.

Beyond this early estimate, and focusing on trade effects specifically, Cipollina and Salvatici (2010) note that the five studies undertaken after the FTA came into effect gave a lower bound of a 14% and a higher bound of 31% in the increase in trade between the two partners. These estimates appear to be borne out by the raw data on the value of both imports and exports between the two partners, shown in Figure 2.27. While given in nominal values, the small uptick in exports from the U.S. that occurred during the bulk of Chile's liberalisation in the 1990s is dwarfed by the increase in value of trade in goods after the FTA came into force. Similarly, trade in services blossomed, with the U.S. International Trade Administration (2013) reporting that U.S. exports of services to Chile grew 214% from 2003 to 2012, while Chilean exports to the U.S. grew 121%

over the same time period (combined effects of the US-Chile FTA and the EU-Chile Association Agreement are shown in section 2.2).

More recent work on the effect of the agreement on trade in particular sectors has also shown a marked increase in trade agricultural goods, from the spike in U.S. agricultural exports to Chile noted by the U.S. Department of Agriculture (Figure 2.28), above and beyond what a trend analysis would predict, to the acknowledgment by Palma *et al.* (2013) that Chile had become the number one supplier of produce to the U.S. market (which they attributed to demand shifts as well as the effects of the FTA). Carvajal (2014) analysed the trade effects of the U.S.-Chile FTA on trade flows and found that the FTA also spurred a shift in the composition of Chilean exports, moving away from traditional exports in agriculture and primary commodities (mainly copper) and towards industrial manufactures. She also finds that the FTA led to an improvement in the accounting standards of Chilean firms more generally.

**Figure 2.27: U.S.-Chile Trade Flows, 1985-2016**

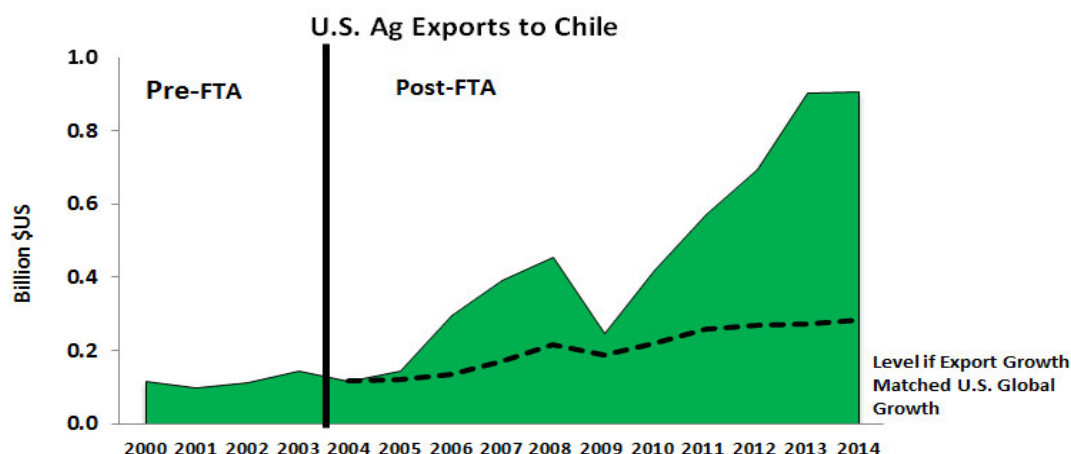


Source: CASE calculations based on data from the U.S. Census Bureau. Shaded area indicates where the U.S.-Chile FTA came into force.

However, as noted above, the emphasis of the U.S.-Chile FTA on other subjects was far beyond merely trade (and indeed minimised trade issues), meaning the performance of other indicators should also have improved as much as, if not more than, trade. Unfortunately, this has not been the case, especially in regards to investment. Peinhardt and Allee (2012) examined the effect of the U.S.-Chile FTA (among others) on investment flows and found that there was little effect of the agreement on driving higher investment. Their empirical investigation found that the largest effect on investment occurred in anticipation of the agreement (i.e. when the agreement was announced), but the effect was evanescent and dissipated quickly, well before the agreement came into being. The authors also note that Chilean officials, disappointed with the investment performance, blamed it on the lack of intellectual property provisions in the agreement. While the U.S. remained the largest source of FDI inflows for Chile (accounting for 20.4% of all FDI from 2009-2014), this performance was in line with previous trends.



**Figure 2.28: U.S. Exports of Agricultural Products to Chile, 2000-2014**



Source: U.S. Department of Agriculture Foreign Agricultural Service (<http://www.fas.usda.gov/data/free-trade-agreements-boost-us-farm-exports-south-america>).

In other areas covered by the FTA, effects were similarly muted. In the environmental realm, using a CGE model, O’Ryan *et al.* (2010) found that there was an increase in CO<sub>2</sub> emission from the FTA and increased productivity in natural resource sectors in Chile, although the jury was still out on the appropriate resource management needed on the Chilean side to safeguard resource stocks. In regards to labour, Rosado Marzán (2010) found that the FTA had positive effects on enforcement of labour laws in Chile, but there were major difficulties in implementing the institutional changes needed to reform standards, leading to Chile’s non-compliance with the FTA’s provisions for an extended period of time. Finally, there has been no work done on the effects of the FTA on government procurement from either side, an oversight given the further-reaching wording and extent of the procurement provisions in the FTA versus the EU Association Agreement.

In addition to the U.S.-Chile FTA, Chile has signed other FTAs, but the economics literature is thin of the ground regarding their effects. FAITC (2013) examines the effects of the Canada-Chile FTA (which came into force a full five years before the EU Association Agreement), finding that overall welfare gains to Canada were high, but preference was eroded by the conclusion of additional third-party FTAs by Chile in the following years. More relevant to this current analysis, Kim and Choi (2007) and Lee and Lim (2015) provide data on the effect of the South Korea-Chile FTA on the agricultural sector in Chile. Lee and Lim (2015) find that agricultural exports to Chile increased more than 400% over the 8 years that the FTA was in effect, while imports from Chile to South Korea increased approximately 380%. However, Im (2005) noted that seasonal tariffs were retained in the agreement, leading to difficulties in products where South Korea and Chile directly competed (namely grapes and peaches). As with the U.S.-Chile FTA, however, trade creation effects were detected, as trade in apparel and motor vehicles from the Chilean side increased above baseline estimates (Urata and Okabe 2010). Regulatory and rule of origin harmonisation in TPP can also be expected to bring some net trade benefits to Chile, even with countries that it already holds an FTA (Vergara *et al.* 2016).

The analysis of the effects of Chilean FTAs with third countries is in its infancy, with much of the research (as shown above) concentrating on traditional trade effects rather than the impact of

new generation trade agreements. Apart from the FTA with the U.S., the more involved FTAs that Chile has concluded such as with Australia or Japan have been in force for only a few years, and are sadly underrepresented in the economics literature (with most analyses just showing volumes of trade and not exploring the underlying determinants).

By contrast, this situation does not hold for the EU, which, by dint of its size and pool of researchers available, has been extensively studied. However, the approach taken by the vast majority of researchers is one of political economy rather than trade economics, leading to a similarly thin literature on new generation FTAs and their impact across the EU. Indeed, a large number of studies have been done detailing how the coalescing of the EU itself (taking WTO-plus and – extra to an extreme) led to increased trade volumes (Baier and Bergstrand 2007), how the EU contributed to FDI amongst members (Tayyebi and Hortamani 2007), or how the expansion of the EU in the 2000s also increased trade in partner countries (Cieslik and Hagemeyer 2011).

In regards to the new generation of FTAs that the EU has concluded since the Chile Association Agreement, while many have come into force (seven Stabilisation and Association Agreements in Europe alone and a further seven outside of the Europe and Middle East Mediterranean and Africa (MENA) region), much of the work that has been done is related to forecasting the effects of the Agreements before they come into force (*ex-ante*) rather than evaluating how they have performed afterwards (*ex-post*). Much of this work has been conducted by DG Trade itself, including forecasts of the impact of agreements with South African Development Community (SADC), West Africa, Singapore, Transatlantic Trade and Investment Partnership (TTIP), Central America, and others. Additional analyses from DG Trade have examined some of the effects that came with previous FTAs, including an analysis of the anticipatory effects of the EU-South Korea FTA (Lakatos and Nilsson 2015).

Beyond the work done by the EU in examining its own agreements, there is an opportunity for researchers, given the dearth of information or modelling undertaken. Much of the extant literature examining the effect of the EU's trade agreements focus on the Customs Union Arrangement (CUA) with Turkey, an older (1995) and first-generation agreement compared to Chile or subsequent agreements. For example, Neyapti *et al.* (2007) examine trade flows between the EU and Turkey and find that the CUA positively impacted Turkey's trade while also shifting the behaviour of both exporters and importers. Similarly, Adam and Moutous (2008) find that trade increased as a result of the CUA, but that poorer EU-15 members saw a reduction in intra-EU trade attributable to the Agreement, as Turkish imports substituted for Greek or Italian ones. A similar result has been found by Martinez-Zarzoso *et al.* (2009) regarding the EU's Agreements in the Mediterranean, with evidence of export diversion from the EU to the Mediterranean due to the conclusion of trading arrangements in the region (they conclude that overall EU exports are lower than they would have been, due to this diversion). Abbot *et al.* (2009) dissent from this view, however, noting in the context of Vietnam that very few bilateral regional trading agreements in Asia have reduced trade regionally, with the EU especially encouraging both trade gains and compositional shifts in Vietnamese manufactures.

Finally, there are no studies in the literature at present that address the effect of investment flows to or from the EU following new-generation trade agreements. The short time-span since these agreements came into effect, and the lag in producing bilateral investment statistics, means that we cannot even depict graphically the effects from the latest agreements. Within both the UNCTAD and the Eurostat databases, the latest year available is 2012, providing at most two

years of post-agreement data for agreements such as those with South Korea or three years for the Association Agreement with Albania. In this sense, the coming years will be crucial to understand the effects of the EU's latest wave of agreements, but until then, the data is not available to form a judgment.

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## 2.2 Review of Studies of Chile's Free-Trade Agreements

### 2.2.1 Introduction

The focus of this chapter is a comprehensive review of the literature on Chile's Free Trade Agreements (FTAs) in general and, in particular, on the trade part of the EU-Chile Association Agreement (AA). The survey concentrates on studies that provide quantitative estimates of potential ex-ante and measured ex-post effects of FTAs on key variables of Chile.

Section 2.2.2 describes Chile's broad network of bilateral and plurilateral FTAs and reviews Chile's tariffs and exports, particularly related to its trade with the EU. Section 2.2.3 presents a general summary of the literature on Chile's FTAs. Based on the latter, Section 2.2.4 presents a selective review and summary of the main economic effects of Chile's FTAs for Chile and, considering the trade part of the EU-Chile Association Agreement, for the EU. Key conclusions are presented in section 2.2.5.

### 2.2.2 The EU- Chile Association Agreement in the Context of Chile's other Free Trade Agreements

The EU and Chile concluded an Association Agreement in 2002, which included a comprehensive trade part that was provisionally applied since February 2003. Other important Economic Partnership Agreements or broad FTAs between Chile and major economies came into force later, starting with the U.S. (2004) and continuing with Japan (2006) and China (2007).

However, Chile's process of international integration started much earlier with broad, gradual unilateral trade and financial liberalisation that was initiated in the mid-1970s. Since the mid-1990s, Chile complemented unilateral trade liberalisation with a very active programme of bilateral and plurilateral FTAs. As of 2016, Chile has in place a very wide network of Economic Complementmentation Agreements, FTAs, and Economic Partnership Agreements (Table 2.3). They include over 65 partner countries that cover more than 95% of Chile's foreign trade and, in many cases (like in the EU-Chile Association Agreement), these broad agreements include many areas beyond trade in goods.

Chile's average effective ad valorem tariff rate on all its imports has declined from 8.4% in 1998 to 0.9% in 2015 (Table 2.4). The latter value is a weighted average of the 6% uniform tariff rate that applies to Chile's trading partners without agreements and the tariff rate - either zero or close to zero - that applies to Chile's trading partners with agreements. The EU-Chile average effective tariff rate that applies to Chile's imports from the EU has declined from an already low value of 1.3% in 2002 (when Chile benefitted from the EU's GPS tariff, before the trade part of the EU-Chile Association Agreement was provisionally applied since 2003) over the subsequent decade of gradual trade liberalisation to attain a zero tariff in 2013.

The total value of exports (at current prices) from Chile to the EU rose from USD 4.2 billion in 2002 to a peak of USD 16.4 billion in 2007, 4 years after the Association Agreement came into effect (Table 2.4). Subsequently overall exports to the EU started to decline, attaining only USD 8.2 billion in 2015, which is half the value of 2007. There are several factors that explain this massive reduction in export value, including low growth in the EU after the 2007-2009 global financial crisis and the end of the commodity boom, which reduced significantly the price of copper, Chile's main export good. As a share of Chile's overall exports, the country's exports to the EU also halved, from 26.3% in 2006 to 13.2% in 2015. This suggests that low growth in the

EU, compared to Chile's other trading partners, and more recent agreements of Chile with third countries and regions, more than offset the positive impact of the trade part of the EU-Chile Association Agreement, leading to a decline in the nominal value and relative share of Chile's exports to the EU.

### 2.2.3 *The Literature on Chile's Free Trade Agreements*

This survey draws on all existing published and unpublished quantitative or empirical studies on FTAs adopted by Chile in general and the trade part of the EU-Chile Association Agreement in particular. The list of references comprises all reviewed studies, even those that are less relevant to this review's focus on quantitative results and hence are excluded from the review of results in section 2.2.4.

The empirical studies are based on a variety of approaches and models that fall into one of three categories: Computable General Equilibrium (CGE) models, gravity estimation models, and econometric/other models. Most (but not all) CGE models reviewed here are *ex ante* studies of FTAs conducted before or at the time the corresponding agreements came into force. In contrast, most (but not all) gravity-model and other econometric models are *ex-post* studies of performance, based on data before and after the corresponding FTAs came into force.

Judgment of relevance of the studies and their underlying models, which leads to their inclusion in subsequent summary tables, is based on the current best practice in modelling and econometric estimation. Lee and Whalley (2012) and Hertel *et al.* (2007) are prime examples of the current international frontier in CGE modelling, while Anderson and Yotov (2016) and Baier and Bergstrand (2007) are two recent examples of the gravity model approach.

Table 2.6 lists forty-six separate studies on Chile's FTAs, classified according to their modelling approaches and Chile's FTA partner economies to which they apply. Regarding models, 32 of these studies are based on CGE models. Five studies use econometric estimations based on gravity models. Nine studies are based on other approaches (including partial-equilibrium models and other econometric estimations).

Regarding FTA partner economies, twelve studies focus on the trade part of the EU-Chile Association Agreement and 34 studies on Chile's other agreements. Among the latter there are studies for several regions and individual countries, comprising both research on actual FTAs and counter-factual assessments of possible (but not materialized) integration projects, including Mercosur and the Trans-Pacific Partnership.

FTAs can affect countries through several channels and their related variables. Table 2.6 lists five potential channels or transmission - economic, labour, institutional, social, and environmental - and their related variables. Then it classifies the studies on Chile's FTAs in general and on the trade part of the EU-Chile Association Agreement in particular, according to their coverage of the corresponding channels and variables.

Economic variables are generally well covered in a number of studies on Chile's FTAs signed with the EU and with other economies. However, there is much less evidence on the effects related to non-economic channels and their corresponding variables, particularly regarding the trade part of the EU-Chile Association Agreement.

## 2.2.4 *Review of Effects of Chile's FTA*

### 2.2.4.1 **Combined Effects of Chile's FTAs with Several Regions for Chile**

It is useful to start by referring briefly to the results of studies that have measured the combined long-term or steady-state effects for Chile of its FTAs with four regions: Mercosur, NAFTA, South America, and the EU. Some of these studies are counter-factual exercises, as Chile did not sign an FTA with neither Mercosur nor South America or NAFTA (although it did separately with the three members of NAFTA: Canada, Mexico, and the U.S.).

The results of four ex-ante studies based on CGE models are summarized in Table 2.7. They show that Chile's welfare would have declined as a result of an FTA with Mercosur, while it would have increased with FTAs signed with South America, NAFTA, and the EU. Chile's welfare gains would have been roughly 2% as a result of each of the latter FTAs, considered separately.

### 2.2.4.2 **Effects of the U.S.-Chile FTA for Chile**

The results of three ex-ante studies based on CGE models are summarized in Table 2.8. One study measures the steady-state effects of the U.S.-Chile FTA on Chile's key macro variables, reporting point estimates that range between -1.3% and zero. However, according to the same study, Chile's exports and imports to the U.S. rise by approximately 0.5%. This increase in trade is broadly consistent with the modest gains in welfare for Chile, estimated at an average 0.7% by two other studies.

### 2.2.4.3 **Combined Effects of the EU-Chile Association Agreement and U.S.-Chile FTA for Chile**

It is useful to refer briefly to the results of studies that have measured the combined effects for Chile of the EU-Chile Association Agreement and the U.S.-Chile FTA because both agreements are with similarly large economies and both economies are large trade and investment partners of Chile. The three available studies are based on ex-ante CGE simulation models for Chile. Table 2.10 reports the long-term effects on five key aggregates: GDP, consumption, investment, exports, and imports.

Percent gains (point estimates) in GDP, consumption, and investment are reported between 0.5% and 2.1% in Ryan *et al.* (2004) and Ryan *et al.* (2011). As expected, both studies report much larger growth in Chile's trade volumes, with point estimates for exports and imports that vary between 2.0% and 3.3%. The third study, by Chumacero *et al.* (2004), reports smaller gains in all key macroeconomic aggregates but confirms the general result that trade grows by more than other macroeconomic aggregates. An important reason why the broad FTA agreements signed with its two major trading partners have small aggregate effects for Chile is that its economy was already very open – both regarding trade and financial integration – in 2003-2004, when both agreements came into force.

### 2.2.4.4 **Effects of the EU-Chile Association Agreement for Chile**

The macroeconomic effects of the trade part of the EU-Chile Association Agreement for Chile have been reported in three studies published close to 2003, when the Agreement came into force, and by one study published in 2012. The first set of three studies are ex-ante studies (largely based on statistical information before the Association Agreement), while the fourth is an ex-post study. The results for the ex-ante studies are reported in Table 2.10. The point estimates of the long-term gains from the Association Agreement for Chile, reflected by the changes in key aggregate



variables (welfare, GDP, consumption, and the capital stock) are small and very similar across the four studies, ranging between 0.1% and 1.2%. The estimate for Chile's steady-state GDP gain from the Agreement is particularly small, close to 0.1%. However, this result is broadly consistent with the average 0.5% gain estimated for Chile from its EU Association Agreement and U.S. FTA taken together (Table 2.9).

The effects of the EU-Chile Association Agreement on the growth of exports and imports are naturally larger, ranging between 1.1% and 1.8% across the four studies (Table 2.10). Finally, the Agreement benefits unskilled relative to skilled labour in Chile, which reflects that industries that are relatively more intensive in unskilled labour benefit more. Therefore, the unskilled labour wage bill increases by 0.6% while the skilled labour wage bill rises by 0.2%. Regarding unit wages, the unskilled real wage rises by 0.3% while the skilled real wage declines by 0.3%.

Very different results are reported by econometric estimations based on gravity models (Table 2.11). Two ex-post studies based on trade and export data for some years before and after the start of the Agreement – covering 2003-2008 (Bergstrand *et al.* 2011) and 2001-2010 (ITAQA 2012) - report very large increases in bilateral trade (a rise of 62% in 2003-08) and Chile's exports to the EU (ranging from 15-20% to 46%, in response to the Association Agreement. However, as documented above, Chilean total (unconditional) exports to the EU grew initially very strongly, from USD 5.1 billion in 2003 to a historical peak of USD 16.4 billion in 2007, stagnating thereafter and declining to a low of USD 8.2 billion in 2015. Hence it is very likely that the latter trade and export results reflect significant over-estimation due to potential small-sample bias.

More plausible – but possibly still over-estimated – results are reported for the effects of the Agreement at disaggregate levels of exports, in particular for Chilean export goods that benefit directly from improved access to EU markets. The above mentioned 2012 ITACA ex-post evaluation report (based on 2001-2010 data) and the Nowak-Lehmann (2007) study (based on ex-ante data for 1988-2002) show similar results for three Chilean export categories to the EU. Fish and seafood exports are estimated to increase in a range from 7% to 15-28%, fruit exports are estimated to rise in a range from 36% to 41%, and beverages are estimated to rise in a range from 36% to 53%.

#### **2.2.4.5 Effects of the EU-Chile Association Agreement for the EU**

Three of the studies that report EU-Chile Association Agreement effects for Chile, which were presented above, report also results for the EU (Table 2.12).

The 2002 PLANISTAT ex-ante evaluation report, based on a CGE model, simulates the effects of the Agreement for key EU macroeconomic variables. Considering the large size of the EU economy in comparison to Chile's, it is reasonable that the effects on key variables are zero or close to zero. Total EU trade (and total EU exports and imports) is expected to grow by a small figure, between 0 and 0.1%. The total wage bill of EU unskilled labour is simulated to decline by 0.1%, as a result of losses in unskilled labour-intensive EU sectors, particularly in agriculture, fisheries, and food-processing industries.

Conversely, significant EU export gains to Chile are reported in capital-intensive sectors. Ex-post evidence from gravity-model estimations (ITAQA, 2012) shows large increases in EU exports to Chile in machinery (40%), chemical products (42%), and vehicles (45%). These results may be over-estimated due to partial sample bias, as discussed above. However, the sample bias seems to be much more acute in the case of the increase in total exports to Chile attributed to the

Association Agreement, estimated at 38-57% by ITAQA (2012) and at 148% by Bergstrand *et al.* (2011).

### 2.2.5 Conclusions

This chapter has presented a comprehensive review of the literature on Chile's FTAs in general and, in particular, on the EU-Chile Association Agreement. The survey has concentrated on studies that provide quantitative estimates of potential ex-ante and measured ex-post effects of FTAs on key variables of Chile.

Chile has developed a broad network of bilateral and plurilateral FTAs over the last 25 years. As of 2016, Chile has in place 25 Economic Complementations, FTAs, and Economic Partnership Agreements with more than 65 partner countries. In many cases (including the EU-Chile Association Agreement), broad agreements include several areas beyond integration of trade in goods.

Approximately 95% of Chile's trade is conducted with countries under the rules of an FTA. Therefore, Chile's average effective ad valorem tariff rate on all its imports has declined to 0.9% in 2015. Conversely, the EU-Chile average effective tariff rate that applies to Chilean imports from the EU has declined from an already low initial value of 1.3% in 2002 (before 2003, when the trade part of the EU-Chile Association Agreement was provisionally applied) over the subsequent decade of gradual trade liberalisation to attain a zero tariff in 2013.

The total value of exports (at current prices) from Chile to the EU rose from USD 4.2 billion in 2002 to a peak of USD 16.4 billion in 2007, 4 years after the agreement came into effect. Subsequently overall exports to the EU started to decline, attaining only USD 8.2 billion in 2015, which is half the value of 2007. As a share of Chile's overall exports, the country's exports to the EU also halved, from 26.3% in 2006 to 13.2% in 2015. This suggests that low growth in the EU, compared to Chile's other trading partners, and more recent trade agreements of Chile with third countries and regions, more than offset the positive impact of the EU-Chile Association Agreement, leading to a decline in both the absolute value and the relative share of Chile's exports to the EU.

This survey draws on 46 published and unpublished quantitative or empirical studies on FTAs adopted by Chile in general and the EU-Chile Association Agreement in particular. The empirical studies are based on a variety of approaches and models that fall into one of three categories: Computable General Equilibrium (CGE) models (largely ex-ante studies), gravity estimation models (largely ex-post studies), and econometric/other models.

FTAs can affect countries through several channels and their related variables. Economic variables are generally well covered in a number of studies on the EU-Chile Association Agreement and Chile's other FTAs. However, there is much less evidence on the effects related to non-economic channels and their corresponding variables, particularly on the EU-Chile Association Agreement.

The survey of reported estimates of the effects of Chile's FTAs is structured by FTA partner regions. This review started with the combined long-term or steady-state effects for Chile of its FTAs with four regions: Mercosur, NAFTA, South America, and the EU. Then it covered the effects for Chile of the U.S.-Chile FTA separately and the combined effects for Chile of its FTA with the U.S. and its Association Agreement with the EU.

This led to the subsequent, more detailed review of the studies that focus exclusively on the effects of the EU-Chile Association Agreement, looking first at the much larger evidence for Chile and then the smaller evidence for the EU.

Before summing up the main results, it is important to keep in mind that these inferences are drawn from studies that vary significantly in analytical specification, underlying models, estimation techniques, data samples, model parametrisation, publication years, and – last but not least – quality. While the latter consideration has led to omit several results from the summary tables in this chapter, one should keep in mind the difficulties in comparing and averaging results across different studies.

The main conclusions on the quantitative effects of Chile's agreements with large economies (the U.S. and the EU), and with the EU in particular, are the following.

First, according to CGE models, the long-term or steady-state effects for Chile's key macroeconomic variables (welfare, GDP, consumption, capital stock) are small, reflecting gains in the latter variables that range across different studies from 0.2% to 1.8%.

Second, Chile's gains in total trade are typically twice as large, ranging from 1% to 3%. This result simply confirms that trade is the dominant component even in broad FTAs.

Third, changes in wages and wage bills confirm that deeper trade with the U.S. and the EU implies beneficial effects for sectors that are relatively more intensive in unskilled labour (and natural resources). Hence wages and wage bills of unskilled labour rise by more than those of skilled labour – but by figures that do not exceed 1%.

Fourth, the ex-post evidence on Chile's exports that comes from gravity-model estimations, which combine data from before and shortly after the trade part of the EU-Chile Association Agreement was provisionally applied, appears to exhibit strong positive bias. Very large double-digit aggregate export growth rates are attributed to the EU-Chile Association Agreement in several econometric studies. This seems to be an artefact of the short sample period in these studies, which coincides to a large extent with the 2000-2007 period of very large bilateral EU-Chile trade growth. However, bilateral trade declined substantially thereafter. At a more disaggregate level the results are less implausible, showing double-digit growth rates for export sectors in which Chile has significant advantage in comparison to the EU: fish and seafood, fruit, and beverages.

Fifth, there is a small number of studies that report EU-Chile Association Agreement effects for the EU. Considering the large size of the EU economy in comparison to Chile's, it is reasonable that estimated effects on key EU variables are zero or close to zero, as reported by a CGE study. Total EU trade (and total EU exports and imports) is expected to grow by a small figure, between 0 and 0.1%. The total wage bill of EU unskilled labour is simulated to decline by 0.1%, as a result of losses in unskilled labour-intensive EU sectors, particularly in agriculture, fisheries, and food-processing industries. Conversely, significant EU export gains to Chile are reported in capital-intensive sectors. Ex-post evidence from gravity-model estimations (ITAQA, 2012) shows large increases in EU exports to Chile in machinery, chemical products, and vehicles. However, the above-mentioned sample bias also affect estimates for the increase in total EU exports to Chile attributed to the Association Agreement, with point estimates that range from 38% to 148%.

There seems to be little need to expand future work on CGE model simulations to refine estimations of the effects of Chile's major FTAs, including the EU-Chile Association Agreement.

However, considering the unsatisfactory current state of ex-post econometric studies that have estimated (and, due to small sample bias, very likely over-estimated) the conditional effects of Chile's FTAs on aggregate and disaggregate trade performance variables, new econometric studies – based on gravity or other models – are urgently required. These studies should be based on very careful specification (including skilful conditioning on non-FTA determinants of trade) and econometric estimation, based on long and reliable time series.

**Table 2.3: Chile's Free Trade Agreements, 1993-2015**

<b>Signatory Party</b>	<b>Type of Agreement</b>	<b>Year of Entry into Force</b>
<b>Bolivia</b>	FTA	1993
<b>Venezuela</b>	ECA 23	1993
<b>Mercosur</b>	ECA 35	1996
<b>Canada</b>	FTA	1997
<b>Mexico</b>	FTA	1999
<b>Central America (1)</b>	FTA	2002
<b>European Union (2)</b>	EU - Chile Association Agreement	2003
<b>U.S.</b>	FTA	2004
<b>South Korea</b>	FTA	2004
<b>European Free Trade Association (EFTA)(3)</b>	FTA	2004
<b>China</b>	FTA	2006
<b>P-4 (4)</b>	Trans-Pacific Partnership Chile - P-4	2006
<b>Japan</b>	Strategic Economic Partnership Agreement	2007
<b>India</b>	Partial Agreement	2007
<b>Panama</b>	FTA	2008
<b>Cuba</b>	ECA 42	2008
<b>Peru</b>	ECA 35	2009
<b>Australia</b>	FTA	2009
<b>Colombia</b>	FTA	2009
<b>Ecuador</b>	ECA 65	2010
<b>Turkey</b>	FTA	2011
<b>Malaysia</b>	FTA	2012
<b>Hong Kong</b>	FTA	2014
<b>Vietnam</b>	FTA	2014
<b>Thailand</b>	FTA	2015

Notes: Economic Complementations Agreements (ECAs) are reciprocal partial trade liberalisation agreements with Latin American countries in the framework of ALADI. Free Trade Agreements (FTAs) are comprehensive agreements of liberalisation of trade in goods but may also include other areas of integration. Economic Partnership Agreements are much broader than FTAs.

(1) Gradual incorporation of Central American countries: Costa Rica and El Salvador (2002); Honduras (2008); Guatemala (2010); Nicaragua (2012).

(2) Gradual incorporation of EU member states: Austria, Belgium, Denmark, Spain, Finland, France, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, United Kingdom and Sweden (2003); Cyprus, Estonia, Malta, Slovakia, Hungary, Latvia, Lithuania, Poland and the Czech Republic (2004); Bulgaria and Romania (2007); Croatia (2013).

(3) Iceland, Liechtenstein, Norway, and Switzerland.

(4) Brunei Darussalam, New Zealand and Singapore.

Source: *Direcon, Ministry of Foreign Relations of Chile.*

**Table 2.4: EU and Chile's Effective Tariff Rates and Chile's Exports to the EU**

<b>Year</b>	<b>Average Effective Chilean Tariff Rate on all Imports (%)</b>	<b>Average Effective EU Tariff Rate on Chilean Imports (%)</b>	<b>Total Chilean Exports to the EU (Value, USD million)</b>	<b>Share of Chilean Exports to the EU in Chile's Total Exports (%)</b>
<b>1995</b>	--	--	4,563.5	28.5%
<b>1996</b>	--	--	3,752.3	22.6%
<b>1997</b>	--	--	4,064.1	22.7%
<b>1998</b>	8.42%	--	4,196.5	25.7%
<b>1999</b>	7.36%	--	4,225.6	24.6%
<b>2000</b>	6.33%	--	4,582.5	23.9%
<b>2001</b>	5.42%	--	4,570.0	25.0%
<b>2002</b>	4.59%	1.30%	4,289.8	23.6%
<b>2003</b>	2.86%	1.00%	5,086.5	23.5%
<b>2004</b>	2.07%	0.70%	8,069.4	24.4%
<b>2005</b>	1.86%	0.50%	9,548.6	22.8%
<b>2006</b>	1.90%	0.20%	15,618.7	26.3%
<b>2007</b>	1.57%	0.04%	16,401.0	23.9%
<b>2008</b>	1.33%	0.10%	15,714.4	24.4%
<b>2009</b>	0.99%	0.20%	9,790.7	17.7%
<b>2010</b>	1.05%	0.04%	12,462.3	17.5%
<b>2011</b>	1.02%	0.03%	14,374.4	17.7%
<b>2012</b>	1.01%	0.02%	11,837.1	15.2%
<b>2013</b>	0.97%	0.00%	11,100.1	14.5%
<b>2014</b>	0.98%	0.00%	10,817.8	14.4%
<b>2015</b>	0.93%		8,216.4	13.2%

-- no data.

Source: Direcon, Ministry of Foreign Relations of Chile.

**Table 2.5: Quantitative Studies for Chile's Trade Agreements for different Partner Economies and Modelling Approaches <sup>(1)</sup>**

Partner country	Computable General Equilibrium (CGE) model	Econometric Gravity Model	Econometric and Other Models
<b>Canada</b>			Malhotra <i>et al.</i> (2008) FAITC (2013)
<b>European Union<sup>(2)</sup></b>	Harrison <i>et al.</i> (2002) PLANISTAT (2002) O'Ryan <i>et al.</i> (2004) Chumacero <i>et al.</i> (2004) Tarr <i>et al.</i> (2005) O'Ryan <i>et al.</i> (2011) ITAQA (2012) Jean <i>et al.</i> (2014)	Nowak-Lehmann <i>et al.</i> (2007) Bas and Ledezma (2009) Bergstrand <i>et al.</i> (2011) ITAQA (2012)	
<b>Indonesia</b>			Sabaruddin and Marks <sup>(a)</sup> (2016)
<b>Japan &amp; China</b>	Schuschny <sup>(b)</sup> <i>et al.</i> (2008)		Gachuz (2012)
<b>Korea</b>			Kim and Choi (2007)
<b>Mercosur<sup>(2)</sup></b>	Harrison <i>et al.</i> (1997) Harrison <i>et al.</i> (2002) Rutherford and Tarr (2003) Tarr <i>et al.</i> (2005)		
<b>Thailand</b>			Chilean High Level Study Group (2006)
<b>U.S. and NAFTA<sup>(2)</sup></b>	Coeymans and Larraín (1994) Hinojosa-Ojeda (1997) Harrison <i>et al.</i> (1997) Brown <i>et al.</i> (2000) Harrison <i>et al.</i> (2002) Rutherford and Tarr (2003) O'Ryan <i>et al.</i> (2004) Chumacero <i>et al.</i> (2004) Tarr <i>et al.</i> (2005) O'Ryan <i>et al.</i> (2011)		Carvajal (2014)
<b>TPP<sup>(g)</sup></b>	Burfisher <sup>(b)</sup> <i>et al.</i> (2014) Cheong <sup>(b)</sup> (2013) Kawasaki <sup>(b)</sup> (2015) Itakura and Lee <sup>(b)</sup> (2012) Petri <i>et al.</i> (2012) Todsadee <i>et al.</i> (2012)		
<b>Others</b>	Finot <sup>(c)</sup> <i>et al.</i> (2010) Hertel <sup>(b)(d)</sup> <i>et al.</i> (2007) Holland <sup>(e)</sup> <i>et al.</i> (2005)	Grazzi <sup>(f)</sup> (2011)	Cea Novoa <sup>(c)</sup> (2012) Kim and Kim <sup>(c)</sup> (2012)
<b>TOTAL</b>	32	5	9

(1) This table considers only empirical studies for Chile's trade agreements.

(2) Some of these papers are prepared for the region and not an individual partner country.

(a) SMART.

(b) GTAP.

(c) On the effects of Chile's overall trade opening.

(d) On the effects of FTAs in the Americas.

(e) On the effects of Chile's trade opening on agriculture.

(f) On the effects of Chile's trade opening on FDI.

(g) Trans-Pacific Partnership.

Source: Author's compilation

**Table 2.6: Evidence on Channels of Transmission of FTAs to the Chilean Economy**

FTA channel	All Studies	Studies on EU - Chile AA
<b>I Economic</b>		
<b>Welfare</b>	PLANISTAT (2002), O’Ryan <i>et al.</i> (2004), Tarr <i>et al.</i> (2005) ITAQA (2012) and Jean <i>et al.</i> (2014)	Yes
	Hinojosa-Ojeda (1997), Harrison <i>et al.</i> (1997), Brown <i>et al.</i> (2000), Harrinson <i>et al.</i> (2002), Rutherford and Tarr (2003), Chumacero <i>et al.</i> (2004)	No
<b>GDP/real income</b>	PLANISTAT (2002), O’Ryan <i>et al.</i> (2004), ITAQA (2012), Jean <i>et al.</i> (2014)	Yes
	Chumacero <i>et al.</i> (2004), O’Ryan <i>et al.</i> (2011)	No
<b>Consumption</b>	O’Ryan <i>et al.</i> (2004)	Yes
	Chumacero <i>et al.</i> (2004), O’Ryan <i>et al.</i> (2011)	No
<b>Investment/capital stock</b>	PLANISTAT (2002), O’Ryan <i>et al.</i> (2004)	Yes
	O’Ryan <i>et al.</i> (2011)	No
<b>Trade effects (exports and imports)</b>	PLANISTAT (2002), O’Ryan <i>et al.</i> (2004), ITAQA (2012), Jean <i>et al.</i> (2014),	Yes
	Chumacero <i>et al.</i> (2004), O’Ryan <i>et al.</i> (2011), Brown <i>et al.</i> (2000)	No
<b>Productivity</b>	No	No
<b>FDI</b>	Grazzi (2011)	No
	ITAQA (2012)	Yes
<b>Country risk</b>	No	No
<b>Fiscal impact</b>	No	No
<b>II Labour</b>		
<b>Income distribution and wage</b>	PLANISTAT (2002), ITAQA (2012)	
	O’Ryan <i>et al.</i> (2011), Brown <i>et al.</i> (2000)	No
<b>Employment</b>	Holland <i>et al.</i> (2005)	No
	Hertel <i>et al.</i> (2007)	No
	ITAQA (2012)	Yes
<b>III Institutional</b>		
<b>Property rights</b>	ITAQA (2012)	Yes
<b>Democracy</b>	No	No
<b>IV Social</b>		
<b>Poverty</b>	Finot <i>et al.</i> (2010)	No
<b>Health and education</b>	ITAQA (2012)	Yes
<b>V Environmental</b>		
<b>Environmental quality</b>	O’Ryan <i>et al.</i> (2011)	No
	ITAQA (2012)	Yes
<b>Biological diversity/other natural resource stock</b>	PLANISTAT (2012)	Yes

Source: Author’s compilation.

**Table 2.7: Combined Macroeconomic Effects of FTAs between Chile and Several Partner Regions for Chile (Evidence from ex-ante CGE Simulation Models) (Percent changes in key variables)**

Studies	Partner Regions	Welfare (% of GDP)		Other Variables
<b>Harrison et al. (1997)</b>	Mercosur	mean: -0.405%		
		min: -0.62%	max: -0.19%	
	NAFTA	mean: 1.025%		
		min: 0.82%	max: 1.23%	
<b>Harrison et al. (2002) <sup>(1)</sup></b>	Mercosur	mean: -0.04%		
		min: -0.43%	max: 0.35%	
	NAFTA	mean: 1.37%		
		min: 1.04%	max: 1.70%	
	NAFTA and Mercosur	mean: 1.745%		
		min: 1.48%	max: 2.01%	
	NAFTA, Mercosur, and EU	mean: 3.63%		
		min: 2.02%	max: 5.24%	
	NAFTA, Mercosur, EU, and South America	mean: 5.44%		
		min: 2.48%	max: 8.4%	
<b>Brown et al. (2000)</b>	NAFTA	mean: 2.735%		
		min: 0.32%	max: 5.15%	Exports: USD 34.6 b. Imports: USD 27.3 b. Wage: 0.36% Return to capital: 0.57%
<b>Rutherford and Tarr (2003)</b>	NAFTA	mean: 3.2%		
		min: 0.5%	max: 5.9%	
	Mercosur	mean: 0.05%		
		min: -1.0%	max: 1.1% <sup>(1)</sup>	
<b>Average Effects</b>	Mercosur	mean: -0.13%		
		min: -1.0%	max: 1.1%	
	NAFTA	mean: 2.08%		
		min: 0.32%	max: 5.9%	
	NAFTA and Mercosur	mean: 1.75%		Exports: USD 34.6 b. Imports: USD 27.3 b. Wage: 0.36% Return to capital: 0.57%
		min: 1.48%	min: 2.01%	
	NAFTA, Mercosur, and EU	mean: 3.63%		
		min: 2.02%	min: 5.24%	
	NAFTA, Mercosur, EU, and South America	mean: 5.44%		
		min: 2.48%	min: 8.4%	

(1) Equivalent variation.

Source: Author's compilation.



**Table 2.8: Evaluation of Macroeconomic Effects of the U.S.-Chile FTA (Evidence from Ex-ante CGE Simulation Models) (Percent Changes in Key Variables)**

Study	Welfare (% of GDP)	Key Variable	
<b>O’Ryan <i>et al.</i> (2004)</b> <sup>(a)</sup>		GDP	-0.2%
		Consumption	0.0%
		Investment	-1.3%
		Exports	0.4%
		Imports	0.6%
<b>Hinojosa-Ojeda (1997)</b>	0.26%		
<b>Tarr <i>et al.</i> (2005)</b> <sup>(b)</sup>	mean: 1.14%		
	min: 0.24%, max: 2.04%		
<b>Average Effects</b>		GDP	-0.2%
		Consumption	0.0%
		Investment	-1.3%
		Exports	0.4%
		Imports	0.6%

(a) Obtained by subtracting the results reported in line 2 (FTA EU-U.S.) from those in line 1 (FTA EU) by O’Ryan (2004) in Table 7.

(b) Obtained by subtracting the results in line 4 (NAFTA, Mercosur, and EU) from those in line 3 (NAFTA and Mercosur) by Harrison *et al.* (2002). The results presented in this study are very similar to those in Harrison *et al.* (2002).

Source: Author’s compilation.

**Table 2.9: Combined Macroeconomic Effects for Chile of the U.S.-Chile FTA and the EU-Chile Association Agreement (Evidence from ex-ante CGE Simulation Models) (Percent Changes in Key Variables)**

Study	Partner Country	Key Macroeconomic Variable			
<b>O’Ryan <i>et al.</i> (2004)</b>	EU and U.S.	GDP	-0.4%		
		Consumption	0.3%		
		Investment	-2.1%		
		Exports	0.5%		
		Imports	1.1%		
	EU, U.S., and Investment <sup>(a)</sup>	GDP	1.4%		
		Consumption	2.1%		
		Investment	0.5%		
		Exports	3.0%		
		Imports	3.3%		
<b>Chumacero <i>et al.</i> (2004)</b>	EU and U.S.	GDP	0.26%		
		Consumption	0.48%		
		Exports	0.52%		
		Imports	1.18%		
<b>O’Ryan <i>et al.</i> (2011)</b>	EU and U.S.	GDP	-0.4%		
		Consumption	0.3%		
		Investment	-2.1%		
		Exports	0.5%		
		Imports	1.1%		
	EU, U.S., and VAT <sup>(b)</sup>	GDP	0.6%		
		Consumption	0.8%		
		Investment	0.9%		
		Exports	2.0%		
		Imports	2.5%		
EU, U.S., and Investment <sup>(a)</sup>	GDP	1.4%			
	Consumption	2.1%			
	Investment	0.5%			
	Exports	3.0%			
	Imports	3.3%			
<b>Average Effects</b>	GDP	min: -0.4%	max: 1.4%	mean: 0.48%	
	Consumption	min: 0.3%	max: 2.1%	mean: 1.01%	
	Investment	min: -2.1%	max: 0.9%	mean: -0.46%	
	Export	min: 0.5%	max: 3.0%	mean: 1.59%	
	Import	min: 1.1%	max: 3.3%	mean: 2.08%	

(a) Including an investment equation.

(b) Considering that the government collects a Value Added Tax (VAT).

Source: Author’s compilation.

**Table 2.10: Summary Evaluation of Macroeconomic Effects of the EU-Chile Association Agreement for Chile (Evidence from Ex-ante and Ex-post CGE Simulation Models) (Percent Changes in Key Variables)**

Key Variable	Range of Estimates		Point Estimate	Study
<b>Ex-ante CGE Model Simulations</b>				
<b>Welfare</b>	min: 0.28%	max: 3.76%	1.21%	PLANISTAT (2002), Tarr <i>et al.</i> (2005)
<b>GDP</b>	min: -0.2%	max: 0.5%	0.15%	O’Ryan <i>et al.</i> (2004), PLANISTAT (2002)
<b>Consumption</b>			0.30%	O’Ryan <i>et al.</i> (2004), PLANISTAT (2002)
<b>Capital stock</b>			1.20%	PLANISTAT (2002)
<b>Exports</b>	min: 0.1%	max: 3.2%	1.65%	O’Ryan <i>et al.</i> (2004), PLANISTAT (2002)
<b>Imports</b>	min: 0.5%	max: 3.0%	1.75%	O’Ryan <i>et al.</i> (2004), PLANISTAT (2002)
<b>Nominal skilled labour wage bill</b>			0.2%	PLANISTAT (2002)
<b>Nominal unskilled labour wage bill</b>			0.6%	PLANISTAT (2002)
<b>Ex-post CGE Model Simulations</b>				
<b>Welfare</b>	min: 0.23%	max: 0.29%	0.26%	ITAQA (2012)
<b>GDP</b>	min: 0.05%	max: 0.1%	0.075%	ITAQA (2012)
<b>Exports</b>	min: 1.5%	max: 2.0%	1.75%	ITAQA (2012)
<b>Imports</b>	min: 0.9%	max: 1.2%	1.05%	ITAQA (2012)
<b>High-skilled wage</b>	min: -0.3%	max: -0.20	-0.25%	ITAQA (2012)
<b>Medium-skilled wage</b>	min: -0.36 %	max: -0.27%	-0.315%	ITAQA (2012)
<b>Low-skilled wage</b>	min: 0.3%	max: 0.36%	0.33%	ITAQA (2012)
<b>Non-salaried worker income</b>	min: 0.10%	max: 0.14%	0.12%	ITAQA (2012)

Source: Author’s compilation.

**Table 2.11: Evaluation of Effects of the EU-Chile Association Agreement for Chile's Trade and Exports (Evidence from Ex-ante and Ex-post Gravity-Model Estimations)**

Study	
<b>Nowak-Lehmann <i>et al.</i> (2007)</b> (Ex-ante study) <sup>(a)</sup>	<b>Exports of fish, crustaceans, and molluscs</b> 7.4% increase in fish exports if tariffs are eliminated. 14.8% increase in fish exports if tariffs and subsidies are eliminated.
	<b>Exports of fruit and nuts</b> 26.6% increase in fruit exports if tariffs are eliminated. 40.8% increase in fruit exports if tariffs and subsidies are eliminated.
	<b>Exports of beverages</b> 41.3% increase in exports of beverages if tariffs are eliminated. 53.0% increase in exports of beverages if tariffs and subsidies are eliminated.
	<b>Bilateral trade</b> As a consequence of EU-Chile AA, bilateral EU-Chile trade increased by 62%.
<b>Bergstrand <i>et al.</i> (2011)</b> (Ex-post study) <sup>(b)</sup>	<b>Exports from Chile to EU</b> As a consequence of EU-Chile AA, Chile's exports to the EU increased by 46%.
	<b>Non-mineral Exports from Chile to EU</b> As a consequence of EU-Chile AA, Chile's non-mineral exports (all exports other than copper and iron ore) to the EU increased from 15% to 20%. At the sector level, Chile's exports to the EU increased for: alcoholic beverages by 36%, fruits by 15-20%, and fish by 15-28%.
<b>ITAQA (2012)</b> (Ex-post study) <sup>(c)</sup>	

(a) Sample period: 1988-2002.

(b) Sample period: 2003-2008.

(c) Sample period: 2001-2010.

Source: Author's compilation.

**Table 2.12: Evaluation of Macroeconomic and Trade Effects of the EU-Chile Association Agreement for the EU (Evidence from Ex-ante CGE Models and Ex-post Gravity-Model Estimations)**

Study	Macroeconomic and Trade Effects	
	Ex-ante CGE Model Simulations	
<b>PLANISTAT (2002)</b>	Welfare <sup>(a)</sup>	0.0%
	GDP	0.0%
	Exports	0.0%
	Imports	0.1%
	Capital stock	0.0%
	Nominal wage bill skilled labour	0.0%
	Nominal wage bill unskilled labour	-0.1%
Ex-post Gravity-Model Estimations		
<b>Bergstrand <i>et al.</i> (2011) <sup>(b)</sup></b>	<b>Exports from the EU to Chile</b> As a consequence of the EU-Chile AA, EU exports to Chile increased by 148%	
<b>ITAQA (2012) <sup>(c)</sup></b>	<b>Exports from the EU to Chile</b> As a consequence of the EU-Chile AA, EU exports to Chile increased between 38% and 57%. At the sector level, EU exports to Chile increased for machinery by 40%; chemical products by 42%, and vehicles by 45%.	

Notes:

(a) Welfare is proxied by real income.

(b) Sample period: 2003-2008.

(c) Sample period: 2001-2010.

Source: Author's compilation.

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### 3 Analysis of Existing Barriers for Trade in Agricultural and Food Products, Flows in Investment, and Participation in Public Procurements

#### 3.1 Barriers to Trade of Agricultural and Food Products

##### 3.1.1 Introduction

This chapter presents a qualitative and, when possible, quantitative description of the evolution of agricultural and food trade between the EU and Chile. It also enlightens the major remaining barriers to trade for those products between the EU and Chile. The emphasis of this work consists in the following three aspects. First, this chapter documents the evolution and composition of agricultural and food trade between the EU and Chile since the signature of the Association Agreement in 2002. Second, given the relative importance of Chile's exports in agricultural and food products, it examines Chile's export performance for these products in the EU and the U.S. relative to similar close competitors to discern the possible impact of the Association Agreement on those exports. Third, it identifies the remaining barriers to trade between the EU and Chile. It also discusses market access issues for Chile's exports to the EU and for EU's exports to Chile examining both import tariff barriers and non-tariff measures (NTM) for a subset of products selected with regard to both their current share in export value and their growth potential.

To put the Chilean agricultural and food sector into context, the country's agricultural and food exports reached USD 15.6 billion in 2015 free on board (FOB), of which fresh fruits exports represented 30%, fisheries 30%, wines 7%, meats 5%, and processed fruits 7% (ASOEX, 2016). Fruit exports are particularly important, with the country exporting 30 different species to more than 100 countries. Chile is currently the world largest southern hemisphere exporter of fresh fruits and wine, and the third or fourth largest exporter of fresh fruit and wine in the world. For some products during specific seasons of the year, Chile is not a "price taker" in world markets, Chilean weather and other supply-side shocks having the ability to affect international markets in some of these goods. The fruit sub-sector alone employs approximately 6% of the country's labour force with many seasonal low-skilled workers, in particular women head of household (Anriquez *et al.*, 2016).

It is also important to emphasize that most of Chilean agricultural and food exports are not commodities in the traditional sense of bulk, homogeneous products, such as grains or oil seeds. For Chile, food policy, rather than commodity protection and farm support, is of central concern.<sup>12</sup> This is not unique to Chile. As Josling and Tangermann (2015) have recently emphasised, food policy - as opposed to farm support - has moved to centre stage in understanding the dynamics of international trade of food products. In this context, consultations with industry representatives in Chile and the EU provide an understanding of the non-tariff measures (NTM) with which Chilean and EU exports of food products must comply. Not only do regulations and restrictions vary by product, but also by the specific destination in the EU Member States. The main challenge of this chapter is therefore to identify and, possibly, quantify existing barriers to trade on both sides

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<sup>12</sup> According to the OECD estimates for 2015, the level of support to agriculture in Chile as measured by the Producer Support Estimate (PSE) was among the lowest in the OECD country coverage: 3.3% compared to 18.9% in the EU.

affecting the sector, including the non-tariff measures. The present chapter presents for major export products those priorities that Chilean and EU producers and exporters identify as important for any modernisation of the trade part of the Association Agreement.

With respect to trade data, the main source aggregating information on the level, composition, destination and origin of Chile's agricultural exports and imports is the *Oficina de Estudios y Políticas Agrarias* (ODEPA, 2016a) of the *Ministerio de Agricultura*. This information is based on customs agency data. The main source aggregating information on the level, composition, destination and origin of European agricultural exports and imports is Eurostat Comext. United Nations Comtrade is also used to complement these two main statistical sources. Other sources for applied tariffs in Chile include the National Customs administration data, and for applied tariffs in the EU the online Integrated Tariff of the European Communities (*TARif Intégré Communautaire* - TARIC), which matches the trade flows under Eurostat Comext. The UNCTAD's Trade Analysis Information System (TRAINS) is a comprehensive computerized information system that provides data on trade control measures, including tariffs, para-tariffs, non-tariff measures, and imports by suppliers at the Harmonised System (HS)-based tariff line level (HS 6-digit).

### **3.1.2 The Evolution of Agricultural and Food Trade between the EU and Chile**

The total trade flows in all products between the EU and Chile grew significantly since the signing of the Association Agreement in 2002, as seen in Figure 3.1. EU's total imports, agriculture and non-agriculture, from Chile jumped abruptly after 2003, with a peak in 2006-2007, which has not been attained since. EU's total exports to Chile have been growing steadily, and in recent years there has been parity in merchandise trade between the two partners. Food and beverage products have accounted for about 28% of the total value of EU's imports from Chile since 2009, although more recently the share reached 35% in 2015. They have however accounted for about 6% of the total value of EU's exports to Chile in 2015. The following two sections examine the evolution of agricultural and food exports and its composition, first from Chile to the EU and, second, from the EU to Chile.

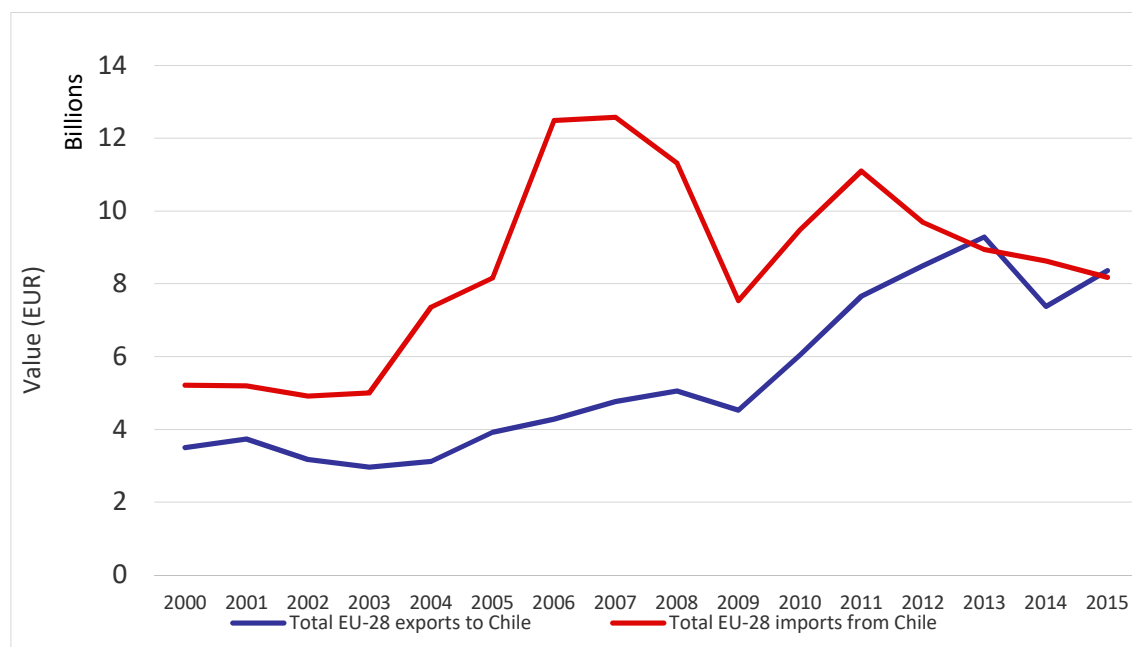
#### **3.1.2.1 Agricultural Exports from Chile to the EU**

After a strong import growth following 2003, the nominal value of EU's imports of agricultural, food (including fish), and forestry products from Chile has grown slowly since 2007, as seen in Figure 3.2. During 2015 the EU imported from Chile a total of EUR 2.9 billion in agricultural and food products (HS 1-24) plus an additional EUR 700 million in forestry products (HS 44-48).

The fruit sub-sector is the dominant export category in Chile's export portfolio of agricultural and food products to the EU, in both gross value and share (see Tables 3.1 and 3.2). In 2015, fruits represent 45% of EU's total agricultural and food imports from Chile, followed by beverages (primarily wine) for 23%, fish and seafood for 15%, meats and dairy products for 4%, and the rest of agricultural and food products for 13%. Figure 3.3 shows that EU's imports of fruits from Chile have grown from approximately EUR 380 million in 2000 to EUR 1,290 million in 2015, with a similar slow growth rate as that seen for all agricultural products. Figure 3.4 shows that table grapes are the most important fresh fruit exported to the EU by Chile, followed by apples and pears. By contrast, Chile's meat exports to the EU have declined since 2008, with a total value of USD 121 million in 2014. Figure 3.5 shows that poultry meat has had the most rapid and steady growth over the years, representing about USD 64 million in exports in 2014. Swine and bovine meats have, however, declined since 2008, and lamb and mutton since 2010. EU's imports of

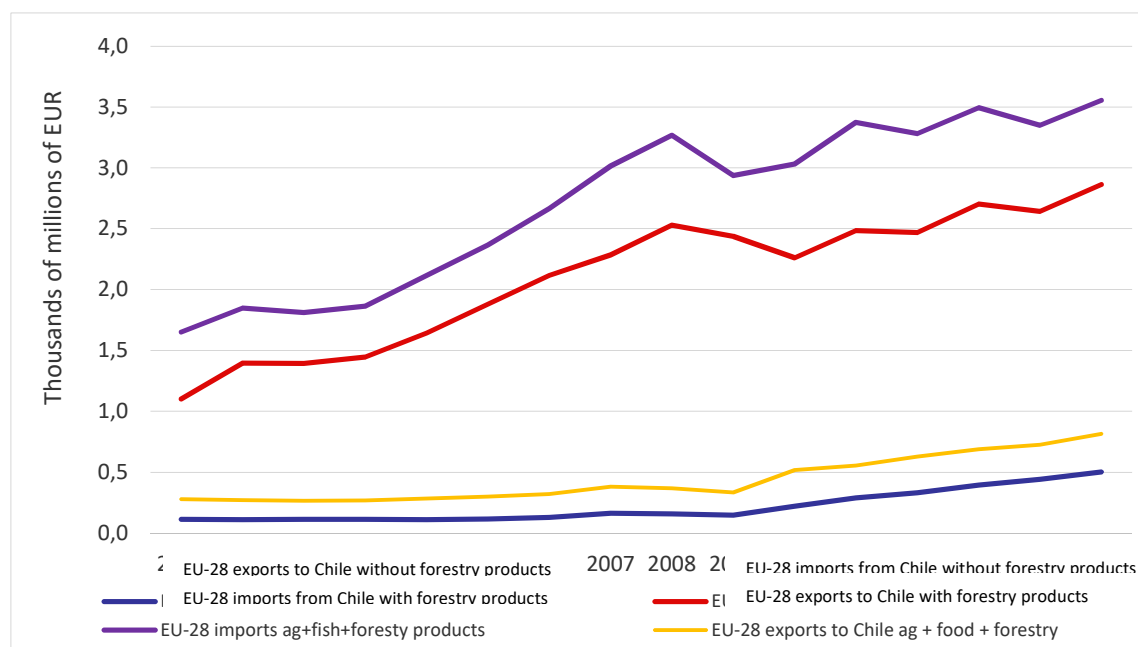
other agricultural and food products and of forestry products from Chile have grown more slowly than fruits, or have stagnated. Despite its low total value, Chile does export cereals to the EU, reaching about USD 9 million worth in 2014.

**Figure 3.1: Merchandise Trade Flows between the EU and Chile, 2000-2015, EUR billion**



Source: Eurostat Comext

**Figure 3.2: Agricultural and Food Trade Flows between the EU and Chile With and Without Forestry Products, 2000-2015, EUR billion**



Source: Eurostat Comext

**Table 3.1: Main Agricultural and Food Products, Excluding Forestry, Imported by the EU-28 from Chile, 2000-2015, EUR**

	<b>Agric &amp; food</b>	<b>Beverages</b>	<b>Fruits</b>	<b>Fish &amp; seafood</b>	<b>Meats and dairy</b>	<b>Other agric. &amp; food prod.</b>
Year	(HS 1-24)	(HS 22)	(HS 8)	(HS 3, 16)	(HS 2, 4)	(HS 1, 5-7, 9-15, 17-21, 23-24)
2000	1,102,202,751	315,120,208	379,683,149	253,116,740	18,380,537	135,902,117
2001	1,396,042,350	404,758,339	465,798,854	332,805,386	30,672,305	162,007,466
2002	1,394,347,516	378,430,193	495,916,861	309,452,751	28,445,156	182,102,555
2003	1,445,498,607	351,006,069	567,339,065	295,983,364	54,051,493	177,118,616
2004	1,643,397,748	422,946,591	625,046,018	340,173,726	63,551,824	191,679,589
2005	1,878,566,978	428,797,547	734,973,447	435,001,657	77,740,226	202,054,101
2006	2,116,128,799	435,069,594	848,041,726	499,090,032	91,517,045	242,410,402
2007	2,284,498,100	545,459,878	873,395,945	508,114,250	101,457,132	256,070,895
2008	2,528,673,240	535,546,743	1,049,995,123	520,555,993	146,099,934	276,475,447
2009	2,437,200,506	570,606,671	973,117,191	394,423,277	163,350,926	335,702,441
2010	2,262,182,908	578,836,835	908,517,518	323,606,922	151,159,991	300,061,642
2011	2,483,852,847	577,853,260	1,018,319,216	391,613,883	176,321,180	319,745,308
2012	2,468,781,591	604,522,818	991,139,341	342,914,955	144,983,103	385,221,374
2013	2,702,074,828	644,580,391	1,144,779,586	409,926,132	115,127,113	387,661,606
2014	2,641,491,488	612,487,228	1,076,506,363	410,879,482	111,422,776	430,195,639
2015	2,863,396,564	659,787,977	1,288,971,495	440,193,558	117,629,170	356,814,364

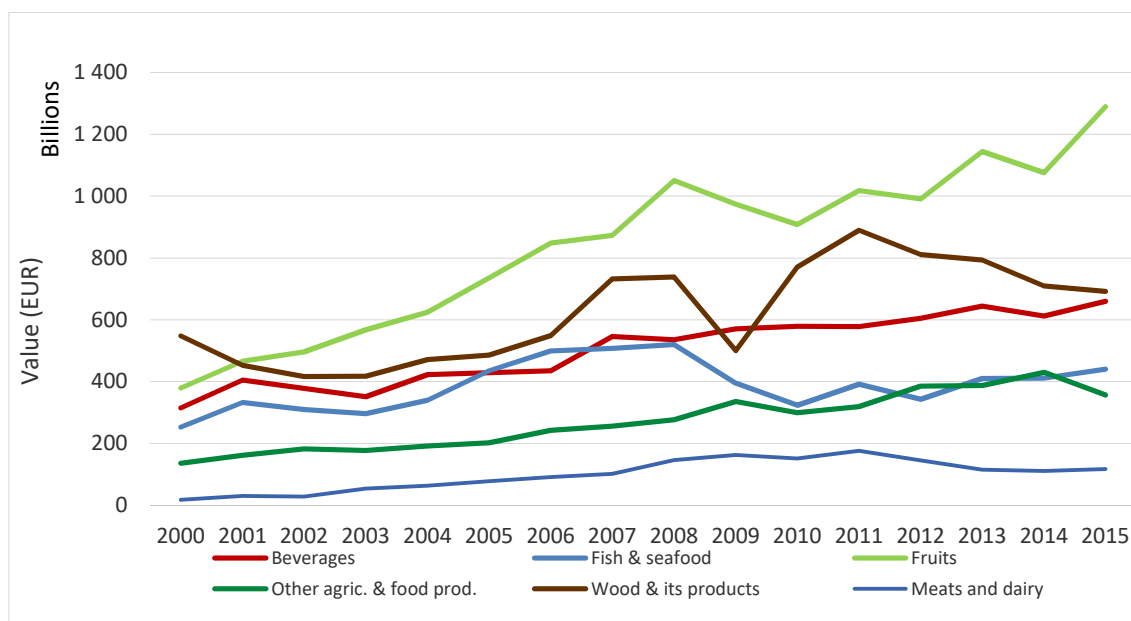
Source: Eurostat Comext

**Table 3.2: Share of Main Agricultural and Food Products, Excluding Forestry, Imported by the EU from Chile, 2000-2015**

	<b>Agric &amp; Food total</b>	<b>Beverages</b>	<b>Fruits</b>	<b>Fish &amp; seafood</b>	<b>Meats and dairy</b>	<b>Other agric. &amp; food prod.</b>
Year	(HS 1-24)	(HS 22)	(HS 8)	(HS 3, 16)	(HS 2, 4)	(HS 1, 5-7, 9-15, 17-21, 23-24)
2000	1,102,202,751	28.6%	34.4%	23.0%	1.7%	12.3%
2001	1,396,042,350	29.0%	33.4%	23.8%	2.2%	11.6%
2002	1,394,347,516	27.1%	35.6%	22.2%	2.0%	13.1%
2003	1,445,498,607	24.3%	39.2%	20.5%	3.7%	12.3%
2004	1,643,397,748	25.7%	38.0%	20.7%	3.9%	11.7%
2005	1,878,566,978	22.8%	39.1%	23.2%	4.1%	10.8%
2006	2,116,128,799	20.6%	40.1%	23.6%	4.3%	11.5%
2007	2,284,498,100	23.9%	38.2%	22.2%	4.4%	11.2%
2008	2,528,673,240	21.2%	41.5%	20.6%	5.8%	10.9%
2009	2,437,200,506	23.4%	39.9%	16.2%	6.7%	13.8%
2010	2,262,182,908	25.6%	40.2%	14.3%	6.7%	13.3%
2011	2,483,852,847	23.3%	41.0%	15.8%	7.1%	12.9%
2012	2,468,781,591	24.5%	40.1%	13.9%	5.9%	15.6%
2013	2,702,074,828	23.9%	42.4%	15.2%	4.3%	14.3%
2014	2,641,491,488	23.2%	40.8%	15.6%	4.2%	16.3%
2015	2,863,396,564	23.0%	45.0%	15.4%	4.1%	12.5%

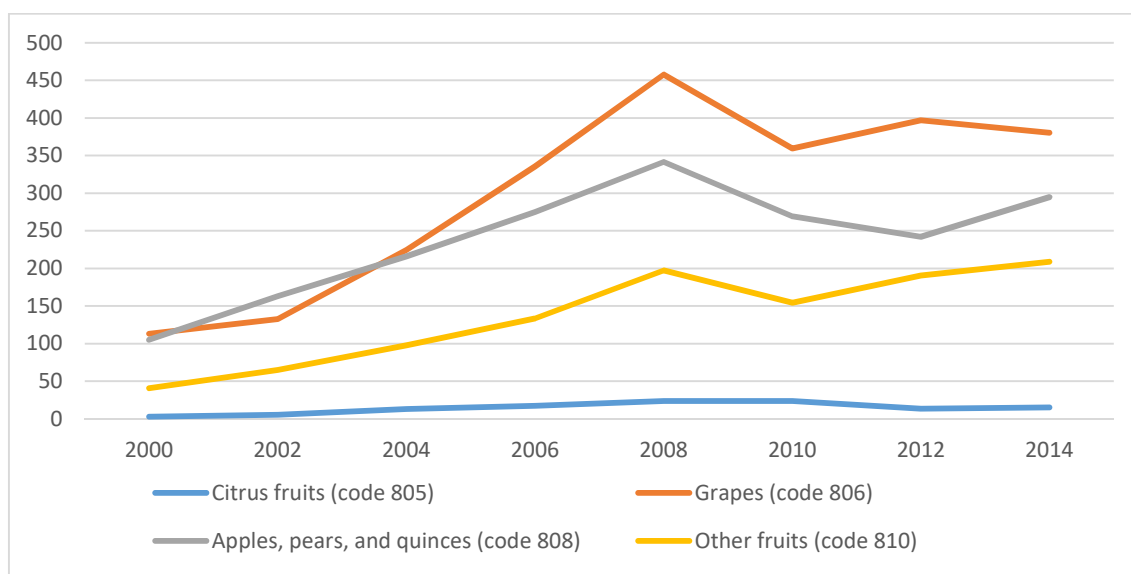
Source: Eurostat Comext

**Figure 3.3: Selected Agricultural, Food and Forestry Imports of the EU-28 from Chile, 2000-2015, EUR million**



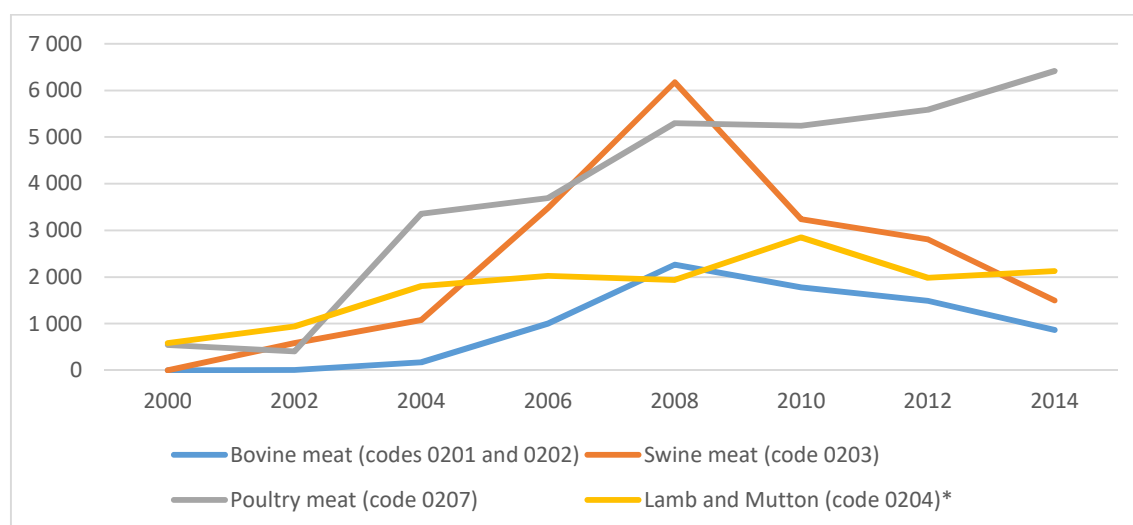
Source: Eurostat Comext

**Figure 3.4: Evolution of Chilean Fruits Exports to the EU-28, 2000-2014, USD million**



Source: United Nations Comtrade

To put the EU into perspective with other destinations for Chilean exports using information from United Nations Comtrade, Table 3.3 presents Chilean exports of agricultural and food products to the EU, the U.S. and the rest of the world. There is a question whether the slow growth in total agricultural, food and forestry exports from Chile to the EU since 2008 was driven mostly by factors related to demand or supply. Our analysis of trade flows of exports of agricultural products to the EU from various sources, not only from Chile, shows that between 2010 until 2015 agricultural and food exports to the EU stabilized. This strongly suggests that the recent slow decline in Chilean exports to the EU is mainly a question of demand in Europe.

**Figure 3.5: Evolution of the Chilean Meat Exports to the EU-28, 2000-2014, USD million**

\* Does not include goat meat (code 020450).

Source: United Nations Comtrade

**Table 3.3: Total Chilean Agricultural and Food Exports to Main Destinations, 2000-2016, USD billion**

Year	EU	U.S.	Rest of the World	World
2000	1.2	1.5	2.4	5.1
2001	1.1	1.5	2.4	4.9
2002	1.1	1.7	2.5	5.3
2003	1.5	1.9	2.7	6.1
2004	1.8	2.4	3.5	7.7
2005	1.9	2.5	4.0	8.3
2006	2.1	2.7	4.4	9.2
2007	2.8	2.7	5.9	11.4
2008	3.4	2.8	7.3	13.5
2009	2.7	2.6	6.2	11.5
2010	3.2	2.9	7.2	13.3
2011	3.6	3.1	8.8	15.5
2012	3.3	3.2	9.2	15.7
2013	3.4	3.4	9.7	16.6
2014	3.3	3.5	10.2	17.0
2015	2.9	3.4	9.5	15.8
2016*	2.9	4.0	10.0	16.9

\* 2016 figures are estimates.

Source: United Nations Comtrade

### 3.1.2.2 Agricultural Exports from the EU to Chile

EU's exports of agricultural and food products to Chile have steadily grown since the mid-2000s, as seen in Figure 3.2, reaching in the order of EUR 500 million in 2015. While EU's imports from Chile are highly concentrated in three major groups of products, i.e., fruits and nuts for 41%, beverages for 23%, and fish and seafood for 11%, EU's exports to Chile are more diversified with

a high participation of beverages for 22%, waste from food for 18%, edible preparations for 18%, and preparations of vegetables and fruits for 14% in 2014 (see Figures 3.6 and 3.7).<sup>13</sup>

In addition to EU's exports to Chile, there are some EU direct investment in the agricultural, food, and forestry sector in Chile. As indicated in Table 3.4, this EU direct investment is relatively more present in the food-related sub-sector than in the other sub-sectors. Figure 3.8 does not show a particular trend during the observed period between 2000 and 2015. The highest level of EU direct investment took place in 2005 with a peak of USD 180 million. EU direct investment in the agricultural, food, and forestry sector is however relatively modest compared to total EU direct investment in the Chilean economy. On average for the period between 2010 and 2012, its share is about 1.5%.

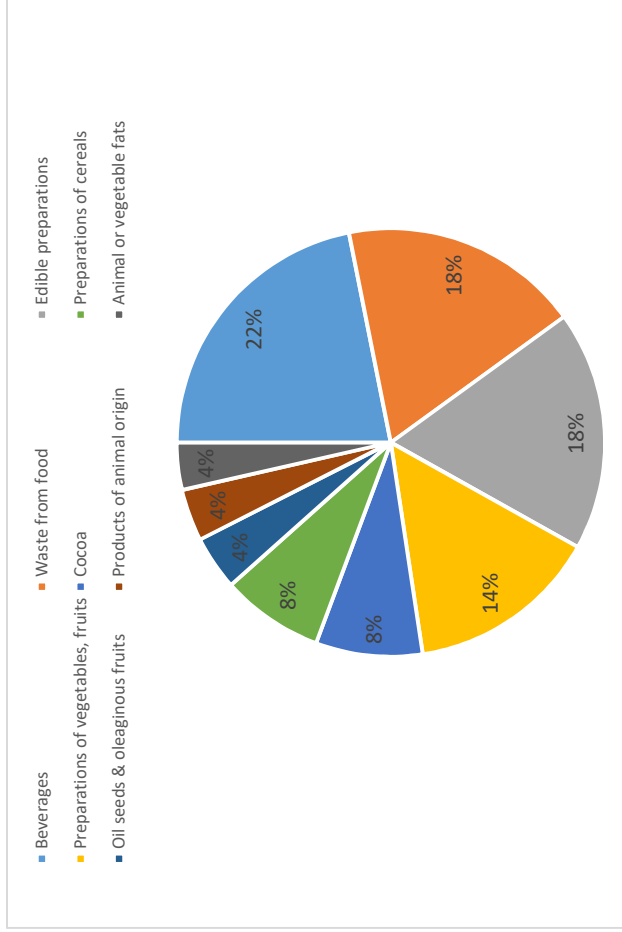
**Table 3.4: Evolution of EU's Foreign Direct Investment in Chile by agricultural and food sub-sectors, 2000-2015 (USD million)**

Year	Agricultural	Fishery	Forestry	Winery	Food-related	All Five Sectors
2000	1.9	0.0	1.0	0.5	-17.7	-14.3
2001	1.0	0.4	0.3	0.2	22.9	24.8
2002	0.2	0.0	0.0	0.6	22.0	22.9
2003	0.4	0.0	-3.9	10.6	6.2	13.4
2004	0.1	0.0	0.0	0.0	39.5	39.6
2005	0.1	0.0	0.0	1.0	179.4	180.5
2006	0.0	0.0	0.0	0.0	44.5	44.5
2007	0.0	9.2	0.0	0.0	8.7	17.9
2008	0.0	0.0	0.0	19.9	0.0	19.9
2009	8.0	0.0	0.0	5.4	20.0	33.4
2010	4.0	0.0	0.0	0.0	0.0	4.0
2011	12.2	0.0	0.0	0.0	39.4	51.7
2012	45.0	0.0	0.0	0.0	16.1	61.1
2013	0.0	0.0	0.0	0.0	12.1	12.1
2014	0.0	0.0	0.0	0.0	11.0	11.0
2015	0.0	0.0	0.0	0.0	24.3	24.3

Source: Central Bank of Chile

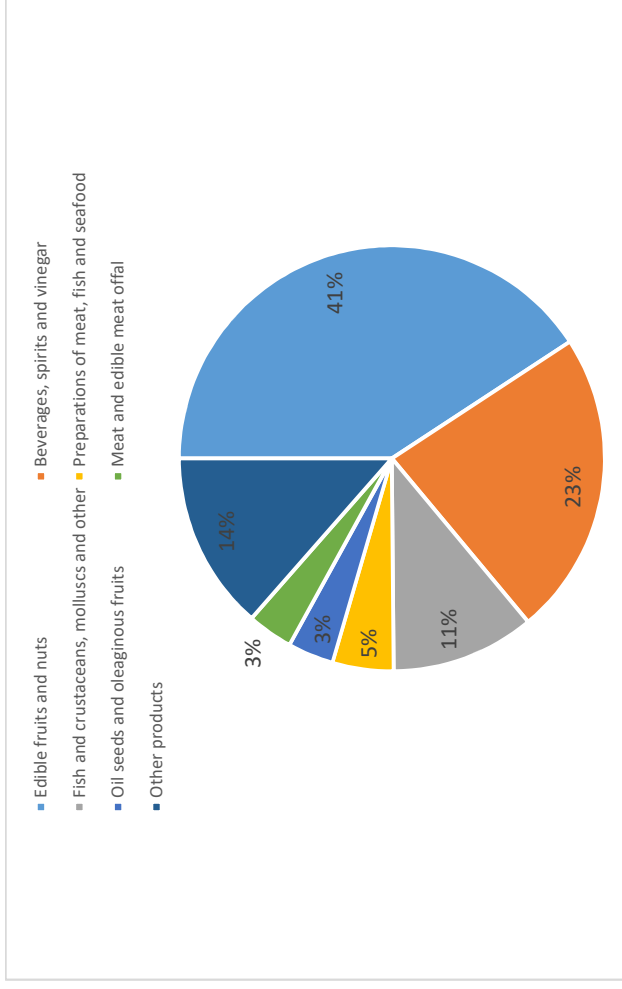
<sup>13</sup> Waste from food is composed for 58% of flours, meals and pellets, of meat or offal, unfit for human consumption (HS 2301) and 41% of preparations of a kind used in animal feeding (HS 2309) on average between 2013 and 2015 (EUROSTAT Comext).

**Figure 3.6: Share of Food and Farm Related Products Exported by the EU-28 to Chile, 2014**



Note that the category 'cocoa' comprises chocolates and other preparations.  
 Source: United Nations Comtrade

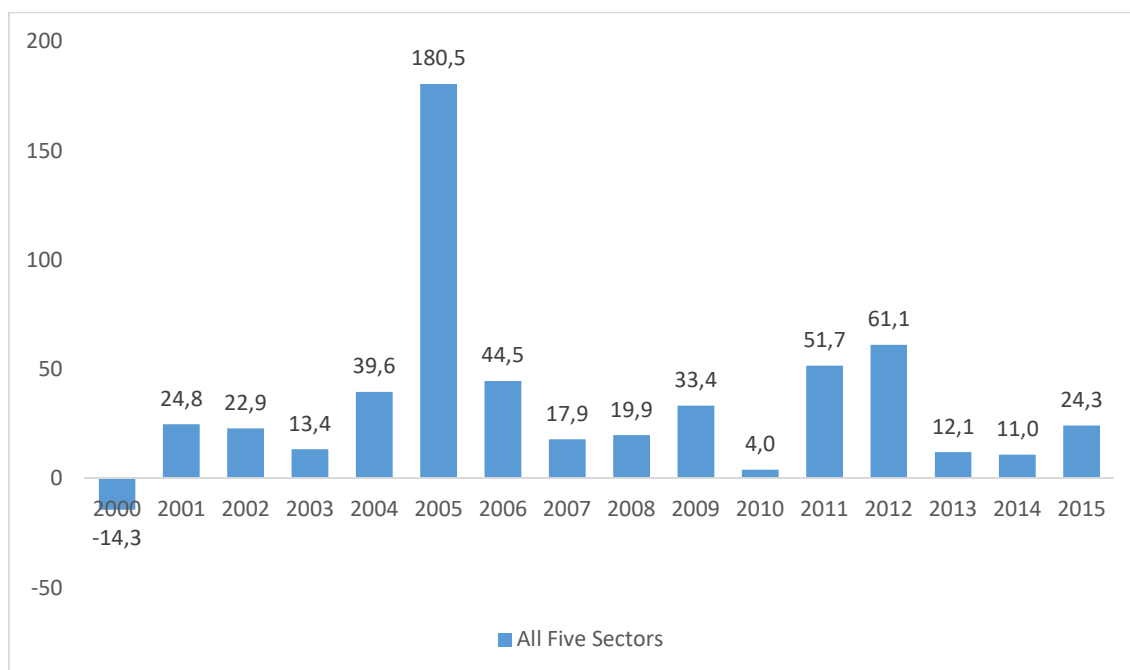
**Figure 3.7: Share of Food and Farm Related Products Imported by the EU-28 from Chile, 2014**



Source: United Nations Comtrade



**Figure 3.8: Evolution of EU's Foreign Direct Investment in Chile in Agriculture, Fishery, Forestry, Winery, and Food Sub-sectors, 2000-2015, USD million**



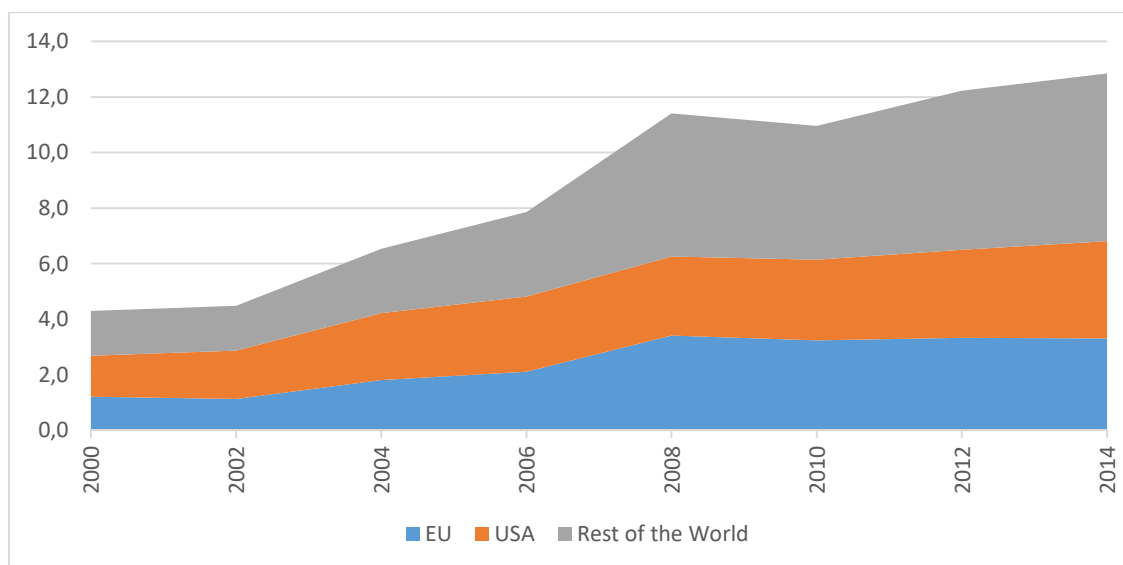
Source: Central Bank of Chile

### 3.1.3 Chile's Export Performance in the EU and the U.S.

As illustrated in Figure 3.9, Chile's agricultural and food exports to the rest of the world have grown steadily over the last two decades, while Chile's exports to the EU have grown more slowly. Is the EU becoming a declining export market for Chilean agriculture and food? Figure 3.10 shows the evolution of the shares of Chile's exports of agricultural and food products for its major destinations: the EU, the U.S, China, Japan, Brazil and the rest of the world. Over time, the EU has become a relatively smaller market for Chilean exports. The share of Chile's agricultural and food exports to the EU has declined from an average of 23-25% of Chile's total agricultural and food exports during the 2000-2010 period, to 19% in 2014. This represents a similar decline to that which is seen as well for the United States. At the same time, the share of Chile's agricultural and food exports to China has increased from 3.5% in 2000 to 7% in 2008 and 15% in 2014.

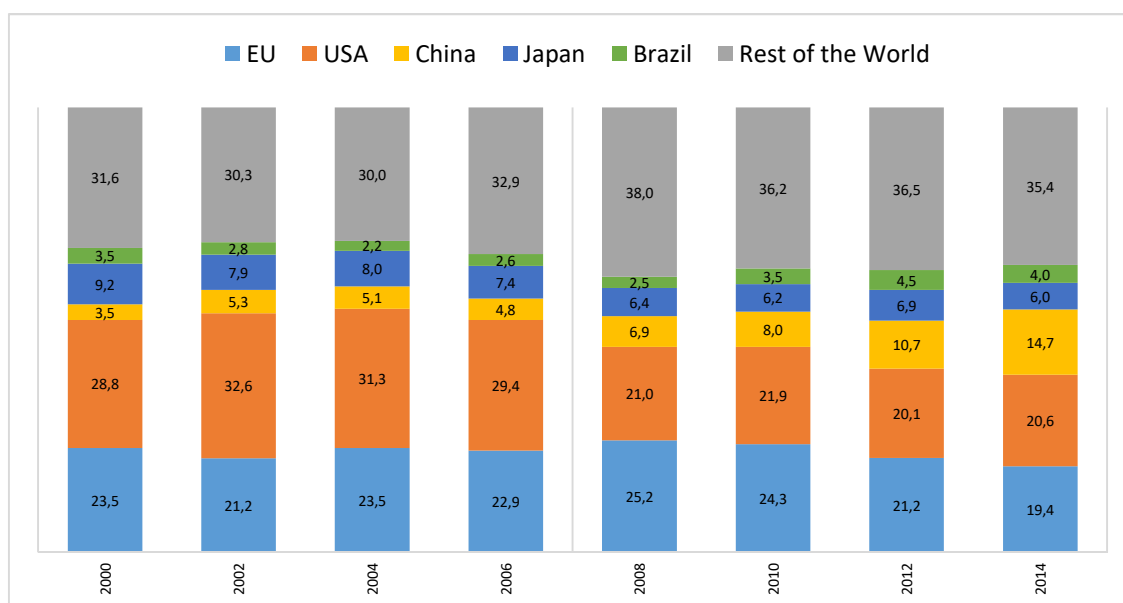
How are Chilean exports to the EU growing relative to other similar sources of exports? How are Chilean exports to the EU growing relative to other similar destinations of exports? To respond to these counterfactual questions, we rely on relative trade indices, as used in the 2012 ITAQA ex-post evaluation study. These relative trade indices are constructed and compared since 2000, three years before that the trade part of the 2002 Association Agreement between the EU and Chile became operational.

**Figure 3.9: Evolution of Chilean Agricultural and Food Exports to the EU, the U.S., and the Rest of the World, USD billion**



Source: ODEPA

**Figure 3.10: Share of Chilean Agricultural Exports to the EU, the U.S., China, Japan, Brazil, and the Rest of the World, 2000-2014 (%)**



Note: 2016 is projected using data on exports for the first six months of the year.

Source: ODEPA

### 3.1.3.1 Chile's Export Performance in the EU Relative to Competitors

We first assess how bilateral trade flows in agricultural and food products between Chile and the EU have evolved in comparison with exports to the EU from natural competitors in products for which Chile is an important player in international markets.

Define  $x_{CEkt}$  as representing an export flow from Chile, C, to the EU, E, in product category  $k$ , at year  $t$ . Define  $x_{iEkt}$  as representing the export flow from a competing exporter,  $i$ , to the EU, E, in the same product category  $k$ , at the same year  $t$ . To establish a valid counterfactual, the evolution of Chilean exports is compared with countries of interest also exporting to the EU and with similar performances. In particular, the study considers Argentina, Brazil, Mexico, Peru, and South

Africa. Argentina and Brazil do not have a trade agreement with the EU or the U.S. Mexico, Peru and South Africa each have a trade agreement with both the EU and the U.S. Mexico's trade agreement with the EU has applied since 2000, and that with the U.S. since 1994. Peru's trade agreement with the EU has applied since 2013, and that with the U.S. since 2009. South Africa's trade agreement with the EU was completed in 2012, and that with the U.S. has applied since 2000.

The relative trade index  $R$  is defined as the bilateral trade flow from Chile to the EU relative to the bilateral trade flow from another exporter  $i$  to the EU. This ratio is calculated as

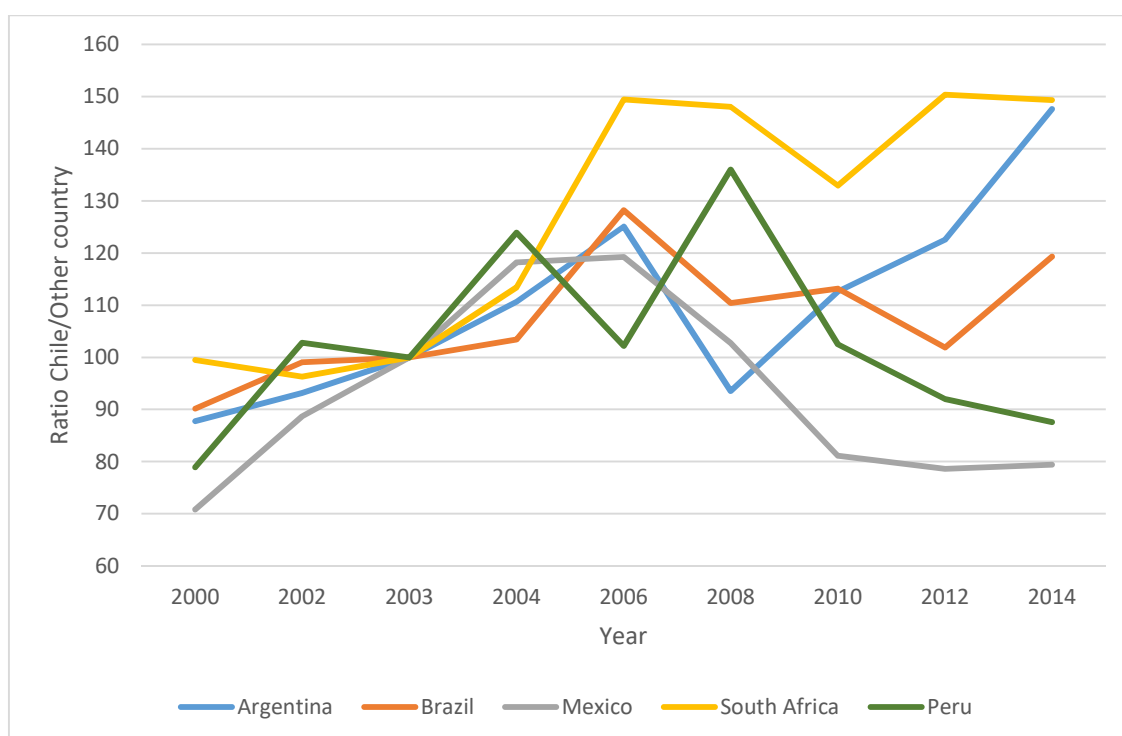
$$R_{CiEkt} = \frac{x_{CEkt}}{x_{iEkt}}$$

where  $i$  represents Argentina, Brazil, Mexico, Peru, and South Africa. This index is set to 100 for the base year of 2003.

Following this ratio through time we can assess how the bilateral trade flows between Chile and the EU have evolved in comparison with exports to the EU from natural competitors in products for which Chile is an important player in international markets.

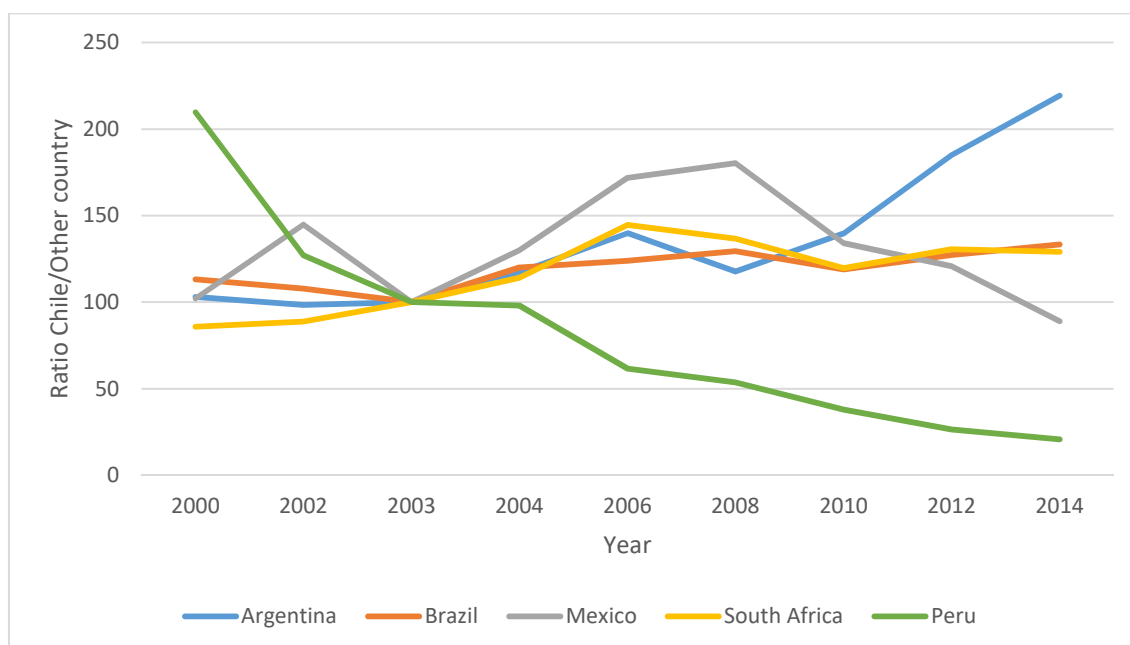
Figure 3.11 shows the evolution of the relative trade index comparing Chile's agricultural and food exports to the EU with similar exports from the five benchmark countries. Compared to three of the five countries, Chile's exports to the EU have increased faster in relative terms. Chile outperformed Argentina, Brazil, and South Africa, but not Mexico and Peru. This does not necessarily imply faster growth in absolute values. If Chile's exports have been grown slowly, the drift upward in the relative trade index could imply a decline in exports of the comparison country. To examine in more detail the source of this relative performance of Chile compared to these countries, Figures 3.12 and 3.13 show the evolution of the separate relative trade indices for fruits and meats respectively. As can be seen in these two figures, Chile's exports growth of both product categories to the EU have outperformed exports from the same three of the five other countries. Again, the exceptions are Mexico and Peru, where fruit exports to the EU have increased relatively more rapidly than those of Chile. In the case of meat, Chile's exports to the EU have risen rapidly compared to its potential competitors, but from a very low base. Note that Peru has insignificant exports of meats to the EU, and that South Africa's collapse in meat exports to the EU was due to an outbreak of foot-and-mouth (FMD) disease. Prior to the outbreak of FMD in South Africa, Chile was increasing its meat exports to the EU at a more rapid rate than South Africa.

**Figure 3.11: Evolution of the Relative Trade Index of all Chilean Agricultural and Food Exports (HS 01-24) to the EU Compared to Five Countries, 2000-2014 (2003 = 100)**



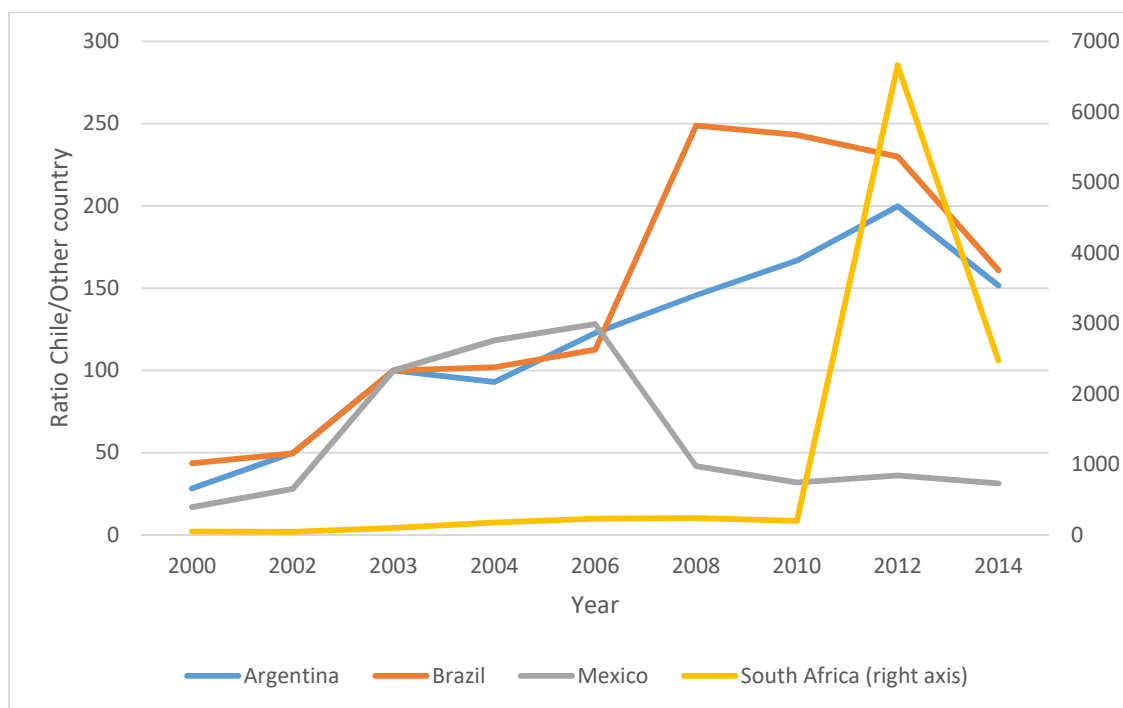
Source: United Nations Comtrade

**Figure 3.12: Evolution of the Relative Trade Index of Chilean Fruit Exports (HS 08) to the EU Compared to Five Countries, 2000-2014 (2003 = 100)**



Source: United Nations Comtrade

**Figure 3.13: Evolution of the Relative Trade Index of Chilean Meat Exports (HS 02) to the EU Compared to Four Countries, 2000-2014 (2003 = 100) South Africa scale on right axis.**



Note: No data available for Peru for the 2002-12 period.

Source: United Nations Comtrade

### 3.1.3.2 Chile's Export Performance in the U.S. Relative to Competitors

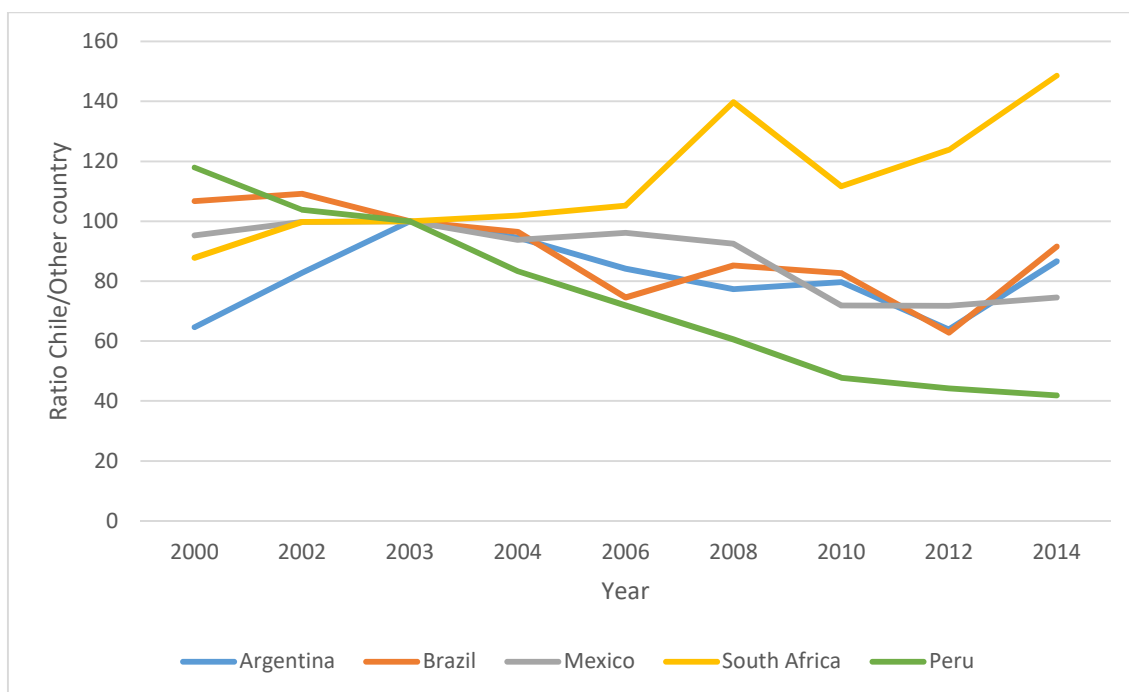
Similarly, we can follow this same relative trade index through time to assess bilateral trade flows between Chile and its other major market, the U.S. Again, define  $x_{CUkt}$  as representing the export flow from Chile, C, to the U.S., U, in product category  $k$ , at year  $t$ . Define  $x_{iUkt}$  as representing the export flow from a competing exporter,  $i$ , to the U.S. in the same product category  $k$ , at the same year  $t$ . The other countries of interest exporting to the U.S. are again Argentina, Brazil, Mexico, Peru, and South Africa. The relative trade index is again defined as the bilateral trade flow from Chile to the U.S. relative to the bilateral trade flow from another exporter  $i$  to the U.S.:

$$R_{CiUkt} = \frac{x_{CUkt}}{x_{iUkt}}$$

where  $i$  represents Argentina, Brazil, Mexico, Peru, and South Africa.

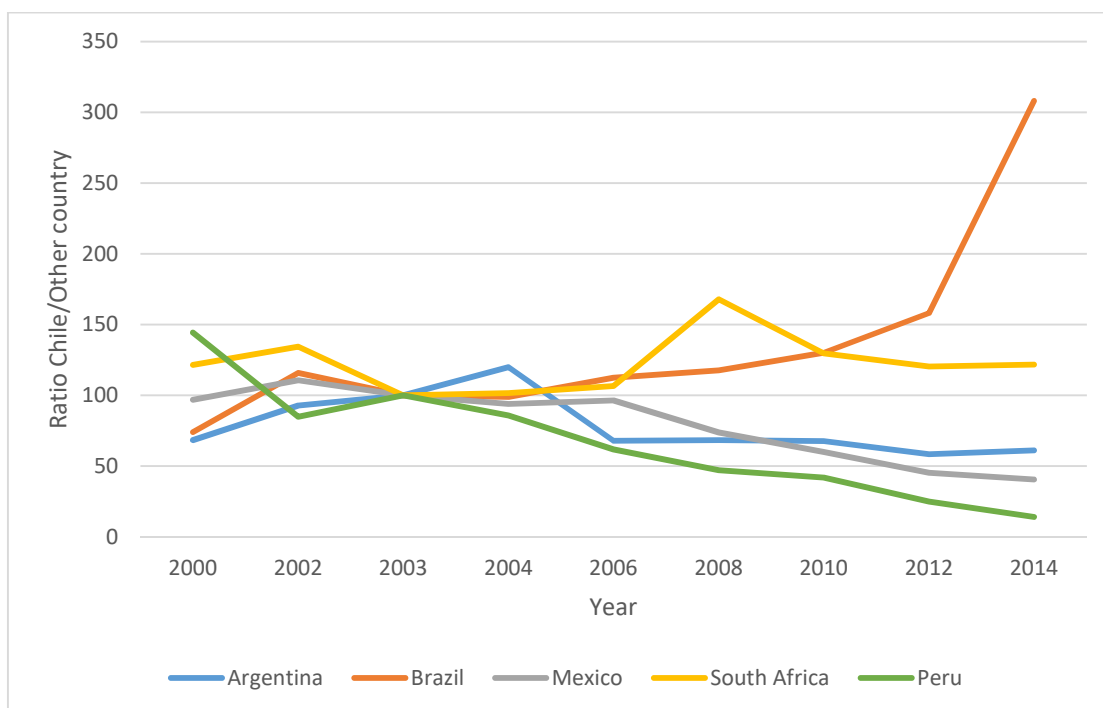
Comparing this relative trade index for the United States in Figure 3.14 with the same index for the EU in Figure 3.11, the overall evolution of Chile's relative export performance has been better in the case of the EU than that of the U.S. Notably, in the case of the relative trade index for the U.S., Brazil, Mexico, and Peru have outperformed Chile in export growth. Chile has only performed better than South Africa in its relative export growth to the U.S., as was the case of its relative export growth to the EU. In the case of fruit exports, as shown with Figure 3.15, Chile outperformed Brazil and South Africa, but not the other three countries. Chile's fruit export growth to both the U.S. and the EU has outperformed that of Brazil, but in the case of the U.S. this better performance as measured by the relative trade index is twice that of the EU.

**Figure 3.14: Evolution of the Relative Trade Index of all Chilean Agricultural and Food Exports (HS 01-24) to the U.S. Compared to Five Countries, 2000-2014 (2003 = 100)**



Source: United Nations Comtrade

**Figure 3.15: Evolution of the Relative Trade Index of Chilean Fruit Exports (HS 08) to the U.S. Compared to Five Countries, 2000-2014 (2003 = 100)**



Source: United Nations Comtrade

### 3.1.3.3 Relative Export Performance in the EU and the U.S.

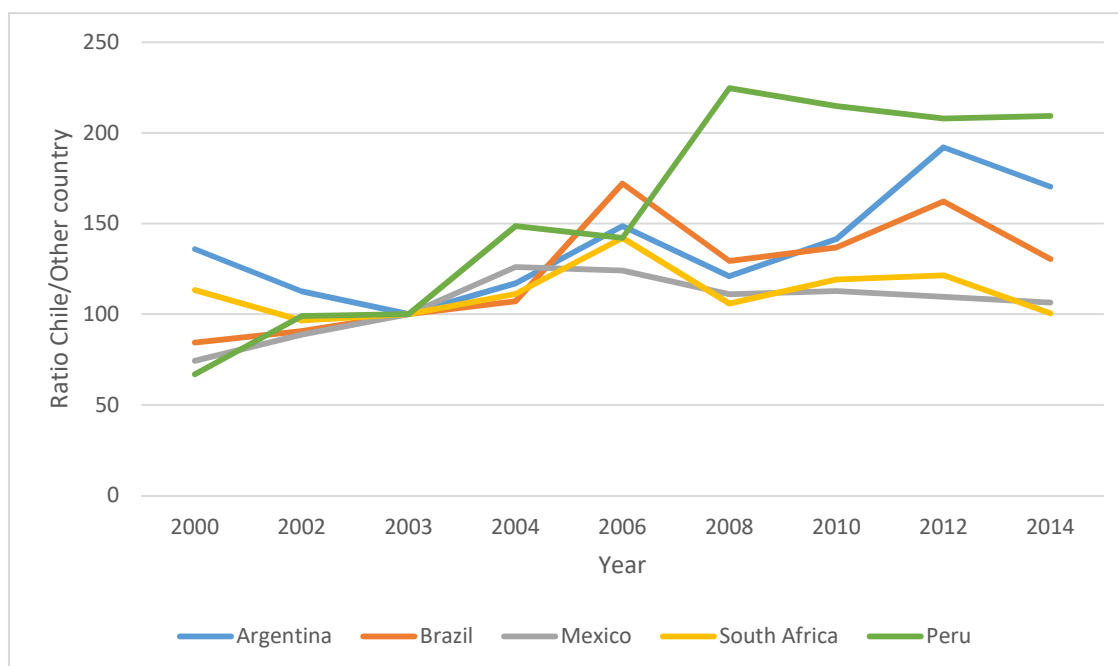
To compare in more detail Chile's agricultural and food export performance relative to its competitors in the EU with its relative performance in the United States, we take a ratio of the two relative trade indices  $R$  to obtain a bi-ratio  $B$ :

$$B_{cikt} = \frac{R_{ciEkt}}{R_{ciUkt}}$$

where again  $i$  represents Argentina, Brazil, Mexico, Peru, and South Africa. This measure is a better indicator of the relative impact of the EU-Chile Agreement in an environment of increasing agricultural and food exports to two major markets from Chile and its competitors.

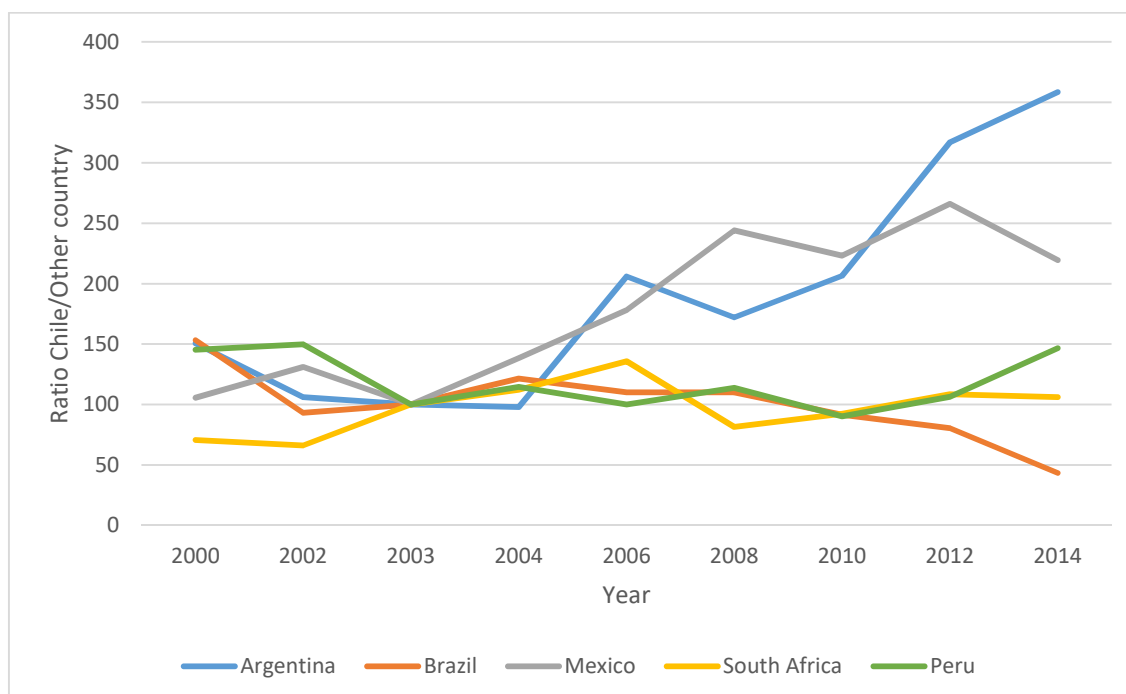
Through time, this index reflects the extent to which the relative performance of Chile in the EU market has compared with Chile's relative performance in the benchmark market of the U.S. This ratio of ratios accounts both for common shocks affecting the exporters (Chile and its competitors) and for common shocks in the two importing markets (the EU and the U.S.). Figure 3.16 show this bi-ratio  $B$  for all agricultural and food products. We observe that Chile's export performance relative to its competitors by 2014 has been greater in the EU than in the U.S., except perhaps for South Africa in the final year. In the case of South Africa, while Chile has outperformed this competitor in the EU, it has grown relatively much faster in the U.S. This evidence is highly consistent with the contention that Chile has benefited relatively from the trade part of the Association Agreement with the EU provisionally applied since 2003. Nevertheless, Chile did enter into a trade agreement with the U.S. at approximately the same time, giving it advantages in market access to both trading partners relative to Argentina and Brazil in those agricultural and food products for which Chile has some comparative advantage. One possible source of Chile's better performance in the EU following both trade agreements is that the EU had at the time of the accords comparatively more restrictive import policies in the product categories in which Chile specializes. In the case of fruit exports, we observe in Figure 3.17 that Chile's export performance relative to its competitors has been greater in the EU than in the U.S., except for Brazil.

**Figure 3.16: Evolution of the Ratio of the Relative Trade Index of all Chilean Agricultural and Food Exports (HS 01-24) to the EU and the Relative Trade Index to the U.S. Compared to Five Countries, 2000-2014 (2003 = 100)**



Source: United Nations Comtrade

**Figure 3.17: Evolution of the Ratio of the Relative Trade Index of Chilean Fruit Exports (HS 08) to the EU and the Relative Trade Index to the U.S. Compared to Five Countries, 2000-2014 (2003 = 100)**



Source: United Nations Comtrade

### 3.1.4 Current Trade Barriers between the EU and Chile

This section presents a brief assessment of the current status with respect to the liberalisation schedule for Chilean exports to the EU and for EU exports to Chile under the Association



Agreement. It also enlightens key areas where sanitary and phytosanitary (SPS) measures and technical barriers to trade (TBT) can become impediment to bilateral trade between the EU and Chile.<sup>14</sup>

### 3.1.4.1 Market Access Issues for Chilean Exports to the EU

Trade barriers for agricultural and food products imported into the EU include *ad valorem* and specific tariffs, tariff rate quotas, minimum import prices, seasonal import tariffs, and specific non-tariff measures, primarily some SPS measures, that could also restrict imports.

The 2002 EU-Chile Association Agreement specified a ten-year import liberalisation period including total, immediate liberalisation for manufactured products. But for agriculture, food and fishery products, the Association Agreement made exemptions from complete liberalisation and a significant subset of the liberalisation commitments were delayed by four, seven, or ten years. But as stated in the 2012 ITAQA ex-post evaluation report, this was “where the main stakes seem to lie for the Chilean exporters.” That study noted that the “potential is strong for some products, particularly fruits, wine and fishery products where EU protection is significant” (ITAQA 2012). The liberalisation commitments under the 2002 Association Agreement have all completed their ten-year liberalisation period, so one important question today is the establishment of criteria and priorities for including a liberalisation phase for those products that were originally offered only partial liberalisation or were excluded.

The WTO (2005) issued a report regarding the EU-Chile Association Agreement which presents specific information regarding the trade liberalisation commitments signed in Brussels in 2002. Liberalisation, for those products covered, began almost immediately. The liberalisation list, however, distinguishes three categories of agricultural and food products:

1. A first group for which all custom duties and import quotas would be eliminated gradually, reaching a state of unrestricted imports (neither import duties nor quotas) at the end year of ten years of the transition period. This period ended on January 1, 2013.
2. A second group of “negotiated” products for which the Association Agreement established a scheme of partial liberalisation, opening market access subject to import quotas under which volumes above the quota pay prevailing import duties in the EU. This group covers approximately

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<sup>14</sup> According to the definition as laid down in the WTO SPS Agreement, sanitary or phytosanitary measure is any measure applied:

- (a) to protect animal or plant life or health within the territory of the Member from risks arising from the entry, establishment or spread of pests, diseases, disease-carrying organisms or disease-causing organisms;
- (b) to protect human or animal life or health within the territory of the Member from risks arising from additives, contaminants, toxins or disease-causing organisms in foods, beverages or feedstuffs;
- (c) to protect human life or health within the territory of the Member from risks arising from diseases carried by animals, plants or products thereof, or from the entry, establishment or spread of pests; or
- (d) to prevent or limit other damage within the territory of the Member from the entry, establishment or spread of pests.

Sanitary or phytosanitary measures include all relevant laws, decrees, regulations, requirements and procedures including, inter alia, end product criteria; processes and production methods; testing, inspection, certification and approval procedures; quarantine treatments including relevant requirements associated with the transport of animals or plants, or with the materials necessary for their survival during transport; provisions on relevant statistical methods, sampling procedures and methods of risk assessment; and packaging and labelling requirements directly related to food safety.

According to UNCTAD (2015, p. 15), technical barriers to trade (TBT) are those measures that refer “to technical regulations, and procedures for assessment of conformity with technical regulations and standards, excluding measures covered by the SPS Agreement.” Likewise to SPS measures, these measures are classified as technical regulations or conformity assessment procedures.

200 tariff lines, and includes meats (beef, pork, lamb and mutton, and poultry), dairy products (cheese), sugar and processed food containing sugar (confectionary, chocolate preparations, biscuits and waffles), some types of salmon, hake and tuna, and some other products. In this list, several products have import quotas that have increased but nevertheless remain at the end of the ten-year period. Beef meat and dairy products are examples which likely will be of greater importance in the future.

3. Finally, a third group of “not negotiated” products, for which no preferential treatment on imports was established. This list contains approximately 500 tariff lines.<sup>15</sup> This third group includes goods such as other fishery products, olive oil, some dairy products, some horticultural products (such as mushrooms and sweet corn), and some processed foods. In this latter group, for example, are frozen berry products that can enter duty free, except in the case of having a sugar content exceeding 13% by weight.

To illustrate further this asymmetric scheme of EU protection across Chilean imported agricultural and food categories, Table 3.5 reports from the GTAP 9 Data Base the 2011 *ad valorem* equivalents (AVE) to tariff rates prevailing in the EU for imports from Chile despite their incompleteness in representing actual import barriers. These AVE range from less than 1% for nine product categories to 8% for dairy products, 25% for vegetable oils and fats, 30% for other meats and 55% for ruminant meats.

Products covered under category (1) above have reached full import liberalisation in the EU. It would seem that in the forthcoming trade negotiations regarding agricultural and food products the main task ahead would be to address the options regarding a liberalisation schedule for products of categories (2) and (3) above. As noted, however, there appears to be a general opinion in the industry that the Chilean authorities have not yet consolidated a priority list of products for additional liberalisation for products covered in categories (2) and (3).

From the perspective of the industry regarding Chile’s export potential, categories (2) and (3) above include products with ample scope for export growth. In particular, meats and dairy products, olive oil, mushrooms, garlic, and others are considered possible candidates for significant export expansion. Most categories of fresh fruits, horticultural products and wine already enter the EU free of *ad valorem* duties and quotas, although some are not exempted from specific duties and some are subject to a minimum import price scheme. Some products are also subject to seasonal import restrictions.

In the context of modernising the Association Agreement, attention from the Chilean authorities and the Chilean industry representatives is given to fruits (in particular, table grapes, fresh apples, cherries, kiwifruit, and fruit cocktails), meats (in particular, beef, lamb and mutton, pork, and poultry), olive oil, wine, other processed food products (in particular confectionary, chocolate preparations, biscuits and waffles, and whey), forestry products, and fishery products (in particular salmon). Concerns also cover the possibility to expand the current duty-free import quotas, in particular for beef meats, and open a duty-free import quotas to olive oil for which Chile has a tremendous export potential.

*Fresh fruits:* Among Chile’s exports of agricultural, livestock and forestry products, fresh fruits became in recent years the dominant export category and represented in 2015 30% of these

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<sup>15</sup> The Agreement established various categories with respect to the import regime (labelled EP, SP, R, TQ and PN – see Annex 1 of the WTO (2005) document) and a detailed reference on import restrictions in the EU is contained in [http://www.sice.oas.org/Trade/chieu\\_e/ChEUin\\_e.asp](http://www.sice.oas.org/Trade/chieu_e/ChEUin_e.asp)

exports (ODEPA, 2016b). As shown in Table 3.2, it also became the Chile's main export category to the EU markets and represented in 2015 45% of the EU's agricultural and food imports from Chile. After years of rapid export growth, there has been in recent years a deceleration of exports of fresh fruits to the EU markets that is noticeable in Table 3.1 and a reallocation of these exports to Asia. It does not appear that the slowing of fresh fruit export growth to the EU is a consequence of EU policy, because most of Chile's most important fruit species enter in the EU free of import duties and quotas, and phytosanitary restrictions.

A more complex issue is the ability of Chile's exports to meet SPS requirements, including maximum levels of agro-chemical residues established by the EU for agricultural products for human consumption.<sup>16</sup> The EU delegates the official controls of Chilean agricultural and food exports to the Agriculture and Livestock Service (*Servicio Agrícola Ganadero* - SAG), a specialized agency within the Ministry of Agriculture of Chile. The audit service of the European Commission carries out sporadic audits to verify that the official controls performed by SAG inspectors are in line with EU requirements. It is the overall view of the Chilean fruit exporters association ASOEX that Chile can and does comply with standard quality and SPS regulations required by the EU.

In the opinion of the Chilean fruit exporters association ASOEX, fruits exports to the EU do not face market-access constraints beyond complying with official EU SPS and other technical requirements. Beyond these SPS and other technical requirements, the most complex issue for Chilean exports, as stated by ASOEX, is instead related to satisfying specific demands from retailers in Europe, such as supermarket chains, which have their own certification standards. Exporters must obtain certification from different private certifications agencies (Global G.A.P.,<sup>17</sup> British Retail Consortium (BRC), Rainforest Alliance, Hazard Analysis and Critical Control Points (HACCP), Global G.A.P. Risk Assessment on Social Practice (GRASP), Tesco and Walmart retailers, and others), which test their compliance with good agricultural practice standards, which include not only quality and safety conditions of the product, but also aspects of the production process such as labour and environmental conditions. These standards have been internalized and adopted by commercial Chilean growers and exporters. But the cost of satisfying these requirements has increased due largely to their diversity across EU member states and retailers. So, in the view of industry representatives, one "hoped-for" innovation would be greater uniformity of requirements across retailers in the EU. Higher private requirements are also being increasingly requested by retailers operating in Asia. Meanwhile, the Chilean fruit exporters association ASOEX has initiated the Chile G.A.P programme to help Chilean producers and exporters of fruits and vegetables comply with those many private requirements set out from various foreign retailers.

*Beef meat:* The volume and value of Chilean exports of beef meat to the EU have declined notably since approximately 2012, but there has been some expansion in exports to third markets. From March 2013, Chilean authorities voluntarily suspended the export certification of beef destined to the EU due to several important deficiencies in the control system, traceability and certification procedures, identified in an audit carried out by European Commission's Food and Veterinary

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<sup>16</sup> As Melo et al. (2014) note, the increasing use over time of sanitary, phytosanitary and quality-related regulations and standards has likely imposed additional burdens on exporting countries generally and, in particular, on fresh products. Estimating a gravity model for Chilean fresh fruit exports, their study indicates that an increase in the stringency of quality-related requirements has indeed had a negative effect on exported volumes. But whether or not such quality control regulations represent a genuine discriminatory trade barrier or a general safety measure is beyond the scope of their analysis.

<sup>17</sup> G.A.P. stands for Good Agricultural Practices.

Office (FVO) (European Commission, 2013a). The EU exceptionally accepted this auto-suspension, giving the Chilean authorities the opportunity to solve the problem, instead of withdrawing it from the list of countries authorised to export beef to the EU (laid down in Commission Regulation (EU) No 206/2010), which would have been the regular procedure. This decision was taken considering Chile as a privileged trading partner under the Agreement on Sanitary and Phytosanitary (SPS) measures. Chile appreciated this possibility as a considerable advantage, considering the length and complexity of the legal procedures in the EU to be listed again among the countries approved to export beef to the EU. This is an example where the SPS Agreement helped to minimise the negative effects in trade of a sanitary problem.

In seven months (October 2013), Chilean authorities were able to guarantee that corrective measures had been put in place and resumed the export certification of beef destined to the EU (European Commission, 2013b). Currently, approximately 100 out of the 2,500 beef *Planteles Bajo Certificacion Oficial* (PABCO - Animal Holdings under Official Certification) holdings are registered and certified under the so-called reinforced "PABCO Vigente UE" programme to export fresh beef to the EU. The current position of the meat exporters' association - in agreement with the Agriculture and Livestock Service (SAG), the Chilean Central Competent Authority (CCA) with responsibility of monitoring the PABCO system, - is that starting in October 2016 the SAG will have responsibility for all beef holdings with a clear distinction between which hormones are applicable and inapplicable, and with a list of which beef holdings qualify to export beef to the EU and other markets, such as to China and Russia.

Nevertheless, the consequences of the Chilean auto-suspension of fresh beef exports to the EU were profoundly felt by the industry. The stock of bovine animals fell considerably, influenced also by the competition in the use of land for other products (e.g., dairy, cereals, fruits and forest) in some regions, most notably the Araucania region. Representatives of the beef growers' association are optimistic that in three to four years Chile will recover its export volumes to the EU, which the association considers an attractive export destination. In anticipation of future potential, representatives of beef producers request an expansion of Chile's import quota without duties on beef in the EU (see Table 3.6), to reach 8,000 tonnes per year from the 2016 import quota of 2,250 tonnes. Current quota levels add uncertainty regarding the ability to recoup upfront investments associated with finding buyers and establishing marketing chains necessary for a possible expansion into European markets. Over the period between 2013 and 2015, exports of fresh, chilled or frozen meat of bovine animals (0201 and 0202) from Chile to the world amounted to an average of 13,643 tonnes or USD 44 million (UN Comtrade).

The complication to Chilean exports of beef to the EU first rests in the EU's requirement of a lifetime traceability from animal's birth to slaughter, in particular when considering that a large share of the young bovine animals in Chile originates from many geographically dispersed small holdings, which are hard to register and monitor. Once these young bovine animals are raised and fattened in larger commercial holdings, traceability from there is achievable. In particular, lifetime traceability consists in conforming to rules of origin. The complication of Chilean exports of beef to the EU also results from the Chilean's authorisation of using growth promoters in cattle while the EU bans any imports of meats from bovine animals that have been treated with substances that are prohibited in the EU. To deal with this EU ban, the Chilean competent authority (SAG) has chosen to enforce a split system between cattle that are treated with and without those prohibited substances to guarantee separate production lines for exports to the EU. Argentina, Brazil and Uruguay have instead chosen to ban a particular list of substances that are prohibited in the EU and, hence, are not required to implement such split system.

Industry representatives in Chile express doubt that their industry could comply with a universal and complete prohibition on the use of growth promoters for *all* cattle. The SAG is implementing a census of beef holdings to identify those that still use growth promoters. It is still an open economic question under debate in Chile whether or not Chilean authorities should forbid the sale and use of hormones for animal growth, as in Argentina, Brazil and Uruguay, but not in Canada, the U.S. and several other countries.

*Poultry and pork meats:* As shown in Figure 3.5, exports of poultry meat from Chile to the EU have had a rapid and steady growth since the inception of the trade part of the EU-Chile Association Agreement in 2003, reaching USD 64 million in 2014. During the same period exports of pork meats have declined since 2008, as has is the case with beef.

The main poultry meat exported to the EU from Chile is chicken meat, where tariff headings 020714 and 021099 represent 63% and 22% respectively of total exports of poultry meat to the EU in 2015.<sup>18</sup> The second most important item is turkey meat, where tariff headings 020727 and 160231 represent 12% and 3% respectively of total exports of poultry meat to the EU in 2015. For pork meats, the main product exported to the EU from Chile corresponds to tariff heading 020329, which represented 90% of total exports of pork to the EU in 2015. The second most important item corresponds to tariff heading 020910, which represented 8% of total exports of pork to the EU in 2015.

For the Chilean associations of producers and exporters for poultry and pork meats, the low level of EU's import quotas without duties for poultry and pork meats is the main constraint limiting Chile's exports in the EU, not the EU's sanitary requirements. The trade part of the EU-Chile Association Agreement assigned to Chile an initial import quota without duties of 7,250 tonnes in poultry meats and 3,500 tonnes in pork meats, with an annual increase of 10% for ten years (see Table 3.6). Out-of-quota imports are subject to a 35% import duty. Import quotas without duties for poultry meats have been reached in 2003, 2004, 2005, 2006, 2008, 2011, 2012, and 2013. Import quotas without duties for pork meats have been reached in 2004, 2005, 2011, and 2012. Zero tariff has been reached for tariff line 160231 in 2007, for tariff lines 160232 and 160239 in 2010, and for tariff line 021099 in 2013. Although import quotas without duties for poultry and pork meats have not been filled in more recent years, because of better opportunities in third markets, the Chilean association of exporters believes that the removal or, if not, the expansion of these import quotas in the context of the modernisation of the EU-Chile Association Agreement can generate greater certainty for investments in the Chilean poultry and pork sub-sectors for exports to the EU. Over the period between 2013 and 2015, exports of fresh, chilled or frozen poultry (0207) meats from Chile to the world amounted to a yearly average of 110,312 tonnes or USD 332 million, and for fresh, chilled or frozen pork (0203) amounted to a yearly average of 125,310 tonnes or USD 417 million (UN Comtrade).

*Lamb and mutton:* As Chilean exports of beef, poultry and pork meats, Chilean exports of lamb and mutton to the EU are also subject to an import quota without duties. Although limited to 2,000 tonnes in the trade part of the EU-Chile Association Agreement, this import quota has expanded and currently has reached an annual quota of 7,600 tonnes in 2016 (see Table 3.6). This import quota is currently not a significant restriction to Chilean exports to the EU, given the actual level

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<sup>18</sup> The tariff line 021099 also includes "other" meats (excluding pork and beef) but, according to Chilean Customs data, this category of meat exports corresponds to poultry meat only.

of exports from Chile to the EU. A significant diversion of exports has taken place in recent years, with an increasing share of Chilean exports going to Asia.

Exports of lamb and mutton destined to the EU must also follow the best practices of the PABCO system of traceability. In Magallanes, the main producing region of lamb and mutton, the PABCO system is enforced with a coverage of approximately 98 to 99% of the stock of animals.

According to the European Livestock and Meat Trading Union (UECBV), Chile has the potential to increase its supplies of lamb and mutton for the EU but is subject to weathering. Over the period between 2013 and 2015, exports of fresh, chilled or frozen meat of sheep or goats (0204) from Chile to the world amounted to an average of 5,761 tonnes or USD 31 million (UN Comtrade).

*Olive oil:* Olive oil was not included in the liberalisation scheduled of the 2002 EU-Chile Association Agreement. Since then, olive oil production has been growing consistently, but from a low base. The industry is confident that it produces high quality oils, and is optimistic that, in terms of climate and farm land, Chile has natural resources for a considerable expansion in production - if market access conditions for export growth improve. The main request from the industry to the EU is the removal of the current specific import tax on olive oil from Chile of 1.245 EUR per kilo that corresponds to the most favoured nation (MFN) tariff. As a reference, the EU does not charge this specific high import duty to imports from, for example, Tunisia and Morocco. Over the period between 2013 and 2015, exports of olive oil (1509) from Chile to the world amounted to an average of 11,325 tonnes or USD 50 million (UN Comtrade).

There is a second issue of a different nature which reduces the competitiveness of Chilean exports of extra virgin olive oil, not to the EU market, but to the U.S. market. The contention is that there is at least inaccurate labelling of extra virgin olive oils exported primarily to the U.S. from third countries, including Italy, that are sold as “extra virgin” when they are actually blends of extra virgin oils with lower quality oils. This claim is supported by the findings of the Olive Center of the University of California at Davis for imported “extra virgin” olive oil brands, including top-selling premium Italian brands (Frankel, 2010 & 2011). Since 2014, the State of California has been demanding that all other States in the Union modify the standards on labelling of olive oil to discourage inaccurate labelling in the quality specification on imports. One request from the Chilean olive oil industry is that the EU would implement stricter controls on the labelling of olive oil for exports regarding quality and other characteristics of the produce.

*Wine:* Some EU Member States are important exports markets for Chilean wine. This is particularly the case of the UK, but also Scandinavian countries, the Netherlands and some other countries. Some Chilean wineries are now investing in production systems for organic wines for EU markets. Exports of Chilean wines to the EU face zero *ad valorem* tariffs, and no specific duties nor import quotas in the EU. Some countries, including the UK, do apply a specific tax, but that tax is common to all sales, whether of domestic or foreign origin imports. Thus, it is not discriminatory *vis-à-vis* other producers and/or importers. The requirements that apply to Chilean exports of wine regarding the use of specific ingredients during the elaboration of wine are common to those applying to domestic and foreign producers selling wine in the EU.

According to consultation with the wine industry in Chile, the EU-Chile Association Agreement has played an important positive role in the expansion of wine exports from Chile to the EU and, generally speaking, the industry does not have major request for adjustments in the conditions on market access in the EU. Important questions for this industry in Chile in the future focus on the

implications for market access in the UK as a consequence of the so-called Brexit process. This is an issue on which there is not much one can say at this stage. Will Chile face the possibility of negotiating a bilateral agreement with the UK? To what extent would the results of such negotiations affect the prospects for wine exports from Chile? But this will become a bilateral issue, beyond the current modernisation of the EU-Chile Association Agreement.

*Other processed food products:* As a result of the EU-Chile Association Agreement, the EU reduced the level of *ad valorem* import duties on those other processed food products, but maintained high specific duties on a variety of food products (e.g., fruit juices and olive oil) imported from Chile without granting duty free import quotas. These high specific duties contrast with the preferential treatment offered to Maghreb countries and others. For another group of processed food products (e.g., confectionary, chocolate preparations, and biscuits and waffles), the EU offered duty-free import quotas but for small volumes (approximately 400 to 500 tonnes for 20 to 40 tariff lines for each quota since 2004 - see Table 3.6). This implies considerable uncertainty for individual exporting firms, discouraging marketing to the EU, because these individual exporters compete to enter within the limited quota and risk paying a high duty once the quota has been fully utilized. Among the dairy products, the EU offered a duty-free import quota for cheese amounting to 2,400 tonnes for about 30 tariff lines in 2015 but still protects its other dairy categories with very high specific tariffs. Chile uses hardly this duty-free import quota for cheese but specialises itself in producing whey for which it would like to receive further market access (see Table 3.6). Over the period between 2013 and 2015, exports of whey and modified whey (0404) from Chile to the world amounted to an average of 10,315 tonnes or USD 13 million (UN Comtrade).

*Fishery products:* The signing of the EU Chile Agreement in 2002 established a transition period of ten years, which is now completed. Tariffs were to be reduced to zero over that period, except for some specific products: hake, salmon and tuna. There are three regimes of tariff quotas that apply to these products. Tariff reduction schedules are of four categories: immediately upon entering into force of the Association Agreement, after the fourth year, after the seventh year, and after the tenth year. Tariff quotas are applied to various fresh hake products, salmon products (dried, salted and smoked), and various tuna products. Both fresh hake and processed salmon had an elimination of customs duties in ten equal stages, being completely eliminated by 2013. But quotas remain: 5000 tonnes for fresh hake and 40 tonnes for processed salmon. Smoked salmon has a duty-free quota for 40 tonnes and an out-of-quota *ad valorem* tariff of 9.5-11.5% (as the GSP) instead of the EU MFN *ad valorem* tariff of 13-15%. Preserved tuna products have a preferential customs duty of one third of the MFN duty up to 150 tonnes. Seaweeds benefit from the free EU MFN customs duty. Over the period between 2013 and 2015, exports of fishery products (03, except life fish 0301) from Chile to the world amounted to an average of USD 4,357 million (UN Comtrade).

*Forestry products:* The main forestry products exported by Chile to the EU consist of pulp, sawn timber, and wood panels of pine (insigne) and eucalyptus. Exports of these forestry products to the EU face zero *ad valorem* tariffs, and no specific duties nor import quotas in the EU. Chilean exports are required to comply with the EU certification under the EU Timber Regulation. Over the period between 2013 and 2015, exports of forestry products (44) from Chile to the world amounted to an average of USD 2,327 million (UN Comtrade).

*Import quotas:* Although volumes of imports that are free of import duties are not any more subject to an import quota for table grapes since 2007, they are still subject to it for different categories of meats, cheese, garlic, cereals, mushroom and truffles, canned cherries,

confectionery, chocolate preparations, and biscuits and waffles as reported in Table 3.6. The low level of utilisation of import quotas during 2015 as well as in 2013 and 2014 for several meats is most likely due to several factors, including lower growth in import demand in the EU reducing imports from various sources (since approximately 2008), unfavourable weather conditions in supplying beef, and lamb and mutton meats for those years, the restructuring of the PABCO certification system of meats for exports to the EU, an increase in domestic demand, and an export diversion to other destinations, in particular to Asian markets. For the other product categories subject to import quotas, there has been about hardly any exports at all to the EU since 2006, except for small volumes of garlic and confectionery without cacao.

### 3.1.4.2 Market Access Issues for EU Exports to Chile

Chile's import tariff structure is simple and transparent. It has a uniform MFN tariff of 6%, and most tariffs faced by EU imports in Chile are below a tariff of 2% for practically all import categories. Furthermore, there are neither specific tariffs, import quotas, nor entry prices for Chile's agricultural and food imports from the EU. The highest tariff rate reported in Table 3.5 from the GTAP 9 data base for 2011 is for dairy products (4.5%), followed by sugar (3.6% from cane and beet), vegetable oils and fat (2.6%) and processed rice (2.4%). This simple and transparent structure contrasts with the asymmetric and complicated scheme of EU protection with respect to Chilean imports as shown in the previous section. *Ad valorem* equivalents of tariff rates applied to Chilean imports by the EU reported in Table 3.5 for 2011 range from less than 1% for nine product categories to 25% for vegetable oils and fats, 30% for other meats and 55% for ruminant meats while those applied to EU's imports by Chile range from less than 1% for 17 product categories to 5% for dairy products.

Chile's guidelines for the enforcement of SPS measures on agricultural and food products imported from the EU are those established in the Agreement on Sanitary and Phytosanitary measures, that is part of the general EU-Chile Association Agreement. This bilateral SPS agreement established a Joint Management Committee for Sanitary and Phytosanitary Matters which meets every year and monitors the implementations of the Agreement. DIRECON and the European Commission agree that it works effectively. It discusses SPS issues affecting trade such as some Chilean import requirements for products originating in the EU that did not fully follow the World Organisation for Animal Health (OIE) rules, e.g., for horses, pigs, and genetic material. Other important issues discussed in the Committee have been the ban in place for many years to EU beef imports into Chile as a result of the bovine spongiform encephalopathy (BSE) disease in the EU, the specific requirements established in the Chilean meat law that still impede beef meat imports from the EU to take place or the definition of the Chilean phytosanitary import conditions for fresh fruits and vegetables from the EU (still going on). There is, however, no record of disputes submitted to the WTO Dispute Settlement Body.

In the context of modernising the Association Agreement, the main concerns from the European industry centre on SPS issues for fresh fruits and vegetables and TBT issues for meats. The European Commission considers that the current SPS Agreement has been able to deal with the problems that have arisen between the parties minimising the trade effects.

*Fresh fruits and vegetables:* In contrast to the EU which already has established the import condition for any kind of fruit and vegetables, Chile has no general directives on the phytosanitary import conditions for fruits and vegetables from the EU or any other source. This implies that each country interested in exporting any fruit or vegetable to Chile has to request Chile to establish the phytosanitary import conditions. The Chilean procedures include a pest risk analysis (PRA)



for each fruit or vegetable that can be lengthy following a PRA calendar established by the SAG. Import conditions can take several years before they are agreed by both parties. Following an EU request for exporting apples into Chile made in 2012, the PRA for apples is now finished but the import conditions for apples between Chile and the EU are not yet settled. Following similar EU requests for exporting pears, stone fruits, shallots, and garlic into Chile, the PRA are also finished but the import conditions for each of these fruits and vegetables are still in negotiation between the EU and Chile. In consequence exports of these products cannot yet take place.

While EU's imports of fruits and vegetables (HS 07-08) from Chile for the last five years ranged between EUR 813 and 921 million, EU's exports of fruits and vegetables (all processed, not fresh) to Chile ranged between EUR 3 and 195 thousand for the last same five years (EUROSTAT Comext). This is not because Chile's imports of fruits and vegetables are small considering its own production. Chile's imports of fruits and vegetables from the world ranged between USD 100 and 144 million for the last five years among which between USD 4 and 8 million in onions, shallots, garlic, leeks and other alliaceous vegetables, USD 2 and 4 million in apples, pears and quinces, and USD 0.2 and 0.7 million in stone fruits (UN Comtrade). Most of Chile's imports of apples, pears, quinces, and stone fruits originate from the U.S. while none from the EU. According to the European fresh produce association FRESHFEL export potential does actually exist for EU fruits and vegetables from post-harvest storage to be sold in Chile during the Chilean off-season marketing period.

The European fresh produce association FRESHFEL regrets (i) the lack of transparency in the Chilean process of defining the conditions for importing fruit and vegetables from the EU, (ii) the lengthy procedures to go through this process and negotiate import conditions, and (iii) the use of Spanish as the main means of communication between the parties. For FRESHFEL, the language used in the current SPS Agreement between the EU and Chile is not practical and compulsory enough for both parties. For example, there is no reasonable time limit indicated to finalize a PRA. Despite the very detailed SPS agreement and consultations held under the SPS Joint Management Committee, it notes that virtually no EU exports of fresh fruits and vegetables (except for kiwis) have been permitted so far to land on the Chilean market while EU imports of fruits from Chile have doubled over the last ten years.

The European Commission regards the EU-Chile SPS Agreement as a model that fits its purpose and appreciates the good communication in general between the two parties. An important work has been done between the two parties in the framework of the SPS Agreement to improve market access, for example:

*Horses:* Chile has modified the animal health certification system for importing horses. The corresponding Chilean certificate (*Certificado Zoosanitario*) for permanent imports has been examined by the Chilean agencies in coordination with their counterpart in the EU and is about to be approved while the corresponding Chilean certificate for temporary imports has been already approved, according to DIRECON.

*Genetic material:* Procedures for genetic material are being defined by the relevant Chilean agencies, in negotiation with the European Commission.

*Beef and other meats:* After lengthy discussions regarding the ban applied by Chile to EU beef import because of the BSE disease in the EU, against the World Organisation for Animal Health (OIE) recommendations, the European Commission finally managed in 2013 to lift the Chilean prohibition based on this disease. The EU agreed with Chile on an import certificate reflecting

acceptable sanitary conditions to export beef to Chile. According to the SAG, the Netherlands and Denmark are now entitled to export beef meat in Chile.

However, since then, the EU could not export beef meat to Chile due to specific requirements established in the Chilean legislation (Meat Law No 19.162/1992) that requests the identification of the meat cuts according to a specific nomenclature and the classification of carcasses of bovine animals, using a terminology and criteria that differ to those applied in the EU. A common understanding has been recently reached on the equivalence between the names of cuts of meats and classification of carcasses applied by both parties. The promulgation of the legal acts is underway. When the legal procedure in Chile concludes EU beef imports (for the time being from Denmark and the Netherlands) in Chile will be able to take place.

According to the European Livestock and Meat Trading Union (UECBV), there would be interest in exporting veal meat among beef meats from Belgium, France, and the Netherlands to Chile. Despite these Chilean specific requirements, Chile has actually been able to import an average of 156,832 tonnes or USD 802 million of fresh or chilled meat of bovine animals (0201) between 2013 and 2015 from many other countries, such as Argentina, Brazil, Paraguay, the U.S., which do not necessarily apply the same names and classification schemes to meat.

According to the European Livestock and Meat Trading Union (UECBV), Belgium, France, and Spain would like to take more advantage to seasonal variations in price and supply between the EU and Chile to export more fresh pork meat to Chile. Over the period between 2013 and 2015, EU's exports of fresh, chilled or frozen meat of swine (0203) to Chile amounted to an average of 427 tonnes or EUR 973 thousand (EUROSTAT Comext) while Chile's imports of fresh, chilled or frozen meat of swine (0203) from the world reached an average of 35,315 tonnes or USD 101 million (UN Comtrade), primarily from Brazil, USA, Canada, and more recently from Poland.

The European Livestock and Meat Trading Union (UECBV) also favours to work on the basis of EU-wide (EU as a single entity) instead of Member State-specific sanitary assessments and approval processes for exports of meats as set up in the trade agreement with Canada.

### **3.1.4.3 Concluding Remarks on Current Non-Tariff Barriers between the EU and Chile**

As noted above, for various Chilean industry groups current duty-free quota levels in the EU add a cost of uncertainty to export expansion into the EU. For EU exporters to Chile, the lack of transparency in the Chilean process of defining import conditions to fruits and vegetables from the EU, and the lengthy procedures for going through that process and negotiating the import conditions were identified as a significant deterrent for expanding EU exports to Chile. Potential exporting firms face the risk of not being able to recoup investments associated with identifying buyers and establishing the marketing chains necessary for possible expansion into EU and Chilean markets.

An associated and especially important and complex aspect in the negotiations to be carried out for the modernisation of the EU-Chile Association Agreement is the existence of non-tariff barriers applied by the EU and Chile to several products imported from their trading partner. Various academic studies have contributed to clarifying the nature of non-tariff measures (NTM) and their effects on trade, for example Deardorff *et al.* (1979) and Beghin *et al.* (2001). The contribution of Kee *et al.* (2008) to the measurement of the impact of NTM on restricting trade is very valuable. But there are still no reliable estimates of the so-called *ad valorem* tariff equivalent of these NTM for agricultural and food products. The GTAP database contributes to fill the gap but does not solve it. Estimates that exist, say from Kee *et al.* (2008) and the *Centre d'études*

*prospectives et d'informations internationales* (CEPII), are adapted in a non-transparent fashion to facilitate the calibration of the CGE model used by DG Trade and run simulations. The absence of generally agreed quantitative estimates of tariff equivalents of NTM for agricultural and food products is likely to restrict the effective space for negotiators towards their reduction or eventual elimination.

**Table 3.5: Ad Valorem Import Tariffs for Agricultural and Food Products Applied by the EU and Chile to Each Other, 2011**

<b>Category Number</b>	<b>Category Content</b>	<b><i>Ad valorem</i> tariffs applied by Chile to imports from EU-28 (%)</b>	<b><i>Ad valorem</i> tariffs applied by EU-28 to imports from Chile (%)</b>
1 Pdr	Paddy rice	0,00	15,54
2 Wht	Wheat	0,69	8,71
3 Gro	Cereal grains nec	0,07	1,63
4 V_f	Vegetables, fruit, nuts	0,25	2,10
5 Osd	Oil seeds	0,91	0,00
6 C_b	Sugar cane, sugar beet	3,62	0,00
7 Pfb	Plant-based fibers	0,00	0,00
8 Ocr	Crops nec	0,01	0,02
9 Ctl	Cattle, sheep, goats, horses	0,00	3,50
10 Oap	Animal products nec	0,00	0,01
11 Rmk	Raw milk	0,00	0,00
12 Wol	Wool, silk-worm cocoons	0,00	0,00
13 Frs	Forestry	0,00	0,00
14 Fsh	Fishing	0,00	2,06
15 Cmt	Meat: cattle, sheep, goats, horse	0,00	54,68
16 Omt	Meat products nec	0,00	29,65
17 Vol	Vegetable oils and fats	2,68	25,13
18 Mil	Dairy products	4,94	8,39
19 Pcr	Processed rice	2,41	0,00
20 Sgr	Sugar	2,19	4,43
21 Ofd	Food products nec	0,97	1,86
22 B_t	Beverages and tobacco products	0,00	3,14

Source: GTAP 9 Data Base

Table 3.6: Utilisation of Tariff Quotas Granted to Chile by the EU by Agricultural and Processed Agricultural Product, 2003-2015

Product	2003: volume in tonnes			Jan-Dec 2011: volume in tonnes			Jan-Dec 2015: volume in tonnes													
	Initial	Utilized	Balance	% Utilized	Initial	Utilized	Balance	% Utilized	Initial	Utilized	Balance	% Utilized								
Beef					1750	1750	0	100,0%	2150	719,822	1430,178	33,5%								
Pork	3.208,33	2964,10	244,227	92,4%	6300	6300	0	100,0%	7700	2324,207	5375,793	30,2%								
Lamb and mutton	4.833,33	3188,90	1.644,43	66,0%	6600	5310	1290	80,5%	7400	2502,092	4897,908	33,8%								
Poultry meat	6.645,83	6645,83	0	100,0%	13050	13050	0	100,0%	15950	11857,701	4092,299	74,3%								
Cheese	1375	0,00	1375	0,0%	2100	0	2100	0,0%	2400	0	2400	0,0%								
Garlic	458,33	17,68	440,653	3,9%	736	736	0	100,0%	846,5	0	846,5	0,0%								
Table grapes from 1/01 to 14/07	31.307,692	31307,69	0	100,0%	<b>Quota free since 2007</b>															
Table grapes from 1/11 to 31/12	3000	69,70	2.930	2,3%																
Cereals (grains)	917	0,00	917	0,0%																
Mushroom and truffles	458.333	0,00	458.333	0,0%																
Canned cherries	917	0,00	917	0,0%																
Confectionary, without cacao	366,67	15,65	351	4,3%																
Chocolate preparations containing cacao	366,67	0,46	366	0,1%																
Biscuits and waffles	458,33	6,41	452	1,4%																
Kiwi fruit N° 091941													<b>Quota free</b>							
													1400	0	1400	0,0%	1600	0	1.600	0,0%
													700	0	700	0,0%	800	0	800	0,0%
													1400	0	1400	0,0%	1600	0	1.600	0,0%
					400	7	393	1,8%	400	16,324	383,676	4,1%								
					400	0	400	0,0%	400	1,325	399	0,3%								
					500	2	498	0,4%	500	0	500	0,0%								

Source: FAENACAR for beef (July last year – June current year authenticity certificates for the EU) and DG TAXUD for the other products.

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## 3.2 Barriers to Investment Flows

### 3.2.1 Introduction

The purpose of this section is twofold:

- First, to identify market access and regulatory obstacles to investment, both in the EU and Chile.
- Second, to examine Bilateral Investment Treaties (BITs) signed by Chile with some individual EU Member States and to discuss the implications of their replacement by a single EU-wide agreement or chapter on investment.

The suggestion of a methodology to assess the impact of a possible modernisation of the EU – Chile Association Agreement on investment flows as well as the potential impact on existing or future stocks of investment is discussed later in section 4.5.

### 3.2.2 The Framework of the EU – Chile Association Agreement Currently in Force

The EU-Chile Association Agreement does not include an investment chapter. Although investment is not dealt with *per se* in the Agreement, the EU-Chile Association Agreement deals with it indirectly through different channels. A provision on investment promotion is included in Article 21 and clauses on current payments and capital movements are considered in Articles 163 to 167. Moreover, much more importantly, direct investment in services sectors is covered, adopting the approach of the General Agreement on Trade in Services (GATS).

The EU-Chile Association Agreement covers all GATS modes of supply for services sectors under the chapter on services, including establishment (treated as “commercial presence” or “mode 3” of supply of services – see below, art. 95 1.c). As a result, the scope of the chapter on establishment is limited to non-services sectors.

As GATS does not cover movement of capital, the importation of its approach was compatible with the existence of a separate chapter on movement of capital whose scope extends to all sectors of the economy. However, the provisions of this chapter are very shallow, except when they are linked to establishment.

They are the following (emphasis added):

#### *TITLE V CURRENT PAYMENTS AND CAPITAL MOVEMENTS*

##### *Article 163*

##### *Objective and scope*

1. *The Parties shall aim at the liberalisation of current payments and capital movements between them, in conformity with the commitments undertaken in the framework of the international financial institutions and with due consideration to each Party's currency stability.*
2. *This Title applies to all current payments and capital movements between the Parties.*

##### *Article 164*

##### *Current Account*

*The Parties shall allow, in freely convertible currency and in accordance with the Articles of Agreement of the International Monetary Fund, any payments and transfers of the Current Account between the Parties.*

*Article 165*

*Capital Account*

*With regard to movement of capital of the Balance of Payments, from the entry into force of this Agreement, the Parties shall allow the free movements of capital relating to direct investments made in accordance with the laws of the host country and investments established in accordance with the provisions of Title III of this Part of the Agreement, and the liquidation or repatriation of these capitals and of any profit stemming therefrom.*

*Article 166*

*Exceptions and safeguard measures*

- 1. Where, in exceptional circumstances, payments and capital movements between the Parties cause or threaten to cause serious difficulties for the operation of monetary policy or exchange rate policy in either Party, the Party concerned may take safeguard measures with regard to capital movements that are strictly necessary for a period not exceeding one year. The application of safeguard measures may be extended through their formal reintroduction.*
- 2. The Party adopting the safeguard measures shall inform the other Party forthwith and present, as soon as possible, a time schedule for their removal.*

*Article 167*

*Final provisions*

- 1. With respect to this Title, the Parties confirm the rights and obligations existing under any bilateral or multilateral agreements to which they are parties.*
- 2. The Parties shall consult each other with a view to facilitating the movement of capital between them in order to promote the objectives of this Agreement.***

The importation of the GATS approach for the chapter of services extends also to that of the “positive list” method for the determination of the scope of obligations: the obligations apply only to the sectors inscribed in the schedule of commitments (see below articles 97 to 99). And some sectors are simply carved-out (art. 95.2).

*SERVICES*

*Section 1*

*General Provisions*

*Article 95*

*Scope*

- 1. For the purposes of this Chapter, trade in services is defined as the supply of a service through the following modes:*
  - (a) from the territory of a Party into the territory of the other Party (mode 1);*
  - (b) in the territory of a Party to the service consumer of the other Party (mode 2);*
  - (c) by a service supplier of a Party, through commercial presence in the territory of the other Party (mode 3);***
  - (d) by a service supplier of a Party, through presence of natural persons in the territory of the other Party (mode 4).*



**2. This Chapter applies to trade in all service sectors with the exception of:**

- (a) financial services, which is subject to Chapter 2;*
- (b) audio-visual services;*
- (c) national maritime cabotage; and*
- (d) air transport services, including domestic and international air transportation services, whether scheduled or non-scheduled, and services directly related to the exercise of traffic rights, other than:
 
  - (i) aircraft repair and maintenance services during which an aircraft is withdrawn from service;*
  - (ii) the selling and marketing of air transport services; and*
  - (iii) computer reservation system (CRS) services.**

3. Nothing in this Chapter shall be construed to impose any obligation with respect to government procurement, which is subject to Title IV of this Part of the Agreement.

4. The provisions of this Chapter shall not apply to subsidies granted by the Parties. The Parties shall review the issue of disciplines on subsidies related to trade in services in the context of the review of this Chapter, as provided in Article 100, with a view to incorporating any disciplines agreed under Article XV of the GATS.

**5. Section 1 applies to international maritime transport and telecommunication services subject to the provisions laid down in sections 2 and 3.**

*Article 97*

*Market access*

1. With respect to market access through the modes of supply identified in Article 95, each Party shall accord services and service suppliers of the other Party treatment no less favourable than that provided for under the terms, limitations and conditions agreed and specified in its Schedule referred to in Article 99.

2. **In sectors where market-access commitments are undertaken**, the measures which a Party shall not maintain or adopt either on the basis of a regional subdivision or on the basis of its entire territory, unless otherwise specified in its Schedule, are defined as:

- (a) limitations on the number of services suppliers whether in the form of numerical quotas, monopolies, exclusive service suppliers or the requirements of an economic needs test;*
- (b) limitations on the total value of service transactions or assets in the form of numerical quotas or the requirement of an economic needs test;*
- (c) limitations on the total number of service operations or on the total quantity of service output expressed in terms of designated numerical units in the form of quotas or the requirement of an economic needs test;*
- (d) limitations on the total number of natural persons that may be employed in a particular service sector or that a service supplier may employ and who are necessary for, and directly related to, the supply of a specific service in the form of numerical quotas or a requirement of an economic needs test;*
- (e) measures which restrict or require specific types of legal entities or joint ventures through which a service supplier of the other Party may supply a service; and*

- (f) *limitations on the participation of foreign capital in terms of maximum percentage limit on foreign shareholding or the total value of individual or aggregate foreign investment.*

#### *Article 98*

##### *National treatment*

1. ***In the sectors inscribed in its Schedule, and subject to the conditions and qualifications set out therein, each Party shall grant to services and service suppliers of the other Party, in respect of all measures affecting the supply of services, treatment no less favourable than that it accords to its own like services and services suppliers.<sup>6</sup>***
2. *A Party may meet the requirement of paragraph 1 by according to services and service suppliers of the other Party, either formally identical treatment or formally different treatment to that it accords to its own like services and service suppliers.*
3. *Formally identical or formally different treatment shall be considered to be less favourable if it modifies the conditions of competition in favour of services or service suppliers of a Party compared to like services or service suppliers of the other Party.*

#### *Article 99*

##### *Schedule of specific commitments*

***1. The specific commitments undertaken by each Party under Articles 97 and 98 are set out in the schedule included in Annex VII. With respect to sectors where such commitments are undertaken, each Schedule specifies:***

- (a) terms, limitations and conditions on market access;***
- (b) conditions and qualifications on national treatment;***
- (c) undertakings relating to additional commitments referred to in paragraph 3;***
- (d) where appropriate the time-frame for implementation of such commitments and the date of entry into force of such commitments.***

***2. Measures inconsistent with both Articles 97 and 98 are inscribed in the column relating to Article 97. In this case the inscription is considered to provide a condition or qualification to Article 98 as well.***

***3. Where a Party undertakes specific commitments on measures affecting trade in services not subject to scheduling under Articles 97 and 98, such commitments are inscribed in its Schedule as additional commitments.***

An extremely important effect of this importation is the use of GATS article XVI's market access rules (see above article 97), mainly related to establishment in the services sectors (i.e. commercial presence or mode 3). Indeed, this is the essential difference between the chapter on services and the chapter on establishment (applicable to non-services sectors, as mentioned above), which does not include such a provision. However, this latter chapter uses also the positive list method (see article 132), and, with respect to establishment, grants national treatment to legal and natural persons (see also article 132 and 133).

## *ESTABLISHMENT*

### *Article 130*

#### *Scope*

***This Chapter shall apply to establishment in all sectors with the exception of all services sectors, including the financial services sector.***

### *Article 132*

#### *National treatment*

***In the sectors inscribed in Annex X, and subject to any conditions and qualifications set out therein, with respect to establishment, each Party shall grant to legal and natural persons of the other Party treatment no less favourable than that it accords to its own legal and natural persons performing a like economic activity.***

### *Article 133*

#### *Right to regulate*

***Subject to the provisions of Article 132, each Party may regulate the establishment of legal and natural persons.***

Under Article 134, parties to the EU-Chile Association Agreement confirm their rights and obligations existing under any bilateral or multilateral agreements to which they are parties. International rules on investment protection applicable between some EU Member States and Chile in this field are essentially found in bilateral Agreements of Protection and Promotion of Investments (APPs, hereinafter Bilateral Investment Treaties, BITs) signed between individual EU Member States and Chile during the 1990s, which will be analysed later in this section.

### **3.2.3 A New Approach to Investment in the More Recent EU Agreements**

The failed “Constitutional” Treaty and, later, the Lisbon Treaty introduced an important change in the definition of the scope of the European Union’s Commercial Policy by explicitly enlarging it (new text of TFUE’s article 207) to the area of foreign direct investment. This has led to a new approach in the treatment of establishment in the more recent EU agreements. The main references for this change of approach are the agreements with Singapore and Vietnam, on one side, and the Comprehensive Economic and Trade Agreement with Canada (CETA), on the other.

First, the new approach separates clearly, on one side, the chapter on international exchanges of services (or cross-border supply of services), defined as modes 1 and 2 of GATS, and that on Investment/Establishment, on the other, applicable to all sectors. Therefore, establishment (GATS’ mode 3) is no longer treated differently according to whether it relates to the services sectors or is related to the other sectors (covered by a separate chapter on investment). This abandonment of the GATS approach on “modes of supply” is presented and discussed in the present section.

Secondly, under the new approach, the chapter on investment includes the typical provisions on investment that characterize Bilateral Investment Treaties (BITs). This is discussed, in a comparative perspective, in section 3.2.5.

#### **3.2.3.1 EU – Singapore Free Trade Agreement**

The agreement with Singapore introduces a chapter (chapter 8) on services, establishment and electronic commerce (<http://trade.ec.europa.eu/doclib/html/151743.htm>).

Article 8.2 on definitions still keeps the GATS definition of “trade in services” (i.e. including establishment):

*(m) “trade in services” means the supply of a service: (i) from the territory of a Party into the territory of the other Party (“cross-border”); (ii) in the territory of a Party to a service consumer of the other Party (“consumption abroad”); (iii) by a service supplier of a Party, through commercial presence, in the territory of the other Party (“commercial presence”); (iv) by a service supplier of a Party, through presence of natural persons of that Party, in the territory of the other Party (“presence of natural persons”).*

However, this has no practical effects, as the chapter introduces differentiated sections for “cross-border supply of services”, covering both GATS mode 1 and mode 2 (section B) and for “Establishment” in all economic sectors (section C).

Indeed, the main provisions on **thematic scope** are the following:

*SECTION B Cross-border Supply of Services*

*Article 8.3*

*Scope*

*This Section applies to measures of the Parties affecting the cross-border supply of all service sectors except:*

- (a) audio-visual services;*
- (b) national maritime cabotage; and*
- (c) domestic and international air transport services, whether scheduled or non-scheduled, and services directly related to the exercise of traffic rights, other than:
 
  - (i) aircraft repair and maintenance services during which an aircraft is withdrawn from service;*
  - (ii) the selling and marketing of air transport services; and*
  - (iii) computer reservation system services.**

*Article 8.4*

*Definitions*

*For the purposes of this Section, “cross-border supply of services” means the supply of a service: (a) from the territory of a Party into the territory of the other Party; and (b) in the territory of a Party to a service consumer of the other Party.*

*SECTION C Establishment*

*Article 8.9*

*Scope*

*This Section applies to measures adopted or maintained by the Parties affecting establishment in all economic activities with the exception of (... follows a list of exceptions).*

However, both sections continue to use the GATS typical “**positive list**” **method for the definition of the scope of the obligations**. The main provisions are the following:

*SECTION B Cross-border Supply of Services*

*Article 8.7*

*Schedule of Specific Commitments*

*1. The sectors liberalised by a Party pursuant to this Section and, by means of reservations, the market access and national treatment limitations applicable to services and service suppliers of the other Party in those sectors are set out in its Schedule of Specific Commitments.*

*SECTION C Establishment*

*Article 8.12*

*Schedule of Specific Commitments*

1. *The sectors liberalised by a Party pursuant to this Section and, by means of reservations, the market access and national treatment limitations applicable to establishments and entrepreneurs of the other Party in those sectors are set out in the former Party's Schedule of Specific Commitments*

And, even more importantly, the GATS influence remains, decisively, in the **introduction of provisions similar to those of GATS article XVI on Market Access, not only for cross-border supply of services, but also for establishment:**

*SECTION B Cross-border Supply of Services*

*Article 8.5*

*Market Access*

2. *In sectors where market access commitments are undertaken, the measures which a Party shall not adopt or maintain either on the basis of a regional subdivision or on the basis of its entire territory, unless otherwise specified in its Schedule of Specific Commitments, are defined as:*

- (a) limitations on the number of service suppliers whether in the form of numerical quotas, monopolies, exclusive service suppliers or the requirement of an economic needs test*
- (b) limitations on the total value of service transactions or assets in the form of numerical quotas or the requirement of an economic needs test; and*
- (c) limitations on the total number of service operations or on the total quantity of service output expressed in the terms of designated numerical units in the form of quotas or the requirement of an economic needs test.*

*SECTION C Establishment*

*Article 8.10*

*Market Access*

2. *In sectors where market access commitments are undertaken, the measures which a Party shall not adopt or maintain either on the basis of a regional subdivision or on the basis of its entire territory, unless otherwise specified in its Schedule of Specific Commitments, are defined as:*

- (a) limitations on the number of establishments whether in the form of numerical quotas, monopolies, exclusive rights or other establishment requirements such as an economic needs tests;*
- (b) limitations on the total value of transactions or assets in the form of numerical quotas or the requirement of an economic needs test;*
- (c) limitations on the total number of operations or on the total quantity of output expressed in terms of designated numerical units in the form of quotas or the requirement of an economic needs test;*
- (d) limitations on the participation of foreign capital in terms of maximum percentage limit on foreign shareholding or the total value of individual or aggregate foreign investment;*
- (e) measures which restrict or require specific types of legal entity or joint venture through which an entrepreneur of the other Party may perform an economic activity; and*
- (f) limitations on the total number of natural persons, other than key personnel and graduate trainees as defined in Article 8.13 (Scope and Definitions), that may be employed in a particular sector or that an entrepreneur may employ and who are necessary for, and directly related to, the performance of the economic activity in the form of numerical quotas or the requirement of an economic needs test.*

Sections B and C are followed by two sections on the Temporary Presence of Natural Persons for Business Purposes (section D) and Regulatory Framework (section E).

### 3.2.3.2 EU – Vietnam Free Trade Agreement

The EU – Vietnam agreement includes also a **Chapter 8 on Trade in Services, Investment and E-Commerce** (<http://trade.ec.europa.eu/doclib/html/154210.htm>) with the following sub-chapters:

*I General Provisions*

*II Investment*

*III Cross border supply of services*

*IV Temporary presence of natural persons for business purposes*

*V Regulatory framework*

*VI Electronic commerce*

*VII Exceptions*

Its approach fully coincides with that of the EU – Singapore agreement, with two terminological changes: a) there is no definition of the notion of Trade in Services, in spite of its use in the title of the chapter; and b) the use of the term “investment” instead of “establishment”. The list of sectors carved-out from the scope of the chapter remains also, essentially, the same (in fact, essentially the same list already included in the Association Agreement with Chile):

#### *CHAPTER II INVESTMENT SECTION I LIBERALISATION OF INVESTMENTS*

##### *Article 1*

##### *Scope and definitions*

*This Section applies to measures adopted or maintained by a Party affecting the establishment of an enterprise or the operation of an investment by an investor of the other Party in the territory of the former Party. 2. The provisions of this Section shall not apply to:*

*(a) audio-visual services;*

*(b) mining, manufacturing and processing<sup>11</sup> of nuclear materials;*

*(c) production of or trade in arms, munitions and war material;*

*(d) national maritime cabotage and*

*(e) domestic and international air transport services, whether scheduled or non-scheduled, and services directly related to the exercise of traffic rights, other than:*

*(i) aircraft repair and maintenance services during which an aircraft is withdrawn from service; (ii) the selling and marketing of air transport services;*

*(iii) computer reservation system (CRS) services;*

*(iv) ground handling services;*

*(v) airport operation services;*

### 3.2.3.3 EU – Canada (CETA)

CETA follows the same approach of the agreements with Singapore and Vietnam, but introduces into it a very meaningful change: **for the determination of the scope of obligations, the method of the “positive list” is replaced by that of the “negative list”**, both in the chapters of services and investment/establishment. Therefore, obligations do not longer apply “only if a sector is included in the Schedule of commitments and in the conditions in which it is included” (method of the positive list, or “bottom-up” method) but “apply to all sectors except if specific sectors and/or measures are included in a negative list of exceptions or reservations” (method of the negative list, or “top-down” method). This change is particularly relevant when applied to market access in the chapter on investment/establishment:

## CHAPTER 9 CROSS-BORDER SUPPLY OF SERVICES

### Article 9.6

#### Market access

*A Party shall not adopt or maintain, on the basis of its entire territory or on the basis of the territory of a national, provincial, territorial, regional or local level of government, a measure that imposes limitations on:*

- (a) the number of service suppliers, whether in the form of numerical quotas, monopolies, exclusive service suppliers or the requirement of an economic needs test;*
- (b) the total value of service transactions or assets in the form of numerical quotas or the requirement of an economic needs test; or*
- (c) the total number of service operations or the total quantity of service output expressed in terms of designated numerical units in the form of quotas or the requirement of an economic needs test.*

### Article 9.7

#### Reservations

*1. Articles 9.3, 9.5 and 9.6 do not apply to (follows the list of exceptions and the references to the Schedules of exceptions)*

## CHAPTER 8 INVESTMENT

### Article 8.4

#### Market access

*1. A Party shall not adopt or maintain with respect to market access through establishment by an investor of the other Party, on the basis of its entire territory or on the basis of the territory of a national, provincial, territorial, regional or local level of government, a measure that:*

*(a) imposes limitations on:*

- (i) the number of enterprises that may carry out a specific economic activity whether in the form of numerical quotas, monopolies, exclusive suppliers or the requirement of an economic needs test;*
- (ii) the total value of transactions or assets in the form of numerical quotas or the requirement of an economic needs test;*
- (iii) the total number of operations or the total quantity of output expressed in terms of designated numerical units in the form of quotas or the requirement of an economic needs test;*
- (iv) the participation of foreign capital in terms of maximum percentage limit on foreign shareholding or the total value of individual or aggregate foreign investment; or*
- (v) the total number of natural persons that may be employed in a particular sector or that an enterprise may employ and who are necessary for, and directly related to, the performance of economic activity in the form of numerical quotas or the requirement of an economic needs test; or*

*(b) restricts or requires specific types of legal entity or joint venture through which an enterprise may carry out an economic activity.*

### Article 8.15

#### Reservations and exceptions

*1. Articles 8.4 through 8.8 do not apply to (follows the list of exceptions and the references to the Schedules of exceptions):*

As a result of the use of the negative list method, the agreement has to include extremely long Annexes/Schedules of Reservations and Exceptions, additional to the list of carved-out sectors (essentially the same of the EU – Vietnam and EU – Singapore agreements): 223 pages for the list of

Reservations for existing measures and liberalisation commitments (on Investment and Cross-border supply of services); and 158 pages for the list of Reservations for future measures. The practical effect of this has yet to be evaluated in order to compare it with that of the liberalisation of investment envisaged by the EU – Chile Association Agreement. In a first approximation, it could be argued that the main sectors not introduced in the Association Agreement’s positive lists are also those carve-out or included in CETA’s lists of exceptions, and that, as a consequence, using CETA’s approach in any modernisation of the EU – Chile Association Agreement would have no great practical effects. However, these effects could be significant concerning “new sectors”. Indeed, they would be covered by the liberalisation provisions in the CETA approach (because not carved-out or included in the lists of exceptions) whereas, by hypothesis, they cannot be inscribed in the positive lists of commitments of the EU – Chile Association Agreement now in force. Additionally, the use of CETA’s negative lists approach gives a more ambitious perspective to the liberalisation provisions of a new agreement with Chile than that of the Association Agreement’s positive list approach. Last but not least, applying the new approach on investment liberalisation ensures the establishment of ambitious rules with regard to non – discriminatory access barriers to investment in non – services sectors, which is an important improvement comparing to the level of ambition offered in the EU – Chile Association Agreement.

### ***3.2.4 Comparative Examination of Chile’s Bilateral Investment Treaties with Individual EU Member States: The Need for a EU-wide Agreement or Chapter That Would Replace These BITs***

Although a chapter on investment is not included in the EU-Chile Association Agreement, it has already been said that the Agreement deals with it through different channels. Direct investment in service sectors is covered, under the GATS approach imported by the Agreement, as mode 3 of supply of services (commercial presence). In manufacturing sectors, the relevant provisions are stated in Chapter III of Part IV, Title III, referring to establishment, which, essentially, considers only national treatment (Articles 132 and 133). Moreover, a clause dealing with investment promotion is stipulated in Article 21 and provisions on current payments and capital movements are considered in Articles 163 to 167.

However, all these provisions do not correspond to the typical clauses on investment and investment protection that can be found in Bilateral Investment Treaties (BITs), or in preferential trade agreements with investment chapters – like Chapter XI of North American Free Trade Agreement (NAFTA).

In fact, as mentioned before, the core provisions on investment protection and promotion between Chile and EU Member States are not found in the EU-Chile Association Agreement but in a number of bilateral Agreements of Protection and Promotion of Investments (APPs) signed between individual EU Member States and Chile during the 1990s, which follow the traditional BIT approach.

Basic features of most BITs include the scope of coverage (definition of foreign investment and foreign investor), standards of treatment – including most-favoured nation (MFN) clauses, national treatment (NT), fair and equitable treatment (FET), full protection and security (FPS), standards of protection (guarantees and compensation in respect of expropriation, warranties of free transfer of funds, capital, and profits, and subrogation on insurance claims), and dispute settlement provisions (investor-state and state-to-state arbitration).

After the return to democracy in 1990, Chile started signing BITs with the aim of promoting and protecting foreign investment. The large majority of these agreements were signed with European and Latin American countries. Today 18 APPs have been signed between Chile and 19 EU Member States (16 of them in force) as shown in Table 3.7.



In order to conduct a more detailed comparative examination of all Member States BITs, we have studied the texts of all the 18 BITs signed by Chile and individual EU Member States. As the detailed comparison of their respective provisions largely exceeds the dimensions and the purpose of this study, we have summarized the main conclusion of this review in the Table 3.8.

**Table 3.7: Chilean BITs with EU Member States**

	Country	Date of Signature	Status
1	Austria	8 September 1997	In force since 17 November 2000
2	Belgium/Luxembourg	15 July 1992	In force since 5 August 1999
3	Croatia	28 November 1994	In force since 31 July 1996
4	Czech Republic	24 April 1995	In force since 2 December 1996
5	Denmark	28 May 1993	In force since 30 November 1995
6	Finland	27 May 1993	In force since 14 June 1996
7	France	14 July 1992	In force since 5 December 1994
8	Germany	21 October 1991	In force since 18 June 1999
9	Greece	10 July 1996	In force since 7 March 2003
10	Hungary	10 March 1997	Not in force
11	Italy	8 March 1993	In force since 23 June 1995
12	Netherlands	30 November 1998	Not in force
13	Poland	5 July 1995	In force since 22 September 2000
14	Portugal	28 April 1995	In force since 24 February 1998
15	Romania	4 July 1995	In force since 27 August 1997
16	Spain	10 October 1991	In force since 27 April 1994
17	Sweden	May 24, 1993	In force since 13 February 1996
18	United Kingdom	8 January 1996	In force since 23 June 1997

Table 3.8 comprises four main areas:

- a) The definition of investment and investor. This determines the BITs coverage and whether or not some specific conditions are required for an investor or investment to benefit from the provisions of the Treaty (mainly, the carrying out of substantial business activities – in order to avoid pure “mailbox firms” to benefit from those provisions-, and the exclusion of dual nationals).
- b) The types of obligations that are imposed. What matters here is whether, besides obligations on “relative” standard of treatment – National Treatment (compares treatment of foreigners and nationals) or Most Favoured Nation Treatment (compares treatment granted to third countries) – “absolute” standards of treatment are imposed (that should apply to foreigners even if they did not apply to a national). It is also studied whether or not “umbrella clauses” exist. ‘Umbrella clauses’ are provisions included in BITs that bring under the BIT’s protective scope obligations or commitments that the host State entered into in other instruments (for example, a contract) in connection with a foreign investment covered by the BIT.
- c) The exceptions that are included. Exceptions are important because they enlarge the regulatory margin of manoeuvre that Parties to the treaty allow each other.

- d) The existence or not of a mechanism of Investor-to-State Dispute Settlement (ISDS) that allows foreign investors to bring disputes with the host state to an international forum for breaches of investment protection standards.

Table 3.8 distinguishes, for each criterion taken for the comparison (the rows), two columns depending on whether this criterion is taken or not into account in the respective BITs. When there are divergences, the specific BITs that diverge from the majority are listed.

**Table 3.8: Comparative Examination of Chile’s BITs with Individual EU Member States**

PROVISION	NO	YES
<b>DEFINITION OF INVESTMENT AND INVESTOR</b>		
Definition of investment (asset-based definition)	--	All
Definition of investor	--	All
Exclusion of dual nationals	Most	Germany
Exclusion of portfolio Investment	All	--
List of required characteristics of investment <sup>19</sup>	All	--
Definition of ownership and control of legal entities	Most	France
Sets out a closed exhaustive list of covered assets	Most	Italy
Temporal scope of covered investments	Hungary	Most apply to both pre-existing and post-BIT investments
Inclusion of permanent residents	Most	Spain
Requirement of substantial business activity	Denmark France Germany Italy Spain UK	Most
Inclusion of transfer of funds	--	All
Exclusion of some specific assets (for example, sovereign debt)	All	--
<b>OBLIGATIONS IMPOSED</b>		
National and Most Favoured Treatment	--	All (but for post-establishment)
NT provision includes reference to “like circumstances” or similar	Most do not include such reference	Austria Portugal
Explicit Prohibition of Performance Requirements	All	--
Full Protection and Security	Finland, Poland, Portugal and Italy (in this latter case, it refers only to domestic law)	Most
Fair and Equitable Treatment (FET)	--	All
List of FET elements	All	--
FET obligation is linked to non-discrimination provisions	BLEU France	Most

<sup>19</sup> These characteristics often include a contribution of money or other resources, an expectation of profit, and the assumption of risk. Other characteristics (e.g. a certain duration, contribution to the host State’s development) may also be listed.

<b>PROVISION</b>	<b>NO</b>	<b>YES</b>
(NT, MFN or both)		
FET qualified by reference to International law	Denmark Finland	Most
Coverage of indirect expropriation, whatever the formulation used		All
Definition of indirect expropriation	All	--
Protection from strife includes absolute right to compensation in certain circumstances regardless of the treatment accorded to domestic investors and investors from third countries.	Austria Finland Greece	Most
<b>EXCEPTIONS</b>		
Carve-out for compulsory licenses in conformity with WTO	All cases	--
Carve-out for general regulatory measures	All cases	--
Treaty specifies that an investment must be made in accordance with domestic/local/national laws of the host State.	BLEU France Germany Netherlands	Most
Balance of payments exception	All cases	--
Transfer of funds	--	All cases
Transfers of funds exceptions (e.g. to protect creditors)	Most	Denmark Finland Portugal
<b>INVESTOR-STATE DISPUTE SETTLEMENT</b>		
Investor-State Dispute Settlement (ISDS)	--	All cases
The treaty expressly states that the MFN provision does not apply to ISDS provisions	All cases	--

From the detailed analysis presented above, we can extract at least five important consequences.

First, Chilean APPIs with EU Member States closely follow the ‘Dutch gold standard model BIT’. Dutch BITs, as characterised by some studies, (Lavranos 2013, 1) are short treaties with the following features: broad definitions for investors and investment; unqualified MFN, national treatment, and fair and equitable treatment (FET); free transfer of funds in connection with an investment; no exceptions for special sectors; investor-state arbitration; no filter mechanisms for taxation measures; and adequate and effective compensation for direct and indirect expropriation. Most Chilean BITs with EU Member States include provisions on ‘full protection and security’, but only seven BITs include an ‘umbrella clause’.

Second, the number of discrepancies across EU Member States BITs concluded with Chile makes it desirable to replace all these BITs by a EU chapter in the agreement with Chile in order to “level the playing field” both for EU Member States investors in Chile and for EU Member States when receiving Chile’s investors.

Third, only an investment chapter in the EU-Chile would be able to extend the investment protection to the two EU Member States with signed BITs that are not in force (with Netherlands and Hungary), and

to those nine Member States that today do not have signed a BIT with Chile (Bulgaria, Cyprus, Estonia, Ireland, Latvia, Lithuania, Malta, Slovakia and Slovenia).

Fourth, Member States BITs do not cover an issue that is relevant when EU investors plan an investment in a third country: whether performance requirements will be imposed on them. Chile does not apply this type of measures at present, but only an EU chapter in a new agreement can guarantee that they will not be introduced in the future.

Fifth, as Member States BITs do not cover pre-establishment, the level of liberalisation and protection that they offer is much lower than that offered by the recent International Investment Agreements (IIAs) signed by Chile, like the TPP and the Pacific Alliance Protocol, which cover protection for both post-establishment and pre-establishment.

### ***3.2.5 Specific Provisions on Investment: A Comparison of the EU – Chile Association Agreement, Chile’s BITs, EU Member States BITs with Chile and CETA<sup>20</sup>***

While it is true that, under the “new approach” presented in section 3.2.3, the typical BIT’s provisions on investment are included, the investment chapters found in new generation EU-wide Agreements have several differences with the traditional ‘Dutch Standard’ BIT. Particularly, it is claimed that CETA Chapter 8 is the first agreement that ‘puts all EU investors on the same, equal footing’ and ‘introduces important innovations to investment protection’, ensuring a high level of investment protection while preserving the right to regulate and pursue legitimate public policy objectives (such as the protection of health, safety, or the environment).(European Commission 2014)

There are several important differences between the investment chapters of EU’s recent agreements and the BITs previously concluded between Chile and EU Member States:

- a) **Definition of Investor:** While in the EU-Singapore agreement, investor means ‘a natural person or a juridical person of one Party that has made an investment in the territory of the other Party’ (Art. 9.1.2) – a definition that is in line with what has been traditionally included in BITs of Member States, in the EU-Vietnam agreement and in CETA, the definition of investor is in principle broader as it includes a natural person or an enterprise that ‘seeks to make, is making, or has made an investment in the territory of the other Party’. However, this wider definition applies only with regard to provisions covering non – discrimination (NT and MFN), market access and performance requirements. Protection standards under CETA and the EU – Vietnam agreement continue to apply to investors only with regard to “covered investments” (investments that are already made) in CETA, or to investors that “have already made an investment” in the EU – Vietnam.

For legal entities, in CETA, to be qualified as an investor, it is necessary that an enterprise has ‘substantial business activities’ in the territory of the home state.<sup>21</sup> Thus, CETA does not protect ‘shell’ or ‘mailbox’ companies.(Peter Fuchs 2014, 18)(European Commission 2014, 3). A similar requirement is stipulated in the EU-Vietnam and in the EU-Singapore agreements (‘substantive business operations’). The latter also requires that the juridical person has its registered office, central administration or principal place of business in the territory of the Union or Singapore, respectively. For natural persons, CETA stipulates that in the case of dual

<sup>20</sup> This section draws heavily on Polanco and Torrent (2016), a very recent study for the European Parliament on the updating of the trade pillar of the EU – Chile Association Agreement.

<sup>21</sup> CETA, Art. 8.1.

nationality, it is deemed to be exclusively a natural person of the Party of his or her dominant and effective nationality (Article 8.1).

In contrast, Chilean BITs with EU Member States include broad definitions of investors, and only a few do not provide such a definition, as the treaties signed with France, Germany, and Netherlands, where only the notions of ‘nationals’ or ‘corporations’ are defined. In the majority of the treaties, there are specific rules regarding the seat of the investor/place of business of corporations in order to be considered ‘investors’ or ‘nationals’, and the BITs signed with Austria, Croatia, Denmark, Finland, Greece, Hungary, Poland, Portugal, Romania, Spain, and Sweden follow the joint criteria of the place of incorporation and the seat of its substantive business. The rest of the treaties only follow the place of incorporation’s rule. With respect to dual nationality, only the Chile-Germany BIT excludes dual nationals (Ad. Article 1).

Furthermore, while Chilean BITs with EU Member States are limited to post-establishment protection, without a general rule on the duration of the investment, CETA also provides for ‘first establishment’, with specific provisions on market access (Article 8.4). This is not found in current Chilean BITs with EU Member States. However, CETA does not allow arbitration (access to the investment court system) based on market access restrictions and NT / MFN obligations (European Commission 2014, 2).

- b) **Exceptions:** This is one of the most important differences. Chilean BITs with individual EU Member States do not include lists of exceptions/exclusions from their protection. CETA Article 8.15 includes lists of non-conforming measures that are applicable to non-discrimination provisions (only NT and MFN), and the explicit recognition of each Party’s right to regulate within their territories ‘to achieve legitimate policy objectives, such as the protection of public health, safety, the environment, or public morals, social or consumer protection, or the promotion and protection of cultural diversity’ (Article 8.9).

In the EU-Vietnam agreement, there are important lists of sectors excluded from MFN and national treatment, which include essentially all oil, gas, mining, and infrastructure sectors, and it also includes a consideration of the ‘right to regulate’ (Article 13bis).

The EU-Singapore agreement (Article 9.3.3) also includes exceptions with respect to national treatment for measures: (a) necessary to protect public security, public morals or to maintain public order; (b) necessary to protect human, animal or plant life or health; (b) relating to the conservation of exhaustible natural resources if such measures are applied in conjunction with restrictions on domestic investors or investments; (c) necessary for the protection of national treasures of artistic, historic or archaeological value; (d) necessary to secure compliance with laws or regulations which are not inconsistent with the provisions of the investment chapter (including those relating to prevention of frauds, default of contracts, protection of privacy and safety), and (f) measures aimed at ensuring the effective or equitable imposition or collection of direct taxes in respect of investors or investments of the other Party, provided such measures do not constitute arbitrary or unjustifiable discrimination, or disguised restriction on investment.

- c) **Standards of Treatment:**

- Most-favoured nation (MFN): CETA and the EU-Vietnam agreement restrict the scope of the MFN provision to substantive standards, specifically to the treatment no less favourable accorded in like situations to investors and to their investments of any third country with respect to the establishment, acquisition, expansion, conduct, operation, management,

maintenance, use, enjoyment, and sale or disposal of their investments in its territory.<sup>22</sup> It is explicitly excluded to ‘import’ and use in the dispute settlement procedures the substantive and procedural provisions from other agreements that investors consider are more advantageous to their interests. (Hindelang and Sassenrath 2015, 162). Both types of limitations are not found in existing Chilean BITs with EU Member States.

- Fair and equitable treatment (FET): All Chilean BITs with EU Member States provide that each Party shall accord fair and equitable treatment to investments. However, none defines this standard, which has become the most frequent basis for ISDS claims (UNCTAD, 2012) In contrast, in CETA and the EU-Vietnam agreement, there is a list of behaviours that amount to a breach of the FET standard, pointing towards not having a ‘minimum’ standard or an ‘evolving concept’, but a closed text that defines precisely the standard of treatment.<sup>23</sup>

According to CETA and the EU-Vietnam agreement, a Party breaches the obligation of fair and equitable treatment where a measure or series of measures constitute:

- Denial of justice in criminal, civil, or administrative proceedings;
- Fundamental breach of due process, including a fundamental breach of transparency in judicial and administrative proceedings;
- Manifest arbitrariness;
- Targeted discrimination on manifestly wrongful grounds, such as gender, race, or religious belief;
- Abusive treatment of investors, such as coercion, duress, and harassment; or
- A breach of any further elements of the fair and equitable treatment obligation adopted by the Parties.

A similar definition of FET is included in the EU-Singapore agreement (Article 9.4.2), but without including an explicit provision considering that both parties have to agree to review the standard for it to be revisited.

Although the purpose of this provision is evidently to limit ‘unwelcomed’ discretion from ISDS arbitrators, (European Commission 2014, 2) its effective implementation will nevertheless be in the hands of those arbitral tribunals. In fact, CETA itself acknowledges that, when applying the FET obligation, a tribunal *may* take into account ‘whether a Party made a specific representation to an investor to induce a covered investment that created a **legitimate expectation**, and upon which the investor relied in deciding to make or maintain the covered investment, but that the Party subsequently frustrated’.<sup>24</sup>

- Full Protection and Security (FPS): As mentioned, few Chilean BITs include FPS obligations, and in the case of EU Member States it is only present in the APPIs with Germany (Art. 4(1)), Belgium/Luxembourg (Art. 3(2)), Denmark (Art. 3(1)), France (Art. 5(1)), Greece (Art. 3 (2)), Netherlands (Art. 3(1)), and the United Kingdom (Art. 2(2)). However, as with FET, none of these treaties defines this standard.

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<sup>22</sup> CETA, Art. 8.7, EU-Vietnam FTA, Art. 8.4.6. The investment chapter of the EU-Singapore FTA does not include an MFN provision.

<sup>23</sup> CETA, Art. 8.9 and EU-Vietnam FTA, Art. 8.14.2.

<sup>24</sup> CETA, Art. 8.9.

In contrast, CETA, and the EU agreements with Singapore and Vietnam do include FPS obligations, but clearly defined as the Party's obligations 'relating to the physical security of investors and covered investments'.<sup>25</sup>

However, it must be noted that every investment chapter of preferential trade agreements signed by Chile includes a provision on the standard of 'Full Protection and Security', defined as the requirement to provide the level of police protection required under customary international law.

d) **Standards of Protection:**

- **Indirect Expropriation:** CETA, the EU-Singapore and the EU-Vietnam agreements introduce a definition of what constitutes 'indirect expropriation', which can only occur when the investor is substantially deprived of the fundamental attributes of property, such as the right to use, enjoy, and dispose of its investment.<sup>26</sup>

A case-by-case analysis is introduced to determine whether an indirect expropriation has taken place. For example, the sole fact that a measure increases costs for investors does not give rise in itself to a finding of expropriation. Similarly, the issuance of compulsory licences in accordance with WTO provisions guaranteeing access to medicines cannot be considered an expropriation (European Commission 2014, 2). In order to avoid ISDS claims against legitimate public policy, non-discriminatory measures designed and applied to protect health and safety are not considered indirect expropriation, except in the rare cases where they are manifestly excessive in light of their objective.<sup>27</sup>

In contrast, Chilean BITs with EU Members States do not define indirect expropriation. Rather, they simply contemplate the act of expropriating under the term 'expropriation'. However, the treaties with Germany, Italy, and Spain also consider the acts of 'nationalisation', and the BIT with Finland uses the broader notion of 'dispossession'.

Most Chilean BITs consider interest paid and resulting from an expropriation as part of the compensation. This is the case of the BITs with Austria, Croatia, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Netherlands, Poland, Portugal, Romania, and the United Kingdom. CETA and the EU agreements with Vietnam and Singapore also consider interest at a normal commercial rate from the date of expropriation until the date of payment.<sup>28</sup>

- **Umbrella Clauses:** Although umbrella clauses have been included in an important number of international investment agreements (around 40%), they imply certain risks for States, as they could constrain their autonomy to regulate in internal affairs as well as multiple proceedings in the case of contract claims (Hindelang and Sassenrath 2015, 161).

As mentioned, few Chilean BITs include umbrella clauses (none is found in investment chapters of Chilean FTAs), but seven of the agreements that include them have been concluded with EU Member States: Austria, BLEU, Germany, Greece, Netherlands, Spain and the United Kingdom. These umbrella clauses are broad and unqualified without any

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<sup>25</sup> CETA, Art. 8.10.5, EU-Singapore FTA, Art. 9.4.4., EU-Vietnam FTA, Art. 8.14.4.

<sup>26</sup> CETA, Annex 8-A, EU-Singapore FTA, Annex 9-A, EU-Vietnam FTA, Chapter 8, Annex 5.

<sup>27</sup> CETA, Art. 8.11 and Annex 8.11.

<sup>28</sup> CETA, Art. 8.11, EU-Singapore FTA, Art. 9.6.2, EU-Vietnam FTA, Art. 8.16.

further specifications, leaving a great part of their application to arbitral practice, which still entails considerable uncertainty on the interpretation of the clause.

In contrast, qualified umbrella clauses are found in recent EU agreements, with CETA being the notable exception as it does not include one. Both the EU-Vietnam and the EU-Singapore agreements<sup>29</sup> aim at a nuanced approach, limiting the scope of its umbrella clause to guarantee a reasonable level of protection, including only ‘contractual written obligations’ between an individual investor and a State (in contrast, to the ‘any other obligation’ formula, followed in several BITs), and specifying the nature of the host state conduct (‘through the exercise of its governmental authority’). Further, the EU-Singapore agreement also requires for a breach of contract either a certain intention (‘deliberately’) or a certain impact (‘substantially alters the balance of rights and obligations’).(Polanco Lazo 2012, 207-8)

- **Transfer of Funds:** All Chilean BITs with EU Member States include provisions guaranteeing the transfer of funds and their convertibility. This protection is for both inbound and outbound flows, with an illustrative list of payments that are covered by the provision. Generally, the agreements extend to the transfer of contributions to capital, returns, payments made under contract, proceeds from the sale or liquidation of the investment and payments of compensation. However, none of these treaties are subject to exceptions in order to ensure that governments retain the flexibility to manage volatile capital flows in the context of a balance of payments crisis or the threat thereof, or to protect the integrity and stability of the financial system.

In contrast, CETA, EU-Singapore and EU-Vietnam agreements<sup>30</sup> include multiple exceptions, serving the host States’ ‘right to regulate’ by allowing for restrictions in case of currency crises, and securing the application and enforcement of certain laws (typically, bankruptcy and insolvency; issuing, trading, or dealing in securities; financial reporting of transfers for purposes of law enforcement, among others). CETA and EU-Singapore agreement further add that, in any case, all measures covered by the types of laws included in the lists should only be enforced through the equitable, non-discriminatory, and good faith application of the respective law (Hindelang and Sassenrath 2015, 146).

**Investor-to-State Dispute Settlement (ISDS):** It is well known that NAFTA, NAFTA-like agreements and BITs, both the U.S.-led and the EU Member States-led models, have as one of their main characteristics the setting up of an investor-to-state dispute mechanism.

Since the entry into force of the Lisbon Treaty in 2009, the scope of the EU’s commercial policy was extended to cover FDI. In exercising this competence on FDI, the EU has focused not only on the rules on substance, introducing changes, by reference to those of Member States BITs, that have already been analysed above, but also, and very in particular, on the procedures for dispute settlement.

In the context of the more recent International agreements (EU agreements with Vietnam and Canada in particular), the EU has proposed a revised approach on investment dispute settlement. It maintains a dispute settlement mechanism between investors and States for breaches of

<sup>29</sup> EU-Singapore FTA, Art. 9.4.5, EU-Vietnam FTA, Art. 8.14.5.

<sup>30</sup> CETA, Art. 8.13, EU-Singapore FTA, Art. 9.7, EU-Vietnam, Art. 8.17.



investment protection standards, but moves from traditional “arbitration” to the establishment of an “Investment Court System -ICS- “.

Originally, CETA’s investment chapter included a revised ISDS model with several provisions which are not found in existing Chilean BITs with EU Member States. However, in the final version of the agreement (29 February 2016), the chapter on investment establishes an investment court for the resolution of disputes between investors and states (CETA Chapter 8, Section F), which replaces the previous mechanism of investor-to-state arbitration. The EU-Vietnam agreement was also first negotiated on the basis of the ISDS model, without including the ICS, although the version of the agreement before legal scrubbing also establishes an ICS akin to CETA. However, the EU-Singapore investment chapter retains the approach of ‘improving’ investor-state arbitration.

The main elements of the Investment Court System found in CETA and the EU – Vietnam agreement<sup>31</sup> are the following:

- Alternative dispute resolution: CETA and the EU – Vietnam include specific provisions on mediation (Articles 8.20 and 3.5) and on consultations encouraging an amicable solution (Article 8.19 and 3.4). Although a ‘cooling-off’ phase is common in Chilean BITs with EU Member States in a range from three to six months (Polanco Lazo 2012, 236), there are no special rules on mediation.
- Scope: CETA and the EU – Vietnam agreement include several provisions limiting access to investment dispute resolution that are not included in Chilean BITs with EU Member States.
  - ***Only specific claims can be brought to the ICS.*** These claims relate to non-discriminatory treatment (CETA Chapter 8, Section C, with respect to the expansion, conduct, operation, management, maintenance, use, enjoyment, and sale or disposal of a covered investment) and investment protection (CETA Chapter 8, Section D). Similar provisions are found in section 3 of the EU – Vietnam’s chapter on Investment. In CETA, in the financial services field, a specific filter mechanism is established to ensure that Parties can take legitimate prudential measures, as also enshrined in the prudential carve-out (CETA, Articles 13.16 and 13.21).
  - ***Parties have reaffirmed their right to regulate*** and the mere fact that laws are modified in a manner which negatively affects an investment or interferes with an investor’s expectations does not amount to a breach of an obligation under the treaty (CETA, Article 8.9, EU – Vietnam, Article 2, 13 bis)
  - ***CETA includes rules to prevent fraudulent or manipulative claims.*** An investor may not submit a claim to ICS when the investment was made through fraudulent misrepresentation, concealment, corruption, or conduct amounting to an abuse of process (CETA, Article 8.18.3, EU – Vietnam, Article 3.1.2).
  - ***Statutory limits to bring an ICS claim.*** This limit is of three years, which can be extended if a domestic court proceeding is pursued - two years after the investor

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<sup>31</sup> References to the EU – Vietnam agreement use the numbering offered by the presently available text for chapter II, “Investment”, of the part on “Trade in Services, Investment and E – Commerce”

exhausts or ceases to pursue claims or proceedings and, in any event, no later than 10 years – (CETA, Article 8.19.6, EU – Vietnam, Article 3.4.2).

- Regulation of Proceedings:

- The EU – Vietnam agreement *includes a binding code of conduct for members of the investment tribunal and the appellate tribunal*. In CETA, reference is made to the ethical rules of the International Bar Association (CETA, Article 8.30). There are no similar provisions in Chilean BITs with EU Member States.
- **High level of transparency of proceedings.** By incorporating the UN Commission on International Trade Law (UNCITRAL) Rules on Transparency (United Nations Commission on International Trade Law (UNCITRAL) 2014), almost all documents will be made publicly available on a website, including submissions by the Parties and decisions of the tribunal. All hearings will be open to the public, and interested parties (such as non-governmental organisations (NGOs), trade unions, and business associations) will be able to make submissions (European Commission 2014, 4). There are no similar provisions in Chilean BITs with EU Member States, but several investment chapters of other Chilean FTAs include them (CETA, Article 8.36, EU – Vietnam, Article 3.20).
- **Prohibition of parallel proceedings.** Investors cannot simultaneously seek remedies under the Investment Court System (ICS) and under domestic law or another international agreement (CETA Article 8.24, EU – Vietnam Article 3.8). This is in order to avoid divergent awards or overlapping compensation the large majority of the BITs signed by Chile with EU Member States already contained ‘fork-in-the-road’ provisions. According to these BITs, investors must opt either to pursue their claim through the local courts or by means of international arbitration. The only exceptions are contained in the treaties concluded with Austria, Belgium/Luxembourg, Germany, and Netherlands, where, if the difference cannot be settled amicably in the referred six months, the dispute will be submitted to competent tribunals of the host state. Only 18 months after that, if there is no final substantial decision and there is still controversy, or if the Parties agree before, the dispute can be submitted to international arbitration (Polanco Lazo 2012, 136).
- **Expedited system to reject unfounded or frivolous claims.** The Investment tribunal can quickly dismiss, as preliminary questions, frivolous claims (those ‘manifestly without legal merit’) and claims without legal basis (‘those unfounded as a matter of law’), even before deciding on the merits of the case (CETA Articles 8.32 and 8.33, EU – Vietnam Article 3.19.3). There are no similar provisions in Chilean BITs with EU Member States.
- **“Loser pays” principle.** Under the large majority of BITs, there are no clear rules regarding the costs of arbitration. CETA and Eu - Vietnam are the first investment treaties with such provisions (CETA, Article 8. 39.5, EU – Vietnam Article 3.27.4). It is aimed to prevent a government from bearing all of its costs even if it has successfully defended itself in arbitration (European Commission 2014, 6).
- **Appellate tribunal.** Following a similar provision contained in BITs concluded by the United States, CETA originally only provided for the possible creation of an

appeal mechanism (CETA, Article X.42).<sup>32</sup> There are no similar provisions in Chilean BITs with EU Member States. However, in the final version of CETA, Article 8.28 explicitly establishes an appellate tribunal, which may uphold, modify, or reverse an arbitral tribunal's award based on: a) errors in the application or interpretation of applicable law; b) manifest errors in the appreciation of the facts, including the appreciation of relevant domestic law; and c) the grounds set out in Article 52(1) (a) through (e) of the Convention on the Settlement of Investment Disputes Between States and Nationals of Other States (ICSID Convention) in so far as they are not covered by paragraphs (a) and (b). Also in the EU – Vietnam agreement the Appeal Tribunal is established by the Treaty (article 3. 13).

- **Control by the Parties.** Both in CETA and EU – Vietnam, general provisions (chapters 26 and 20, respectively) as well as investment chapters set up an institutional framework (a horizontal Joint Committee and a specialized committee) that allows the Parties to control the functioning of the dispute settlement mechanism. It includes the right to adopt binding and to make submissions when they are not defendants ('non-disputing party submissions').
  - **Damages.** Both CETA and the EU – Vietnam agreement stipulate that the Investment Court System may only award monetary damages or restitution in property and, therefore, a decision by the tribunal cannot lead to the repeal of a measure adopted by the EU, a Member State, or Canada (CETA, Article 8.39; EU – Vietnam Article 27). Punitive damages are also explicitly excluded (*ibidem*). This restriction is not found in Chilean BITs with EU Member States.
- e) **Performance Requirements:** CETA's article 8.5 introduces also a series of provisions on the important issue of performance requirements, which is completely absent from existing Member States BITs with Chile. These provisions facilitate the operation of foreign investments by freeing them, with some qualifications, of possible requirements, *inter alia*, on the amount and destination of their exports or on the origin of the inputs they use as well on transfer of technology and the use of their industrial property rights.

Even though local content requirements (LCRs) are already prohibited under the multilateral framework by the WTO agreement on Trade-Related Investment Measures (TRIMs), those rules and disciplines only cover those performance requirements affecting trade in goods—not in services—and thus, some performance requirements have nonetheless been used around the world in recent years. CETA provisions on performance requirements bi-lateralize and strengthen obligations that already existed under TRIMs restricting countries' ability to impose obligations, such as LCRs and export requirements, as a condition for investment entry and operation.

- f) **Facilitation of the movement of business people:** CETA includes also a chapter 10 on Temporary Entry and Stay of Natural Persons for Business Purposes that guarantees to foreign investors, and the key **personnel** of their companies, the possibility to enter the territory for Business purposes. This set of provisions, absent from EU Member States BITs with Chile, is also a post-GATS development that gives concretion, and at the same time restricts to managers and key personnel, what in the GATS framework is considered as "mode 4 of provision of services" (i.e. the movement of employees by service providers).

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<sup>32</sup> This is in line with the European Commission's Communication of 2010. (European Commission 2010)

- g) **Senior Management and Board of Directors:** Finally, CETA's art. 8.8 introduces a provision that also facilitates the operation of foreign businesses: A Party shall not require that an enterprise of that Party, that is also a covered investment, appoints to senior management or board of director positions, natural persons of any particular nationality. This clause is also absent from the existing EU Member States BITs with Chile.

These are the main general differences between the new generation of EU agreements and EU Member States BITs concluded with Chile that, beyond the positive aspect of bringing homogeneity to the bilateral investment framework, advise replacing individual Member States BITs by a chapter in an updated EU – Chile Association Agreement.

### **3.2.6 Investment in the Framework of the Modernisation of the EU – Chile Association Agreement: Identification of Domestic Measures that Could Contradict the New Provisions on Investment**

Any discussion on “investment” in the context of a new EU – Chile Association Agreement is dependent on whether Investment will be the object of two separate chapters or will be merged in one single chapter on “Investment”. For the purposes of this section 3.2, it will be assumed that Investment protection must cover FDI and portfolio investment, while the analysis of “barriers” must be limited to the former.

Combining the conclusions of the previous sections, it must be assumed that the new agreement will no longer follow, on thematic scope, the GATS approach (followed in the EU-Chile Association Agreement), as the present drafting of article 207 TFEU explicitly includes FDI within the scope of EU competence on Commercial Policy. It must also be assumed that, as in the latest agreements with Singapore, Vietnam and Canada, the new agreement with Chile will include a full-fledged chapter covering establishment in services and non-services sectors, including provisions on investment protection. The existence of a separate chapter on Movements of Capital can also be assumed, even if provisions on investment protection may apply both to FDI and portfolio investment.

It must also be assumed that the EU will follow CETA's approach, already discussed in the previous sections. This will be facilitated because, in the more important agreement recently signed by Chile (the Trans Pacific Partnership – TPP-), one of the more important features of CETA on investment has also been partly adopted. It concerns the importation of GATS Market Access provision (article XVI) not only for International exchanges of services but also for establishment / FDI in the services sectors.

This importation takes place through the TPP's chapter on services and not through the chapter on investment. The relevant provisions are the following:

#### *Article 10.2*

##### *Scope*

1. *This Chapter shall apply to measures adopted or maintained by a Party affecting cross-border trade in services by service suppliers of another Party.*

2. *In addition to paragraph 1 ... Article 10.5 (Market Access), Article 10.8 (Domestic Regulation) and Article 10.11 (Transparency) shall also apply to measures adopted or maintained by a Party affecting the supply of a service in its territory by a covered investment;*

#### *Article 10.5*

##### *Market Access*

*No Party shall adopt or maintain, either on the basis of a regional subdivision or on the basis of its entire territory, measures that:*

*(a) impose limitations on:*

- (i) the number of service suppliers, whether in the form of numerical quotas, monopolies, exclusive service suppliers or the requirement of an economic needs test;*
- (ii) the total value of service transactions or assets in the form of numerical quotas or the requirement of an economic needs test;*
- (iii) the total number of service operations or the total quantity of service output expressed in terms of designated numerical units in the form of quotas or the requirement of an economic needs test; 3 or*
- (iv) the total number of natural persons that may be employed in a particular service sector or that a service supplier may employ and who are necessary for, and directly related to, the supply of a specific service in the form of numerical quotas or the requirement of an economic needs test; or*
- (b) restrict or require specific types of legal entity or joint venture through which a service supplier may supply a service.*

This explains why, as it will be analysed at the end of the section, the TPP Annexes of non-conforming measures and on sectors exempted are common to both the chapters on investment and on trade in services.

The EU – Chile Association Agreement currently in force, CETA and the TPP create a sort of triangle in which to frame the approach to the negotiation of the chapter on investment in a modernised EU – Chile Agreement. On the EU side, what matters is the comparison between the Association Agreement in force and CETA – its more ambitious recent agreement; on Chile’s side, the comparison must be established between the Association Agreement and TPP, as “TPP treatment” could be taken, from a negotiating perspective, as the minimum standard to be granted by Chile to the EU and to EU investors if it intends to have a broader and deeper privileged access to the EU market.

### **3.2.6.1 European Union**

CETA’s approach and content have already been discussed in previous sections, by reference both to the Association Agreement and to the EU Member State BITs. CETA’s negotiation has allowed for a very thorough examination of EU’s and Member States measures that could contradict its general or horizontal provisions on investment (see its 223 pages long EU and EU Member States list of reservations for existing measures as well as its 158 pages long list of Reservations for future measures, both covering Cross-border supply of services and investment).

Therefore, it is not necessary to repeat this exercise in the framework of this study. We will simply concentrate on two EU secondary law measures not granting National Treatment to Chilean investors that are particularly relevant and are not considered by existing EU Member States BITs. They concern transport and audio-visual, two of the sectors that, traditionally, together with tourism and insurance, are prominent in Balance of Payments statistics on International Exchanges of Services. Air transport, in particular, is one of the very few sectors where a Chilean company (LATAM) can envisage a significant foreign direct investment into the EU.

In the case of air transport, Regulation (EC) No 1008/2008 of the European Parliament and of the Council of 24 September 2008 on common rules for the operation of air services in the Community merges Council Regulations (EEC) No 2407/92 of 23 July 1992 on licensing of air carriers, (EEC) No 2408/92 of 23 July 1992 on access of Community air carriers to intra-Community air routes, and (EEC) No 2409/92 of 23 July 1992, which are repealed. Its article 4 establishes (emphasis added):

### **Conditions for Granting an Operating License**

*An undertaking shall be granted an operating license by the competent licensing authority of a Member State provided that:*

- (a) its principal place of business is located in that Member State;*
- (b) it holds a valid AOC issued by a national authority of the same Member State whose competent licensing authority is responsible for granting, refusing, revoking or suspending the operating license;*
- (c) it has one or more aircraft at its disposal through ownership or a dry lease agreement;*
- (d) its main occupation is to operate air services in isolation or combined with any other commercial operation of aircraft or the repair and maintenance of aircraft;*
- (e) its company structure allows the competent licensing authority to implement the provisions of this Chapter;*
- (f) Member States and/or nationals of Member States own more than 50 % of the undertaking and effectively control it, whether directly or indirectly through one or more intermediate undertakings, except as provided for in an agreement with a third country to which the Community is a party;***
- (g) it meets the financial conditions specified in Article 5;*
- (h) it complies with the insurance requirements specified in Article 11 and in Regulation (EC) No 785/2004; and*
- (i) it complies with the provisions on good repute as specified in Article 7.*

A similar provision, of very minor political and economic importance, concerns, as already seen, inland waterways transport.

With regard to audio-visual, Council Decision 95/563/EC of 10 July 1995 on the implementation of a programme encouraging the development and distribution of European audio-visual works (Media II – Development and distribution) (1996–2000) (OJ No L 321, 30.12.1995, p. 25) discriminated against third country owned or controlled companies because it restricted the benefits of EC support to companies that were "in the possession and continue to be in the possession, whether directly, or by majority participation, of the Member States and/or of nationals from Member States".

At present, the MEDIA programme has been replaced by the *Creative Europe* programme (Regulation (EU) No 1295/2013 of the European Parliament and of the Council of 11 December 2013)<sup>33</sup>. The Regulation does not include this provision. However, it reappears in the Commission Implementing Decision of 5.8.2015 on the adoption of the 2016 annual work programme for the implementation of the Creative Europe Programme:<sup>34</sup>

#### *A. Eligibility criteria:*

##### *Eligible applicants*

*Independent European audio-visual production companies which have been legally constituted for at least 36 months prior to the submission date and that can demonstrate a recent success.*

<sup>33</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1295&from=EN>

<sup>34</sup> [http://ec.europa.eu/dgs/education\\_culture/more\\_info/awp/docs/c-2015-5490\\_en.pdf](http://ec.europa.eu/dgs/education_culture/more_info/awp/docs/c-2015-5490_en.pdf)

*European company: Company owned, whether directly or by majority participation (i.e. majority of shares), by nationals of Member States of the European Union or nationals of the other European countries participating in the MEDIA Sub-programme and registered in one of these countries.*

### 3.2.6.2 Chile

The use by the TPP of the “negative list” method for the determination of the scope of the liberalisation commitments undertaken in the framework of its chapters on Services and Investment would seem to substantially increase the scope of effective liberalisation by comparison to the Association Agreement, which uses, as already explained, the method of the positive lists. However, Chile’s positive lists for investment in the framework of the Association Agreement are really ambitious, not introducing, in particular, any limitation for agriculture or manufacturing besides some horizontal restrictions.

Therefore, the comparison between the Association Agreement and the TPP from the Chilean perspective is quite parallel to that between the Association Agreement and CETA on the EU’s side. The increase in liberalisation would mainly concern “new sectors” that would be covered by the TPP’s liberalisation provisions (because not carved-out or included in the lists of exceptions) whereas, by hypothesis, they cannot be inscribed in the positive lists of commitments of the EU – Chile Association Agreement now in force. Additionally, the use by TPP of the negative lists approach gives also to it a more ambitious perspective than that of the Association Agreement’s positive list approach.

Concerning Chilean measures that would not be in conformity with liberalisation provisions in a new chapter in a modernised EU – Chile agreement, TPP’s Annexes II and I provide the best reference for their analysis. These Annexes are common for the chapters on Cross-border Trade in Services and on Investment, and they list, respectively, the sectors (Annex II)<sup>35</sup> and existing measures (Annex I)<sup>36</sup> to which the main obligations imposed by the provisions of those two chapters do not apply.

It must be emphasized that, while there are no market – access disciplines for non – services sectors in the TPP, the Annexes cover all sectors, including in particular Property of Land (as a horizontal issue), Energy, Mining and Fisheries. Therefore, they cover, for all sectors of the economy, the investment policy aspects that are covered by investment chapters in recent EU agreements: i.e. Market Access in the sense of GATS article XVI, Most Favoured Nation and National Treatment obligations, Prohibition of Performance Requirements and obligations on Senior Management and Boards of Directors. It has already been mentioned that, concerning Performance Requirements, the introduction of its prohibition in the new EU – Chile Agreement is relevant, in spite of the fact that Chile does not apply them at present as a guarantee to the future treatment of EU investments.

These Annexes are very carefully drafted in the case of Chile. Desk research and interviews confirm the exhaustive character of the lists included in them.

Annex I, in particular, on existing non-conforming measures, includes the list of them with the exact reference to the legal texts for each one:

- Property of land: Under Chilean Law there are neither percentage restrictions on foreign holdings nor are there any restrictions on foreign ownership of real estate. However, under

<sup>35</sup> “the specific sectors, subsectors or activities for which that Party may maintain existing, or adopt new or more restrictive, measures that do not conform with obligations”, <https://ustr.gov/sites/default/files/TPP-Final-Text-Annex-II-Non-Conforming-Measures-Chile.pdf>.

<sup>36</sup> “existing measures that are not subject to some or all of the obligations”, <https://ustr.gov/sites/default/files/TPP-Final-Text-Annex-I-Non-Conforming-Measures-Chile.pdf>

article 7 of DL 1.939 of 1977 real property located in limiting territories, may not be owned by nationals of border countries, for reasons of national security.

- Social Communications (broadcasting, newspapers, etc.) Concessions to operate public telecommunications services and intermediate services are reserved to companies established in Chile with no more than 10% of foreign ownership, unless otherwise authorised, and presidents, managers and administrators must be Chileans. However, under the principle of reciprocity, in the case of radiobroadcasting telecoms services, concessions requested or acquired by entities controlled above percent by foreign investors may be granted only if their country of origin grants Chilean citizens the same rights that they enjoy in Chile.<sup>37</sup>
- Energy: Electricity concessions are reserved to nationals or legal entities established in Chile.<sup>38</sup>
- Mining (for strategic minerals): Exploration, exploitation and treatment of hydrocarbons, liquid or gaseous, of uranium and lithium is subject to prior authorization. Thus, mining by the private sector in Chile is carried out mostly through a system of judicial concessions in a non-contentious procedure, as the Constitution establishes the total, exclusive, inalienable and everlasting ownership of the State over mines. Mining activities in certain parts of the country (seawaters subject to national jurisdiction and areas classified as important for national security) and for certain products (liquid or gaseous hydrocarbons lithium and uranium deposits), cannot be the subject of judicial concessions; in these cases, operations can only be executed by the State, a State-owned enterprise, or by means of administrative concessions or special operation contracts. However, both national and foreign firms can participate in these sectors in certain circumstances, subject to presidential authorization.<sup>39</sup>
- Fisheries: Ownership of Chilean fishing vessels is limited to Chilean natural persons or Chilean majority-owned corporations with principal domicile and real effective seat in Chile, unless otherwise authorized. Resident enterprises constituted by foreign non-residents are not permitted to engage in small-scale fishing.<sup>40</sup>
- Transportation
  - Aviation: Only Chilean natural persons or Chilean majority-owned corporations with principal domicile and real effective seat in Chile may register an aircraft in Chile.<sup>41</sup> However, under current regulations, there is no legal reserve to nationals for air cabotage. Plus, since January 2012, reciprocity is not considered in determining the eventual end, suspension or limitation of cabotage services of a foreign company.
  - Water Transportation and Shipping: Ownership of Chilean flag vessels is limited to Chilean natural persons, Chilean majority-owned corporations with principal domicile and real effective seat in Chile, and to co-ownerships in which a majority of members are Chilean naturals residing in Chile and in which the majority of rights belong to Chileans. Cabotage and tugging activities performed in Chilean ports are reserved to Chilean flag vessels (DL 3059 of 1979). In addition, activities of stowage and dockage on Chilean ports must be carried out by Chilean majority-owned enterprises (Decree Law 90 of 2000).

<sup>37</sup> Law No. 19733, art. 9, 18 May 2001; Law No. 18838, art. 18, 29 September 1989.

<sup>38</sup> D.F.L. No. 4, art. 13, 12 May 2006.

<sup>39</sup> Political Constitution of the Republic of Chile; Constitutional Organic Law 19.097, of Mining Concessions; Law 18.248, 14 October 1983; Mining Code.

<sup>40</sup> Law 18892, 22 December 1992, Decree Law 2222, 31 May 1978. However, an owner of a fishing vessel registered in Chile prior to 30 June 1990 is not subject to the nationality requirement.

<sup>41</sup> Law 18916, 8 February 1990; Decree Law 2564, 22 June 1979.



- Land Transportation: International road transportation service between Chile and Argentina, Bolivia, Brazil, Paraguay, Peru or Uruguay is reserved to companies controlled by nationals of those countries.<sup>42</sup>

Finally, it should be mentioned that the EU – Chile Association Agreement currently in force, includes an Annex XIV regarding Articles 164 and 165 on current payments and capital. It reserves in its paragraphs 1 and 2 Chile's right to maintain some requirements or restrictive measures on transfers from Chile of proceeds from the sale of all or any part of an investment of an investor of the EU or from the partial or complete liquidation of the investment. It also reserves in its paragraph 3 the right of the Central Bank of Chile to maintain or adopt measures in order to ensure currency stability and the normal operation of domestic and foreign payments.

The Annex mentions explicitly the legislative texts to which the reservations relate. Most of these measures are no longer applied but the possibility of a future application of them remain. Chile has included this type of provisions in almost all its FTAs (including the TPP), with the notable exception of the Chile-United States FTA (2004).

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<sup>42</sup> Accord on International Land Transport Agreement signed by Argentina, Bolivia, Brazil, Chile, Paraguay, Peru and Uruguay. Decree Law 257, January 1990.

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### 3.3 Access to Public Procurement

#### 3.3.1 *Analysis of the Government Procurement Commitments in the EU-Chile Association Agreement*

This section includes a review of the legal framework for public procurement both in Chile and the EU, and analysis of the commitments in the Government Procurement chapter of the existing EU-Chile Association Agreement (AA), comparing it with recent agreements concluded by the EU and Chile that include chapters on government procurement, with the purpose of determining market access and regulatory obstacles to public procurement in both Chile and the EU, that can be taken into consideration in a future update of the EU-Chile Association Agreement.

##### 3.3.1.1 Scope and Coverage

Although Chile is not a party to the WTO's Agreement on Government Procurement (GPA) but an observer in the WTO Committee on Government Procurement since 29 September 1997, the Chilean authorities have confirmed that, for the time being, there are no plans to negotiate accession to this Agreement (World Trade Organization (WTO), Trade Policy Review Body 2015a).

However, the EU-Chile Association Agreement applies the complete 1994 GPA framework to the procurement practices of the two parties (Woolcock 2008, 12) on issues like coverage, national treatment, transparency, contract award procedures, contract award criteria, technical specifications, regulatory safeguards, bid challenge, and technical cooperation.

Title IV of the EU-Chile Association Agreement deals with government procurement from Articles 136 to 162, with the objective of ensuring the effective and reciprocal opening of their government procurement markets (Article 136). The main topics included here concern the coverage of the agreed liberalisation (including lists of covered entities, goods, services, and threshold values), non-discriminatory access to the agreed markets, legal and transparent procedures including clear challenge procedures, and the use of information technology. The EU-Chile Association Agreement guarantees respect for principles such as national treatment, non-discrimination, and transparency, and an important set of rules that apply to central entities, regional entities, and public enterprises (ITAQA 2012, 27).

According to Article 138, the EU-Chile Association Agreement covers any type of procurement methods of goods, services, or a combination thereof, including purchase or lease, or rental or hire purchase, with or without an option to buy, and works carried out by public entities of the Parties for governmental purposes and not with a view to commercial use.

Article 137 includes a fairly limited list of exclusions, including: (i) contracts awarded pursuant to certain international agreements;<sup>43</sup> (ii) non-contractual agreements or any form of government assistance or cooperation programmes; (iii) financial services; and (iv) contracts for the acquisition or rental of land, existing buildings, or other immovable property or concerning rights thereon, the acquisition, development, production, or co-production of programme material by broadcasters and contracts for broadcasting time, arbitration and conciliation services, employment contracts, and research and

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<sup>43</sup> International agreements intended for the joint implementation or exploitation of a project by the contracting Parties, relating to the stationing of troops or the particular procedure of an international organisation.

development services.<sup>44</sup> While Annex XI details the EU's coverage on public procurement, Annex XII details Chile's coverage on public procurement. Public work concessions are provided in Annex XIII.

Entities covered are central level (GPA Annex 1), sub-central level (GPA Annex 2), and public enterprises and utilities (GPA Annex 3), with different thresholds for supplies, services, and works, specified in Annexes XI (for the EU) and XII (for Chile). Under Article 141, entities are not allowed to split up a procurement process, nor use any other method of contract valuation with the intention of evading the application of the thresholds.

With respect to the EU, even though the list of entities varies across Member States, reflecting differences in government structures, the coverage is broad. Yet, the relevant Annex in the EU-Chile Association Agreement contains an indicative list for 'Annex 3' entities, and consequently, the list is not exhaustive. Regarding Chile's coverage, it does include central and sub-central level (municipalities), but the list of other entities is reduced to some state-owned enterprises (SOEs) operating in the utilities sector, basically maritime ports and airports (Appendix 3). Chilean public enterprises covered notably do not include the National Copper Corporation of Chile (CODELCO), the main Chilean SOE and one of the world's biggest copper companies, which it is not listed in the annexes.

According to Article 159, a Party may modify its coverage after notifying the other Party and providing within 30 days following the notification, appropriate compensatory adjustments to its coverage in order to maintain a level comparable to that existing prior to the modification. No compensatory adjustments are needed for rectifications of a purely formal nature, minor amendments, and when the control or influence of the government on an entity has been effectively eliminated as a result of privatisation or liberalisation.

Following the GPA text,<sup>45</sup> Article 161 include exceptions to the application of the public procurement chapter, as any Party is not prevented from adopting or maintaining measures: (i) necessary to protect public morals, order, or safety; (ii) necessary to protect human life, health, or security; (iii) necessary to protect animal or plant life or health; (iv) necessary to protect intellectual property; or (v) relating to goods or services of handicapped persons, of philanthropic institutions, or of prison labour. These exceptions can be adopted or maintained provided that such measures are not applied in a manner that would constitute a means of arbitrary or unjustifiable discrimination between the Parties or a disguised restriction on trade between them.

### **3.3.1.2 Non-discriminatory Treatment**

Article 139 enshrines the principles of national treatment and non-discrimination for procurement in the covered entities. Among other issues, it establishes that each party will provide to the products, services, and suppliers of the other Party no less favourable treatment than that accorded to domestic products, services, and suppliers. No less favourable or non-discriminatory treatment shall be given to a locally established supplier because of the foreign affiliation to or ownership by a person of the other Party, or of the country of production of the good or service being provided.

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<sup>44</sup> Except those where the benefits accrue exclusively to the entity for its use in the conduct of its own affairs, on the condition that the service is wholly remunerated by the entity.

<sup>45</sup> See GPA 1994, Art. XXIII, and GPA, Art. III.

Additionally, Article 140 stipulates that each Party shall ensure that its entities do not consider, seek, or impose offsets in the qualification and selection of suppliers, goods, or services, or in the evaluation of bids or the award of contracts.

Although no most-favoured nation (MFN) provision is explicitly considered, if either Party offers in the future to a third party additional advantages with regard to access to their respective procurement markets beyond what has been agreed in the EU-Chile Association Agreement, it shall agree to enter into negotiations with the other Party with a view to extending these advantages to it on a reciprocal basis by means of a decision of the Association Committee (Article 160).

### **3.3.1.3 Transparency and Contract Award Procedures**

On transparency, the EU-Chile Association Agreement considers the provision of information of regulation, administrative rulings, and procedures that would enable effective bids (Article 142); publications of notices of tendering opportunities and planned procurement (Article 147); information to any unsuccessful bidder of the reasons for the rejection of his tender (Article 154); and the provision of statistical reports on procurements covered by the procurement chapter (Article 158), but only when a Party has not assured an effective level of compliance of the agreement on its obligations of publishing the notices in a timely manner through means which offer the widest possible and non-discriminatory access to the interested suppliers of the Parties (Art. 147 (11)).

Article 156 provides that the Parties shall, to the extent possible, endeavour to use electronic means of communication and implement an electronic information system to improve market opportunities and permit efficient dissemination of information on government procurement (particularly on tender opportunities and transmissions of offers), while respecting the principles of transparency and non-discrimination.

Provisions for procurement procedures are included in Articles 143 to 155. The standard procedures are open tendering and selective tendering. Limited tendering is possible only in exceptional cases (Articles 143-146). Technical specifications, which shall be set out in the notices of tendering, tender documents or additional documents shall be in terms of performance rather than design or descriptive standards, and based on international standards, or in their absence, in national technical regulations, nationally recognised standards, or building codes (Article 149). Contract award is to the lowest price or most advantageous bid based on previously determined criteria (Article 153).

One especially relevant provision is Article 155 on 'bid challenges', according to which suppliers may challenge alleged breaches of the procurement chapter arising in the context of procurement in which they have, or have had, an interest.

### **3.3.1.4 Review and Cooperation**

According to Article 162, the Association Committee (established by Article 6 of the EU-Chile Association Agreement) shall review the implementation of the government procurement provisions every two years, unless otherwise agreed by the Parties, and take appropriate action in the exercise of its functions. These actions include coordinated exchanges between the Parties regarding the development and implementation of information technology systems in the field of public procurement, and the possibility to make appropriate recommendations regarding the cooperation between the Parties.

The Association Agreement includes vague cooperation commitments on public procurement. Article 33 stipulates that cooperation between the Parties in the field of public procurement will seek to provide

technical assistance, paying special attention to the municipal level. Article 157 adds that Parties shall endeavour to provide this through the development of training programs with a view to achieving a better understanding of their respective government procurement systems, its statistics, and respective markets.

### **3.3.2 Legal Framework for Public Procurement in Chile and the EU**

This section includes the examination of legislative and administrative measures that affect market access to public procurement and its effective implementation. Case law (both at judicial and administrative level) and reports of third parties (e.g., WTO, World Bank, Inter-American Development Bank), will be used as a proxy to identify most recurrent barriers and problems of implementation that have equivalent effect.

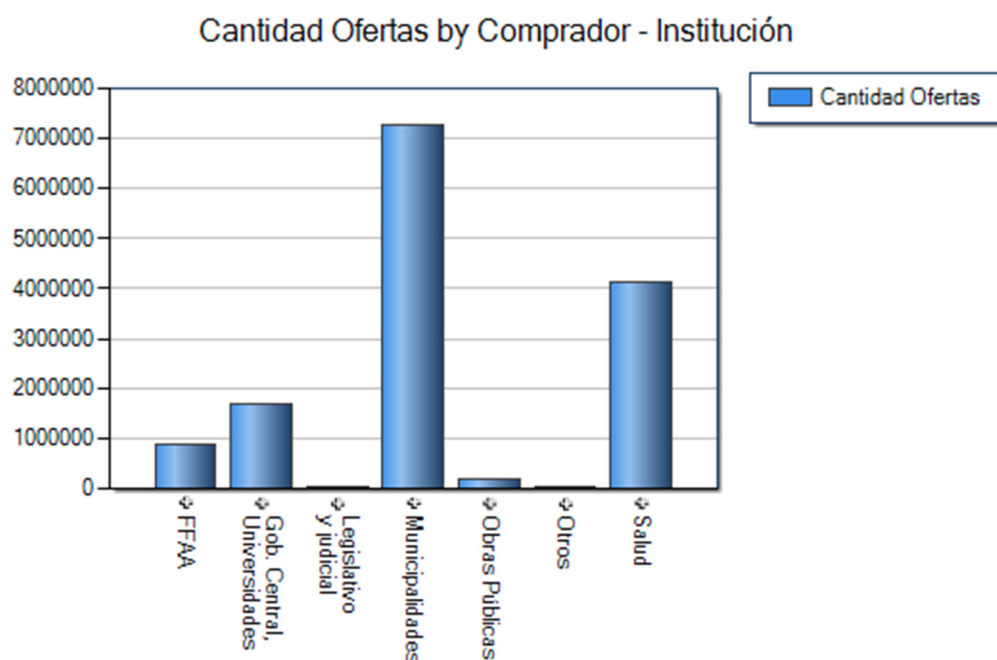
#### **3.3.2.1 Chile**

##### *3.3.2.1.1 Overview*

According to the latest WTO Trade Policy Review, Chile has a ‘transparent and efficient government procurement system for goods and services, making use of an electronic procurement platform’ (World Trade Organization (WTO), Trade Policy Review Body 2015a, 84). The World Bank has highlighted that Chile is one of the few countries (together with South Korea), where electronic submission of bids has become the rule (World Bank Group 2016). OECD has underscored the high degree of integration among various systems governing the different phases of the procurement cycle, achieving a high level of transparency towards stakeholders (Organisation for Economic Co-operation and Development (OECD) 2013, 200). The Chilean procurement system aims to expand participation by suppliers and buyers in the government procurement market, and there is no discrimination whatsoever as regards products, services and suppliers according to their origin, with all suppliers theoretically participating with ‘equal conditions’ (Inter-American Development Bank and Government of Chile 2008, 44).

The Chilean authorities considered that in 2013, the government procurement system had generated savings for the State amounting to a cumulative total of USD 681 million, and achieved high standards of transparency and probity. In 2014, procurement by the Chilean Government (excluding SOEs, concessions and public works) amounted to some USD 10 billion (corresponding to 2.9% of the Chilean GDP). Over 900 purchasers from the central and local administrations have taken part in ChileCompra’s bidding procedures, with over 2 million contracts processed annually. Around 90% of the contracts that have been processed by ChileCompra concern small and medium-sized enterprises (SMEs) (World Trade Organization (WTO), Trade Policy Review Body 2015a, 85).

Nowadays, the largest number of bidding processes is originated in municipalities, followed by the Ministry of Health, the Central Government, the Universities, and the Armed Forces, as it can be seen in Figure 3.18.

**Figure 3.18: Number of bids by Purchasing Institution**

Source: ChileCompra (2016)

### 3.3.2.1.2 Legal framework

The current Public Procurement System of Chile it was introduced in the late 90s, as an integral part of the Reform and Modernisation of the State of Chile. At that time, the decision was taken to abolish the old Procurement Department of State and transform the Dirección de Aprovisionamiento del Estado (DAE), a purchasing entity, in charge of warehousing and distribution of goods, into an entity that intermediates and facilitates the purchasing process between state entities and those interested in selling to the state (Inter-American Development Bank and Government of Chile 2008, 19).

Through Supreme Decree No. 1312 of the Ministry of Finance published on the Official Gazette of 26 September 1999, and information system of public procurement was established, with the creation of a platform ('ChileCompra') and the web [www.chilecompra.cl](http://www.chilecompra.cl), which in the beginning was just an information system of procurement and contracts for ministries, public bodies and services, which later evolved into a transactional system with a wide coverage (Inter-American Development Bank and Government of Chile 2008, 19).

In 2003, Chile again reformed its procurement system, creating the Chilean Government Procurement and Contracts System based on a best practices mechanism. Today, the Basic Law on Administrative Contracts for the Supply and Rendering of Services (No. 19.886) published on the Official Gazette of 30 July 2003, the amendments thereto, and its implementing Regulations (Ministry of Finance Supreme Decree No. 250 of September 2004) lay down the legal framework for government procurement of goods and services by all Central Government departments, regional and provincial governments, municipal authorities, the armed forces and the Comptroller-General of the Republic.<sup>46</sup> Today, the

<sup>46</sup> Laws Nos. 20.088 of 2006, 20.238 of 2008, 20883 of 2015, and Decree Law No. 11 of 10 March 2010 introduced amendments to Law No. 19.886. The implementing Regulations were amended by Ministry of Finance Decree No. 1562, published on 20 April 2006, by Decrees No. 20 and 260 published respectively on 03 May 2007 and 13

Directorate of Purchasing and Government Procurement (DCCP – ‘Dirección de Compras y Contratación Pública’) of the Ministry of Finance, created by Law No. 19.886, is responsible for developing and implementing government policy on procurement. It is also in charge of maintaining and managing the electronic information system for purchasing and government procurement (‘ChileCompra’), through which all entities whose procurement is covered by Law No. 19.886 must quote prices, invite bids, source contractors, award contracts and carry out procurement for goods, services and public works.

However, the Chilean procurement system has important exceptions and does not include all public procurement:

- a) It does not apply to SOEs, which follow their own regulations on procurement. Therefore, State enterprises as CODELCO are free to utilize (or not) ChileCompra.
- b) In the case of public works, it applies only as regards the mandatory use of the electronic information system for procurement, granting jurisdiction to the Government Procurement Tribunal and in general on a supplemental basis. Public works procurement is done by Ministry of Public Works using other non-electronic procedures that are generally notified online (<http://www.mop.cl/servicios/Paginas/Concursosylicitaciones.aspx>). However, some discrimination persists, for example, through direct or indirect requirements of local presence (e.g. requirement of a local fiscal number), or the way experience is measured (e.g., certificate of experience must be signed by the principal of prior works).
- c) Government staff recruitment, cooperation agreements between public entities, contracts relating to financial instrument transactions, and purchase of war material are also excluded from the general public procurement law, and are governed by their own special rules (Fernandois Vöhringer and Hevia Campusano 2015).

Additionally, even entities, goods and services that are covered under the general procurement system have certain exceptions with respect to the electronic information provided to ChileCompra. Exceptional procurement procedures, like direct negotiation or contracting, only consider the ex post obligation to publish some information on the contract.

Important changes to the government procurement regulations were introduced and came into effect on 27 December 2011. They were mainly intended to intensify competition in the procurement process through ChileCompra, increasing the minimum time-limit for bids of less than 100 UTM from two to five days. Another goal was to streamline the procurement process and lessen the red tape, raising the obligation to register a contract from 100 UTM to 1.000 UTM. This allows electronic formalisation of contracts for lesser amounts covering easily specified standard goods and services, thereby facilitating management of procurement. This does not mean that this procurement is outside of the public tender process, it just simplifies the way these goods and services are purchased (not using a more formal public contract but a simplified purchase order).

Support for SMEs was introduced, allowing that a ‘performance bond’, which is required in procurement, to be divided up and released in tranches as the contract is being fulfilled. This enables suppliers to keep capital immobilized for a shorter time as prior to this they had to wait until the end of the contract before the bond was returned.

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July 2007, by Decree No. 1763, published on 07 October 2009, by Decree No. 1383, published on 27 November 2011, and by Decree 1410, published on 12 May 2015.



The 2011 amendments also forbid suppliers to contact officials of the contracting authority throughout the course of the bidding procedure, an obligation that was already incumbent upon the contracting authority under laws on ‘administrative probity’. Other regulations that are also relevant in this regard are Law No. 20,285 of 2008, which regulates access to public information and its regulation (Decree No. 13/2009 of the Ministry of the General Secretariat of the Presidency), and Law No. 20,730 of 2014, on lobby and other actions before public authorities, and its regulation (Decree No. 71/2014 of the Ministry of the General Secretariat of the Presidency).

In March 2013, ChileCompra set-up an online observatory to promote quality standards and good practices in the processes carried out by 850 public bodies in that platform, in order to increase levels of transparency, probity and efficiency in public procurement (<http://observatorio.chilecompra.cl/>). The observatory includes an alert system, monitoring and active management, such as detection tools gaps and areas for improvement in bidding processes; as well as a platform for complaints and service management thereof.

A recent amendment to the government procurement regulations in 2015, encouraged the participation of SMEs (further relaxing guarantee requirements in smaller dealings and allowing unions of suppliers), set inclusive criteria for the evaluation of proposals (including criteria such as social impact), enhanced bidding procedures (according to the nature of the different types of processes and setting new rules for infringement), and strengthened probity and transparency, expressly stating abstention obligations, consultative processes, and limiting renewal of contracts (Fernandois Vöhringer and Hevia Campusano 2015).

ChileCompra has also produced a series of guidelines to facilitate the procurement process, including Government Procurement Directives (GPDs) intended to continue improving the system’s functioning and increasing its efficiency. These directives deal with a wide range of topics, *inter alia* the procurement under a framework agreement (GPD No. 5, of 6 October 2006); Instructions for undertaking inclusive government procurement and promoting equal opportunities in the Government market (GPD No. 17 of 8 May 2014); Subcontracting and the Procurement Law, providing that government authorities must ensure that the contractor or subcontractor complies with its obligations concerning the labour force (GPD No. 16 of 20 June 2013); Instructions for applying the mechanism of large-scale procurement (GPD No. 15 of 6 December 2012); Instructions for the operation of evaluation commissions (GPD No. 14 of 6 December 2012); Recommendations for procurement of goods and services incorporating environmental criteria (GPD No. 26 of 6 June 2016). All these Directives and related documentation are available on ChileCompra’s website.<sup>47</sup> However, this entire normative framework is officially available only in Spanish.

### 3.3.2.1.3 Types of Procurement

Access to ChileCompra is open to the public previous registration as a ‘supplier’. The DCCP keeps a National Register of Public Administration Suppliers (‘MercadoPublico.cl’), an electronic register in which natural or legal persons, either Chileans or foreigners not domiciled in Chile, wishing to take part in bidding may be registered. The Register is available free of charge on the website of ChileCompra, as well as on that of MercadoPublico.<sup>48</sup> The on-line registration system for new suppliers is found in a bilingual version Spanish-English.<sup>49</sup>

<sup>47</sup> [http://www.chilecompra.cl/index.php?option=com\\_phocadownload&view=category&id=12&Itemid=375](http://www.chilecompra.cl/index.php?option=com_phocadownload&view=category&id=12&Itemid=375).

<sup>48</sup> The website of the Register of Suppliers (ChileProvedores) is: <http://www.chileproveedores.cl>.

<sup>49</sup> <http://webportal.mercadopublico.cl/inscripcionyregistro/Paso1DatosExtranjero.aspx>.

An application for listing in the register may be made at any time and confirms the legality and financial and technical capacity of suppliers, although it is not an essential requirement for participating in procurement. Nevertheless, when issuing contracts, authorities may require that bidders be listed in the National Register ('ChileProveedores') that requires a more detailed level of information and documentation and is priced according to the level of sales for small, medium or large companies.<sup>50</sup> In those cases, not being a registered supplier may become a barrier to access the procurement market. According to information provided by ChileProveedores, by August 2016, there were 65,893 suppliers listed in the Register.<sup>51</sup> However, very small parts of the total are foreigners. For example, from a total of 6,269 new suppliers registered in ChileProveedores for 12 months between January and March 2016, only 27 were foreigner suppliers (around 0.5%).

Separately, public works contracts also require inscriptions in dedicated paid registers of major works contractor, public architect works, and consultants, kept by the Ministry of Public Works, and that also require a more detailed level of information and documentation that is provided to the Ministry, including affidavits, certificates of experience and corporate documents.<sup>52</sup>

The Law No. 19.886, distinguishes between four types of government procurement: framework agreements (online store *ChileCompra Express*), public bidding, private bidding, and direct negotiation or contracting.

All covered procurement procedures must use the ChileCompra electronic information system that is only available in Spanish. For public bidding procedures, the call for bids may also be published in other international, national or regional media. Yet, the large majority of the tenders are published exclusively in Spanish. We must recall that SOEs procurement, public works, government staff recruitment, cooperation agreements between public entities, contracts relating to financial instrument transactions, and purchase of war material, are excluded from this general procurement system.

- a) **Framework agreements.** In this type of procurement, the DCCP agrees unit prices with suppliers of particular goods and services,<sup>53</sup> which then government authorities procure through direct purchase orders in accordance with the terms laid down in the framework agreements. Government authorities are obliged to purchase the goods and services available in the online store for framework agreements. If the product or service needed cannot be found there or more advantageous terms can be found on the market, a public or private bidding procedure must be followed or, in special cases, there may be direct agreement using the website MercadoPublico.cl. Since 2009, purchasing under framework agreements exceeding 1,000 UTM (around 61.200 EUR)<sup>54</sup> should be through reverse bidding: the authorities must transmit the intention to buy through the system to all suppliers which have the type of product required available under a framework agreement (World Trade Organization (WTO), Trade Policy Review Body 2015a, 87). All framework agreements are awarded through public bidding procedures and have a specific expiry date and cover a number of products and services. By August 2016, 33 framework agreements were in effect.<sup>55</sup>

<sup>50</sup> <http://www.chileproveedores.cl/chprovdnn/TarifasySucursales.aspx>.

<sup>51</sup> <http://www.chileproveedores.cl/chprovdnn/Portals/0/Documentos/Registro%20Proveedores%20Vigentes%202016-03-09.pdf>.

<sup>52</sup> <http://www.mop.cl/servicios/Paginas/Concursosylicitaciones.aspx>

<sup>53</sup> These goods and services are for "mass use": from perishable and non-perishable food, supplies, computers, furniture to more complex services such as hospitality and medical treatment, among others.

<sup>54</sup> UTM (Unidad Tributaria Mensual) is a unit corresponding to an amount of money in pesos and determined by law, which is updated on an ongoing basis by the Consumer Price Index (CPI) and is used as a tax measure. By August 2016, the value of one UTM was 45.907 Chilean Pesos (61.2 EUR).

<sup>55</sup> <https://www.mercadopublico.cl/Home/Contenidos/QueEsCM>.

- b) **Public bidding** is the most common procedure for procurement (around 90%) and is mandatory, only with the exceptions provided in Law No. 19.886. Law No. 19.886 sets minimum time-limits between the call for bids and the closing date for receiving them in public bidding procedures. If the amount of a contract is 1.000 UTM or more, the call must be published at least 20 calendar days prior to the cut-off date for receiving bids; for lesser amounts, the minimum period is ten days. All these time-limits may be shortened in the case of simple standard goods or services. Following the final paragraph of Art. 25 of Supreme Decree No. 250, Chilean authorities should ensure that higher minimum time periods provided for in international agreements in force (e.g. Annex XIII Appendix 3 of the EU-Chile Association Agreement) are respected in practice.
- c) **Private bidding and direct negotiation or contracting** are exceptional methods to be used following a justified resolution and only in the circumstances defined in the Law: (i) if public biddings are declared vacant for lack of applicants; (ii) in case of termination of a previous contract, if the remainder is under 1.000 UTM; (iii) in cases of emergency, urgent or unforeseen circumstances; (iv) if there is only one supplier of goods or services; (v) in agreements to provide services with foreign legal entities to be carried outside national territory; (v) if the service is by nature confidential or if its disclosure could affect the security or national interest; (vi) when, by the nature of negotiation, there are circumstances or characteristics of the contract that make direct agreement essential, according to the criteria specified in the regulations of the law; and (vii) when the amount of the purchase is below the limit set by the regulations (10 UTM).<sup>56</sup>

Government authorities must determine criteria for evaluating bids in their procurement procedures, taking into account, *inter alia*, the price of the bid, the experience of the bidders, the technical quality of the goods or services offered, technical assistance, after-sales service and delivery date. Pursuant to the government procurement regulations, these criteria must also be spelled out in advance in the tender specifications, showing the scores to be assigned to each of them. The technical specifications for the goods or services to be procured must be drafted in abstract or functional terms and not refer to any specific brands. The bids are opened electronically through the information system. The contract is awarded to the bid that provides the most advantageous combination of the criteria laid down in the specifications and takes the form of an administrative act that is also duly notified to the other bidders. This act awarding a contract sets out the evaluation criteria and shows the points scored that resulted in the winner being declared as having made the most competitive bid and must be published in such a way that all suppliers can see for themselves the results of the bidding procedure.<sup>57</sup> The contract may not be awarded to a bid that does not meet the criteria and requirements laid down in the tender specifications (World Trade Organization (WTO), Trade Policy Review Body 2015a, 86).

Public bidding is open to all under the same conditions. There is no provision in ChileCompra regulations for margins of preference for national suppliers and no discrimination among products, services and suppliers according to their origin. Nor is there any provision for offsets as a condition for awarding

a contract or any set asides for certain bidders. However, in the case of public works, it is required a 30% of local presence in consortia.<sup>58</sup> Efforts are made to encourage SMEs to participate in the process.

<sup>56</sup> Law 19886, Art. 8; Supreme Decree No. 250, Art. 10.

<sup>57</sup> Law No. 19.886, Art. 18 et seq.; Supreme Decree No. 250 Articles 6 and 41.

<sup>58</sup> Article 33 of Regulation for the Recruitment of Works of Consultancy of the Ministry of Public Works (Decree N° 48 of 1994) and According to Article 12 of the Regulation of Regulation for Public Works Contracts (Decree N° 74 of 2004), in some exceptional cases, authorized by the General Director, foreign companies or consortia

For this purpose, the “Consejo Propyme” (SME Council) was established in November 2013, as an advisory body coordinated by ChileCompra whose objective is to promote participation and business opportunities for smaller companies in the government procurement market.<sup>59</sup>

Besides the information provided by the DCCP, its related websites (ChileCompra, MercadoPublico and ChileProveedores), and by the respective public entities during the procurement process, the DCCP created in May 2010 Analiza.cl, a platform of business intelligence that provides free of charge information on purchases of state agencies that use the tender platform [www.mercadopublico.cl](http://www.mercadopublico.cl). Analiza.cl seeks to eliminate asymmetries of information and is specially designed for companies that do not have the ability to install these systems on their own. This is a unique instance, where all the community concerned, and entrepreneurs in particular, may work with more and better information to choose where and how to do business with the state, optimizing the better use of their resources in line with the dynamics of public procurement.<sup>60</sup> Yet, all this data is again only available in Spanish.

#### *3.3.2.1.4 Dispute Settlement*

A Government Procurement Tribunal (TCP – Tribunal de Contratación Pública) has been established since September 2005, two years after the publication of Law No. 19.886 which created it. This tribunal is empowered to hear and decide on action taken to challenge any illegal or arbitrary act or omission that may have occurred between the approval of the tender specifications and the award of the contract in procurement procedures by government authorities, including those concerning public works. Yet, the jurisdiction of the TCP has been criticized by its limited nature, as it does not include claims arising from private biddings and frameworks agreements, and the conflicts that stem from the execution or termination of a contract – even if it was awarded after public bidding (Escanilla Abarza 2013, 110–11).

The TCP is an administrative litigation body and its directives, sentences and economic situation are subject to oversight by the Chilean Supreme Court, although it is not part of the Judiciary. The Tribunal’s statutory regime is set out in Articles 22 and 23 of Law No. 19.886 and complemented by regulations issued by the Supreme Court.<sup>61</sup> The Law requires the DCCP to provide the infrastructure, technical support and human and material resources needed for the Tribunal’s proper functioning (World Trade Organization (WTO), Trade Policy Review Body 2015a, 87) This situation has been criticized as undermining the logistic and financial independence of the Tribunal (Escanilla Abarza 2013, 145).

Any natural or legal person having a proven interest in a procurement procedure may submit an application to the Tribunal challenging the award within ten working days from the time when the contested act or omission became known or was published.<sup>62</sup> After the Tribunal has agreed to hear the challenge, it may decree the suspension of the bidding procedure to which the challenge relates. In a definitive ruling, the Tribunal decides on the legality or arbitrariness of the act or omission challenged and orders the measures needed to restore the rule of law. An appeal may be made against the Tribunal's rulings to the Appeals Court in Santiago. Between 2009 and 2013, the Tribunal issued 88 final rulings.<sup>63</sup>

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will not be able to participate in the bidding. The new regulation of public works tenders by the Ministry of Health values local experience by 80% and experience abroad by 20%.

<sup>59</sup> <http://www.propymechile.com/noticias/6298-pymes-en-chile-pro-pyme-chile-ultimo-consejo-propyme-del-ano-abarco-las-condiciones-de-pago-de-organismos-publicos-a-proveedores-del-estado.html>

<sup>60</sup> <http://www.analiza.cl/web/>

<sup>61</sup> Supreme Court of Chile, “Auto Acordado Sobre Funcionamiento del Tribunal de Contratación Pública”, 11 March 2011, [http://www.tribunaldecontratacionpublica.cl/index.php?option=com\\_phocadownload&view=category&download=1:autoacordado-texto-refundido&id=1:marco-normativo&Itemid=110](http://www.tribunaldecontratacionpublica.cl/index.php?option=com_phocadownload&view=category&download=1:autoacordado-texto-refundido&id=1:marco-normativo&Itemid=110).

<sup>62</sup> Law No. 19.886, Art. 24.

<sup>63</sup> [http://www.tribunaldecompras.cl/index.php?option=com\\_content&view=category&layout=blog&id=9&Itemid=101](http://www.tribunaldecompras.cl/index.php?option=com_content&view=category&layout=blog&id=9&Itemid=101)

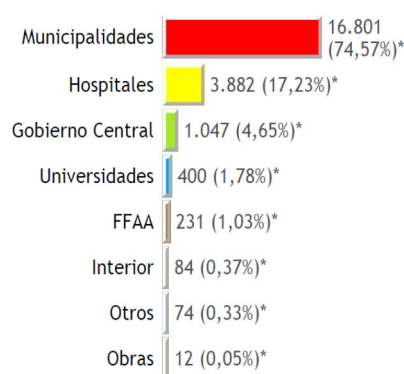
Since the creation of the TCP the General Comptroller of the Republic (CGR)<sup>64</sup> may not intervene in cases that are being heard by that TCP, which has sole and exclusive competence to resolve conflicts in public procurement procedures (although with limitations explained before). In several cases the CGR has decided about its incompetence to hear conflicts arising between the Administration and suppliers in bidding processes, reaffirming that the jurisdiction corresponds to the TCP (Vergara Blanco 2016, 364).

An analysis of the cases heard by the Government Procurement Tribunal shows that the decision to award a contract is the administrative act in procurement procedures which gives rise to the most complaints: some 58% of suppliers contesting bidding procedures did so at the time the contract was awarded. The decision to declare a bidding procedure void is the second most common subject of complaint (9%). The other cases concern acts such as the opening of bids, their evaluation, the bases for the bidding procedure and the decision declaring a bid inadmissible. Most of the complaints (68%) concerned tenders for the supply of movable goods and services, with contracts to supply services being the source of the most complaints. The next most common was contracts to carry out public works, at 20%, followed by bids for concession contracts (9.6%). Municipal authorities were the subject of the largest number of complaints (36% of the total), followed by central administration institutions at 17%, and hospital and health services at 14%.<sup>65</sup>

The TCP has been criticized for its inclination to not cancel contracts when they have already been awarded and satisfied the public necessity for which the applicable tender was called, without prejudice to declare illegal or arbitrary act or omission challenged and leave open the possibility of claiming damages and administrative measures on organ and offending officials (Escanilla Abarza 2013, 130).

As it can be seen in Figure 3.19, the large number of claims in the procurement process are against municipalities, followed by hospitals, central government, universities and armed forces, that are at the same time (and in the same order) the main users of the public procurement system (ChileCompra 2016).

**Figure 3.19: Number of Pending Claims by Sector**



Source: ChileCompra (2016) – \* % Of outstanding claims representative of total outstanding claims from all sectors by 4 December 2016

<sup>64</sup> The General Comptroller Office of the Republic (CGR) is in charge of controlling the State's Administration, a task assigned it in the Political Constitution. It is independent from the Executive Branch and other government entities. It essentially ensures that the acts of the State Administration are legal. It is not subordinate, nor overseen by the Executive Branch or Congress. The task of the CGR is by far oversight. It is charged with protecting the principle of legality, i.e. confirming that the organs of the State's Administration act according to their attributions following the procedures contemplated in the law.

<sup>65</sup> This information is for the period between September 2010 and December 2013. (World Trade Organization (WTO), Trade Policy Review Body 2015a, 87–88) Vergara Blanco has reached to the same conclusion after reviewing the TCC case law until August 2015. (Vergara Blanco 2016, 360).

### 3.3.2.2 European Union

#### 3.3.2.2.1 Overview

For the European Commission, the EU procurement market is one of the most open in the world, and constitutes considerable international business opportunities, stimulating a competitive European industry, creating jobs and sustainable economic growth (European Commission - Trade 2014). Public procurement expenditure by the general government sector on works, goods, and services (excluding utilities) for 2013 was around 1,786.61 billion EUR, representing 13.7% of the EU GDP in 2013 (World Trade Organization (WTO), Trade Policy Review Body 2015b, 87). In 2012, public procurement expenditures in the EU, including utilities, was EUR 2.4 trillion, being the total value contracted by the 27 Member States of the EU and covered by GPA of EUR 283.4 billion, representing around 12% of the total contracted value (WTO, 2016).

In Europe, there seems to be a broad agreement that currently an imbalance exists between the openness of the EU procurement market and third country procurement markets and that European companies should enjoy better access to procurement opportunities abroad (European Commission 2016). However, in practice most of the EU procurement markets remain substantially “national” in scope. (Burrows and McNeill, 2015) Although there are common rules on government procurement that are applicable throughout the EU, differences in the data provided by member States make it difficult to draw conclusions about spending in one State compared to another. For example, only 4.1% of the total value of public procurement published in the electronic platform Tenders Electronic Daily (TED) in 2011 was awarded directly to cross-border foreign suppliers. (World Trade Organization (WTO), Trade Policy Review Body 2015b, 9, 14) The situation is similar inside the EU. Between 2006 and 2009, direct cross-border procurement (i.e. public contracts awarded to operators from other EU Member States) accounted for 1.6% of awards or 3.5% of the total value of published contract awards. In the same period, indirect cross-border procurement, via corporate affiliates or partners situated in the Member State of the contracting authority, was more frequent (11.4% of awards or 13.4% by value) (Ramboll, 2011, 38), and Burrows and McNeill, 2015).

#### 3.3.2.2.2 Legal Framework

The rules that the EU has created to implement its internal market policy in public procurement derive mainly from two sources: The Treaty on the Functioning of the European Union (TFEU) [formerly Treaty establishing the European Community (TEC)], and the procurement directives. The EU is also a contracting party to the WTO Agreement on Government Procurement (GPA).

The TFEU contains general rules that, *inter alia*, prohibit Member States from discriminating against other Member States – for example, by reserving contracts for domestic firms. Public procurement activities are covered by the negative obligations of the free movements of the EU internal market. These rules apply in principle (but with limited exceptions) to all public procurement measures and all types of government contracts. These “negative” obligations of the TFEU are applicable and enforceable in Member States without the need for any implementing measures. However, these rules alone were considered insufficient to open procurement markets, and it was deemed necessary for contracts to be awarded by transparent procedures so that authorities could not disguise any discriminatory behaviour under a cloak of discretion. Further, special provisions were considered desirable to ensure that the rules could be effectively enforced by aggrieved tenderers (Arrowsmith *et al.* 2011, 52–53).

To ensure this, the EU has adopted directives which regulate award procedures for major contracts – these require, for example, that States should advertise their contracts across Europe and should award them using only commercial criteria. It has also adopted special directive on remedies. A directive is

a form of secondary legislation which requires each Member State to ensure that it has appropriate laws in its own legal system to implement the rules of the directive and in conformity with the TFEU rules. Most member States have had to adopt new legislation to give effect to the obligations contained in these directives.

The first EU public procurement directive dates back to July 1971 and covered public works contracts. Supply and service contracts were added in separate 1976 and 1992 directives, with a 1990 directive covering entities operating in the water, energy, transport and telecommunications sectors. The remedies directives, covering the procedures for challenging the award of contracts under these various directives, date from 1989 (public sector) and 1992 (for utilities) (respectively, the Public Sector Remedies Directive (89/665) and the Utilities Remedies Directive (92/13)). In April 2004, two new public procurement directives came into force:

- a) Directive 2004/18 which applied to service, supply or works contracts entered into by public bodies other than utilities in relation to a utility activity (the “2004 Public Sector Directive”); and
- b) Directive 2004/17 which applied to service, supply or works contracts entered into by utilities (i.e. public and certain private bodies operating in the water, energy, transport and postal services sectors) which relate to a utility activity (the “2004 Utilities Directive”).

Together, these are known as the “Old Directives” (Burrows and McNeill 2015).

Following a consultation process and legislative proposals, three new public procurement directives (the ‘New Directives’) came into force in April 2014 with a requirement that they be implemented into the national law of all EU Member States by April 2016: (World Trade Organization (WTO), Trade Policy Review Body 2015b, 3)

- a) The Directive on public procurement (2014/24) (the “2014 Classic Directive”), which repeals the 2004 Public Sector Directive;
- b) The Directive on procurement by entities operating in the water, energy, transport and postal services sectors (2014/25) (the “2014 Utilities Directive”), which repeals the 2004 Utilities Directive; and
- c) The Directive on the award of concession contracts (2014/23) (the “2014 Concessions Directive”), which sets out new rules for concession contracts.

The New Directives are intended to simplify the EU procurement regime, introduce more flexibility and transparency, providing better access to EU procurement markets. Among other changes, the package reinforces rules on aggregation of below threshold procurement contracts, introduces the concept of life-cycle costing that includes environmental externalities, and applies specific rules to concessions contracts (World Trade Organization (WTO), Trade Policy Review Body 2015b, 9). The New Directives also maintain and simplify the use of framework agreements, dynamic purchasing systems, electronic auctions, and electronic catalogues, with a view to supporting the use of electronic procurement procedures.

The 2014 Classic Directive applies to “public contracts”, which have to be for “pecuniary interest” and “in writing” between a public body (or public bodies) and a provider (or providers) and relate to the execution of works, the supply of products or the provision of services. These three types of contract (works, supplies, services) are mutually exclusive, and a contract can be of only one type even if it includes a combination of elements. The classification is important for various reasons, including the threshold value to be applied to it (recently modified in December 2015 to be aligned with the thresholds laid down in the GPA Agreement), as it can see in Table 3.9 below, the designation of the contract in

the public notices which are required to be published and, if the contract is a concession or utilities procurement, in which case the respective special Directive will be applicable (Burrows and McNeill 2015).

**Table 3.9: Minimum Public Procurement Thresholds**

Authorities Concerned	Type of Procurement	Thresholds
<b>Central Government authorities</b>	Works contracts, subsidised works contracts	€5 225 000
	All services concerning social and other specific services listed in Annex XIV	€750 000
	All subsidised services	€209 000
	All other service contracts and all design contests	€135 000
	All supplies contracts awarded by contracting authorities not operating in the field of defence	€135 000
	Supplies contracts awarded by contracting authorities operating in the field of defence	Concerning products listed in Annex III
Concerning other products		€209 000
<b>Sub-central contracting authorities</b>	Works contracts, subsidised works contracts	€5 225 000
	All services concerning social and other specific services listed in Annex XIV	€750 000
	All other service contracts, all design contests, subsidised service contracts, all supplies contracts	€209 000

Source: EU Commission Regulation No. 2015/2340, 15 December 2015<sup>66</sup>

<sup>66</sup> Products listed in Annex III include *inter alia*: salt, sulphur, earths and stone, plastering materials, lime and cement; metallic ores, slag and ash; mineral fuels, mineral oils and products of their distillation, bituminous substances, mineral waxes (except special engine fuels); inorganic chemicals, organic and inorganic compounds of precious metals, of rare-earth metals, of radioactive elements and of isotopes, and organic chemicals (except: explosives, tear gas, toxic products). Services concerning social and other specific services listed in Annex XIV, include health, social and related services; administrative social, educational, healthcare and cultural services; compulsory social security services; benefit services; other community, social and personal services including services furnished by trade unions, political organisations, youth associations and other membership organisation services; religious services; hotel and restaurant services; legal services, to the extent not excluded pursuant to point (d) of Article 10 of the 2014 Classic Directive (which includes legal representation of a client in arbitration, conciliation or judicial procedures, legal advice given in preparation of any of those proceedings, document certification and authentication services provided by notaries, legal services provided by trustees or appointed guardians or other legal services designated by a court, tribunal or by law, and other legal services which in the Member State concerned are connected, even occasionally, with the exercise of official authority); other administrative services and government services; provision of services to the community; prison related services, public security and rescue services to the extent not excluded pursuant to point (h) of Article 10 of the 2014 Classic



Unfortunately, the process of classification or valuing a contract is not always straightforward. For instance, the Directives require aggregation of contracts having similar characteristics and those which are for the same type of goods or services over a certain period. In addition to this, the values of all the contracts in relation to a works project have to be aggregated. Likewise, the valuation of frameworks must take into account the value of all potential call offs under that framework during its lifetime and it is this value that must be compared with the thresholds. Finally, the splitting up of contracts in order to keep them below threshold is explicitly forbidden (Achilles 2015, 3).

Not all procurements are covered by the EU Directives. There are a number of circumstances where the regulations explicitly exclude certain types of contracts. These exclusions include contracts where secrecy is in the national interest, contracts concerning real estate and contracts for research and development services, subject to certain qualifications (Achilles 2015, 3). Some services have also been excluded from the scope of the New Directives, such as certain audio-visual and radio media services, legal services designated by a court or tribunal, financial instruments and public passenger transport services by rail or metro. Exploration of oil and gas has been added to the existing exclusions from the utilities regime – namely, contracts awarded by contracting entities for the purchase of water and for the supply of energy or of fuels for the production of energy (Burrows and McNeill 2015).

Although EU Directives are common and binding for all Member States, each country has separate domestic entities in charge of this process (which also operate separate websites). Above thresholds, only publication at EU level is mandatory, while additional publication at national level is optional (Article 52 of the Classic Directive).

Contracting authorities should, except in certain specific situations, use electronic means of communication which are non-discriminatory, generally available and interoperable. The EU has developed software to facilitate electronic submission and automatic verification of receipt, under a wider programme on electronic procurement, referred to as “SIMAP” (which stands for *Système d’information pour les marchés publics*), that includes Tenders Electronic Daily (TEDs), publishing public procurement notices from EU (“SIMAP - Information System for European Public Procurement” 2016).

However, there is still a significant difference between Member States when it comes to the information provided in notices. In particular, large variations are still evident when it comes to publishing the final value of contracts awarded in the contract award notices. There are a number of Member States where the low number of notices containing information on the value of awarded contracts gives cause for concern in terms of transparency (European Commission 2014, 9). At the same time, despite a continuous increase in the use of e-procurement, it was still only used in about 10% of procurement procedures carried out across the EU in 2011. By October 2018, all contracting authorities will have an obligation to use electronic means in procurement procedures for the publication of notices and tender documentations, as well as for the submission of tenders (European Commission 2014, 11).

#### 3.3.2.2.3 Types of Procurement

Contracting authorities covered by the directives must use one of six types of procurement procedures:

- a) **Open procedure**, where any interested economic operator may submit a tender in response to a call for competition.

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Directive (civil defence, civil protection, and danger prevention services that are provided by non-profit organisations or associations, except patient transport ambulance services); investigation and security services; international services; postal services; and miscellaneous services.

- b) **Restricted procedure**, where any economic operator may submit a request to participate in response to a call for competition, by providing the information for qualitative selection that is requested by the contracting authority. In this way, interested bidders to “pre-qualify” before being invited to submit a fully priced tender.
- c) **Competitive procedure with negotiation**, where any economic operator may submit a request to participate in response to a call for competition, by providing the information for qualitative selection that is requested by the contracting authority, and then engaging in negotiations with the contracting authorities on the initial and all subsequent tenders submitted by them. This process involves then a prequalification stage and then a negotiation stage with the pre-qualified group of tenderers.
- d) **Competitive dialogue**, where any economic operator may submit a request to participate in response to a contract notice by providing the information for qualitative selection that is requested by the contracting authority, and engage in a flexible dialogue to be conducted in successive stages, with the aim of reducing the number of bidders. This procedure was introduced for the first time in Directive 2004/18 to provide more flexibility in procedures for complex contracts.
- e) **Innovation partnership**, which is a procedure that allows tenderers to submit a request to participate in response to a contract notice with a view to establishing a structured partnership for the development of an innovative product, service or works and the subsequent purchase of the resulting supplies, services or works. The partnership is structured in successive stages following the research and innovation process, and the contract will be awarded in accordance with the rules of a competitive procedure with negotiation. (Burrows and McNeill 2015) This is a novel procedure, established by the New Directives.
- f) **Use of the negotiated procedure without prior publication**. This procedure can be used only in the specific cases and circumstances laid down in Article 32 of the 2014 Classic Directive, and may be used for public works contracts, public supply contracts and public service contracts, basically where no readily available solution exists (*inter alia* no suitable tenders, unique suppliers, additional deliveries of an original supplier). This is also novel procedure, established by the New Directives.

Open competition is the most common type of procedure for public procurement in the EU. The value of contracts awarded following this type of procedure accounted for 51% of the value of all contracts awarded and published in 2011, representing approximately 75% of all contract award notices. The second most popular procedure in terms of its share of the total value of contracts published is the restricted procedure (21% of the total value) (European Commission 2014, 10). Both are formal tendering procedures, under which the authority must establish clear specifications as the basis for submission of bids, and must evaluate the bids, as received, on objective criteria, without entering into significant negotiations with interested parties.

Authorities have a free choice as to which of these two procedures to apply for any contract. The rules are very similar for the two procedures, with the exception that there is an additional stage in the restricted procedure of choosing a limited number of firms to tender. The restricted procedure requires a public advertisement of the contract; and requires all those who respond to be considered on an objective basis – although it is not necessary to invite all of them to tender, they must all be considered for invitations and objective criteria used to select between them (Arrowsmith *et al.* 2011, 132–33). Although the new procedures have been introduced with a view to providing contracting authorities more scope for negotiation with bidders, it is too early to assess if those goals have been achieved or to measure its effectiveness.

### 3.3.2.2.4 Dispute Settlement

Efficient enforcement of a field of law is of utmost importance for compliance with the rules and the European Union has made extra efforts in order to ensure effective enforcement of the EU public procurement rules at national level. The European Commission showed early awareness of the need of fast and efficient enforcement of the public procurement rules and this led to the early adoption of the so-called Remedies Directive (Directive 2007/66/EC) that provides legal remedies for breaches of EU procurement law, including a “standstill period”, which requires contracting bodies to provide at least 10 days after deciding the winning bid before it can be signed, and more stringent rules against illegal direct awards of public contracts so that illegally-awarded contracts may be rendered ineffective (or null and void) by national courts. The Commission is actively monitoring the respect of EU rules by member States through infringement procedures and has opened numerous cases in recent years against a large number of member States. Since the thresholds of EU rules are aligned with that of the GPA and their substantive provisions are broadly similar to that of the GPA, these infringement procedures can be expected to contribute to the proper implementation of the GPA as well (World Trade Organization (WTO), Trade Policy Review Body 2015b, 94).

Enforcement of the public procurement rules also takes place at supranational level as the European Commission supervises the compliance of Member States with their obligations under EU law. It follows from Article 258 of the TFEU that the Commission can bring a Member State before the Court of Justice of the European Union (CJEU) if it considers that it has failed to fulfil an obligation under the Treaty including compliance with specific Directives (“infringement procedures”).<sup>67</sup> The Commission has used the procedure in several cases in the field of public procurement (Arrowsmith *et al.* 2011, 288). However, the most relevant procurement cases are in fact adjudicated by the CJEU through preliminary rulings under Article 267 of the TFEU, as national courts may (and sometimes must), refer to the CJEU and ask for clarification and interpretation of EU law, in order to ensure the effective and uniform application of that law and prevent divergent interpretations.<sup>68</sup>

Using both preliminary rulings and infringement procedures, the CJEU delivers regular judgments on procurement matters, which are binding on the EU Member States. In its jurisprudence, the CJEU has reflected on the importance of public procurement to fundamental freedoms of the common market: rights of establishment and freedom to provide service, and it will likely be instrumental in shaping the concepts and changes introduced by the New Directives. (Bovis 2016, xii, xv).

EU Member States are bound by the judgments of the CJEU, which they must implement. Under Article 260 TFEU, if a Member State does not comply with the judgment of the CJEU, the Commission is allowed to bring a case against the Member State concerned to obtain a lump sum or penalty payment, as determined by the CJEU.

The ratio of national review procedures to the total number of procurement procedures carried out in the Member States remains low in most of them. In the large majority of countries, the success rate of

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<sup>67</sup> Some relevant infringement procedures include the definition of cross-border interest (C-507/03 Commission v Ireland, Judgment of 13 November 2007), the scope of the exemption on essential security interests (C-337/05 Commission v Italy, Judgment of 8 April 2008), and the notion of co-operation between two public authorities (C-480/06 Commission v Germany, Judgment dated 9 June 2009).

<sup>68</sup> Some relevant preliminary rulings include the definition of a “public contract” (C-220/05 Auroux and Others, Judgment of 18 January 2007, Opinion of the Advocate General of 15 June 2006), of a “concession” (C-274/09 Privater Rettungsdienst und Krankentransport Stadler, Judgment of 10 March 2011, Opinion of Advocate General dated 9 September 2010), and of “open-house” contracts, excluding them from the scope of classical procurement law (C-27/15, Pippo Pizzo v CRGT Srl, Judgment of 2 June 2016, at the request of the Higher Regional Court of Düsseldorf).

complainants before a review body stands at around 1/3 of the total number of cases. In Germany and Lithuania the number is significantly lower (between less than 11 and 16.6%), whereas in Cyprus, Czech Republic, Malta and Poland, the figures are somewhat higher (European Commission 2014, 26).

### **3.3.3 Comparison with Recent Agreements Concluded by the EU and Chile**

The World Trade Organization Government Procurement Agreement (GPA) serves as a baseline for liberalisation of public procurement. The minimum commitments within the GPA's framework include the principles of transparency and non-discrimination, especially national treatment. An agreement is "deeper than standard" if it includes, besides these two principles, dispositions such as e-government procurement<sup>69</sup> and incentives for SMEs, as well as cooperation and training on public procurement-related matters (if it is GPA+). An FTA is "standard" if it is limited to the basic principles described before of transparency and national treatment, when regulating government procurement within the agreement (Castro Lara and Pérez Restrepo 2015, 19).

After the conclusion of the EU-Chile Association Agreement, the EC's trade policy has experienced important changes. Pascal Lamy finalised his term as Trade Commissioner in 2004 and this led to the abandonment of the multilateral approach he had tried to implement in the area of trade policy (with the exception, precisely, of the EU-Chile Association Agreement). This change in approach became a formally approved change of policy with the approval of the EU Council of the European Commission's Communication 'Global Europe: Competing on the World' from October 2006, which re-launched the process of bilateral negotiations. A new set of bilateral agreements has already entered into force following the 'Global Europe's' approach.

This section compares the procurement chapter of the EU-Chile Association Agreement with the new generation of FTAs that recently concluded both by the EU (EU-Korea, EU-Singapore, EU-Vietnam, and Comprehensive Economic and Trade Agreement – CETA – with Canada) and Chile (Pacific Alliance, TPP), in order to determine if they have a higher or lower level of openness that the existing EU-Chile Association Agreement, under the assumption that one or a mix of all of them might be considered as a benchmark for the future update of that agreement.

#### **3.3.3.1 New generation of EU Free Trade Agreements**

The EU-South Korea FTA (in force since July 2011) is the first of a 'new generation' of EU preferential trade agreements. However, on public procurement, its Chapter 9 merely reaffirms the rights and obligations of the Parties under the WTO's GPA, to which both Parties are members.

Although Canada and the EU are both parties to the GPA, Chapter 19 of CETA deals with government procurement in nineteen articles and in separate market access offers, which include different thresholds that determine whether procurement is covered under an agreement, for Canada and the EU, for covered entities, goods, and services that largely follows the GPA framework. Similar provisions are also found in the recent EU Agreement with Singapore, which is also Party to the GPA. However, while CETA does not make an explicit reference to the GPA, the treaty with Singapore even considers the need of adjusting its text if the GPA is amended or superseded by other agreements (Article 10.20).

In the case of the EU-Vietnam FTA, although Vietnam is not a Party of the GPA, the chapter on public procurement essentially follows its approach.

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<sup>69</sup> E-government procurement refers to the use of electronic communications and transaction processing by public sector organisations when buying supplies and services or tendering public works. (European Commission, 2012, fn 1).

Unless otherwise mentioned, the comparison made below largely follows the CETA text, as it is the one with more detailed provisions in this subject matter.

### *3.3.3.1.2 Scope and coverage*

Like in the EU-Chile Association Agreement, CETA Chapter 19 covers procurement by different contractual means, such as purchase, lease, and rental or hire purchase, with or without an option to buy. Article 19.1 contains a series of useful definitions of the terms used in the chapter, something that is also found in Article 138 of the EU-Chile Agreement.

The scope of entities that are covered by the procurement rules of CETA is similar to that in EU-Chile Association Agreement, as CETA also applies to central and sub-central level entities and public enterprises and utilities. With notable exclusions,<sup>70</sup> almost all Canadian municipal government procurement will be covered for the first time by an international procurement agreement, including most utilities, Crown corporations, and the broader ‘MASH’ sector (municipalities, academic institutes, school boards, and hospitals). EU commitments include EU entities, central government entities, regional or local contracting authorities, contracting authorities that are bodies governed by public law as defined by the EU Procurement Directive, and EU utilities that are contracting authorities. Exceptions are found in specific areas, like the purchase of water and the supply of energy or fuels, the exploration or extraction of, oil, gas, coal, or other solid fuels, the procurement of agricultural products made in furtherance of agricultural support programmes and human feeding programmes.

Unless otherwise specified, CETA’s public procurement chapter covers all goods with certain exclusions on the side of Canada for procurement by Canadian defence and enforcement forces,<sup>71</sup> and some regional exceptions like the procurement of mass transit vehicles in Ontario and Quebec and of certain goods of Manitoba Hydro’s procurement. On the European side, the exclusions concern procurement by EU Ministries of Defence. Services are only included if they are explicitly listed in the market access offers and include construction and professional services.

General exceptions are included in similar terms as in the GPA and in the EU-Chile Association Agreement.<sup>72</sup> However, the agreement also considers security exceptions for the protection of each Party’s essential security interests relating to the procurement of arms, ammunition, or war material, or to procurement indispensable for national security or for national defence purposes.

The EU-Vietnam FTA also has a similar coverage, as it applies to both central and sub-central level entities. For the goods and services purchased by central government entities, Vietnam’s permanent threshold is set at 130,000 Special Drawing Rights (SDRs) with a transition period of 15 years to reach it. An initial transitional threshold is set at 1.5 million SDRs.

Vietnam’s coverage includes central government entities and other categories, like state-owned enterprises (Vietnam Electricity and Vietnam Railways) and universities (Vietnam National University, Hanoi and Vietnam National University, Ho Chi Minh City). Regarding sub-central government

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<sup>70</sup> Exceptions include selected entities like Infrastructure Ontario (Ontario’s local hydro utilities) and NALCOR (the provincial energy corporation for Newfoundland and Labrador).

<sup>71</sup> These include: the Department of National Defence, the Royal Canadian Mounted Police, the Department of Fisheries and Oceans for the Canadian Coast Guard, the Canadian Air Transport Security Authority, and provincial and municipal police forces.

<sup>72</sup> Subject to the requirement that measures are not applied in a manner that would constitute a means of arbitrary or unjustifiable discrimination between Parties where the same conditions prevail or are a disguised restriction on international trade, Art. 19.3 consider as exceptions, measures (a) necessary to protect public morals, order, or safety; (b) necessary to protect human, animal, or plant life or health; (c) necessary to protect intellectual property; or (d) relating to goods or services of persons with disabilities, of philanthropic institutions, or of prison labour.

coverage, Vietnam only lists two cities in the EU FTA (Hanoi and Ho Chi Minh City). Similarly, the EU is only opening to Vietnam certain specific areas, like the regions of Brussels, Berlin, and London, and also limits its coverage of public bodies at this level to those providing certain services: health, higher education, and research. However, the agreement calls for future negotiations on the expansion of sub-central coverage 15 years after the EU pact enters into force. The agreement gives flexibility to Vietnam to implement several obligations. For example, Vietnam is exempted from dispute settlement challenges with regard to its procurement obligations for five years, and may use offsets for 18 years. In delaying the implementation of other provisions, the EU sets a 10-year limit (Heilman Grier 2016a).

In the EU-Singapore FTA, both parties have agreed to expand their commitments. The EC has estimated that the coverage of Singaporean procurement entities has increased from about half of relevant entities to about three quarters, including key entities in certain utilities sectors. At the same time, Singapore has significantly expanded the types of public service contracts to be covered by its commitments on transparency and non-discrimination (European Commission - Directorate General for Trade 2013).

Similar to EU-Chile Association Agreement, in CETA, each party may modify its coverage by previous notification to the other Party in writing, including a proposal of appropriate compensatory adjustments, unless the modification is negligible in its effect or covers an entity over which the Party has effectively eliminated its control or influence. Adjustments and formal modifications are allowed (Article 19.18). Only these adjustments or modifications may trigger the dispute settlement procedure of the treaty. The EU FTAs with Singapore and Vietnam include broader provisions for modifications and rectifications to the coverage.

#### *3.3.3.1.3 Non-discriminatory treatment*

As in EU-Chile Association Agreement, CETA enshrines the principles of national treatment and non-discrimination principles for procurement in the covered entities, goods, and services (Article 19.4). Within Canada, such treatment includes treatment no less favourable than that accorded by a province or territory, including its procuring entities, to goods and services of, and to suppliers located in, that province or territory. Within the EU, such treatment includes treatment no less favourable than that accorded by a Member State or a sub-central region of a Member State, including its procuring entities, to goods and services of, and suppliers located in, that Member State or sub-central region, as the case may be.

#### *3.3.3.1.4 Transparency and contract award procedures*

Like in EU-Chile, CETA also has rules on the procedures of public procurement, and each entity shall conduct covered procurement in a transparent and impartial manner, applying the same rules of origin that the Party applies in the normal course of trade, without seeking, taking account of, imposing, or enforcing any offset. The procurement chapter also includes rules on information of the procurement system (Article 19.5) and transparency (Articles 19.6, 19.15, and 19.16), including more detail in issues such as notices for intended and planned procurement, the publication of award information and statistics, and the disclosure of information.

As in the agreement with Chile, CETA also includes rules on the use of information technology. According to Article 19.4, when conducting covered procurement by electronic means, a procuring entity shall ensure that the procurement is conducted using information technology systems and software, including those related to the authentication and encryption of information, that are generally available and interoperable with other generally available information technology systems and software. A procuring entity shall also maintain mechanisms that ensure the integrity of requests for participation

and tenders, including establishment of the time of receipt and the prevention of inappropriate access. There are also special provisions on electronic auctions (Article 19.13).

However, CETA has a more detailed regulation of the procurement process without referring to the WTO's GPA, including provisions on conditions for participation (Article 19.7), registration systems and qualification procedures (Article 19.8), technical specifications and tender documentation (Article 19.9), deadlines and time-periods (Article 19.10), negotiation (Article 19.11), and limited tendering (Article 19.12). The EU-Singapore FTA also includes provisions on environmental conditions or characteristics defined in the tendering process (Article 10.9). As a novelty, the EU-Vietnam FTA considers that, before launching a procurement, procuring entities may conduct market consultations with a view to preparing the procurement, notably for the development of technical specifications, provided that such advice does not have the effect of distorting competition and does not result in a violation of the principles of non-discrimination and transparency (Article IX b).

Administrative and judicial reviews are considered in broader terms than the 'bid challenge' stipulated in the EU-Chile Association Agreement. Under CETA Article 19.17, each Party shall provide a timely, effective, transparent, and non-discriminatory administrative or judicial review procedure through which a supplier may challenge a breach of the procurement chapter, or, if the supplier does not have a right to directly challenge a breach of the chapter under the domestic law of a Party, a failure to comply with a Party's measures implementing the chapter, arising in the context of a covered procurement, in which the supplier has, or has had, an interest.

#### *3.3.3.1.5 Review and cooperation*

Different from the EU-Chile Association Agreement, a special Committee on Government Procurement is created in CETA Article 19.19 for the purpose of exchanging information, assessing the operation of the procurement provisions, and promoting coordinated activities to facilitate access for suppliers to procurement opportunities in the territory of each Party. It is worth mentioning that no specific cooperation activities are included in the CETA chapter on public procurement, nor in the EU-Singapore FTA. This is something that is loosely considered in the EU-Chile Association Agreement. However, the EU-Vietnam FTA includes specific commitments like technical and financial assistance in order to develop, establish, and maintain the automatic system for the translation and publication of summary notices in English in Vietnam (Article VI.4). In the same treaty, the Parties recognise their shared interest in cooperating in the promotion of the international liberalisation of government procurement markets, and shall endeavour to cooperate in matters like exchanging experiences and information (such as regulatory frameworks and best practices); developing and expanding the use of electronic means in government procurement systems; building the capability of government officials in best procurement practices; and strengthening institutions for the fulfilment of the public procurement provisions of the FTA (Article XXII).

#### **3.3.3.2 New generation of Chile Free Trade Agreements**

Chile has an extensive experience in the negotiation an update of trade and investment agreements. This circumstance will undoubtedly inform the position of Chilean negotiators in any future update of the EU-Chile Association Agreement on government procurement.

Without considering the partial scope agreements (PSAs) concluded by Chile under the Latin American Integration Association (ALADI), besides the EU-Chile Association Agreement an important number of Chilean FTAs have chapters on public procurement, involving Australia, Brunei, Canada, Colombia, Japan, Mexico, New Zealand, Peru, Singapore and United States. In fact, all the FTAs signed by Chile

with developed countries, include a chapter on government procurement (Harrison, Rutherford and Tarr 2005, 340).

Table 3.10: Chilean Preferential Trade Agreements with a Government Procurement Chapter

Treaty	Entry into Force
Pacific Alliance Protocol (Chile, Colombia, Peru, Mexico)	10-02-2014
FTA – Australia and Chile	06-03-2009
SEP – Chile and Japan	03-09-2007
SEP – Trans-Pacific Free Trade Agreement (P4: Chile, New Zealand, Singapore and Brunei Darussalam)	08-11-2006
FTA – United States of America and Chile	01-01-2004
FTA – Mexico and Chile	31-07-1999
FTA – Canada and Chile	05-07-1997

Source: Organization of American States (2016)

Public procurement provisions in Chilean FTAs follow a similar structure: they include the principles of national treatment and non-discrimination, rules of origin, denial of benefits, tendering procedures, special provisions for government procurement for small businesses, and lists of entities (federal, state, and provincial government enterprises) covered by the agreement. Only the Mexico-Chile FTA includes a provision allowing the parties to have recourse to the dispute settlement mechanism of the agreement in alleged cases of nullification or impairment related to government procurement regulated in the chapter.<sup>73</sup>

The Pacific Alliance (PA) establishes a common regulatory framework on public procurement since not all the earlier agreements among the PA economies had provisions on this matter. The PA Additional Protocol (2014) updates previous bilateral stipulations regarding transparency, national treatment, non-discrimination and dispute resolution, where they existed. The agreement also includes rules and actions that promote the participation of SMEs in public procurement. Furthermore, the agreement eliminates the existent reserves,<sup>74</sup> thus increasing the number of public entities that are authorized to procure from foreign suppliers (Castro Lara and Pérez Restrepo 2015, 19).

Table 3.11: Government Procurement Principles and Coverage in Existing Agreements of Pacific Alliance Members

Countries	Covered principles	Coverage
Chile–Colombia	GPA	Standard
Chile–Mexico	Not included	
Chile–Peru	Not included	
Colombia–Peru	GPA	Standard
Colombia–Mexico	GPA	Standard
Mexico–Peru	Not included	

Source: Organization of American States (2016)

The latest FTA concluded by Chile, which includes a chapter on government procurement (Chapter 15) is the Trans-Pacific Partnership – TPP (signed 04 February 2016, not yet in force) with by Australia,

<sup>73</sup> Chile – Mexico FTA, Art. 15bis-27.

<sup>74</sup> Under the public procurement agreements States can restrict public entities from having foreign suppliers- they are “reserved” to national suppliers- For example in Colombia the number of public entities (both national and provincial) that can have foreign suppliers (from other PA countries) increased from 95 to 118.



Brunei, Canada, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the United States, and Vietnam.

Although Chile is not party to the WTO's GPA a detailed procedural analysis of this part of the agreement finds that the TPP procurement chapter (and in a largely also the Pacific Alliance Protocol) virtually copy the provisions of the GPA with minor modifications. This explains that the coverage considered in the chapter, generally emulates the solutions presented in the GPA model, with lists of covered procurement, goods, services as well as value-thresholds and country-specific commitments (Górski 2016, 17–18).

On coverage, TPP countries have basically restated or modestly improved the procurement that had opened under the earlier agreements. Canada – a GPA and CETA party – basically grants its GPA coverage, with certain variations. TPP open markets for bidders coming from Australia, Brunei, Malaysia and Vietnam, (Dattu and Pavic 2015) and expands commitments granted under GPA and NAFTA, augmenting the list of covered federal entities from 78 to 95 entities and adding 12 entities to the list of 'Other Entities' under coverage (Heilman Grier 2016b).

In the case of Chile, TPP open new procurement markets for Malaysia and Vietnam, and largely follows its commitments included in its FTA with the US. If we compare the commitments that Chile undertook under TPP with those in the Agreement with the EU, there are also other important differences:<sup>75</sup>

- **New Entities Listed at Central Level:** In TPP Chile lists three new ministries, which are not in the EU-Chile Association Agreement. These are the National Council for Culture and the Arts (created in August 2003), the Ministry of Environment (created in January 2010), the Ministry of Sports (created in August 2013) and. This is explained by the fact that such ministries did not exist at the time of conclusion of the Association Agreement.
- **Lower thresholds for supplies and services at central level and other entities:** In TPP, the Chilean threshold for procurement of goods and services is 95.000 Special Drawing Rights (SDRs) at central level, 200.000 SDRs at sub-central level and 220.000 SDRs for other entities (maritime ports and airports). The threshold for procurement of construction services of 5.000.000 SDRs both at central and sub-central level and for other entities. In the Association Agreement, the thresholds for supplies and services are 130.000 SDRs at central level, 200.000 SDRs at sub-central level and 400.000 SDRs for other entities. The thresholds for works at central or sub central level is 5.000.000 SDRs.
- **Coverage at sub-central level is conditional to reciprocity:** In TPP, Chile offers the entities listed as sub-central, only to those Parties that assume equivalent commitments at the sub-central level. In the case of the Parties that currently do not have entities at this level of government,<sup>76</sup> Chile could extend the benefits of this Section to the Parties that make improvements to their respective coverage under at central level or of other entities. There is no similar requirement of reciprocity under the EU-Chile Association Agreement, although in this agreement the Regional Governments are considered as part of the central government, while at TPP Regional Governments and municipalities are listed as part of the sub-central level.
- **Exclusions for Small and Medium Enterprises:** In TPP Chile expressly excluded from the Chapter on Public Procurement to any form of preferences to benefit micro, small and medium sized enterprises.<sup>77</sup>

<sup>75</sup> TPP, Annex 15 –A Schedule of Chile, Section A.

<sup>76</sup> Chile is not extending sub-central coverage to Brunei Darussalam, Malaysia, New Zealand, the U.S. and Viet Nam.

<sup>77</sup> TPP, Annex 15 –A Schedule of Chile – Section G.

### 3.3.4 Market Access and Regulatory Barriers to Public Procurement Market

#### 3.3.4.1 Public Works Contracts

##### Chile

Chile does not have any unified regulatory framework for public works. Procurement procedures are governed by the individual organic laws pertaining to the various government and municipal authorities. Nevertheless, the organic law of the Ministry of Public Works (MOP) (DFL No. 850 of 1997) and the Regulations on Public Works Contracts (Supreme Decree No. 75 of 2004, amended by Decree No. 810 of 2008) lay down the rules to be followed for such contracts. There is also a Law on Public Works Concessions (Supreme Decree No. 900 of 1996 of the MOP) and its implementing Regulations (Supreme Decree No. 956 of 1997), which regulate the procurement of public works under the system of concessions to private persons. Works contracts concluded by the Ministry of Housing and Urban Planning (MINVU) for its own purposes and contracts for carrying out, operating and maintaining urban works with third party involvement are governed by Supreme Decree No. 236, which lays down the general basic regulations for procurement of works for housing and urban services, Law No. 19.537 on co-ownership of property, and Law No. 19.865 on shared urban financing (World Trade Organization (WTO), Trade Policy Review Body 2015a, 88).

In the case of public works contracts, some procedures and practices such as the issuance of certificates of completion of work to domestic contractors by the Registry of the MOP; and the obligation for foreign consultants to include national consultants in no fewer than 30% of the contract price equivalent may be insurmountable barriers to the participation of foreign bidders and get to weaken the concept of country open to international markets (Inter-American Development Bank and Government of Chile 2008, 82).

Art. 1 of the Supreme Decree No. 75 of 2004 restricts participation of bidders that are in the records of the Ministry of Public Works. A study commissioned by the MOP and which specifically analyses the issue of “barriers to entry” to such registry (Inter-American Development Bank and Government of Chile 2008, 44), concludes that the following barriers “do not add value ... are simply insurmountable for new entrants to the market of public works”:

- **Certificates issued by the MOP at the end of each public works contract specifying the number of works executed by the contractor concerned**, have the purpose of generating statistic information in a convenient format for the MOP’s registries. This is not strictly a mandatory regulation, but a historical process of MOP. Indeed, the vast majority of domestic and foreign suppliers do not incorporate this information to their works certificates. This may impose a *de facto* barrier of entry for companies that have not worked for the MOP in the past, as they would appear with less documents proving previous experience with that Ministry, although they may have a much higher than that required in other areas. Another problem is that the ‘sample’ certificate included in the regulations to be registered in one of the registries kept by the Ministry of Public Works is only available in Spanish.
- **The way the experience of companies is measured** can be manipulated by means of sum of the experience of its individual members. This practice may make sense in the case of smaller Consultants. However, this is not the case at higher levels, where companies should demonstrate systems, procedures, economic capacity and experience; regardless of individuals who are working on them at any time. In certain cases, national experience in the construction of public works has been more valued than international experience.

- **In the case of consortia including foreign consultants, national consultants should have 30% of the contract value.** It is not clear what the value of this restriction is. In addition, if we consider the ease with which private consortia can be set in violation this rule by way of subcontracts, it is clear that this rule may result in perverse incentives for the competing companies.

It is important to note that the abovementioned barriers are common to the construction of public works by MOP, even if those works are finally administered or under the responsibility of other ministries (Ministry of Health for public hospitals, for example).

#### 3.3.4.1.1 *European Union*

In the case of the EU, the acquisition or rental of land, existing buildings or interests therein are in principle, excluded from the New Directives. Nevertheless, some land development agreements (*inter alia*, where a developer erects a building to a contracting authority's requirements on the developer's own land, and then transfers the land plus building to the authority) are still subject to the New Directives upon the basis that they amount to public works contracts (Burrows and McNeill 2015).

The CJEU rendered two significant judgments relating to land developments in 2007 and 2010. The first case, *Auroux v. Commune de Roanne* concerned the construction of a leisure centre and related facilities around a railway station, where the contracting authority engaged a semi-public development company to acquire the land, obtain funding, carry out studies, organise an engineering competition, undertake the construction works, coordinate the projects and liaise with the authority. The authority itself was not intending to become the owner of the various facilities, apart from elements such as the public spaces and the car park. The CJEU held that the project was a public works contract, which fulfilled an economic function and corresponded to the requirements of the contracting authority, and was therefore, subject to the public procurement rules, regardless of whether the contracting authority would own or even use the completed works. The second judgment, *Helmut Müller GmbH v. Bundesanstalt für Immobilienaufgaben*, concerned the sale to a private party by a German federal agency of land which had been used formerly as a barracks, where the sale contract did not contain any reference to the land's future use. The CJEU ruled that the contract did not qualify as a public works contract because there was no "direct economic benefit" to the local authority, and the mere fact that the local authority had examined building plans presented to it in the exercise of its urban-planning powers, did not mean that the local authority had specified requirements attached to the redevelopment works (Burrows and McNeill 2015).

Although these two judgments have added legal clarity on the dividing line between land transactions falling outside the public procurement rules and the procurement of works subject to the public procurement regime, this issue should be further clarified to facilitate the access of third-countries to these contracts.

But a modernisation of the EU-Chile Association Agreement should also deal with *de facto* barriers. As mentioned, the participation of economic operators from non-member states in the EU public procurement market is very low. The most common situation of cross-border public procurement is the awarding of public contracts in developed EU countries to economic operators from other developed EU countries, and it is more common for small or less developed EU countries to award public contracts to economic operators from developed EU countries (like Germany, the UK, France, and Italy), than to economic operators from other small or less developed EU countries, or to foreign economic operators

to certain categories of public contracts. This is especially relevant in the execution, design, or carrying of construction works (Pîrvu and Bâldan 2013, 12).<sup>78</sup>

According to a European Commission staff working paper, European suppliers are reticent about participating in cross-border tenders, as linguistic, legal, and administrative barriers as well as continued practices of local preference serve as a restraint on cross-border participation (European Commission, 2011, 145).

### 3.3.4.2 State-Owned Enterprises and Procurement Coverage

The coverage of SOEs in procurement systems – particularly in Chile – could be improved. A ‘modernisation’ of the EU-Chile Association Agreement should aim to achieve a full coverage of central and comprehensive coverage of sub-central government procurement in all sectors, including as well the coverage of procurement in state-owned enterprises and entities with special or exclusive rights.

As mentioned, Chilean Government Procurement System does not apply to State-owned enterprises, which follow their own regulations on procurement. Therefore, the State enterprises are free to utilize (or not) ChileCompra. As mentioned, Chilean public enterprises covered notably do not include CODELCO, the main Chilean SOE and one of the world's biggest copper companies. In contrast, the New 2014 Utilities Directive applies to public bodies operating in the water, energy, transport, and postal services sectors, and also to “public undertakings” (separate legal entities owned or controlled by a public body) and entities which “operate on the basis of special or exclusive rights granted by a competent authority of a Member State” (Burrows and McNeill, 2015).

In this context, the coverage of the existing EU-Chile Association Agreement could be enhanced. Regarding Chile’s coverage, the Agreement include central and sub-central level (municipalities), but the list of other entities is reduced to entities operating in the utilities sector, basically maritime ports and airports (Appendix 3). With respect to the EU, even though the list of public entities included the Agreement varies across Member States, reflecting differences in government structures, the list of entities covered is broad. Yet, coverage can be considered somewhat GPA ‘minus’, as the EU offered fewer Category III entities (public enterprises and utilities) than under the GPA and still retained some sectors for reasons of reciprocity (Woolcock 2008, 12). We must recall that the EU is using “indicative listing” in its schedule, and therefore the list of other entities is not exhaustive.

A modernisation of the Association Agreement should also consider increasing the Parties’ coverage at central and sub-central level. For example, in TPP Chile has listed three new ministries that are not included in the Association Agreement (Ministry of Environment, Ministry of Sport and the National Council for Culture and the Arts), because such ministries did not exist at the time of signature of the Agreement with the EU. However, Chilean commitments in TPP are also reduced to a limited number of SOEs, basically maritime ports and airports.

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<sup>78</sup> In the study, EU member states were divided into two categories based on GDP per capita in PPS: (a) developed countries (with index of a country higher than 100): Belgium, Denmark, Germany, Ireland, Spain, France, Italy, Luxembourg, Netherlands, Austria, Finland, Sweden, and the United Kingdom, and (b) less developed countries: Poland, Portugal, Romania, Slovenia, Slovakia, Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Hungary, Malta, Cyprus, and Greece.

### 3.3.4.3 Language and Information Barriers

In the case of ChileCompra, the entire legal framework, guidelines, procurement statistics and other related documents are largely available only in Spanish. Similarly, tender processes are available almost exclusively in that language. In the case of MOP and MINVU only general brief announcements are published, and the related tender documentation is only physically available at the Ministries after payment. This could clearly limit the knowledge and the overall access of foreign suppliers to the Chilean Procurement System, or impose the cost of translation or hiring bilingual personnel.

In contrast, the EU procurement system guarantees the publication of notices in all the official languages of the Union. This is in line with the revised GPA which stipulates that the notice of intender procurement should contain “the language or languages in which tenders or requests for participation may be submitted, if they may be submitted in a language other than an official language of the Party of the procuring entity”, opening the door to multi-lingual tendering processes.<sup>79</sup>

However, as mentioned, there is still a significant difference between Member States when it comes to the information provided in notices, and the use of e-procurement in the EU is still rather limited, particularly compared with the Chilean procurement system that is covered by the ChileCompra platform.

Commitments undertaken in other agreements concluded by the EU and Chile could serve as guidance for this modernisation. For example, the revised Government Procurement Agreement (GPA) include detailed provisions improving transparency in the use of electronic means, including for the publication of procurement information, notices, tender documentation and the receipt of tenders. Similar provisions are found both in CETA and TPP.

Specifically with respect to multi-language tendering, we must recall that the EU-Vietnam FTA includes specific commitments to develop, establish, and maintain the automatic system for the translation and publication of summary Vietnamese procurement notices in English. Similar requirements could be considered regarding Chile.

### 3.3.4.4 Qualifications of Suppliers

There are certain restrictions in the qualification of suppliers that affect their access to public procurement market. As mentioned before, Chilean authorities may require that bidders be listed in the National Register (‘ChileProveedores’), that demands a more detailed level of information and documentation and that requires an annual or biannual payment. Furthermore, in the case of the registers kept by the Ministry of Public Works, that registration process is mandatory, requiring payment and the submission of detailed, difficult to get and sometimes inexistent documentation.<sup>80</sup> Also, registration with

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<sup>79</sup> Revised GPA, Art. VII.2.i.

<sup>80</sup> MOP Instructions require background certificates of the consultants/contractors and partners, natural persons and partners, directors and personnel from the managing team of the consultants/ contractors legal persons, with a maximum 30 days old. Many foreign companies have people working and living in a country other than their native country. As a result, it is difficult to obtain a certificate of good conduct or a criminal record from the country of origin on such short notice. In addition, some countries such as the UK do not provide these certificates. The requirement for ‘good conduct certificate’ of companies should be removed from countries where such documents do not exist.

identification numbers other than the local RUT (unique tax identification) should be allowed by MOP, as ChileCompra does.<sup>81</sup>

Not being a registered supplier may become a barrier to access the procurement market, as this requirement is usually used in large bidding processes, and the requirement of the registration in ChileProveedores is not necessarily known before the tender notice. In fact, as it was previously described, very small parts of the total number of registered suppliers are foreigners.

It would be recommendable to include provisions on the equivalence of titles of qualified suppliers (professional and technical diplomas), especially when it comes to the supply of services and the construction of public works. For example, today an expedited recognition and registration in Chile of academic degrees obtained abroad is limited only to those countries which Chile has concluded bilateral treaties (Brazil, Colombia Ecuador, Peru and Uruguay),<sup>82</sup> and one Multilateral Convention signed in Mexico City in 1902 that applies to degrees obtained in Bolivia, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Peru.<sup>83</sup> As we can see, those agreements do not benefit EU Member States.

In contrast, in the EU the system of recognition of professional qualifications is governed by Directive 2005/36/EC, recently amended by Directive 2013/55/EC. The directive provides a system of recognition of professional experience across the EU. But also, stipulates that evidence of formal qualifications issued by a third country shall be regarded as evidence of formal qualifications if the holder has three years' professional experience in the profession concerned on the territory of the Member State which recognised that evidence of formal qualifications certified by that Member State. Professional traineeships carried out in a third country can also be recognized.<sup>84</sup>

Yet, another set of measures should generate changing conditions of participation and qualification for economic operators. It has been suggested that the introduction by the 2014 Directive on Procurement of the 'European Single Procurement Passport' (ESPD) – a self-declaration of the businesses' financial status abilities and suitability for a public procurement procedure, has been cost and time-saving. Thanks to the ESPD the tenderers no longer have to provide full documentary evidence and different forms previously used in EU procurement, which means a significant simplification of access to cross-bordering tendering opportunities (Pîrvu and Bâldan 2013, 13).

### 3.3.4.5 Improvement of Domestic Review Procedures

The shortcomings of the Chilean Court of Procurement (TCP) could be addressed taking as benchmark the revised version of the GPA agreement, which stipulate in Article XVIII, that each Party shall provide a timely, effective, transparent and non-discriminatory administrative or judicial review procedure through which a supplier may challenge: a breach of the procurement rules, or where the supplier does not have a right to challenge directly a breach of the rules, or a failure to comply with a Party's measures implementing them. In the case of Chile, a more comprehensive procurement jurisdiction with financial

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<sup>81</sup> Whereas businesses and foreign professionals with no basis in Chile do not have a RUT or a local representative, that the RUT is time consuming and difficult to obtain from abroad, and that it does not seem essential to have a RUT or a local representative when registering or applying, these two requirements could be deferred and required only once awarded the contract, using identification numbers and address in the country of origin in the early stages.

<sup>82</sup> In the case of Spain, there is bilateral treaty but it benefits Chilean citizens only.

<sup>83</sup> <http://chile.gob.cl/en/estudie-y-trabaje-en-chile/reconocimiento-de-titulos/>

<sup>84</sup> Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications, Arts. 3.3 and 55.

and administrative independence from the Central Government it would be a clear way of improving domestic review procedures.

But having broad review procedures could also be problematic. The CJEU has been keen to subject contracts that fall below the threshold of the Directives to some form of competition and has supplemented them to ensure a parallel process of procurement, which has been criticized for creating uncertainty and a dysfunctional application of procurement rules to those contracts (Bovis 2016, xviii).

There is also an important difference in the level of information provided about these judicial review procedures. While the CJEU cases on public procurement (either preliminary rulings or infringement procedures) are largely available on line – together with the references to the related case before domestic courts – and in all the official languages of the Union, Chilean case law on public procurement is not easily available online, and a quick review of the webpages of both the TCP (<http://www.tribunaldecontratacionpublica.cl/>) and ChileCompra show that updates are not usually issued, with scattered information about the number of cases brought before the TCP and the overall number of decisions issues each year, especially after the year 2013. Additionally, almost all the information available is exclusively in Spanish.

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## 4 Impact Analysis on Trade in goods and Services, Flows of Investments, and Participation in Public Procurement Markets

### 4.1 Introduction

The purpose of this chapter is to summarize the economic effects of a modernised Association Agreement between the EU and Chile, based on a Computable General Equilibrium (CGE) modelling performed by the European Commission and the analysis of the previous two sections. In particular, we examine the two different liberalisation scenarios put forth in the CGE modelling to understand the impact on trade in goods and services which each possible scenario could have. While the increases in gross domestic product (GDP) attributable to the modernisation of the Association Agreement may be very small, there are likely to be large gains in regards to trade flows, as well as trade composition. In addition, given the absence of investment or public procurement effects from the CGE model, this chapter also attempts to estimate the economic impact of reducing barriers to flows in investments and to participation in public procurement markets for EU and Chilean firms. These gains, as noted below, are likely to be much more muted in the short-run but may have beneficial long-run effects.

### 4.2 General Comments on the CGE Model

#### 4.2.1 Model Specification

The CGE model that DG Trade uses to simulate the economic and environmental effects of two trade liberalisation scenarios between the EU and Chile is the GDynE model (Golub, 2013), that is a recursive-dynamic version of the well-known multi-country, multi-sector Global Trade Analysis Project (GTAP) model (Hertel, 1997; Ianchovichina and McDougall, 2001), including a detailed representation of the energy sector and associated CO<sub>2</sub> emissions (Burniaux and Truong, 2002; McDougall and Golub, 2007). The database used is the GTAP database version 9a. The database provides economic information on 57 sub-sectors in 140 countries and regions. For the purposes of the study, the information in the database is aggregated to 31 sub-sectors and 22 countries.<sup>85</sup>

The CGE model takes into account the interactions of decisions of consumers and producers in all markets. These decisions are uniquely determined by relative prices. Consumers have preferences over private consumption goods, a composite government good, and savings. Total demand for goods and services is the sum of final and intermediate demands. Producers maximize profits given a constant returns-to-scale production technology for all firms. The competitive equilibrium for each period is characterised by market clearance on all markets and by the zero-profit condition for all firms. The model does not optimise across time periods. The link between time periods is through savings and investments. The model allows for international mobility of capital. The investment theory of GDynE follows a lagged adjustment approach that assumes equal rates of return across countries only in the long run (Ianchovichina and Mc Dougall, 2001).

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<sup>85</sup> In the GTAP database each sub-sector produces only one commodity, so the terms sub-sectors and commodities can be used interchangeably.

### 4.2.2 Import Demands

Import demands follow the approach suggested by Armington (1969), that treats goods of different origins as distinct and non-homogeneous. Import demands are modelled in two stages. First, similar imported goods originating from different regions are combined with a Constant Elasticity of Substitution (CES) function into an Armington aggregate of the imported good using the substitution parameter ( $\sigma_M$ ). Second, the Armington aggregate of the imported good is combined with the domestically-produced good into an Armington aggregate of the imported and the domestically-produced good through a CES function with substitution parameter ( $\sigma_D$ ). The substitution parameters differ across sectors. Following a standard assumption in this kind of modelling, the substitution parameters  $\sigma_M$  are twice as large as the substitution parameters  $\sigma_D$ . The trade elasticities that are used in the DG Trade model are shown in Table 4.1.

**Table 4.1: Import Substitution Elasticities in the CGE Model**

Sub-sector	$\sigma_D$	$\sigma_M$	Sub-sector	$\sigma_D$	$\sigma_M$	Sub-sector	$\sigma_D$	$\sigma_M$	Sub-sector	$\sigma_D$	$\sigma_M$
Cereals	2.6	5.7	Other meats	2.8	7.3	Fishing	1.3	2.5	Non-metallic products	2.9	5.8
Rice	3.8	5.7	Dairy products	3.7	7.3	Other food products	2.0	4.0	Motor vehicles and transport	3.2	6.4
Vegetables, fruits, nuts	1.9	3.7	Wood and paper products	3.0	6.3	Beverages and tobacco	1.2	2.3	Machinery	4.1	8.1
Oilseeds, vegetable oils and fats	3.0	6.0	Coal	3.0	6.1	Textile, apparel, leather	3.8	7.6	Electronic equipment	4.2	8.5
Sugar	2.7	5.4	Oil	5.2	10.4	Chemicals, rubber, plastic	3.3	6.6	Electricity	2.8	5.6
Plant and animal fibres and other crops	3.4	6.5	Gas	12.0	31.5	Petroleum, coal products	2.1	4.2	Others	1.9	3.8
Bovine and other ruminant meats	3.2	7.1	Minerals	0.9	1.8	Metal products	3.5	7.4			

Source: DG Trade, European Commission

### 4.2.3 Evaluation of the Model

The CGE model of DG Trade is a robust CGE model of the world economy that is derived from the standard GTAP model. The GTAP Consortium unites members from government agencies, international institutions, the private sector and academia. Members of the GTAP Consortium are represented on the GTAP Advisory Board and represent members such as the World Bank, The US International Trade Commission, the World Trade Organization, and the European Commission.

The GTAP model and the models that are derived from it, such as GDynE, are firmly based in neo-classical theory. CGE models in general have been criticized for lack of behavioural realism (i.e., the equations in the models are not econometrically estimated, but they are ‘calibrated’ on macroeconomic datasets), and specific elements such as the ‘representative agent’ assumption and the Armington

approach in modelling import demands has been widely criticized (Hertel, 1997). Presently, GTAP researchers are also working with CGE models that are based on ‘modern’ trade theory (e.g., Krugman, 1980; Melitz 2003) with heterogeneous firms engaged in monopolistic competition.

#### 4.2.4 Trade Liberalisation Scenarios

DG Trade uses the GDynE model to simulate two trade liberalisation scenarios, the ‘conservative’ and the ‘ambitious’ scenarios. These scenarios simulate the ‘long term’ effects of trade liberalisation between the EU and Chile. For practical reasons, the year 2025 is chosen as representing the ‘long term’. An innovative feature of the trade liberalisation scenarios is that the trade liberalisation does not only consist of a reduction of import tariffs, but also a reduction of non-tariff barriers. In this section, we explain the modelling approach.

The baseline scenario is to continue to operate under the framework already in place for bilateral relations, and to continue to utilise the existing trade part of the EU-Chile Association Agreement. For the baseline scenario, the future world economy is simulated by exogenously adjusting GDP, labour endowment, and population in all regions in the model according to projections by the CEPII, the International Labour Organisation (ILO) and the World Bank. Because the GDynE model includes free trade agreements (FTA) entered in force until 2011, the baseline scenario adds all EU and Chilean FTA which entered in force since 2011, and all EU and Chilean FTA for which negotiations are finalised and have been published for the EU and Chile respectively. It, however, excludes FTA with countries for which their share in EU overall trade and Chile’s overall trade is below 1% or which cannot be included in the regional aggregation that is used for technical reasons.

For the baseline scenario, DG Trade makes some adjustments to the tariffs found in the GTAP database version 9a. First, on the EU import side, DG Trade considers that tariff rate quotas (TRQ) for imports of bovine and other ruminant meats, and other meats from Chile are not binding, i.e., it applies with-in-TRQ import duties for these two sub-sectors, in line with the treatment of TRQ for imports of cereals, dairy products and other food products from Chile found in the GTAP database version 9a. This implies that only the *ad valorem* tariffs and the *ad valorem* equivalents (AVE) to specific tariff rates, including those tariff rates applied to with-in TRQ, are used for calibration and simulation. Second, on the Chilean import side, non-tariff barriers (NTB) are added to the *ad valorem* import tariffs for the non-agricultural market access (NAMA) sub-sectors in the form of *ad valorem* tariff equivalents. Tariff equivalents of the non-tariff barriers are based on World Bank estimates (Kee *et al.*, 2008 and 2009; Kee *et al.*, 2013), adjusted for use in GTAP by the *Centre d’études prospectives et d’informations internationales* (CEPII).<sup>86</sup> After altering tariff rates in the GDynE model for these NAMA sub-sectors, the model needs to be re-calibrated in such a way that the original values of the variables in the model (including trade flows) are as little affected as possible. The larger the adjustments to the tariffs, the more difficult this is. Because of the opinion of European Commission’ experts that it would not be realistic to expect that non-trade barriers could be fully removed in the context of the modernisation of the EU-Chile Association Agreement, only 10% of the estimated *ad valorem* tariff equivalents of the non-tariff barriers are added to the existing tariffs in the baseline. This implies that only the *ad valorem* tariffs and 10% of the *ad valorem* equivalents of NTB for the NAMA sub-sectors are used for calibration and simulation.

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<sup>86</sup> The nature or composition of these NTB has not been communicated.

For trade in goods, the ‘conservative’ scenario assumes that in Chile all tariffs for EU imports are reduced to zero and all non-tariff barriers are reduced by 5%,<sup>87</sup> and that in the EU all tariffs for Chilean imports are reduced to zero, except for sugar, bovine and other ruminant meats, and other meats. Conversely, the ‘ambitious’ scenario assumes that in Chile all tariffs for EU imports are reduced to zero and all non-tariff barriers are reduced by 10%,<sup>88</sup> and that in the EU all tariffs for Chilean imports are reduced to zero. Table 4.2 presents these applied tariff rates for the baseline and simulation scenarios. For the ‘conservative’ simulation scenario, DG Trade considers that trade liberalisation would not lead to such an increase in EU imports of meats from Chile that EU tariff rate quotas that are presently not filled for ruminant meats and other meats would be filled, and that these EU meat imports from Chile would then face out-of-quota duties.<sup>89</sup>

For trade in services, it is assumed that non-tariff barriers of trade in services are reduced.<sup>90</sup> The ‘conservative’ scenario assumes no reduction in AVE of NTB for EU imports of services from Chile but a reduction of 1% in AVE of NTB for Chile imports of services from the EU. The ‘ambitious’ scenario assumes a reduction of 1% in AVE of NTB for EU imports of services from Chile and a reduction of 3% in AVE of NTB for Chile imports of services from the EU. Liberalisation of services NTB therefore follows an asymmetric approach. In both scenarios, these reductions in service NTBs are embodying the effect of binding of existing liberalisation. The starting point for the approach is the observation that FTA negotiations usually lead to only a binding of the existing level of liberalisation in services trade (for the cases where this level is lower than the GATS commitments) as opposed to achieving new market access. However, the insurance policy effect of binding current levels of liberalisation has a positive effect on services trade, equivalent to some degree of ‘real’ market access. The methodology applied for this and other simulations aims to translate this insurance effect into liberalisation parameter for CGE modelling. In an earlier study (Decreux and Fontagné, 2011), such ‘binding’ has been quantified as being equivalent to a reduction of 3% in services barriers for the Doha Development Agenda (DDA) negotiations among 46 participating countries.

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<sup>87</sup> This means 5% of the actual tariff equivalent of the non-tariff barriers. This is a 50% cut in the tariff equivalent that is added to the GTAP database.

<sup>88</sup> This means 10% of the actual tariff equivalent of the non-tariff barriers. This is a 100% cut in the tariff equivalent that is added to the GTAP database.

<sup>89</sup> Equally, it implies that EU TRQ for ruminant meats and other meats are not binding for EU meat imports from Chile in the conservative scenario.

<sup>90</sup> These reductions in non-tariff barriers of trade in services are actually implemented by reducing the effective prices of services imported from the partner country (see Hertel et al., 2001).

**Table 4.2: Ad Valorem Equivalents to Import Tariffs in the Trade Liberalisation Scenarios (%)**

Sub-sector	EU import tariffs for Chilean goods and services			Chile's import tariffs for EU goods and services		
	baseline	conservative	ambitious	Baseline	conservative	ambitious
Cereals	1.65	0	0	0.1	0	0
Rice	7.04	0	0	2.41	0	0
Vegetables, fruits, nuts	2.1	0	0	0.254	0	0
Oilseeds, vegetable oils and fats	11.5	0	0	2.39	0	0
Sugar	3.72	3.72	0	2.24	0	0
Plant and animal fibres and other crops	0.023	0	0	0.012	0	0
Bovine and other ruminant meats	0.054	0.054	0	0	0	0
Other meats	0.024	0.024	0	0.002	0	0
Dairy products	8.21	0	0	4.85	0	0
Wood and products	0	0	0	5.51*	2.75	0
Coal	0	0	0	14.2*	7.11	0
Oil	0	0	0	4.9*	2.45	0
Gas	0	0	0	9.15*	4.58	0
Minerals	0	0	0	3.89*	1.95	0
Fishing	2.06	0	0	3.78*	0	0
Other food products	1.86	0	0	0.97	0	0
Beverages and tobacco	3.14	0	0	0	0	0
Textile, apparel, leather	0.003	0	0	3.81*	1.89	0
Chemicals, rubber, plastic	0	0	0	2.47*	1.26	0
Petroleum, coal products	0	0	0	2.67*	1.15	0
Metal products	0	0	0	2.67*	1.31	0
Non-metallic minerals	0	0	0	2.83*	1.27	0
Motor vehicles and transport	0	0	0	4.45*	2.2	0
Machinery	0	0	0	4.58*	2.18	0
Electronic equipment	0	0	0	4.99*	2.51	0
Services**	0	0	0	0	0	0

\* including 10% of tariff equivalent of non-tariff barriers

\*\* For the 'conservative' scenario, the AVE of NTB for Chile imports of services from the EU is reduced by 1%. For the 'ambitious' scenario, the AVE of NTB for EU imports of services from Chile is reduced by 1% and the AVE of NTB for Chile imports of services from the EU is reduced by 3%.

Source: DG Trade, European Commission

### 4.3 Effects on Trade in Goods and Services: Comparison with Other CGE Results

This section starts by discussing specific features of the CGE model used by DG Trade and the assumptions on simulation scenarios, building on the general presentation of the preceding section. This is required for a better understanding of the simulation results, presented subsequently and compared to previous results that are reviewed in section 2.2.

#### 4.3.1 Further Features of the CGE Model and the Simulation Scenarios

There are several differences between the GDynE model used by DG Trade and previous models which evaluated the economic consequences of the 2003 EU-Chile Association Agreement. First and foremost, the GDynE model, as part of the GTAP model family and as noted above, is a multi-country multi-sector general equilibrium model for the world economy. Trade in goods, services, and capital links national markets at endogenous market-clearing equilibrium prices. This stands in contrast to all previous models used to assess the economic effects of the 2003 EU-Chile Association Agreement, which are partial equilibrium, in the sense that they model individually and separately the EU and the Chilean economies. This is an important difference because the GDynE model allows considering trade diversion effects for both the EU and Chile from diminished trade with third countries, and spill-overs from EU-Chile trade balance effects to trade and capital balances of both economies with third countries. This implies that the simulation results of the GDynE model – based on both direct and indirect world general-equilibrium effects – are in principle more consistent than those of previous studies.

Other differences also exist between the DG Trade modelling and previous results. For example, the sector disaggregation of previous models is not as rich as the potential 57 sub-sectors considered in GDynE. Moreover, like most (but not all, see Chumacero *et al.* (2004)) previous CGE models, GDynE is not an optimal dynamic model that solves for intertemporal consumption and investment decisions: saving is exogenous and investment is backward looking. Finally, GDynE is largely limited to assessing the effects of a deeper EU-Chile association due to larger trade. Hence, it excludes other components of the original 2003 Association Agreement and their possible deepening. This is also true of most (again, but not all) previous models and studies, particularly those based on CGE models. The only non-trade part of GDynE is a detailed treatment of the energy sector and is associated CO<sub>2</sub> emissions, which are not considered in most previous results.

Turning to the baseline assumptions and simulation scenarios of a modernised EU-Chile Association Agreement, summarized in Table 4.2 of this section, we can see the baseline assumptions on current EU import restrictions on Chile's exports are based on *ad valorem* tariffs and *ad valorem* equivalents of specific tariffs, excluding *ad valorem* tariff equivalents of EU tariff rate quotas and other NTB that currently affect Chilean exports to the EU (see section 3.1). In contrast, the baseline assumptions on current Chilean restrictions on EU exports add estimates of *ad valorem* tariff equivalents of Chilean NTB to current *ad valorem* tariffs on EU exports. For modelling purposes, it is assumed that 10% of existing NTB could be eliminated under the ambitious trade deepening scenario.<sup>91</sup> To accommodate this assumption, the baseline scenario specifies 10% of the tariff equivalent of NTB that are supposed to be currently in place. Yet, the resulting values of tariff equivalents of NTB are still very large (ranging from a minimum of 2.47% for chemicals to 14.2% on coal) and are observed in 14 of the 26 considered sub-sectors, representing close to two-thirds of the baseline EU export values to Chile.

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<sup>91</sup> It is not possible to assess whether these simulated reductions in the tariff equivalents of these Chilean NTB are reasonable in the context of a modernisation of the Association Agreement without being informed of the nature and composition of these Chilean NTB.

Therefore, these specific assumptions of the current baseline seem to be largely based on expert-knowledge rather than on data and statistical analysis, as a result of assuming high NTB by Chile on EU exports, while considering neither NTB nor tariff rate quotas by the EU on Chilean exports. These asymmetric assumptions on initial conditions imply that the scenarios considered in DG trade simulations – conservative and ambitious trade liberalisation – have correspondingly asymmetric results of deeper trade integration between the EU and Chile, as discussed below.

#### ***4.3.2 Simulation Results for a Deeper EU-Chile Association Agreement and Comparison with Previous Results***

Table 4.3 summarizes the key aggregate results for the EU and Chile of a modernised EU-Chile Association Agreement under the two scenarios, conservative and ambitious. Most quantitative results are twice as large under the ambitious scenario in comparison to the conservative scenario. This is consistent with the assumption that NTB tariff equivalents by Chile on EU exports – which represent the dominant baseline trade restriction in current EU-Chile trade – decline by half in the conservative scenario and to zero in the ambitious scenario.

The welfare changes reported only in absolute terms are similar in absolute magnitude for both the EU and Chile. However, the EU gains much more than Chile when going from the conservative to the ambitious scenario.<sup>92</sup> Considering the relative size of both economies, it is reasonable to expect that percentage gains in GDP and total exports to all countries are much larger for Chile than the EU, and in fact are on average eight times as large. Total export growth in both economies is much larger than GDP growth, which is a standard result of trade liberalisation experiences and simulations. Bilateral export growth is large for the EU (from 10% to 21%) and modest for Chile (from 0.7 to 1.6%), a result which reflects the asymmetric assumptions on Chile's baseline NTB. The simulated terms of trade gains are consistent with liberalisation assumptions and the difference in size between both economies.

Additionally, the model reports total sector output growth rates that are three to eight times the size of the corresponding GDP growth rate in each economy, a result that requires clarification. Table 4.4 reports the baseline NTB assumptions for five EU sub-sectors, absolute (in EUR millions) and relative gains (in %) in exports in the corresponding sub-sectors under the ambitious scenario. The rates of growth of EU exports in these five sub-sectors range from 25% to 52%, and the corresponding absolute increase in these sub-sectors' exports amounts to EUR 3,038 million or 72% of the total increase in EU exports to Chile (EUR 4,220 million) under the ambitious scenario. This suggests that most of the simulation results are driven by the asymmetric assumptions on baseline NTB in Chile.

In regards to social and environmental effects, real wage gains are close to zero for the EU and much larger but smaller than 1% for Chile. Considering Chile's relative endowment of unskilled and skilled labour and its corresponding export intensities, unskilled labour gains are larger than skilled labour in Chile – roughly twice as much. Given the scope of the model, no results for aggregate consumption and aggregate labour employment are reported. Finally, CO<sub>2</sub> emissions grow by very little in the EU but by much more in percentage terms in Chile. However, even in the ambitious scenario emissions growth is only 0.37% in Chile.

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<sup>92</sup> It is unfortunate that welfare gains are reported only in absolute terms, not in relative terms. If welfare is calculated in wealth-equivalent terms, stating the welfare gain in percentage terms is trivial.



**Table 4.3: Effects of Deeper Trade Integration on Key Aggregate Variables of the EU and Chile under Two Simulation Scenarios (changes in %, unless indicated otherwise)**

Aggregate Variable	Effects for the EU		Effects for Chile	
	Conservative	Ambitious	Conservative	Ambitious
Welfare	EUR 269 million	EUR 712 million	EUR 369 million	EUR 529 million
GDP	0.001	0.002	0.090	0.175
Total Sector Output	0.006	0.016	0.305	0.444
Total Exports	0.011	0.024	0.151	0.209
Bilateral Exports	9.91	21.46	0.72	1.60
Terms of Trade	0.003	0.007	0.185	0.172
Real Wages of Unskilled Labour	0.003	0.006	0.346	0.610
Real Wages of Skilled Labour	0.003	0.006	0.191	0.370
CO <sub>2</sub> Emissions	0.003	0.007	0.184	0.373

Source: DG Trade, European Commission

**Table 4.4: Effects of Deeper Trade Integration on Selected EU Exports to Chile under the Ambitious Scenario (changes in EUR million and %)**

Sub-sector	Baseline NTB tariff equivalent by Chile on EU exports (%)	Increase in EU exports to Chile under ambitious scenario (EUR million)	Increase in EU exports to Chile under ambitious scenario (%)
Wood & paper	5.51	250	35
Oil	4.90	259	52
Motor vehicles	4.45	922	25
Machinery	4.58	1,481	36
Electronic equipment	4.99	127	51
Total exports		4,220	21.5

Source: DG Trade, European Commission

#### 4.4 Effects on Trade in Goods and Services by Sub-sector

This section reports first the changes in trade of goods and services for the EU and, second, the changes in trade of goods and services for Chile following the conservative and ambitious scenarios introduced in the section 4.2.4. These changes in trade of goods and services have been provided by DG Trade using their internal CGE model outlined in section 4.2.

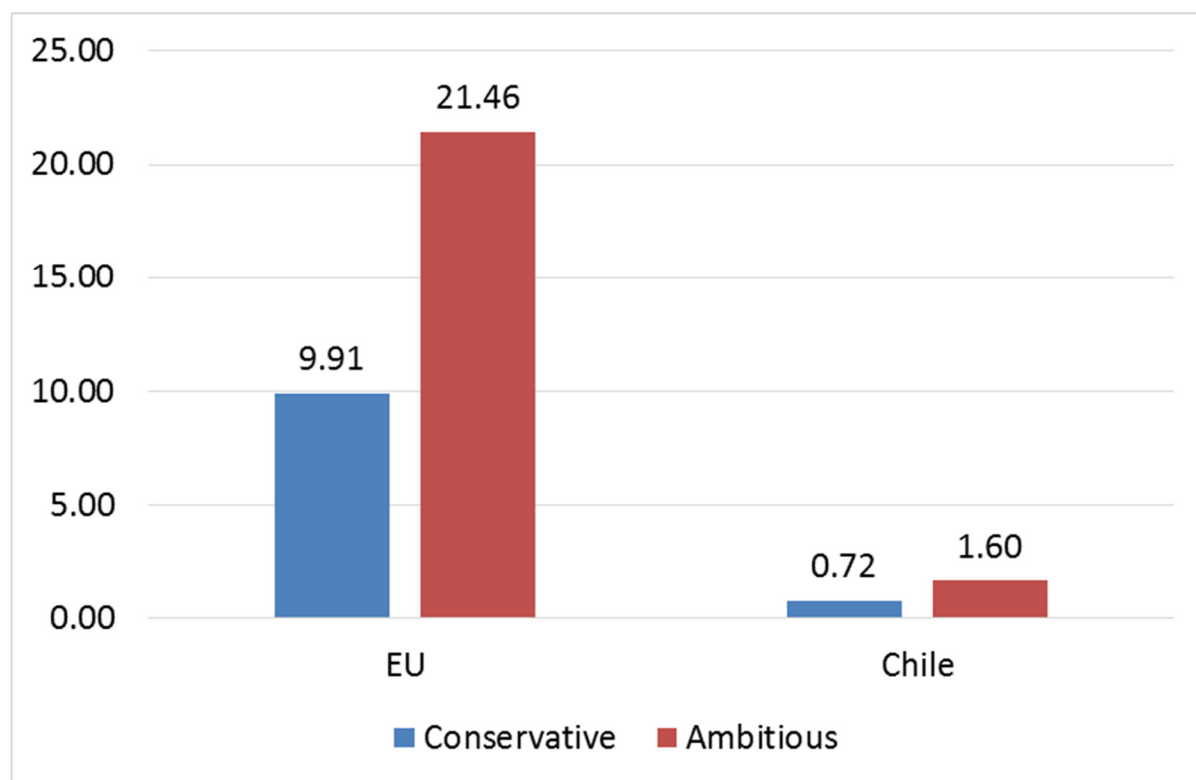
##### 4.4.1 Effects in Trade in Goods and Services for the EU

This section reports first the changes in EU's exports of goods and services to Chile, second the changes in prices of EU's exports to Chile and, third, the changes in EU's sectoral outputs.

##### 4.4.1.1 Effects on EU's Exports to Chile

According to the simulation results provided by DG Trade, total exports of goods and services from the EU to Chile increase by 9.91% (EUR 1,948 million) under the conservative scenario and 21.46% (EUR 4,220 million) under the ambitious scenario (see Figure 4.1).

**Figure 4.1: Conservative and Ambitious Scenarios: Changes in Bilateral Exports between the EU and Chile (% Change in 2025)**



Source: DG Trade, European Commission

For both the conservative and ambitious scenarios, the increase in exports from the EU to Chile is particularly high (greater than 50% for the ambitious scenario), if not implausible, for gas, coal, oil and electronic equipment in decreasing order. High increases in exports may be due to very low starting value of exports or/and strong trade diversion. Medium increases in EU's exports to Chile (between 20 and 50% for the ambitious scenario) are seen for dairy products, machinery, wood and paper products, textile, apparel and leather, and motor vehicles and transport in decreasing order. Moderate increases in EU's exports to Chile (between 10 and 20% for the ambitious scenario) are seen for non-metallic minerals, metal products, oilseeds, vegetable oils and fats, rice, chemicals, rubber and plastic, sugar, petroleum and coal products, utility (construction, water), fishing, and other services in decreasing order. Small increases in EU's exports to Chile (lower than 10% for the ambitious scenario) are seen for financial service and insurance, communication, and business service, transport, minerals, other food products, other meats (poultry, pork), vegetables, fruits, and nuts, bovine and other ruminant meats, cereals, beverages and tobacco, plant and animal fibres and other crops, and electricity in decreasing order. For their percentage increase in EU's exports to Chile, sub-sectors are ranked quite similarly for whether the conservative scenario or the ambitious scenario. There is no decline in EU's exports to Chile for any of sub-sectors for both scenarios (see Table 4.5).

The largest increases in EU's exports to Chile are generally found in the trade of goods belonging to the non-agricultural and food sub-sectors, except for dairy products, while the lowest increases in EU's exports to Chile are generally found in the trade of goods belonging to the agricultural and food sub-sectors and in the trade of services. This observation is a direct consequence of the design of the simulation scenarios since a decline in the *ad valorem* equivalent of non-tariff barriers is foreseen for Chile's imports of goods that belong to the non-agricultural and food sub-sectors and a decline in the *ad valorem* tariff is only foreseen for Chile's imports of dairy products, sugar, oilseeds, vegetable oils and

fats, and rice from the EU. Because of the relative small reduction in Chile's protection of services, there are small or moderate increases in EU's exports to Chile in services sub-sectors.

**Table 4.5: Conservative and Ambitious Scenarios: Changes in EU's Exports to Chile (EUR million and % Changes in 2025)**

Sub-sectors	2025 Baseline	2025 Conservative Scenario		2025 Ambitious Scenario	
		million EUR	% change to baseline	million EUR	% change to baseline
Cereals	6	6	12.33	6	12.85
Rice	1	1	15.42	1	16.75
Vegetables, fruits, nuts	4	4	2.53	4	2.95
Oilseeds, vegetable oils and fats	21	25	17.23	25	18.07
Sugar	1	1	14.35	1	14.50
Plant and animal fibers and other crops	48	49	0.56	49	0.93
Bovine and other ruminant meats	14	15	1.25	15	1.88
Other meats (poultry, pork)	104	105	1.74	107	3.48
Dairy products	20	29	44.09	29	45.00
Wood and paper products	709	825	16.26	959	35.20
Coal	0	0	47.76	0	125.37
Oil	501	618	23.38	760	51.62
Gas	1	4	315.00	20	1716.67
Minerals	3	4	3.09	4	6.96
Fishing	3	3	10.23	3	10.23
Other food products	385	402	4.45	405	5.15
Beverages and tobacco	92	92	0.00	93	0.98
Textile, apparel, leather	184	213	15.69	246	33.82
Chemicals, rubber, plastic	1,814	1,955	7.75	2,105	16.05
Petroleum, coal products	95	101	6.67	107	13.33
Metal products	956	1,047	9.52	1,141	19.32
Non-metallic minerals	161	178	10.06	193	19.55
Motor vehicles and transport	3,737	4,178	11.79	4,659	24.67
Machinery	4,149	4,860	17.14	5,630	35.69
Electronic equipment	251	307	22.66	378	50.72
Electricity	25	25	0.00	25	0.36
Utility (construction, water)	42	44	4.69	48	12.79
Transport	2,962	3,032	2.37	3,171	7.06
Communication and business service	1,045	1,080	3.36	1,144	9.49
Financial service and insurance	931	962	3.29	1,018	9.29
Other Services	1,399	1,449	3.61	1,541	10.18
<b>Total</b>	<b>19,664</b>	<b>21,612</b>	<b>9.91</b>	<b>23,884</b>	<b>21.46</b>

Source: DG Trade, European Commission

#### 4.4.1.2 Effects on Prices of EU's Exports to Chile

According to the simulation results provided by DG Trade, increases in prices of EU's exports to Chile are in the order of 0.005% under the conservative scenario and 0.01% under the ambitious scenario. The largest increase in prices is seen for the EU's exports of oil to Chile while the smallest increase in prices or the greatest decrease in prices is seen for the EU's exports of fruits, vegetables, and nuts to Chile for both scenarios (see Table 4.6).

**Table 4.6: Conservative and Ambitious Scenarios: Changes in Bilateral Export Prices between the EU and Chile (% Change in 2025)**

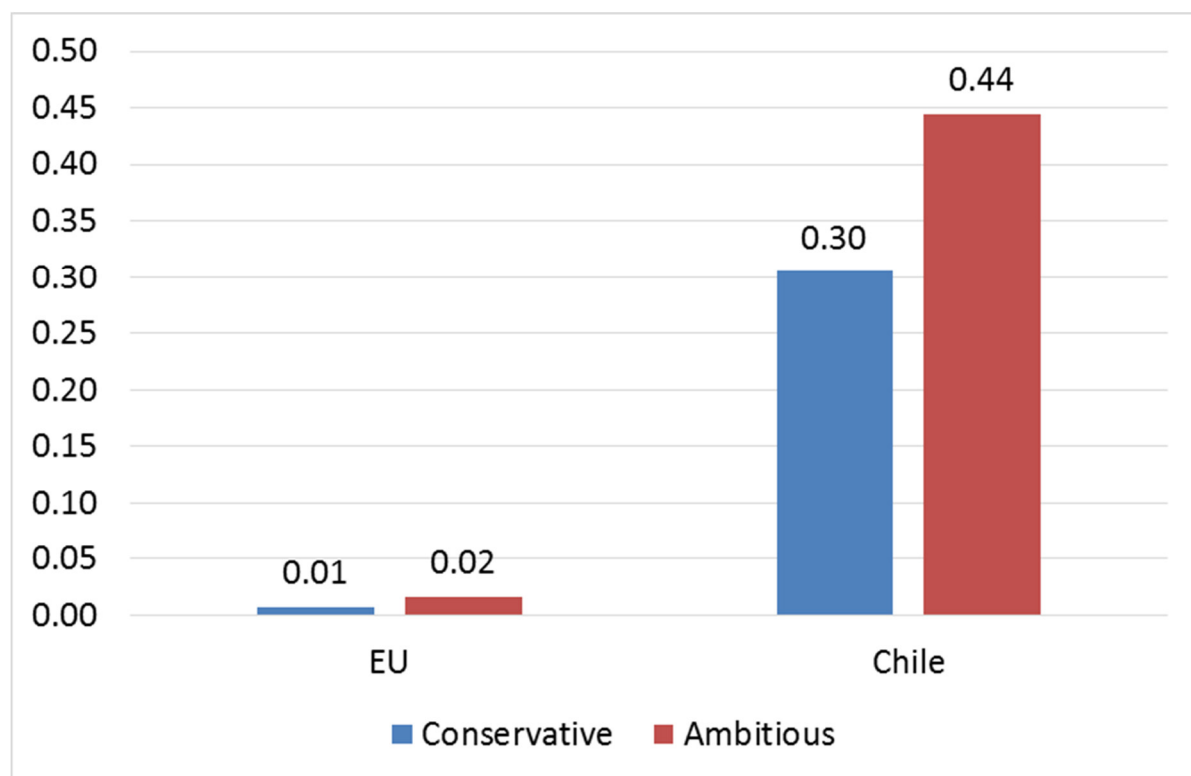
Sub-sectors	EU		Chile	
	Conservative scenario	Ambitious scenario	Conservative scenario	Ambitious scenario
Cereals	-0.001	0.003	0.602	0.654
Rice	0.005	0.013	0.560	0.619
Vegetables, fruits, nuts	-0.006	0.000	1.390	1.460
Oilseeds, vegetable oils and fats	0.000	0.007	0.222	0.248
Sugar	0.006	0.015	0.370	0.441
Plant and animal fibres and other crops	-0.001	0.004	0.510	0.561
Bovine and other ruminant meats	0.004	0.012	0.331	0.412
Other meats (poultry, pork)	0.004	0.012	0.470	0.552
Dairy products	0.004	0.012	0.454	0.527
Wood and paper products	0.006	0.014	0.182	0.195
Coal	0.005	0.012	0.197	0.261
Oil	0.044	0.097	-0.121	-0.340
Gas	0.003	0.008	0.099	0.102
Minerals	0.005	0.002	0.021	0.066
Fishing	-0.004	0.001	0.457	0.476
Other food products	0.004	0.011	0.252	0.294
Beverages and tobacco	0.004	0.011	0.251	0.286
Textile, apparel, leather	0.004	0.012	0.178	0.224
Chemicals, rubber, plastic	0.005	0.012	0.158	0.172
Petroleum, coal products	0.005	0.012	-0.156	-0.381
Metal products	0.005	0.012	0.158	0.200
Non-metallic minerals	0.005	0.012	0.169	0.196
Motor vehicles and transport	0.005	0.012	0.109	0.075
Machinery	0.005	0.013	0.164	0.183
Electronic equipment	0.005	0.012	0.166	0.190
Electricity	0.005	0.013	0.172	0.203
Utility (construction, water)	0.006	0.014	0.283	0.389
Transport	0.005	0.012	0.095	-0.001
Communication and business service	0.006	0.015	0.253	0.319
Financial service and insurance	0.006	0.015	0.288	0.379
Other Services	0.006	0.015	0.290	0.391

Source: DG Trade, European Commission

#### 4.4.1.3 Effects on EU's Sectoral Outputs

According to the simulation results provided by DG Trade, total outputs of goods and services in the EU increase by 0.01% (EUR 2,550 million) under the conservative scenario and 0.02% (EUR 6,181 million) under the ambitious scenario (see Figure 4.2).

**Figure 4.2: Conservative and Ambitious Scenarios: Changes in Total Outputs of the EU and Chile (% Change in 2025)**



*Source: DG Trade, European Commission*

For both scenarios, the increase in outputs of goods and services in the EU is particularly high (between 0.03% and 0.22% for the ambitious scenario) for oil, motor vehicles and transport, machinery, and wood and paper products in decreasing order. Medium increases in EU's outputs of goods and services in the EU (between 0.01% and 0.03% for the ambitious scenario) are seen for utility (construction and water), other services, bovine and other ruminant meats, non-metallic minerals, electricity, communication, and business service, financial service and insurance, transport, metal products, and other meats (poultry, pork) in decreasing order. No significant change in outputs of goods and services in the EU (between 0.01% and -0.01% for the ambitious scenario) is seen for petroleum and coal products, other food products, beverages and tobacco, fishing, chemicals, dairy products, sugar, minerals, coal, cereals, and rice in decreasing order. Finally, decreases in outputs of goods and services in the EU (between -0.01 and -0.04% in the ambitious scenario) are seen for plant and animal fibres and other crops, electronic equipment, gas, textile, apparel and leather, oilseeds, vegetable oils and fats, and vegetables, fruits, and nuts in decreasing order. For their percentage change in EU's outputs, sub-sectors are ranked quite similarly for whether the conservative scenario or the ambitious scenario (See Table 4.7).

**Table 4.7: Conservative and Ambitious Scenarios: Changes in EU's Sectoral Outputs (EUR million and % Changes in 2025)**

Sub-sectors	2025 Baseline	2025 Conservative Scenario		2025 Ambitious Scenario	
		million EUR	% change to baseline	million EUR	% change to baseline
Cereals	109,494	109,487	-0.01	109,484	-0.01
Rice	8,845	8,845	0.00	8,845	-0.01
Vegetables, fruits, nuts	119,417	119,368	-0.04	119,366	-0.04
Oilseeds, vegetable oils and fats	97,726	97,694	-0.03	97,684	-0.04
Sugar	40,153	40,152	0.00	40,151	0.00
Plant and animal fibers and other crops	138,152	138,145	-0.01	138,137	-0.01
Bovine and other ruminant meats	143,755	143,775	0.01	143,776	0.01
Other meats (poultry, pork)	317,732	317,752	0.01	317,764	0.01
Dairy products	464,416	464,385	-0.01	464,401	0.00
Wood and paper products	1,182,425	1,182,577	0.01	1,182,750	0.03
Coal	22,802	22,801	0.00	22,800	-0.01
Oil	42,363	42,406	0.10	42,457	0.22
Gas	40,729	40,724	-0.01	40,721	-0.02
Minerals	128,445	128,450	0.00	128,436	-0.01
Fishing	48,750	48,747	-0.01	48,749	0.00
Other food products	749,871	749,862	0.00	749,895	0.00
Beverages and tobacco	443,091	443,062	-0.01	443,093	0.00
Textile, apparel, leather	554,247	554,151	-0.02	554,115	-0.02
Chemicals, rubber, plastic	1,791,296	1,791,301	0.00	1,791,262	0.00
Petroleum, coal products	838,549	838,569	0.00	838,598	0.01
Metal products	1,556,081	1,556,202	0.01	1,556,251	0.01
Non-metallic minerals	496,446	496,479	0.01	496,517	0.01
Motor vehicles and transport	1,781,360	1,781,746	0.02	1,782,178	0.05
Machinery	2,176,251	2,176,693	0.02	2,177,157	0.04
Electronic equipment	734,644	734,586	-0.01	734,521	-0.02
Electricity	685,710	685,749	0.01	685,804	0.01
Utility (construction, water)	3,947,989	3,948,318	0.01	3,948,817	0.02
Transport	2,287,941	2,288,066	0.01	2,288,228	0.01
Communication and business service	5,845,985	5,846,305	0.01	5,846,794	0.01
Financial service and insurance	1,741,367	1,741,457	0.01	1,741,614	0.01
Other Services	10,879,249	10,879,979	0.01	10,881,100	0.02
<b>Total</b>	<b>39,415,284</b>	<b>39,417,834</b>	<b>0.01</b>	<b>39,421,466</b>	<b>0.02</b>

Source: DG Trade, European Commission

The percentage change in the EU's output in one particular sub-sector following an increase in the EU's exports to Chile can depend on several factors among them: the EU's output response to a change in the export price for its output but also for the other competitive outputs, a possible EU's export diversion from some destinations to Chile and, of course, the initial output share of EU's exports to Chile in EU's total output for this particular sub-sector. For this last factor, the EU's total output exported to Chile amounts to 0.05% of EU's total output according to the DG Trade's baseline projection in 2025. These different factors may explain why the percentage change in the EU's output in one particular sub-sector may not reflect the corresponding change in the EU's export to Chile for the same sub-sector. In particular, a decline in output for some sub-sectors while there is a corresponding increase in EU's export to Chile for the same sub-sectors may reflect export diversion from other destinations to Chile, a possibility that will be examined in chapter 6.

#### 4.4.2 *Effects on Trade in Goods and Services for Chile*

This section reports first the changes in Chile's exports of goods and services to the EU, second the changes in prices of Chile's exports to the EU and, third, the changes in Chile's sectoral outputs.

##### 4.4.2.1 **Effects on Chile's Exports to the EU**

According to the simulation results provided by DG Trade, total exports of goods and services from Chile to the EU increase by 0.72% (EUR 102 million) under the conservative scenario and 1.60% (EUR 227 million) under the ambitious scenario (see Figure 4.1).

For both the conservative and ambitious scenarios, the largest increases in Chile's exports to the EU are found in the agricultural and food sub-sectors, while the lowest increases in Chile's exports to the EU are found in the manufactured sub-sectors. A small increase of a couple of percentage is projected in services, while exports of metals, Chile's single largest export sub-sector, to the EU would decline by one percentage. Coal, gas and oil sub-sectors, having no current exports, are assumed to keep this status and the simulation projects zero growth (see Table 4.8).

Within the agricultural and food sub-sectors, by far the largest increase in exports can be found in dairy products, followed by oilseeds, vegetable oils and fats. The surprisingly large percentage increase in exports of rice and, to some extent, in oilseeds, vegetable oils and fats, and sugar, does not have a major economic effect, as these export volumes start from essentially zero in the case of rice and sugar and from a very low baseline in regards to oilseeds, vegetable oils and fats.<sup>93</sup> The relatively low projected increase in exports of vegetables, fruits and nuts (in the range from 4.5 to 4.8%) reflects the already low EU *ad valorem* equivalent to import tariffs for these imports from Chile. The small projected decrease in exports of all meats (in the range from -1.7 to -2.7%) could be a consequence of resource reallocation among farm sub-sectors in the CGE model while Chile seems to have the potential to increase exports in poultry and pork in conformity with the EU sanitary measures.

##### 4.4.2.2 **Effects on Prices of Chile's Exports to the EU**

According to the simulation results provided by DG Trade, overall changes in prices of Chile's exports to the EU are 1.46% to -0.381% with many activities in the 0.3% to 0.5% range. These changes are larger than those for the EU exports to Chile (0.005% to 0.01%). The largest increase in prices is seen for Chile's exports to the EU of vegetables, fruits and nuts (1.39% to 1.46%) followed by meats and dairy products and communication and business services, financial service and insurance, and other services. Relatively large price increases are also projected for cereals, rice, and sugar (see Table 4.6).

##### 4.4.2.3 **Effects on Chile's Sectoral Output**

According to the simulation results provided by DG Trade, total outputs of goods and services in Chile increase by 0.30% (EUR 2,242 million) under the conservative scenario and 0.44% (EUR 3,268 million) under the ambitious scenario (see Figure 4.2).

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<sup>93</sup> Rice, sugar, and oilseeds, vegetable oils and fats are activities in which an alternative sectoral model, incorporating supply constraints faced by these sub-sectors, would probably show that Chile's potential production expansion in these activities is very limited, except for olive oil. This would then impact exports.

**Table 4.8: Conservative and Ambitious Scenarios: Changes in Chile's Exports to the EU (EUR million and % in 2025)**

Sub-sectors	2025 Baseline	2025 Conservative Scenario		2025 Ambitious Scenario	
		million EUR	% change to baseline	million EUR	% change to baseline
Cereals	26	28	6.97	28	6.97
Rice	0	0	48.28	0	48.28
Vegetables, fruits, nuts	1,174	1,228	4.53	1,231	4.83
Oilseeds, vegetable oils and fats	38	64	71.05	65	71.29
Sugar	0	0	-1.28	0	19.87
Plant and animal fibers and other crops	55	53	-2.48	53	-2.48
Bovine and other ruminant meats	854	838	-1.90	840	-1.69
Other meats (poultry, pork)	365	355	-2.72	355	-2.72
Dairy products	1	2	73.50	2	72.65
Wood and paper products	765	759	-0.82	763	-0.35
Coal	0	0	0.00	0	0.00
Oil	0	0	#	0	#
Gas	0	0	#	0	#
Minerals	2,808	2,808	0.00	2,826	0.64
Fishing	62	65	4.62	65	4.77
Other food products	589	631	7.03	631	7.03
Beverages and tobacco	842	901	7.07	901	7.07
Textile, apparel, leather	35	35	-1.28	35	-1.28
Chemicals, rubber, plastic	673	668	-0.80	670	-0.54
Petroleum, coal products	61	61	0.59	62	1.33
Metal products	3,215	3,184	-0.95	3,180	-1.09
Non-metallic minerals	3	3	-0.66	3	-0.66
Motor vehicles and transport	10	10	0.00	10	0.00
Machinery	37	37	-1.21	37	-1.21
Electronic equipment	5	5	-1.35	5	-1.18
Electricity	0	0	0.00	0	0.00
Utility (construction, water)	9	9	-0.83	9	2.80
Transport	1,370	1,366	-0.26	1,423	3.88
Communication and business service	610	606	-0.74	628	2.95
Financial service and insurance	115	114	-0.78	119	3.13
Other Services	439	435	-0.82	451	2.67
<b>Total</b>	<b>14,163</b>	<b>14,265</b>	<b>0.72</b>	<b>14,390</b>	<b>1.60</b>

Source: DG Trade, European Commission

As expected, the projected changes in sectoral outputs in Chile are thus higher than those for the EU (see Table 4.9). Particularly high increases are projected for dairy products (in the order of 5.1%) and vegetables, fruits and nuts (in the order of 2.7%), while medium growth is projected in services, non-metallic minerals, fishing and sugar. The projections for 2025 shows a contraction in several activities, for example meats, manufactured goods including motor vehicles, machinery and equipment. The negative growth projected for meats as well as for wood and paper products is surprising, considering that these are sub-sectors, particularly poultry and pork, which exhibit high output and export growth rates in recent years and are unlikely to face significant domestic supply constraints in the near future. Unsurprisingly, the simulations project negative growth rates for oil, gas and coal, and for motor vehicles and transport equipment.



**Table 4.9: Conservative and Ambitious Scenarios: Changes in Chile’s Sectoral Outputs (EUR million and % Changes in 2025)**

Sub-sectors	2025 Baseline	2025 Conservative Scenario		2025 Ambitious Scenario	
		million EUR	% change to baseline	million EUR	% change to baseline
Cereals	1,197	1,195	-0.15	1,195	-0.15
Rice	291	291	0.00	291	0.00
Vegetables, fruits, nuts	7,074	7,266	2.71	7,264	2.68
Oilseeds, vegetable oils and fats	1,270	1,297	2.13	1,297	2.13
Sugar	1,296	1,301	0.42	1,302	0.49
Plant and animal fibers and other crops	469	463	-1.15	462	-1.35
Bovine and other ruminant meats	5,599	5,575	-0.42	5,579	-0.35
Other meats (poultry, pork)	7,622	7,601	-0.28	7,603	-0.25
Dairy products	5,972	6,275	5.07	6,278	5.12
Wood and paper products	23,472	23,407	-0.28	23,360	-0.48
Coal	23	23	0.00	23	0.00
Oil	105	105	-0.85	104	-1.71
Gas	336	335	-0.27	334	-0.54
Minerals	43,219	43,170	-0.11	43,187	-0.07
Fishing	5,673	5,699	0.46	5,699	0.46
Other food products	21,571	21,620	0.23	21,622	0.24
Beverages and tobacco	8,444	8,523	0.93	8,528	0.99
Textile, apparel, leather	5,018	5,004	-0.27	4,998	-0.40
Chemicals, rubber, plastic	19,791	19,743	-0.24	19,717	-0.37
Petroleum, coal products	9,582	9,605	0.24	9,628	0.48
Metal products	38,689	38,434	-0.66	38,372	-0.82
Non-metallic minerals	9,570	9,610	0.41	9,639	0.73
Motor vehicles and transport	1,522	1,506	-1.07	1,494	-1.84
Machinery	2,523	2,481	-1.64	2,450	-2.89
Electronic equipment	1,920	1,912	-0.42	1,909	-0.56
Electricity	14,277	14,292	0.11	14,302	0.18
Utility (construction, water)	119,895	120,818	0.77	121,484	1.33
Transport	50,254	50,289	0.07	50,307	0.11
Communication and business service	85,176	85,416	0.28	85,517	0.40
Financial service and insurance	40,621	40,720	0.24	40,733	0.28
Other Services	203,284	204,020	0.36	204,342	0.52
<b>Total</b>	<b>735,755</b>	<b>737,997</b>	<b>0.30</b>	<b>739,023</b>	<b>0.44</b>

Source: DG Trade, European Commission

#### 4.5 Effects on Investment

The CGE simulation results provided by DG Trade offer an extensive look at the possible effects of a modernisation of the Association Agreement on trade in goods and services, but the comprehensive nature of an updated Association Agreement means that other consequences, not modelled in the simulation scenarios, are bound to accrue. In particular, given that a modernised Association Agreement would be in line with the “new generation” agreements, with additional provisions covering investment, there would likely be ramifications for investment flows between the EU and Chile. As the CGE simulation scenarios do not model the possible investment effects of a modernised Association Agreement, but based on the legal analysis of section 3.2, this section attempts to provide a rough estimate for these effects.

From the outset, it should be noted that the literature on the efficacy of investment provisions in trade treaties (or stand-alone investment agreements) generating higher investment flows is somewhat ambiguous in its conclusions, highly sensitive to methodology and country-specific issues. Busse *et al.*

(2010) offer a comprehensive study of bilateral investment treaties (BIT) over 28 countries, both developing and developed, and find in their best-case scenario that BIT may raise the host country's share in total FDI flows from *all* source countries by almost 35%. They also note that BIT may even compensate somewhat for weak institutional quality in the host country. In a similar vein, Neumayer and Spess (2005) find that the actual number of BIT a country has in place matters substantially for FDI inflows: looking at the FDI-weighted cumulative number of BIT present in each source country, their results show an increase in FDI inflows of between 43.7 and 93.2% for each 26 BIT a country enters, or approximately 1.68 to 3.58% increases for each additional agreement. Min *et al.* (2011), however, note that the relationship between BITs and investment is not linear because of diminishing marginal returns to BIT. Chaisse and Bellak (2011) find an even stronger correlation, with each additional BIT a country undertakes adding an average of 5.16% to the total FDI inflows of that country. Haftel (2010) notes that these effects are conditional on agreements actually being ratified (that is, there are no expectation effects), a finding echoed by Medvedev (2012).

These positive results of both concluding an investment treaty or implementing simultaneously several investment treaties is affirmed in the UNCTAD (2014) meta-analysis of existing research on investment treaties, albeit with some caveats. Examining 35 previous empirical studies on international investment agreements (with a heavy emphasis on bilateral investment treaties), UNCTAD (2014) finds a consistent consensus of a slight positive effect for each specific agreement, increasing all investment flows for post-treaty countries but especially inflows. More importantly for the purposes of this study, the UNCTAD (2014) review also points to results regarding the inclusion of investment clauses into broader trade agreements rather than stand-alone agreements, as the modernised Association Agreement with Chile could be. Medvedev (2012) performs an econometric exercise on preferential trade agreements (PTA) across 153 countries over 24 years, and finds that PTA which allow for a 1% increase in the size of a country's extended market via the agreement would expand net FDI inflows by an average of 0.05%. Thus, partnering with much larger markets, i.e., the EU, would allow for much larger expansions of markets and, therefore, a larger increase in FDI inflows. A recent work from Dixon and Haslam (2016) also shows that investment clauses included with a free trade agreement have an effect two to three times larger than investment treaties alone, meaning that even "weak" investment clauses in expanded PTA have a beneficial effect on FDI inflows.

Additionally, UNCTAD (2014) notes that certain specific institutional mechanisms built-in to investment clauses help to amplify the positive effects of the agreement, including most prominently the inclusion of national-treatment clauses or the development of investor-state dispute settlement (ISDS) mechanisms. Bütthe and Milner (2014) note that PTA with investment clauses or with dispute settlement mechanisms lead to far more FDI than PTA without such provisions, and that the PTA which include the strictest clauses lead to the highest levels of investment. By their estimates, moving from a PTA with no investment clauses to one with strict clauses would lead to an increase in the FDI to GDP ratio of approximately 11.4% on average. Berger *et al.* (2013) also find that the conclusion of trade agreements with "national treatment" provisions would increase FDI by approximately 29%, if these provisions were applied to all PTAs across all countries. Neumayer *et al.* (2015) also find that the process of implementing tighter investment rules above all ISDS and national treatment is contagious, meaning that countries are more likely to sign such agreements if they are already a party to one.

Given this wealth of data, it is possible to tentatively estimate the effects on FDI that a modernised Association Agreement with Chile would have. In the first instance, it appears that the movement towards expanded investment clauses would benefit Chile the most, given its access to the EU market and the simple fact that an EU-wide treaty would lead to an effective expansion in the number of BIT that Chile holds, even as the *actual* number of treaties decreases. This is due to the fact that not every

EU Member States has a BIT with Chile, and thus a new agreement would expand the number of partners (ten in this case) subject to the benefits of the treaty. Moreover, as noted in the legal analysis in section 3.2, the obligation for national treatment would be extended across all EU Member States as a result of the Association Agreement, meaning additional benefits in terms of FDI. With these advantages accruing, it is possible to provide a rough estimate of an increase in approximately 25% in FDI inflows to Chile as a result of the modernisation of the current Association Agreement.<sup>94</sup>

As with the current Association Agreement, given the empirical results presented above, the gains to the EU would likely be much more muted in terms of direct FDI inflows. The relatively smaller size of Chile's market, coupled with the fact that the largest EU economies have already been linked to Chile via investment treaties for the past twenty years, means that many of the gains from investment liberalisation may have already been attained. However, the move towards inclusion of national treatment and investor dispute resolution in a modernised Association Agreement may have a much more beneficial effect than the current "weak" clauses included in the BIT. Additionally, the capture of several small economies of the EU in the modernised Association Agreement may provide more of an opportunity for Chilean investors, seeking opportunities in underserved markets rather than being lost in the shuffle in large economies of the EU, like France or Germany. However, the recent path of Chilean investment in the EU as well as its extreme volatility (as shown in section 2.1) make it incredibly difficult to estimate the total of these effects on FDI inflows to the EU. Based on the estimates given above, it is likely that the entire EU would likely see a modest increase of approximately 2 to 3% in Chilean FDI outflows to EU Member States in total due solely to the modernisation of the Association Agreement, above and beyond any other factors at play, such as Chile's economic position. But more important for investment into the EU would be a stabilization of these outflows, which, as noted already, have been incredibly volatile. If the modernised Association Agreement could result in more certainty regarding the EU-Chilean investment relationship, as well as guarantee investor protections, it is possible that inflows will track international experience and show gains of approximately 25%. However, given the low absolute value of FDI inflows (despite the EU being the largest foreign investor in Chile) and the sensitivity of inflows to such an Agreement (as shown by the anticipation of the existing Association Agreement in 2000-2001 and the initial response in 2003, see section 2.1), there is the possibility that inflows may even double. The exact amount would depend on many factors, but the plausibility of this estimate range is based on previous experience, as well as the research cited above.

#### 4.6 Effects on Public Procurement

Similar to the effects on investment flows, the effects of an expanded public procurement coverage in a modernised Association Agreement are not modelled in the simulation scenarios performed by DG Trade. Unfortunately, there is not the same wealth of literature to draw on as the effects of investment treaties, meaning that in the absence of new econometric modelling estimates of potential impact should be taken very cautiously.

The reality that liberalisation in public procurement can bring tangible benefits to both the liberalising country and its trading partners has long been acknowledged in the economics literature, modelled by Mattoo (1996), Gordon *et al.* (1998), Trionfetti (2001), and most comprehensively in Evenett and Hoekman (2005). However, quantitative evidence on the effects of liberalising public procurement to

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<sup>94</sup> This is based on several factors: (i) taking the lower bound of the benefit of additional BIT (1.68%) across the ten new Member States that would be added, (ii) taking the benefit in stricter clauses, derived from the 29% benefit found by Berger *et al.* (2013) but weighted for the number of treaties that Chile has in total versus those held with EU Member States, and (iii) gains accruing from market size in the ten Member States that Chile would then have access to. This aggregation shows an increase of roughly one-quarter in FDI inflows to Chile from the EU.

foreign bidders under a trade agreement, either on overall volumes of procurement or on welfare, are a somewhat unexplored area of the economics literature. Partly this is due to the reality, as noted above, that procurement liberalisation has only recently begun to be included in trade negotiations, assuming a greater role in “WTO-Plus” and “WTO-Extra” agreements than ever before. But more importantly, the other obstacle that has plagued economists is the closed nature of procurements and the dearth of data associated with them. Without data on procurement before trade agreements come into force, and a reasonable quantification of what the barriers to procurement actually are, it is difficult to understand the effect that such an agreement would have.

These issues are front and centre in the context of Chile, where the existing literature on regulatory barriers to government procurement in Chile is scarce and mostly found in publications that assess the whole functioning of Chilean public procurement (World Bank, 2004; Banco Interamericano de Desarrollo, 2008; WTO, 2015). Given that public procurement made up less than 7% of GDP in Chile in 2011 (according to the OECD), the literature has focused on larger flows to the country (i.e. investment) than in the relatively tiny procurement sector. However, Chile has a comparative advantage in its excellent e-procurement system, set up as a result of administrative reforms from 1998 to 2003, which has facilitated access of eligible bidders to the procurement that does exist. Moreover, Chile’s e-procurement system has also meant an increase in SME taking advantage of public procurement, a reality which may mean substantial opportunities can be acquired via closer integration for EU SME if liberalisation of public procurement is included in a modernised agreement. This is not to say that there are not still barriers in public procurement that can be improved by the opening of the sector to foreign bidders. According to survey research from Concha and Anrique (2012), the reform of public procurement in Chile increased the level of transparency, but the greater transparency has not correlated with a lessening in the level of corruption. Even with a deadweight loss to corruption, if Chile’s spending on public procurement continues its pre-2015 path, it would also open up opportunities for EU firms.

Unfortunately, these theoretical assumptions have thus far been untested, as to date there has been little work done in quantifying the extent of barriers to procurement in Chile, which then could be fed into a broader analysis to understand the impact of removing these barriers. To cope with this issue and lack of directly observable data, economists have instead focused on backing out procurement effects from other, observable flows, providing rough estimates of government procurement restrictions based on a counterfactual model. The seminal work from Baldwin (1970) typifies this approach, relying on a gravity model to understand the effects of procurement restrictions, by juxtaposing the “ideal” liberalisation scenario versus what has actually occurred in a country’s procurement. While such an approach has many flaws, including the assumption of a counterfactual that can never be directly observed, this approach has been the only substantive one to be utilized in the economics literature, most recently in Rickard and Kono (2014).

The results of this previous research work are also somewhat disappointing, with Rickard and Kono (2014) noting that it appears the inclusion of procurement clauses or stand-alone procurement agreements have had no statistically significant effect in reducing discrimination or increasing foreign firm access to procurement. Bosworth (2015:34) studies this phenomenon in-depth between two incredibly similarly-situated countries (Australia and New Zealand), finding that “transparent price preferences favouring local content have been largely replaced by hidden and more costly discretionary discriminatory measures”. The end result of this continued discrimination, despite treaty obligations, is that procurement opportunities have not improved for New Zealand’s firms in the Australian market. A similar work from Kulina-Dimitrova and Lakatos (2014) shows that even open procurement procedures have obstacles at work against foreign bidders, with the likelihood of a foreign bidder winning decreasing by 26% for each percentage increase in the number of bidders. Indeed, their results show that

foreign firms only have a marginally better chance in the largest procurements, with foreign firms' chances of winning increasing by 1.6% for every million EUR of the contract to be awarded. Incidentally, these authors also note that local governments in the EU have the poorest track record in awarding tenders to foreign firms.

Given these results, there is likely to be little direct change in procurement as a result of a modernised Association Agreement. This is attributable as well to the relative sizes of the procurement markets in Chile and the EU and the already-existing difficulties extra-EU firms have in competing in the EU market (see section 2.1.2.5). The inclusion of procurement clauses may help to change the current situation regarding probability of a foreign firm being awarded a tender in Chile. The scale of such a change would however be small compared to overall EU procurement volumes. Indeed, the greatest gains in efficiency as a result of a modernised Association Agreement may be in Chilean institutions, mainly reducing the ability of bureaucrats to influence the procurement process, which would also act as a restraint on corruption. Efficiency gains could then be found in an improvement in the overall business environment in Chile and, presumably, in the better allocation of government resources. Quantifying these gains, however, would be impossible without additional econometric modelling.

This does not mean that there are no possible gains to be made, as some sub-sectors present themselves as candidates for possible penetration by EU firms. As noted in section 2.1, a few selected ministries in Chile stand out for their volume of procurement and, given the results from the extant literature noted above, it is likely that these larger-scale and higher-volume sub-sectors could provide EU firms with a higher likelihood of success. Paramount amongst these would be the health sub-sector, as the Ministry of Health has retained its lead as the government agency with the highest volume of procurement annually. Medical equipment and consulting services may remain a potential source of contracting for EU firms, with the added advantage that such tenders may be available to small- and medium-sized suppliers, as could pharmaceutical supplies. But, as noted above, the probability of success would likely be higher for procurement carried out in Santiago by the central government rather than in the country at the local level, where large amounts of procurement in the health sub-sector are carried out by local administrations. Organizations such as the *Hospital Santiago Oriente Dr. Luis Tisne Brousse* are thus an example of potential targets in medical services for mainly drugs and pharmaceuticals, with planned purchases of over USD 17 million in 2016 alone according to their published procurement plan.<sup>95</sup>

Beyond the vast opportunities to be found in health, public works will also retain its position as a major vendor in Chile, meaning that infrastructure and engineering-oriented firms from the EU may find some opportunities. Indeed, the largest source of infrastructure funding may come from outside of the Ministry for Public Works, as Chilean President Michelle Bachelet signed a bill of law to create a USD 9 billion infrastructure fund (although the timing of the fund's operation is in doubt and apparently will not enter into force in 2017). This fund is envisaged to cover concessions, public-private partnerships, and other opportunities which EU firms may avail themselves of when it finally comes on-line. However, the inherent difficulty of contracting across borders in infrastructure will not be alleviated by a modernised Association Agreement, especially given that the Ministry of Public Works requires local presence (registration) of all bidders. It is thus imperative for EU firms to continue to forge relationships with local Chilean firms, to remain competitive in this market. EU firms should also keep in mind that other procurements beyond infrastructure may be far easier to fulfil, as the heading of "public works" includes such items as computers, toilets, kindergarten services, and vehicle repair and maintenance, all of which

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<sup>95</sup> This places the procurement of this organisation above the entire procurement plan for the Ministry of Public Works for fiscal year 2016.

have been tendered by the Ministry of Public Works in 2016. Focusing on delivery of such tangible goods may also allow for smaller firms to compete.

Finally, consulting and professional services will continue to be in high demand in Chile, an area where European firms may have a decided comparative advantage. Bodies such as the Superintendent for Banks and Financial Institutions (*Superintendencia de Bancos e Instituciones Financieras*) or the Financial Analysis Unit are constantly seeking training and organisational assistance. Focusing on governmental oversight in financial services or accounting, EU firms may be able to provide services that local firms may not. While goods tend to make up the largest portion of Chilean public procurement, the expansion into more professional services also offers a lucrative prize for European firms, and remains an area where EU-based companies are highly competitive.

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## 5 Potential Impact of Modernising the EU-Chile Association Agreement on the Overall Economy of both Partners

### 5.1 Impact Analysis on Employment and Labour Market in the EU and Chile

#### 5.1.1 Introduction

The main purpose of this section is to analyse the impact of the modernisation of the EU-Chile Association Agreement on the labour market with wages and employment disaggregated by skill level, as well as income distribution. To obtain distributional effect of the increased trade relationship, we link the simulation results from the CGE model with a micro-simulation model of household utility through changes in wages, prices, and employment, following the top-down approach developed by Bourguignon *et al.* (2008), Bussolo and Cockburn (2010), Vos and Sánchez (2010) and Cicowiez (2009). A key feature of this approach is to ensure consistency between the CGE simulation results and the micro-model data. This allows us to transmit to the household level the domestic price and resource reallocation changes expected from trade liberalisation obtained in the CGE model, and that may have a key influence on income distribution.

Depicted in Figure 5.1, the top-down approach uses information from National Household Economics Surveys,<sup>96</sup> which cover a wide range of variables describing the socio-economic characteristics of households.<sup>97</sup> A key part of the analysis is the examination of the effects of modernising the Association Agreement on household income. To do so, we use the simulation results of the CGE model by generating a vector of prices, wages, and employment variables by sub-sector that correspond to the macro-level effect of the future liberalisation. A micro simulation model is then used to generate changes in individual wages and employment status in a way that is consistent with the set of macro variables fed by the CGE model. This micro-simulation model describes the income generation of households in terms of individual wages as a function of their observable characteristics. When this is done, the full distribution of real household income corresponding to the simulated shock or policy can be evaluated.

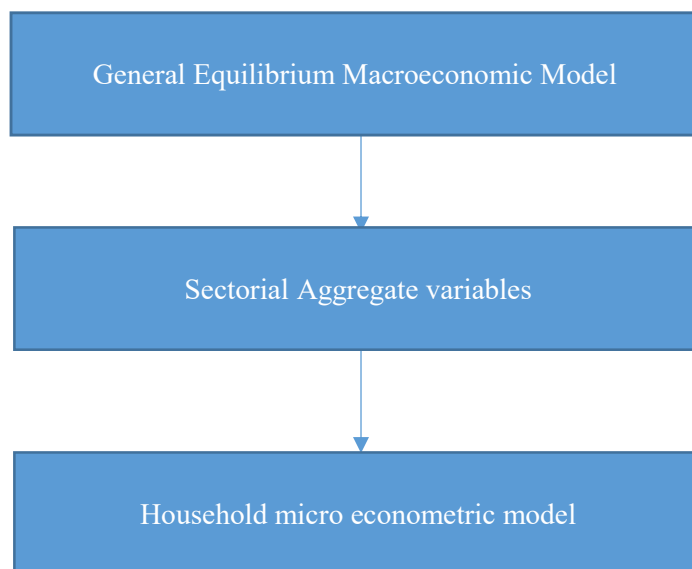
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<sup>96</sup> The European Union Statistics on Income and Living Conditions (EU-SILC) in the case of the EU and the National Socio-Economic Characterization Survey (CASEN) in the case of Chile.

<sup>97</sup> This approach expands the *ex-post* evaluation report (ITAQA, 2012).



**Figure 5.1: Schematic Representation of the Top-down Modelling Approach**



### 5.1.2 Methodology

As pointed out above, we use the top-down approach to combine the CGE modelling with behavioural micro simulations. The first type of models allows a counterfactual framework to evaluate public policies scenarios, but generally lacks the necessary disaggregation to analyse income distribution issues. Micro simulations, meanwhile, are useful to evaluate the effects on poverty and inequality changes given the household budget constraint. However, they do not take into account changes in prices and macroeconomic variables. In recent years, both methods are used in combination, making it possible to assess the distributional effects of economic shocks.

In general, applications in developing countries focus their attention on labour income generation. Thus, they typically simulate changes in the employment status of individuals (employed versus unemployed), wages, and education levels, among others, and are implemented using micro data from household surveys.

This methodology captures the heterogeneity between households in terms of income sources, human capital endowments, area of residence, other demographic characteristics, and consumer preferences. The micro-simulation is based on a set of reduced form Mincer equations that estimate the logarithm of the wage of each working age individual working in a specific sector as a function of a number of observable characteristics (equation 5.1):

$$\text{Log } w_{mi} = \alpha_{g(mi)} + x_{mi}\beta_{g(mi)} + v_{mi} \quad i = 1, \dots, k_m \quad (5.1),$$

where the (log) earnings of member  $i$  of household  $m$  are a function of that member's personal characteristics (including age, gender, education level, geographical location, and work experience), and an error term,  $v_{mi}$ , describing the effects of unobserved earning determinants. This earning function is to be estimated separately for various segments of the labour market defined by gender, skill level (skilled and unskilled), industry of employment, and area (urban and rural). Thus, the index  $g(mi)$  is an index function that indicates the labour market segment to which each individual belongs.

The wage income obtained through this set of equations is then deflated by a household-specific consumer price index (CPI),  $P_m$ , which is derived from the observed budget shares,  $s_{mk}$ , of household  $m$  and the price  $p_k$  of the various consumption goods  $k$  included in the household's consumption basket:

$$P_m = \sum_{k=1}^K s_{mk} p_k \quad (5.2)$$

The described function (9.1) depends on a set of parameters, and it is through these parameters that the simulation results of the CGE part of the model are transmitted to the micro model. Once the aggregate estimates from the CGE model are obtained, these are linked to the micro model in a consistent way so that the change in variables (total employment, wages and prices) of the micro model are set to be equal to changes in the aggregate corresponding variables in the CGE model. Subsequently, they are used to obtain a new set of coefficients from the household income generation model described above. These are then employed to compute the new income of each household in the sample, and to analyse the modifications that this implies for outcomes such as the overall distribution of income, in a way that is consistent with the post-policy change macro variables generated by the CGE model estimation.

Since the CGE model employed by DG Trade is specified in a long run steady state for the year 2025<sup>98</sup> with full employment closure, we need to deviate from the classic approach proposed by Bourguignon *et.al* (2008). In their application, these authors use an occupational choice model employing a multinomial logit equation in which individuals decide whether to be inactive, self-employed, or wage worker, based on the utility associated to each choice. This equation states that an individual is wage-employed if the utility associated with wage employment is higher than the utility of being self-employed or inactive, with the base category being “inactive”, and its associated utility is equal to zero.

In our case, since we do not need to model the decision to participate in the labour market, the simulation is restricted to the identification of the sectors in which workers are employed, and the income that they receive, making sure that the micro results are consistent with the CGE results. We therefore build a micro simulated baseline which includes the full employment variable. To choose counterfactual sub-sectors, we follow Vos and Sánchez (2010). They use a non-parametric micro simulation which takes into account both individual characteristics of workers and a certain labour market segmentation, but allows workers to move across segments at the margin; that is, workers are allowed to move from one sector to other depending on changes in aggregate labour market conditions set from both the supply and demand side. The main advantage of this non-parametric micro simulation methodology is that it allows simulating the impact of changes in the labour-market structure on the full income distribution.<sup>99</sup> Once the baseline model is computed, we apply the features of the two counterfactual conservative and ambitious scenarios, and the results are expressed as percentage deviations from the full employment baseline scenario before the Association Agreement modernisation.

### 5.1.3 Data Description

For the evaluation of the impact on the Chilean economy, the main source of data is the 2013 wave of the national socio-economic characterization survey (*Encuesta de Caracterización Socioeconómica Nacional*, CASEN). This survey sampling frame covers the whole Chilean population including rural

<sup>98</sup> It is important to point out that our estimations do not perform any simulation on the household survey, so that the micro data baseline 2025 employment structure is considered equal to the one described in the latest household survey.

<sup>99</sup> The income distribution results reported throughout this section represent on average 100 repetitions of the simulation model.

areas, is typically conducted biannually, and each wave interviews around 70.000 households. It is a multi-purpose survey that provides information about the socio-economic characteristics of the population, which include information on wages and employment by 4-digit International Standard Industrial Classification (ISIC) sector and micro-region both at the individual and household level, and also provides information on education, health, income distribution and various dimensions and characteristics of poverty. One main particularity of the CASEN survey that is especially appealing for our purposes is that the micro data from this survey are adjusted to provide income estimates that match the Chilean national accounts. Data for household budget shares by income quintile are from the Family Budget Survey (*Encuesta de presupuestos familiares*) administered by the Chilean Statistical Institute (INE).

For the EU case, the main source of data is the European Union Statistics on Income and Living Conditions (EU-SILC), which collects timely and comparable cross-sectional and longitudinal multidimensional micro data on income, labour, poverty, education, health, social exclusion and other living conditions in a number of EU Member States. Social exclusion and housing condition information are collected mainly at the household level while labour, education and health information is obtained for persons aged 16 and over. The core of the instrument, income at very detailed component level, is mainly collected at the personal level. The EU-SILC instrument provides two types of data: (i) cross-sectional data pertaining to a given time or a certain time period with variables on income, poverty, social exclusion and living conditions, and (ii) longitudinal data following individual level changes over time observed over a four-year period. For our micro simulation, we use the 2014 wave of the cross-sectional dataset. Data for household budget shares are from the EU Member States' Household Budget Surveys (HBS) as harmonized by EUROSTAT.

#### 5.1.4 CGE Model Simulation Results

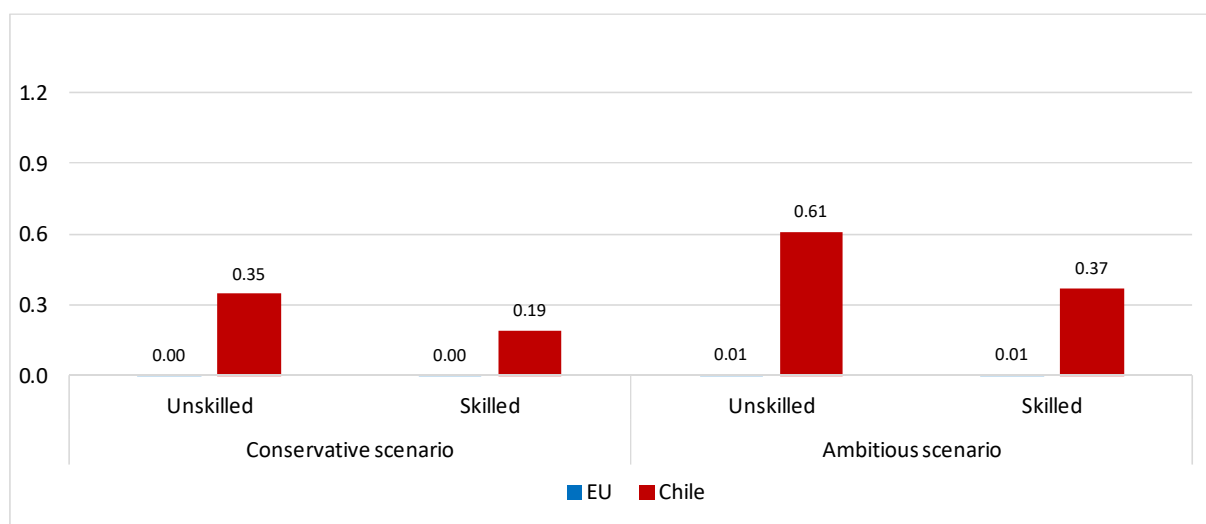
Using the model previously described, we can observe that household income is affected by the modernisation of the Association Agreement in at least three dimensions. The first dimension has to do with the impact on the purchasing power of households due to the increase in CPI which affects families in different ways depending on the composition of their consumption basket, which in turn is a function of their income level. The second dimension is related to the change in the employment distribution across sectors. The third dimension works through the effect on labour income. We separately analyse each of these three dimensions, and then consolidate their impact on overall inequality measures.

Figure 5.2 presents the real wages simulation results of the CGE model for both the EU and Chile disaggregated by skill level under the conservative and ambitious scenarios. The impact in the case of the EU is negligible, ranging from 0 to 0.01% in the two alternative scenarios for both types of workers. However, in the case of Chile, the effects are much larger, ranging from 0.35% to 0.61% for unskilled workers and from 0.19% to 0.37% for skilled workers.

Similarly, increase in labour demand in the EU are lower than 0.1% in every sub-sector in both scenarios, except for the oil sub-sector in the ambitious scenario, where there is a 0.16% increase in labour demand. In the case of Chile, variations in labour demands are more significant, especially in the dairy sub-sector, where labour demand increase by almost 5% for both unskilled and skilled workers in both scenarios, in the oilseeds, vegetable oils and fats sub-sector by around 2%, and in the vegetables, fruits and nuts sub-sector by around 1.5%. Such increases in labour demand come partially at the expense of the meat, cereals, and the plant and animal fibres and other crops sub-sector. However, there is a net positive labour demand effect in the agricultural and food sub-sector of around 1% for both unskilled workers and skilled workers. On the other hand, labour demand substantially drops in the manufacturing sub-

sectors, especially in the machinery (-3%) and motor vehicles and transport (-2%) sub-sectors. Table 5.1 presents the simulation results for labour demands aggregated by sector (1-digit ISIC classification).

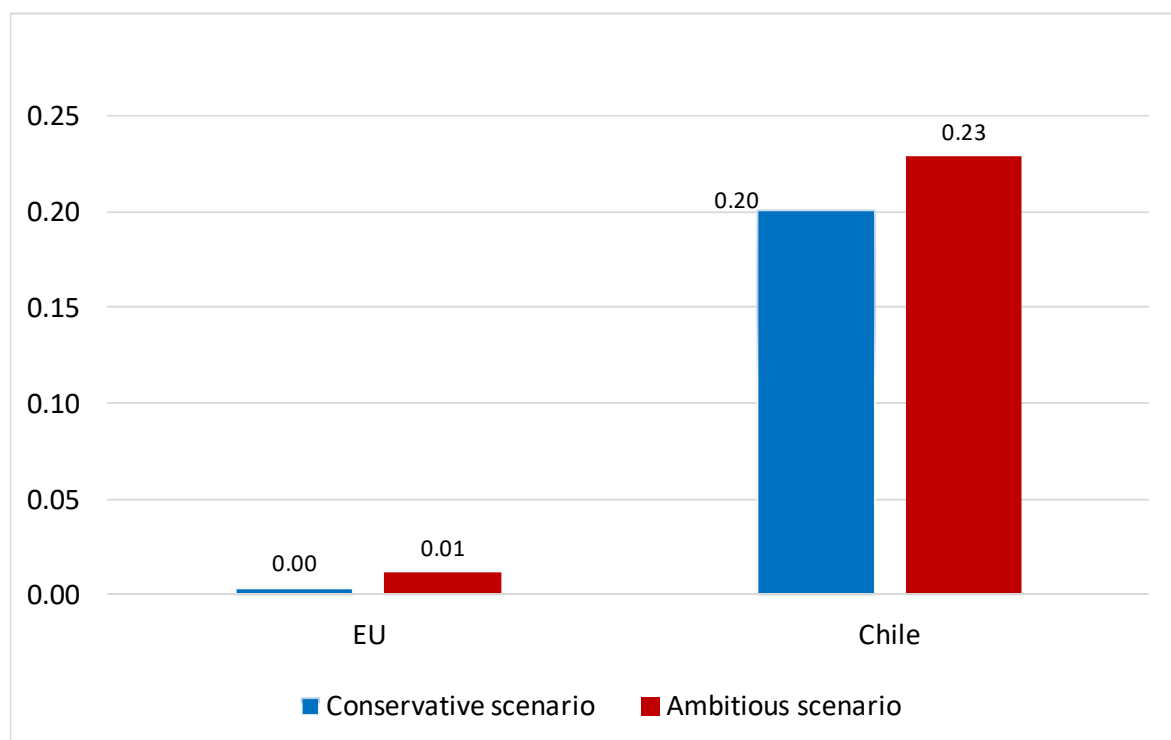
**Figure 5.2: Percentage Change in Real Wages**



Source: DG Trade, European Commission

Figure 5.3 presents the simulation results for the overall Consumer Price Index (CPI) for both countries. Once again, there is practically no effect on EU prices (a 0.01% increase in the ambitious scenario), while there is a modest price increase for Chile (ranging from 0.2% to 0.23%), as the combination of higher output and higher wages results in a slight inflationary pressure.

**Figure 5.3: Percentage Change in CPI**



Source: DG Trade, European Commission

**Table 5.1: Percentage Change in the Labour Demand by Sector**

Sub-sector	Chile				EU			
	Ambitious scenario		Conservative scenario		Ambitious scenario		Conservative scenario	
	Unskilled labour	Skilled labour	Unskilled labour	Skilled labour	Unskilled labour	Skilled labour	Unskilled labour	Skilled labour
A - Agriculture, hunting and forestry	0.914	1.060	1.066	1.159	-0.004	-0.006	-0.005	-0.004
B - Fishing	-0.05	0	0.01	0.04	-0.018	-0.018	-0.013	-0.013
C - Mining and quarrying	-0.31	-0.11	-0.43	-0.15	-0.001	-0.002	0.000	0.000
D - Manufacturing	-0.87	-0.31	-1.03	-0.33	0.000	0.004	0.004	0.003
E - Electricity, gas and water supply	0.42	0.75	0.19	0.4	0.009	0.009	0.003	0.003
I - Transport, storage and communications	-0.49	-0.1	-0.58	-0.11	-0.002	-0.003	-0.002	-0.001
J - Financial intermediation	-0.46	-0.1	-0.46	-0.07	-0.0005	-0.0008	-0.0005	-0.0004
K - Real estate, renting and business activities	-0.25	0.03	-0.27	0.03	0.000	0.000	0.000	0.000
X – Other Services	-0.3	0.03	-0.19	0.03	0.000	0.000	0.000	0.000

Source: DG Trade, European Commission

### 5.1.5 Micro Simulation Results

#### Consumer Prices

When we analyse the price effect in further detail, we can notice that households are affected differently by the price increase depending on their income level (see Table 5.2). In the case of Chile, in both scenarios we can observe a regressive effect in the price increase, with households in lower quintiles being more affected by price increases than richer households. Therefore, poorer households are losing purchasing power to a higher degree than richer households, which leads us to believe that the modernisation of the Association Agreement would have a limited anti-poor bias in Chile as regards consumer prices, which would be low and about the same in both scenarios (0.2% for the first quintile). In the case of the EU, the effect is reversed, with higher quintiles being affected by higher price increases, so that for the EU the modernisation of the Association Agreement would have a pro-poor bias, even though the effect is extremely small, and slightly higher in the ambitious scenario.

**Table 5.2: Percentage Change in CPI by Level of Income**

Quantile	Chile		EU	
	Conservative scenario	Ambitious scenario	Conservative scenario	Ambitious scenario
1Q	0.2060	0.20028	0.00350	0.0097
2Q	0.1999	0.19379	0.00356	0.0099
3Q	0.1930	0.18640	0.00362	0.0100
4Q	0.1854	0.17785	0.00369	0.0101
5Q	0.1781	0.17246	0.00380	0.0103

Source: Own calculations based on Chilean Statistical Institute (INE)'s Family Budget Survey (*Encuesta de presupuestos familiares*) and EU's Household Budget Surveys (HBSs)

In summary, the change in consumer prices negatively impacts households' real income, with a limited anti-poor bias in Chile, and a marginal pro-poor bias in the EU.<sup>100</sup>

#### Real Wages

The Mincerian wage equations are estimated by OLS separately by country (Chile and the EU) and employment sector, and for each of the labour market categories considered in this study: unskilled and skilled workers. The regressions for wages and earnings show, in general, expected signs and significant effects. Working-age male household members command significantly higher wages than female ones. Age and experience has a positive and significant effect on wages (interestingly, except for the mining sector in Chile, where the coefficient is not statistically significant). A higher educational level leads to a higher wage in every sector. However, the size of the household is generally not a significant earnings determinant.<sup>101</sup>

The more relevant results of this section have to do with the transmission of the real wage changes from the CGE model to the various sub-sectors, and disaggregated by skill level and gender. As shown in Tables 5.3 and 5.4, the results are dissimilar between both trading parties. As previously noted, the results for Chile especially favour unskilled workers (see Table 5.3). Among the most benefited sectors we can single out manufacturing, and transport and communication in the case of male unskilled

<sup>100</sup> The analysis of this effect is relevant, since even though there is a real wage increase, family income can be affected in all the other income sources that are not related to labour income.

<sup>101</sup> These results are not reported but are available upon request.

workers, with real wage increases by 0.68% and 0.63%, respectively. On the other hand, in the case of female unskilled workers, results are higher in the manufacturing sector than for their male counterparts by around 0.2%, with an effect of 0.90% in the ambitious scenario and of 0.65% in the conservative scenario.

Among sub-sectors we can especially notice the pro-gender effect of the modernisation of the Association Agreement, as in almost all sectors the increases for unskilled workers are higher for the case of females than for males. For skilled workers, results are more varied across sub-sectors, as the overall effect is similar for both women and men. It is important to note that even though these results go in the direction of slightly reducing the gender gap, this is still very large, as according to the household surveys employed, in Chile female workers earn on average 30% less than their male counterparts.

In the case of the EU, the effects are negligible, as the percentage wage change in the most ambitious scenario implies an absolute wage increase of 1.2 euros per year in the case of unskilled male workers and 0.8 euros in the case of unskilled female workers. For skilled workers, the wage increase amounts to 2.2 euros for males as compared to 1.4 euros for females. These results are clearly extremely marginal; however, they do show a pro-skill bias, and the pro-gender bias of the modernisation agreement disappears in the EU.

In conclusion, the real wage effects of the micro simulations show a pro-gender and anti-skill bias for Chile, and pro-skill and gender-neutral bias for the EU, even though the magnitude is generally very low.

### *Inequality Analysis*

The effect on income distribution can be measured through different inequality measures. The Gini coefficient indicates the overall level of inequality in the economy, while the 5q/1q indicator measures the ratio between the average household income of the highest income quintile of the population relative to the average income of the lowest quintile. As shown in table 5.5, the effects for Europe were so low that we cannot observe any change in inequality in any of the considered scenarios. In the case of Chile, we can see a special case from the point of view of the effects on inequality, as there is an overall slight improvement in the overall income distribution in the economy, witnessed by the reduction of the Gini coefficient as compared the baseline. On the other hand, the 5q/1q increases, meaning that the richest household capture a higher proportion of the total income increase than poorer ones. This could be due to the fact that even though the percentage effects in the wage increase was higher for unskilled workers, such percentage increase in absolute terms represents a lower increase than those captured by workers at the top of the income distribution. In any case, given the increase in the income inequality at the extremes, the reduction in the Gini could only be explained by an evening of the distribution of income around its median.

### *5.1.6 Conclusions*

In sum, a modernisation of the Association Agreement between Chile and the EU according to the two simulation scenarios generates very small changes in the Chilean labour market, and negligible changes in the EU labour market. We observe a regressive decrease in the purchasing power of household income for Chile, and a progressive, albeit negligible, decrease in the one for the EU. As for labour income, there is a favourable effect for both scenarios that tends to be anti-skill and pro-gender in Chile. This effect is pro skill and substantially gender neutral in the EU. As for inequality, there is a slight increase in the share of income captured by the highest quintile in Chile while at the same time a lower Gini coefficient expresses a decrease in inequality. There is no change in the EU.

**Table 5.3: Percentage Change in Wages by Sector, Skill Level and Gender in Chile**

Sub-sector	Ambitious scenario				Conservative scenario			
	Unskilled labour		Skilled labour		Unskilled labour		Skilled labour	
	Male	Female	Male	Female	Male	Female	Male	Female
A - Agriculture, hunting and forestry	0.501	0.646	0.463	0.427	0.290	0.406	0.373	0.234
B - Fishing	0.626	0.644	0.366	0.370	0.362	0.372	0.194	0.196
C - Mining and quarrying	0.604	0.650	0.363	0.370	0.341	0.376	0.191	0.196
D - Manufacturing	0.679	0.898	0.498	0.424	0.465	0.645	0.326	0.274
E - Electricity, gas and water supply	0.630	0.650	0.705	0.370	0.364	0.376	0.117	0.196
F - Construction	0.632	0.647	0.365	0.370	0.365	0.374	0.193	0.196
G - Wholesale and retail trade; repair of motor vehicles, and personal and household goods	0.603	0.600	0.364	0.367	0.349	0.347	0.193	0.194
H - Hotels and restaurants	0.627	0.623	0.365	0.363	0.363	0.361	0.193	0.192
I - Transport, storage and communications	0.634	0.360	0.360	0.413	0.477	0.100	0.188	0.240
J - Financial intermediation	0.454	0.597	0.367	0.380	0.262	0.345	0.194	0.207
K - Real estate, renting and business activities	0.580	0.614	0.351	0.364	0.335	0.353	0.186	0.193
L - Public administration and defence; compulsory social security	0.578	0.644	0.361	0.368	0.334	0.372	0.191	0.195
M - Education	0.554	0.626	0.360	0.366	0.320	0.362	0.191	0.194
N - Health and social work	0.610	0.595	0.354	0.366	0.353	0.344	0.188	0.194
O - Other community, social and personal service activities	0.600	0.627	0.364	0.365	0.347	0.362	0.193	0.193
P - Private households with employed persons	0.537	0.613	0.354	0.365	0.311	0.355	0.188	0.193
Q - Other Sectors	-	0.650	0.370	0.363	-	0.376	0.196	0.192
<b>Total</b>	<b>0.574</b>	<b>0.626</b>	<b>0.371</b>	<b>0.368</b>	<b>0.332</b>	<b>0.370</b>	<b>0.199</b>	<b>0.196</b>

Source: Own calculations based on simulation results from DG Trade, European Commission

Note: The sectoral differences in the classification used for reporting results between Chile and the EU are due to the fact that



**Table 5.4: Percentage Change in Wages by Sector, Skill Level and Gender for the EU**

Sub-sector	Ambitious scenario				Conservative scenario			
	Unskilled labour		Skilled labour		Unskilled labour		Skilled labour	
	Male	Female	Male	Female	Male	Female	Male	Female
A-Agriculture, Forestry and Fishing	0.006	0.006	0.006	0.006	0.003	0.003	0.003	0.003
B-E Industrial Sector	0.007	0.006	0.006	0.006	0.004	0.003	0.003	0.003
F-Construction	0.006	0.006	0.006	0.006	0.003	0.003	0.003	0.003
G-Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	0.006	0.006	0.006	0.006	0.003	0.003	0.003	0.003
H-Transportation and Storage	0.006	0.006	0.006	0.006	0.003	0.003	0.003	0.003
I-Accommodation and Food Service Activities	0.006	0.006	0.006	0.006	0.003	0.003	0.003	0.003
J-Information and Communication	0.006	0.006	0.006	0.006	0.003	0.003	0.003	0.003
K-Financial and Insurance Activities	0.006	0.006	0.006	0.006	0.003	0.003	0.003	0.003
L-N Professional Services	0.006	0.006	0.006	0.006	0.003	0.003	0.003	0.003
O-Public Administration and Defence; Compulsory Social Security	0.006	0.006	0.006	0.006	0.003	0.003	0.003	0.003
P-Education	0.006	0.006	0.006	0.006	0.003	0.003	0.003	0.003
Q-Human Health and Social Work Activities	0.006	0.006	0.006	0.006	0.003	0.003	0.003	0.003
R-U Other Services	0.006	0.006	0.006	0.006	0.003	0.003	0.003	0.003
<b>Total</b>	<b>0.006</b>	<b>0.006</b>	<b>0.006</b>	<b>0.006</b>	<b>0.003</b>	<b>0.003</b>	<b>0.003</b>	<b>0.003</b>

Source: Own calculations based on simulation results from DG Trade, European Commission

**Table 5.5: Change in Inequality Indicators over the Baseline Scenario**

Partner	Conservative scenario		Ambitious scenario	
	5q/1q	Gini	5q/1q	Gini
EU	0.00	0.00	0.00	0.00
Chile	0.023	-0.0004	0.024	-0.0003

Source: Own calculations based on simulation results from DG Trade, European Commission

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## 5.2 Impact Analysis on Small and Medium Enterprises in the EU and Chile

### 5.2.1 Introduction

Small and Medium Enterprises (SME) occupy a predominant position in any economy.<sup>102</sup> In the European Union, 99 of all European firms are SME, employing two-thirds of the EU work force and creating 58 of total value added. In Chile, 98.7 of all firms are SME and represent 51 of the work force. Nevertheless, only a minority of SMEs manage to sustain adequate growth patterns for a significant period of time. The SME sector is characterized by a high level of "churning", or firm exit and re-entry (ITC/WTO, 2014).

A large number of studies show that SME with greater level of participation in the international markets tend to report higher turnover and growth, and are more productive than their counterparts (ITC/WTO, 2014; Freund and Pierola, 2015; Pavcnik, 2002) but the success of this "internationalisation" is hard to accomplish in low-income countries, as seven out of every ten new export relationships fail within two years ITC/WTO (2014). The distribution of the exporting activity is known to be highly skewed, with SME accounting for the vast majority of exporting firms but a significantly smaller share of total exports in every country in the world (Freund and Pierola, 2015; Mayer and Ottaviano, 2007).

Considering the importance of SME for the overall employment levels and the challenges that they face, it is crucial to identify in which sectors SME are predominant and to match this data with the results from the CGE model estimates on the sub-sectors that are most affected by the modernisation of the EU-Chile Association Agreement. The following section initially characterizes SME in each sub-sector, utilising data on sectorial coverage of SME from the Eurostat database in the case of the EU and the Internal Revenue Service data in the case of Chile. The prevalence of SME is measured via many indicators: number of enterprises, turnover, value added at factor cost, and number of persons employed. This allows us to create a ranking of the sub-sectors most important for SME, with which to identify the most sensitive sectors affected by the trade liberalisation between the EU and Chile according to the estimates provided by the CGE model.

### 5.2.2 Data Description

We use the annual structural business statistics (SBS) from Eurostat and Chile's Internal Revenue Service data to characterize the sub-sectors according with the intensity of presence of SME in at least four dimensions: number of firms, work force use, sales and total value added. To harmonize the results to the sectorial classification used in the CGE modelling, we constructed a correspondence table between the Eurostat sectorial classification NACE,<sup>103</sup> the ISIC sector classification of the Chilean Internal Revenue Service, and the GTAP database utilized in the CGE model simulations. An additional complication is given by the fact that the sectorial definitions used in GTAP come from two classifications: The Central Product Classification (CPC<sup>104</sup>) for the agricultural and food processing sub-sectors, and the International Standard Industry Classification (ISIC) for the remaining sub-sectors. To aggregate both Chilean and EU data at the GTAP sectorial aggregation, we therefore need to create a correspondence table between both CPC and ISIC and NACE. We then aggregate the 57 GTAP sub-

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<sup>102</sup> According to Eurostat a small and medium sized enterprise (SME) is a firm with an employment below 249 people, and an annual turnover of up to EUR 50 million. In Chile, the Internal Revenue Service defines a SME as a firm with annual sales between 2,400 Unidad de Fomento (UF) and 100,000 UF (approximately EUR 90,000 and 3,600,000).

<sup>103</sup> The statistical classification of economic activities in the European Community, abbreviated as NACE.

<sup>104</sup> The CPC was developed by the Statistical Office of the United Nations to serve as a bridge between the ISIC and other sectorial classifications (UN 1990, 1991).

sectors into the 31 sub-sectors defined by DG Trade, and report all results following the latter classification.

Note that the Eurostat SBS data covers the 'business economy' which includes the sectors of industry construction, and distributive trades and services<sup>105</sup>. SBS does not cover agriculture, forestry and fishing, nor public administration and (largely) non-market services such as education and health<sup>106</sup>. We therefore exclude these sectors from the analysis of EU firms.

### 5.2.3 Characterisation of Small and Medium Enterprises by Sector

#### 5.2.3.1 Chile

In 2014 Chile had 895,000 active companies, a 20% increase as compared to 2002. Among this universe, 74.7% of the total are micro enterprises, 23.7% are small and medium firms, and only 1.6% large firms. In terms of labour force, between 2002 and 2014 the bulk of the growth in the labour force was provided by large firms, while employment in micro enterprises grew only by 10% (see Table 5.6).

**Table 5.6: Firms According to Size and Number of Workers in Chile**

Size	2002		2014	
	Firms	Workers	Firms	Workers
Micro	600,444	510,645	669,515	569,907
Small	119,453	1.404,464	184,654	1.762,087
Medium	17,401	1.057,914	27,688	1.425,439
Large	8,727	2.601,234	13,979	4.531,630
Total	746,025	5,574,257	895,836	8,289,063

*Source: Internal Revenue Service Chile 2015<sup>107</sup>*

Tables 5.7 and 5.8 provide an analysis of the relative importance of SMEs<sup>108</sup> in the different sub-sectors as defined by DG Trade, in terms of the contribution of each activity to the total SME population and the SME workforce. The number of SMEs in the Chilean economy is particularly concentrated within recreational and other services (412,000 enterprises); being almost four and half times the number of SMEs in the communication and business sub-sector (92,000 enterprises) and transport sub-sector (71,000 enterprises). These three sectors account for 66% of the total SME universe.

In 2014 almost two fifths (46.7%) of the SMEs in Chile were active within the recreational and other services sector; this sector also provided work to more than 34.1% of the total SME workforce. All other services (Communication and business services, financial services, transport, electricity, water and construction sectors) also recorded a sizable share of SME employment employing around 37.9% of the total workforce. The other sectors that concentrate the most workforce in SME were plant and animal fibres and other crops products (6,3%), vegetables and fruits (4,4%), and cereals (2.5%).

<sup>105</sup> The financial services are kept separate because of their specific nature and the limited availability of most types of standard business statistics in this area.

<sup>106</sup> Eurostat suggests referring to national accounts by branch or other sector specific statistics in order to gather information on these sectors.

<sup>107</sup> [http://www.sii.cl/estadisticas/empresas\\_tamano\\_ventas.htm](http://www.sii.cl/estadisticas/empresas_tamano_ventas.htm)

<sup>108</sup> In this paragraph, we refer to SMEs as the combination of micro, small and medium firms.

**Table 5.7: Firms According to Size in Chile (2014)**

No	Sub-sector	Large		Small and Medium		Micro		MSME	Total	
		#	%	#	%	#	%	%	#	%
1	Cereals	105	0.4	5,409	21.0	20,199	78.6	99.6	25,713	2.87
2	Rice	1	0.1	80	11.5	615	88.4	99.9	696	0.08
3	Vegetables, Fruits, nuts	209	1.1	4,674	23.6	14,940	75.4	98.9	19,823	2.21
4	Oil seeds, vegetable oils & fats	27	3.7	190	25.8	519	70.5	96.3	736	0.08
5	Sugar	-	0.0	15	20.0	60	80.0	100.0	75	0.01
6	Plant & animal fibres and other crops	310	1.4	6,077	28.0	15,290	70.5	98.6	21,677	2.42
7	Bovine and other ruminant meats	107	1.8	1,757	29.7	4,053	68.5	98.2	5,917	0.66
8	Other meats (poultry, pig)	127	1.3	1,905	19.9	7,524	78.7	98.7	9,556	1.07
9	Dairy products	63	1.6	1,278	32.3	2,619	66.1	98.4	3,960	0.44
10	Wood and paper products	413	2.2	5,139	26.8	13,593	71.0	97.8	19,145	2.14
11	Coal	3	5.5	32	58.2	20	36.4	94.5	55	0.01
12	Oil	22	36.1	26	42.6	13	21.3	63.9	61	0.01
13	Gas	28	4.7	272	45.3	301	50.1	95.3	601	0.07
14	Minerals	229	5.0	1,737	38.3	2,575	56.7	95.0	4,541	0.51
15	Fishing	163	3.9	1,699	40.8	2,303	55.3	96.1	4,165	0.47
16	Other food products	300	1.8	4,590	27.0	12,091	71.2	98.2	16,981	1.90
17	Beverages and tobacco	69	3.9	359	20.1	1,362	76.1	96.1	1,790	0.20
18	Textile, apparel, leather	114	0.8	1,927	14.4	11,381	84.8	99.2	13,422	1.50
19	Chemicals, rubber, plastic	364	12.0	1,310	43.2	1,361	44.8	88.0	3,035	0.34
20	Petroleum, coal products	13	39.4	9	27.3	11	33.3	60.6	33	0.00
21	Metal products	299	2.3	4,407	33.3	8,539	64.5	97.7	13,245	1.48
22	Non-metallic minerals	78	3.4	629	27.5	1,577	69.0	96.6	2,284	0.26
23	Motor vehicles & transport equipment	46	4.4	379	36.1	624	59.5	95.6	1,049	0.12
24	Machinery	235	1.9	3,646	30.2	8,172	67.8	98.1	12,053	1.35
25	Electronic equipment	89	1.0	1,955	22.6	6,607	76.4	99.0	8,651	0.97
26	Electricity	158	24.3	208	32.0	283	43.6	75.7	649	0.07
27	Utility (construction, water)	1,435	2.0	23,275	31.8	48,477	66.2	98.0	73,187	8.17
28	Transport	700	0.9	16,343	19.9	64,950	79.2	99.1	81,993	9.16
29	Communication and business service	1,540	1.6	26,203	27.8	66,396	70.5	98.4	94,139	10.51
30	Financial service and insurance	2,102	5.4	15,990	40.7	21,151	53.9	94.6	39,243	4.38
31	Recreational and other services	4,630	1.1	80,815	19.4	331,504	79.5	98.9	416,949	46.56
Total		13,979	1.6	212,335	23.7	669,110	74.7	98.4	895,424	100.00

Source: Internal Revenue Service Chile 2015<sup>109</sup>

<sup>109</sup> [http://www.sii.cl/estadisticas/empresas\\_tamano\\_ventas.htm](http://www.sii.cl/estadisticas/empresas_tamano_ventas.htm)

From the point of view of international trade, only 23,512 (less than 3% of the total) firms exported between 2002 and 2014. Although this percentage is low, the results by company size are even more extreme: only 2% of SME export, while in the case of large companies this figure rises to 22.9%. The dynamics of the exporting firms is also revealing: only 5.1% of the total exported continuously between 2002 and 2014, 11.9% exported continuously for five or more years but not in all the period, 20.1% exported continuously for less than five years, 41.1% exported only year and 21.8% exported intermittently (Arellano and Jiménez, 2016). Additionally, the continuous exporters group in 2002 was made up for 61% by large companies, while in 2014 large companies came to represent 72.8% of continuous exporters: that is, in this period, about 11.9% of exporting companies that were SMEs in 2002 grew to a large size.

With respect to the relationship between Chile and the EU, 98.3% of Chilean sales to the EU were made by large firms, with only 1.69% of the total exports represented by SME, and 0.02% by micro enterprises (see Table 5.9).

In 2014, by far the most important sub-sector for SME exporters was fruit and vegetables, which accounted for 46.6% of total SME exports to the EU, followed by the beverage and tobacco sub-sector, which represented 25.6%. Even though around 40% of Chilean companies exporting to the EU are SMEs (a percentage similar to that of other Chile's trading partners), it is quite clear that SMEs make up a very small portion of Chilean exports to the EU, which makes the modernisation of trade agreements especially crucial for this type of firms.

**Table 5.8: Firms According to the Number of Workers in Chile (2014)**

No	Sub-sector	Large		Small and Medium		Micro		MSME	Total	
		#	%	#	%	#	%	%	#	%
1	Cereals	31,924	24.83	9,831	7.65	86,821	67.53	75.17	128,576	1.55
2	Rice	15	2.32	166	25.66	466	72.02	97.68	647	0.01
3	Vegetables, Fruits, nuts	121,882	42.34	12,690	4.41	153,301	53.25	57.66	287,873	3.47
4	Oil seeds, vegetable oils & fats	11,359	67.30	1,078	6.39	4,440	26.31	32.70	16,877	0.20
5	Sugar	-	0.00	33	5.03	623	94.97	100	656	0.01
6	Plant & animal fibres and other crops	124,414	34.34	34,717	9.58	203,153	56.08	65.66	362,284	4.37
7	Bovine and other ruminant meats	33,191	60.56	2,849	5.20	18,767	34.24	39.44	54,807	0.66
8	Other meat (poultry, pig)	44,755	56.26	4,245	5.34	30,557	38.41	43.74	79,557	0.96
9	Dairy products	35,431	67.36	1,562	2.97	15,605	29.67	32.64	52,598	0.63
10	Wood and paper products	149,572	62.38	10,548	4.40	79,646	33.22	37.62	239,766	2.89
11	Coal	153	17.49	14	1.60	708	80.91	82.51	875	0.01
12	Oil	3,503	91.08	15	0.39	328	8.53	8.92	3,846	0.05
13	Gas	5,656	74.37	100	1.31	1,849	24.31	25.63	7,605	0.09
14	Minerals	86,253	76.59	2,558	2.27	23,801	21.14	23.41	112,612	1.36
15	Fishing	73,925	75.81	1,776	1.82	21,812	22.37	24.19	97,513	1.18
16	Other food products	172,830	70.68	6,063	2.48	65,638	26.84	29.32	244,531	2.95

No	Sub-sector	Large		Small and Medium		Micro		MSME %	Total	
		#	%	#	%	#	%		#	%
17	Beverages and tobacco	30,328	83.86	833	2.30	5,003	13.83	16.14	36,164	0.44
18	Textile, apparel, leather	46,076	62.86	4,374	5.97	22,853	31.18	37.14	73,303	0.88
19	Chemicals, rubber, plastic	86,856	79.05	1,082	0.98	21,934	19.96	20.95	109,872	1.33
20	Petroleum, coal products	3,393	92.03	33	0.90	261	7.08	7.97	3,687	0.04
21	Metal products	74,614	45.49	8,469	5.16	80,951	49.35	54.51	164,034	1.98
22	Non-metallic minerals	20,508	62.73	1,170	3.58	11,017	33.70	37.27	32,695	0.39
23	Motor vehicles & transport equipment	16,022	70.32	598	2.62	6,165	27.06	29.68	22,785	0.27
24	Machinery	117,740	67.26	6,263	3.58	51,046	29.16	32.74	175,049	2.11
25	Electronic equipment	22,377	44.68	3,505	7.00	24,197	48.32	55.32	50,079	0.60
26	Electricity	42,504	95.08	256	0.57	1,942	4.34	4.92	44,702	0.54
27	Utility (construction, water)	836,457	58.04	77,580	5.38	527,167	36.58	41.96	1,441,204	17.39
28	Transport	210,344	50.51	31,826	7.64	174,300	41.85	49.49	416,470	5.02
29	Communication and business service	667,498	54.25	56,052	4.56	506,963	41.20	45.75	1,230,513	14.85
30	Financial service and insurance	188,889	78.51	6,074	2.52	45,643	18.97	21.49	240,606	2.90
31	Recreational and other services	1,273,161	49.79	283,536	11.09	1,000,569	39.13	50.21	2,557,266	30.85
Total		4,531,630	54.67	569,896	6.88	3,187,526	38.45	45.33	8,289,052	100

Source: Internal Revenue Service Chile 2015<sup>110</sup>

<sup>110</sup> [http://www.sii.cl/estadisticas/empresas\\_tamano\\_ventas.htm](http://www.sii.cl/estadisticas/empresas_tamano_ventas.htm)

**Table 5.9: Export from Chile to EU by Size and Sector in Thousands of USD**

No	Sub-sector	Large		Small and Medium		Micro	
		2010	2014	2010	2014	2010	2014
1	Cereals	26,397	50,378	74	89	0	-
3	Vegetables, Fruits, nuts	633,551	863,954	99,400	76,542	324	98
4	Oil seeds, vegetable oils & fats	9,285	37,663	5,299	2,935	96	126
5	Sugar	4	-	-	1	-	-
6	Plant & animal fibres and other crops	69,787	61,676	20,937	19,728	296	101
7	Bovine and other ruminant meats	42,709	28,166	3,804	-	19	-
8	Other meat (poultry, pig)	156,719	175,826	7,215	8,941	404	37
9	Dairy products	-	2,117	16	10	-	-
10	Wood and paper products	918,693	828,223	5,977	4,773	290	188
11	Coal	-	12,910	11	-	-	-
14	Minerals	1,708,555	2,252,580	549	67	4	-
15	Fishing	31,628	281	14,102	1,156	189	-
16	Other food products	374,742	217,662	56,599	19,222	131	471
17	Beverages and tobacco	619,634	668,861	59,716	41,942	274	502
18	Textile, apparel, leather	20,995	32,135	1,557	1,166	54	78
19	Chemicals, rubber, plastic	740,291	690,121	3,239	4,608	104	459
20	Petroleum, coal products	2,157	8,886	0	1	-	-
21	Metal products	5,576,240	3,334,803	1,393	1,160	28	33
22	Non-metallic minerals	623	638	57	11	23	92
23	Motor vehicles & transport equipment	7,056	195,324	429	6,139	3	2
24	Machinery	20,990	48,969	3,694	9,216	156	32
25	Electronic equipment	2,025	5,697	1,383	730	75	296
29	Communication and business service	-	-	15	-	-	-
31	Recreational and other services	190,762	331,422	6,703	9,369	71	101
Total		10,585,865	9,598,938	242,931	163,526	2,684	2,390

Source: Internal Revenue Service Chile 2015<sup>111</sup> and Customs Administrative records

### 5.2.3.2 European Union

According to EU data (2015),<sup>112</sup> in 2012 22.3 million firms (or 99.8% of the total) operating in the non-financial business sectors<sup>113</sup> in the EU-28 were SME. Furthermore, these firms represent 67.1% of the EU-28's non-financial business economy workforce. Across the whole of the EU-28's non-financial business economy, SME also accounted for 57.3% of the EUR 6.18 billion of value added generated in 2012 (see Table 5.10). On the other hand, there were 43.6 thousand large enterprises active within the EU-28's non-financial business economy in 2012, employing 33% of the total EU workforce, and generating EUR 2.62 billion of value added, which equated to 42.5% of the non-financial business economy total.

<sup>111</sup> [http://www.sii.cl/estadisticas/empresas\\_tamano\\_ventas.htm](http://www.sii.cl/estadisticas/empresas_tamano_ventas.htm)

<sup>112</sup> [http://ec.europa.eu/eurostat/statistics-explained/index.php/Business\\_economy\\_-\\_size\\_class\\_analysis](http://ec.europa.eu/eurostat/statistics-explained/index.php/Business_economy_-_size_class_analysis)

<sup>113</sup> The non-financial business economy includes the sectors of industry, construction and distributive trades and services and is the data available from SBS. The rest of the section will refer to this universe.



**Table 5.10: Firms According to Size and Number of Workers in the EU-28, 2012**

Firms	Number of enterprises	Number of persons employed	Value added
	(thousands)		(EUR million)
All enterprises	22,347	133,767	6.184,825
Micro	20,718	39,000	1.300,000
Small	1,362	28,000	1.100,000
Medium-sized	224	22,967	1.128,743
Large	44	44,078	2.627,377

Source: Eurostat (online data codes: sbs\_sc\_sca\_r2)

Tables 5.11 and 5.12 provide an analysis of the relative importance of SME in the different sectors at the DG Trade sectoral level, in terms of the contribution of each activity to the total SME population and the SME workforce.

More than half (62%) of the SMEs within the EU-28 in 2012 were active within the recreational and other services sector; this sector also provided work to more than 49.7% of the SME workforce in the EU-28's non-financial business economy. The utility (construction, water) sub-sector recorded the second highest share of SME employment, employing around 12.4% of the total. The other sub-sectors that concentrate the most workforce in SME were in transport sub-sector (5.9% each), communication and business services sub-sector (4.1%) and metal products sub-sector (3.6%).

The average size of SME (excluding micro enterprises), as measured by the average number of persons employed per enterprise, was 33.33 in the EU-28's non-financial business economy. If we take account all SMEs, the average size falls to 4 employees. The sub-sectors that showed a higher-than-average prevalence of SMEs were coal (38.9 employees), petroleum coal products (14.84 employees) and chemicals, rubber and plastic products (14.50 employees). In contrast, the communication and business services only had on average 2.28 persons employed per enterprise.

The role of SMEs in European trade has not yet been clearly studied. The most complete report that especially analyses the participation of SME in international trade is the study: "Internationalisation of European SME" commissioned by DG Enterprise and Industry in 2010. The conclusions of the study are based on a survey administered to 9,480 European SME in 2009, and the main results show that, even though a large number of SME are involved in some type of international activity, fewer of them export outside the EU. The results of the study reveal that around 25% of SME export (a very significant proportion as compared the Chilean case), however only half of them export outside the EU. With respect to export destinations, only 1 in 10 exporting SME have sales in South or Central America. On the other hand, Eurostat statistics of 2012 show that of 790,000 EU firms exporting goods outside the EU, 619,000 were SMEs (78%), 147,000 firms of unknown size and 24,000 large companies. The share of SMEs in the total value of EU exports was 32% (EUR 538 billion). The Eurostat numbers determine that only about 3% of all EU SMEs are exporting outside the EU.

**Table 5.11: Number of Firms According to Size in the EU, 2012**

No	Sub-Sector	Large		Small and Medium		Micro		MSME %	Total	
		#	%	#	%	#	%		#	%
1	Wood and paper products	988	0.31	38,335	11.95	281,512	87.7	99.7	320,835	1.4
2	Coal	46	21.10	71	32.57	101	46.3	78.9	218	0.0
3	Oil	39	57.35	29	42.65	0	0.0	42.6	68	0.0
4	Gas	621	0.89	4,117	5.88	65,299	93.2	99.1	70,037	0.3
5	Minerals	149	0.79	4,350	23.13	14,308	76.1	99.2	18,807	0.1
6	Other food products	2,300	0.86	54,915	20.55	210,000	78.6	99.1	267,215	1.2
7	Beverages and tobacco	311	1.28	4,492	18.55	19,413	80.2	98.7	24,216	0.1
8	Textile, apparel, leather	860	0.39	33,950	15.32	186,740	84.3	99.6	221,550	1.0
9	Chemicals, rubber, plastic	2,193	2.30	30,922	32.48	62,099	65.2	97.7	95,214	0.4
10	Petroleum, coal products	105	9.11	364	31.57	684	59.3	90.9	1,153	0.0
11	Metal products	1,930	0.48	71,791	17.96	325,959	81.6	99.5	399,680	1.8
12	Non-metallic minerals	769	0.78	16,283	16.61	81,000	82.6	99.2	98,052	0.4
13	Motor vehicles & transport equipment	1,637	4.98	8,497	25.82	22,769	69.2	95.0	32,903	0.1
14	Machinery	4,000	1.09	69,997	19.01	294,156	79.9	98.9	368,153	1.6
15	Electronic equipment	740	0.27	28,078	10.35	242,552	89.4	99.7	271,370	1.2
16	Utility (construction, water)	2,819	0.08	214,313	6.41	3,124,442	93.5	99.9	3,341,574	15.0
17	Transport	1,668	0.14	97,888	8.41	1,064,656	91.4	99.9	1,164,212	5.2
18	Communication and business service	2,001	0.12	49,155	3.04	1,565,323	96.8	99.9	1,616,479	7.2
19	Recreational and other services	13,264	0.09	801,462	5.72	13,200,000	94.2	99.9	14,014,726	62.8
Total		36,440	0.16	1,529,009	6.85	20,761,013	93.0	99.8	22,326,462	100

Source: Own calculation based on data from Eurostat (online data: sbs\_sc\_sca\_r2)

**Table 5.12: Firms According to the Number of Workers in the EU, 2012**

No	Sub-sector	Large		Small and Medium		Micro		MSME %	Total	
		#	%	#	%	#	%		#	%
1	Wood and paper products	527,300	21.7	1,310,300	53.93	592,000	24.4	78.3	2,429,600	1.8
2	Coal	208,400	96.9	6,400	2.98	300	0.1	3.1	215,100	0.2
3	Oil	73,400	99.5	400	0.54	-	0.0	0.5	73,800	0.1
4	Gas	949,400	77.4	219,100	17.86	58,300	4.8	22.6	1,226,800	0.9
5	Minerals	127,400	39.9	153,200	47.98	38,700	12.1	60.1	319,300	0.2
6	Other food products	1,460,000	35.6	1,988,700	48.52	650,000	15.9	64.4	4,098,700	3.1
7	Beverages and tobacco	236,500	50.4	185,900	39.65	46,500	9.9	49.6	468,900	0.4
8	Textile, apparel, leather	440,900	22.1	1,146,000	57.46	407,700	20.4	77.9	1,994,600	1.5
9	Chemicals, rubber, plastic	1,655,200	55.1	1,163,600	38.71	187,300	6.2	44.9	3,006,100	2.2
10	Petroleum, coal products	106,700	83.7	18,600	14.59	2,200	1.7	16.3	127,500	0.1
11	Metal products	1,303,000	28.4	2,487,200	54.18	800,800	17.4	71.6	4,591,000	3.4
12	Non-metallic minerals	467,600	36.7	607,500	47.64	200,000	15.7	63.3	1,275,100	1.0
13	Motor vehicles & transport equipment	2,444,400	84.2	400,900	13.81	57,500	2.0	15.8	2,902,800	2.2
14	Machinery	2,309,400	42.7	2,755,500	50.97	341,700	6.3	57.3	5,406,600	4.0
15	Electronic equipment and other manufacture	442,800	23.5	928,700	49.38	509,300	27.1	76.5	1,880,800	1.4
16	Utility (construction, water)	2,149,400	16.2	5,209,600	39.16	5,945,000	44.7	83.8	13,304,000	9.9
17	Transport	1,810,800	25.3	3,401,400	47.57	1,938,300	27.1	74.7	7,150,500	5.3
18	Communication and business service	3,355,800	47.7	1,693,400	24.05	1,991,400	28.3	52.3	7,040,600	5.3
19	Recreational and other services	12,826,100	22.3	21,226,900	36.89	23,484,700	40.8	77.7	57,537,700	43.0
Total		44,077,800	33.0	50,967,800	38.10	39,000,000	29.2	67.3	133,767,300	100

Source: Own calculation based on data from Eurostat (online data: sbs\_sc\_sca\_r2)

The abovementioned study also realized an analysis of the perception of SME concerning the main barriers to their internationalisation. The most relevant obstacles that were mentioned were both internal (the high cost of their own product or service and the high cost of internationalisation), and external (lack of capital, lack of adequate information, lack of adequate public support and the costs of or difficulties with paperwork associated with transport).

## 5.2.4 Effects of the Simulations of the CGE Model on the Small and Medium Enterprises

### 5.2.4.1 Sectoral Output

One of the most important benefits of the modernisation the Association Agreement is related to the increase in output in both Chile and the EU for both scenarios simulated in the CGE model. In this section, we analyse how these effects can be transmitted among firms in each economy, and whether SME in some sectors could be more at risk or may possibly benefit more after the modernisation of the agreement.

In the case of Chile, seven of the 31 sub-sectors included in the CGE model exhibit a decrease in production, which on average account for 0.47% of the total output of these sectors in the ambitious scenario. The total number of workers employed in these sectors sums up to 1.5 million, more than half of which are employed in SME. On the other hand, only around 45% of the jobs in expanding sub-sectors are employed in the SME, which witnesses the relative importance of large firms over SME in the country. Among the sub-sectors that stand out for higher output growth (in percentage terms) are: dairy products, vegetables, fruits and nuts, and oilseeds, vegetable oils and fats. In these sub-sectors, SMEs account for a relatively larger share of total employment than in other sub-sectors (188,676 jobs in SME as compared to 168,672 jobs in large firms), meaning that in terms of production the modernisation of the Association Agreement has some potential to favour SME employment.

On the other hand, in the sub-sectors that reduce their production there are mixed effects. The sub-sector with the highest drop in output in the conservative scenario is machinery, with a 1.6% output decrease in the ambitious scenario. This sub-sector is characterized by the presence of many large firms so that the percentage of workers employed in SME is only 32% of the total workforce employed in the sub-sector. Therefore, in this case the output reduction may not have too large of an effect on SME employment. The situation is opposite in the sub-sector with the second largest output reduction, plant and animal fibres and other crops (-1.1%), where 65% of the workers are employed in SME.

Table 5.13 aggregates total employment by size of firm (large, small and medium, and micro) across all sub-sectors that present a negative or a positive percentage change in output in the scenarios simulated by the CGE model. From the point of view of employment, on aggregate there is not much variation in terms of the employment share represented by SMEs across the two groups (positively and negatively affected), meaning that SMEs and large firms are affected in similar ways. Nevertheless, it is noteworthy that the vast majority of workers employed in SMEs are part of sectors expected to grow as a result of the modernisation.

**Table 5.13: Labour Force in Chile, 2014**

Change of Output	Average Change		Type of Firm			
	Conservative scenario	Ambitious scenario	Large	Small and Medium	Micro	Total
Negative	-0.36%	-0.47%	842,953	89,154	652,068	1,584,175
Positive	0.45%	0.66%	3,688,677	480,742	2,535,458	6,704,877
Total			4,531,630	569,896	3,187,526	8,289,052

Source: Own calculation based on simulation results from DG Trade, European Commission

Table 5.14 is built following the same logic as the previous table, but presents the total number of firms in expanding and declining sectors by firm size. Likewise, we cannot obtain a very informative picture from the table on total number of firms, since as already explained earlier in this chapter, SMEs represent

the vast majority of firms in the economy. From this point of view, the modernisation of the Association Agreement does not seem to especially favour either type of firms. However, most SMEs are in sectors expected to grow as a result of the modernisation.

**Table 5.14: Number of Firms in Chile**

Change of Output	Average Change		Type of Firm			
	Conservative scenario	Ambitious scenario	Large	Small and Medium	Micro	Total
Negative	-0.36%	-0.47%	2,488	35,946	100,232	138,666
Positive	0.45%	0.66%	11,491	176,389	568,878	756,758
Total			13,979	212,335	669,110	895,424

Source: Own calculation based on simulation results from DG Trade, European Commission

In the case of the EU, the affected sub-sectors vary according to the alternative scenarios used in the CGE model simulations, and thus we analyse them separately. In Table 5.15 we present the results for the conservative scenario.<sup>114</sup> In the EU, the number of workers employed by SMEs as a percentage of the total is higher than in Chile, as in the whole economy on average only 29% of workers are employed by large firms. Once we split the total universe of firms between large and SMEs, we can note that large firms represent 38% of the employment in declining sectors, while in expanding sectors they only account for 27% of the total employment, so that on this account SMEs would be favoured by the modernisation of the Association Agreement. However, among decliners, the largest drop is in the textile, apparel and leather sub-sector (-0.017%), and electronic equipment sub-sector (-0.013%), sub-sectors that concentrate a higher than average share of employment in SMEs (78% and 76% respectively). On the other hand, some of the sub-sectors with larger output increase such as oil, motor vehicles and transport, and machinery sub-sectors present lower share of the workforce employed in SMEs (0.5%, 15.8% and 57% respectively).

**Table 5.15: Labour Force Change in the Conservative Scenario for the EU**

Change of Output		Type of Firm			
		Large	Small and Medium	Micro	Total
Negative	-0.01%	3,738,000	4,474,800	1,672,100	9,884,900
Positive	0.011%	29,156,500	40,428,500	35,579,600	105,164,600
Total		32,894,500	44,903,300	37,251,700	115,049,500

Source: Own calculation based on simulation results from DG Trade, European Commission

As far as the number of firms is concerned, as already noted in the case of Chile, there is a much larger presence of SMEs potentially affected due to their predominance in the economy (see Table 5.16).

In the case of the ambitious scenario, the effects previously described are magnified, since the share of employment accounted for by large firms in declining sectors increases from 38% to 44% (see table 5.17). This change is due to the fact that sectors with low SME employment share such as Minerals, Chemicals, Rubber and Plastic present a fall (albeit very modest) in output in this scenario. As far as expanding sectors are concerned, the share of employment represented by large firms slightly falls by

<sup>114</sup> The variations in Chile and the EU are not perfectly comparable since data limitations do not allow us to present all sectors in the EU.

0.4 percentage points as compared the conservative scenario, still hovering around 27%, so that in the ambitious scenario the pro-SMEs effect of output expansion is amplified.

**Table 5.16: Number of Firms in the Conservative Scenario for the EU**

Change of Output		Type of Firm			
		Large	Small and Medium	Micro	Total
Negative	-0.01%	4,878	125,623	724,105	854,606
Positive	0.01%	31,562	1,403,386	20,036,908	21,471,856
Total		36,440	1,529,009	20,761,013	22,326,462

*Source: Own calculation based on simulation results from DG Trade, European Commission*

Analysing the change in the active number of firms by sector, we can notice that just in the case of employment, the ambitious scenario slightly amplifies the share of large firms in the declining sectors, as the number of large firms in these sectors decreases from 4,878 to 4,609 (see Table 5.18).

**Table 5.17: Labour Force in the Ambitious Scenario for the EU**

Change of Output		Type of Firm			
		Large	Small and Medium	Micro	Total
Negative	-0.01%	3,824,100	3,617,000	1,201,600	8,642,700
Positive	0.02%	29,070,400	41,286,300	36,050,100	106,406,800
Total		32,894,500	44,903,300	37,251,700	115,049,500

*Source: Own calculation based on simulation results from DG Trade, European Commission*

**Table 5.18: Number of Firms in the Ambitious Scenario for the EU**

Change of Output		Type of Firm			
		Large	Small and Medium	Micro	Total
Negative	-0.01%	4,609	101,488	571,099	677,196
Positive	0.02%	31,831	1,427,521	20,189,914	21,649,266
Total		36,440	1,529,009	20,761,013	22,326,462

*Source: Own calculation based on simulation results from DG Trade, European Commission*

#### 5.2.4.2 Internalisation of SME in the Case of Chile

One of the most important objectives that are usually sought after in trade agreements is the possibility to increase SME internationalisation. This is due to the importance that this type of firm has in the economy in terms of employment, as well as the positive effects, in terms of productivity increases, that selling in foreign markets could provide (as SMEs tend to lag far behind the overall productivity level of large firms). The availability of Chilean trade data disaggregated by firm size allows us to analyse further in the reality of Chilean SME's export capacity and to investigate the sub-sectors where the modernisation of the Association Agreement could have the potential to increase the export activity of this type of firms.

Table 5.19 shows the sub-sectors that the CGE model predicts would reduce their exports in 2025 with the conservative and ambitious liberalisation scenarios as compared to the baseline. In percentage terms, the sub-sectors with the highest projected fall in exports from Chile to the EU are other meats, and plant

and animal fibres and other crops, where both scenarios of the CGE model predict a fall in exports of over 2%. However, in absolute terms, the highest predicted fall in export with those liberalisation scenarios is in the metal products sub-sector (- EUR 31 million in the conservative and - EUR 35 million in the ambitious scenario). Among all of these declining export sub-sectors, only in plant and animal fibres and other crops SME represented a sizable share of Chilean exports to the EU in 2014.

Table 5.20 shows instead the sub-sectors that the CGE model predicts would increase exports in 2025 with the conservative and ambitious liberalisation scenarios as compared to the baseline. The largest increase in percentage terms is in dairy products, even though such increase is negligible in absolute value. Among the sub-sectors where there is an increase in exports, it is important to note that the three sub-sectors with the highest absolute export increase as compared to the baseline: beverages and tobacco (+ EUR 59 million in the ambitious scenario), vegetables, fruits, nuts (+ EUR 61 million in the ambitious scenario), and other food products (+ EUR 41 million in the ambitious scenario). These three sub-sectors are also the same sub-sectors with the highest participation of SMEs in 2014 Chilean exports to the EU. This is a very important finding as even though we already noted that large firms by far dominate Chilean exports to the EU, there are some sub-sectors where Chilean SMEs consistently participate in the export market, and that reportedly may be able to benefit from the increased opportunities brought about by the modernisation of the Association Agreement. Finally, it is also important to note that a moderate export increase is also predicted in the ambitious scenario for recreational and other services, another sector with a sizable prevalence of SME exports and whose internationalization the Chilean government has tried to incentivize in recent years.

**Table 5.19: Chilean Sub-sectors with Declining Exports to the UE as Compared to the Baseline, EUR million**

Sub-sector	Simulated export			% Change with respect to the baseline scenario		Export by type of firms 2014		
	Baseline scenario	Conservative scenario	Ambitious scenario	Conservative scenario	Ambitious scenario	Large	Small Medium	Micro
Other meats (poultry, pig)	365	355	355	-2.72	-2.72	158	8	0
Plant and animal fibres and other crops	54	53	53	-2.48	-2.48	55	18	0
Bovine and other ruminant meats	855	838	840	-1.9	-1.69	25	0	0
Textile, apparel, leather	35	35	35	-1.28	-1.28	29	1	0
Machinery	37	37	37	-1.21	-1.21	44	8	0
Electronic equipment	5	5	5	-1.35	-1.18	5	1	0
Metal products	3215	3184	3180	-0.95	-1.09	3006	1	0
Non-metallic minerals	3	3	3	-0.66	-0.66	1	0	0
Chemicals, rubber, plastic	673	668	669	-0.8	-0.54	622	4	0
Wood and paper products	765	759	763	-0.82	-0.35	747	4	0

*Source: Own calculation based on simulation results from DG Trade, European Commission*

**Table 5.20: Chilean Sub-sectors with Increasing Exports to the UE as Compared to the Baseline, EUR million**

Sub-sector	Simulated export			% Change with respect to the baseline scenario		Export by type of firms 2014		
	Baseline scenario	Conservative scenario	Ambitious scenario	Conservative scenario	Ambitious scenario	Large	Small Medium	Micro
Coal	0	0	0	0.00	0.00	12	-	-
Motor vehicles and transport	10	10	10	0.00	0.00	176	6	-
Minerals	2808	2808	2826	0.00	0.64	2030	0	-
Petroleum, coal products	61	61	62	0.59	1.33	8	0	-
Recreational and other services	439	435	451	-0.82	2.67	299	8	0
Utility (construction, water)	9	9	9	-0.83	2.80	-	-	-
Communication and business service	610	606	628	-0.74	2.95	-	-	-
Financial service and insurance	115	114	119	-0.78	3.13	-	-	-
Transport	1370	1366	1423	-0.26	3.88	-	-	-
Fishing	62	65	65	4.62	4.77	0	1	-
Vegetables, fruits, nuts	1174	1228	1231	4.53	4.83	779	69	0
Cereals	26	28	28	6.97	6.97	45	0	-
Other food products	589	631	631	7.03	7.03	196	17	0
Beverages and tobacco	842	901	901	7.07	7.07	603	38	0
Sugar	0	0	0	-1.28	19.87	-	0	-
Rice	0	0	0	48.28	48.28	-	-	-
Oil seeds, vegetable oils and fats	38	64	65	71.05	71.29	34	3	0
Dairy products	1	2	2	73.50	72.65	2	0	-

*Source: Own calculation based on simulation results from DG Trade, European Commission*

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### **Data Sources**

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<http://ec.europa.eu/eurostat/web/structural-business-statistics/structural-business-statistics/sme>

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## **5.3 Impact on Consumers in the EU and Chile**

### **5.3.1 Introduction**

This section assesses the impact of the new trade arrangements between the EU and Chile on consumers. The analysis is primarily based on the simulation results provided by the DG Trade and will outline consumer welfare under the baseline scenario and each of the developed simulation scenarios (both conservative and ambitious). Consumer welfare itself is measured using the Equivalent Variation method and aims to capture the benefits derived from changes in the consumption of goods under these different modelling scenarios. The analysis also takes into account heterogeneity of consumers, by considering the effects on different groups of consumers and income differences in both the EU and Chile.

### **5.3.2 Background Information**

As discussed in section 5.1, at the aggregate level, the consumer price index (CPI) in Chile is estimated to have a modest reaction to the modernisation of the EU-Chile Association Agreement. More specifically, the average CPI in Chile is estimated to increase by 0.2% and 0.23% under the conservative and ambitious scenario, respectively. Meanwhile, the average CPI in the EU is practically unchanged in either scenario. Naturally, this result also holds at the individual commodity level, where the percentage change for all commodities is relatively more pronounced for Chile than for the EU, in both the conservative and ambitious scenarios (see Figure 5.4).

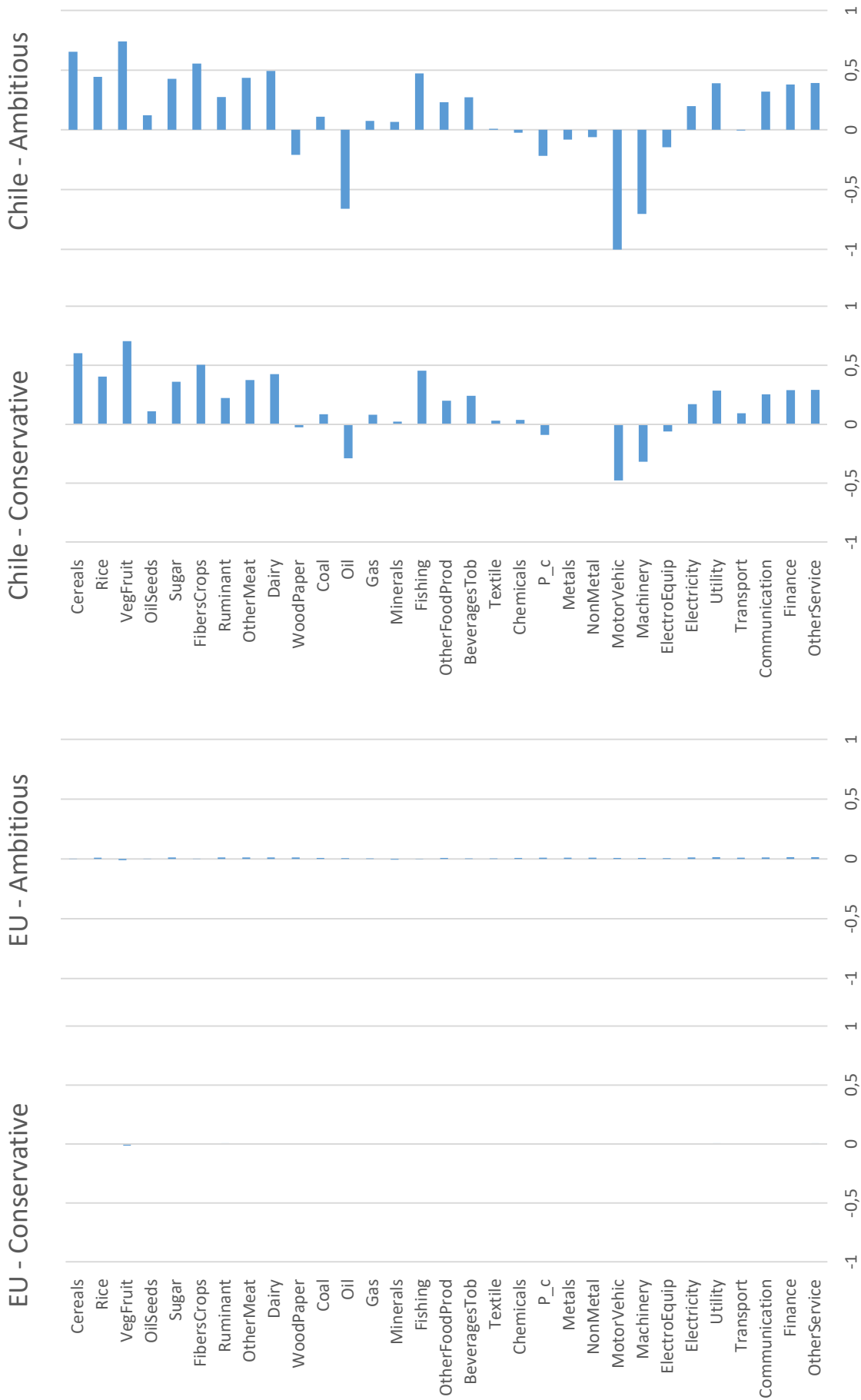
Building on these findings, this section will assess how these changes affect overall consumer welfare. To do so, this section will include the following parts: a brief literature review of a key methodology used in evaluating how the modernisation of the EU-Chile Association Agreement could impact consumers (for a more comprehensive literature review, please see section 7.4); a summary of the simulation results provided by the DG Trade that captures changes in relative consumer welfare, at the aggregate level, for both economies and under each scenario; and an outline of cultural differences between the EU and Chile and how each could be impacted differently.

### **5.3.3 Literature Review**

A comprehensive literature review of the impacts free trade agreements can have on consumers has been presented in section 7.4. This section focuses on the applicability of these types of methods in assessing the impacts of the EU-Chile Association Agreement on consumers. In particular, this section focuses on quantitative methods that enable a numerical evaluation of changes in consumer welfare, which is often missing in existing studies.

For the purposes of this, we will mainly focus on the concept of the method used in chapter 7 of the 2012 ex-post evaluation report (ITAQA, 2012), in which the authors evaluate the net impact of the EU-Chile Agreement – in particular the changes in prices of different foodstuffs and tradable farm inputs – on small-farm households, seen both as producers and consumers.

Figure 5.4: Commodity Level Price Changes (% change in CPI, long term)



Source: DG Trade, European Commission

The methodology starts with the estimation of the weights of products (both in production revenue and consumer baskets) and assumes three different sources of income for the households in question (farm production, off-farm labour income, and remittances and other transfers). The authors proceed by building a model that traces changes in households' income, based on these three sources of income. However, the part of this approach that is of particular interest for our exercise is the concept where the authors focus on consumption and capture the changes in the consumption basket cost index contingent on changes in certain importable and exportable product prices (those of non-tradable goods and tropical importable goods were assumed to be constant). More specifically, the percent change in the consumption cost index ( $\Delta\%C$ ) is therefore a weighted sum of changes in goods' prices ( $\Delta\%P$ ), as follows:

$$\Delta\%C = \sum_{ma} \alpha_{ma} \Delta\%P_{ma} + \sum_{xa} \alpha_{xa} \Delta\%P_{xa}$$

where  $m$ ,  $x$ , and  $a$  denote income, product and household, respectively. Cost shares, denoted by  $\alpha_i$ , do not sum up to one on account of omission of most exportable and non-tradable goods, as well as non-foodstuffs.

For our purposes, we shall leverage the concept described in this methodology (i.e. the idea of changes in the consumption basket cost index contingent on changes in product prices) in order to present data comparing the change in consumer prices in relation to the budget shares households dedicate to that particular good. Measuring the impact on household incomes will not be undertaken in this section, as it has already been done in section 5.1. More information on this approach is presented in section 5.3.5: Cultural and socio-economic differences between the EU and Chile (below).

#### 5.3.4 Quantitative Assessment

Before assessing the potential cultural and socio-economic impacts that could result from the EU-Chile Association Agreement, this section will attempt to capture changes in both the value of consumption as well as welfare, as measured by the equivalent variation, using the simulation results provided by the DG Trade.

Using the data on real changes in the value of output and real changes in value of net trade, for each economy in each scenario, we are able to gather quantitative information on the relative changes in the value of consumption. Given that the values reported for each of these variables is in real terms, the long-term change in the value of consumption would effectively provide a proxy for the changes in quantity consumed, which will provide a solid foundation for understanding the modelled changes in consumer welfare.

The quantitative analysis implements the following formula to calculate the aggregate relative change in the value of consumption:

$$\Delta C = \left( (\hat{Y} - Y) - (\widehat{NT} - NT) \right),$$

where  $\Delta C$  is the aggregate change in the value of consumption,  $\hat{Y}$  is output under the scenario,  $Y$  is baseline output,  $\widehat{NT}$  is the change in net trade under the scenario and  $NT$  is trade in the baseline.

The results from implementing this formula can be found in Table 5.21. Overall, the changes in our proxy for changes in quantity consumed appear to increase for both the EU and Chile, under both the

conservative and ambitious scenario. In per capita value, however, the changes in value of consumption would appear to be higher for Chile than for the EU. Using World Bank population forecasts, who forecast the EU and Chilean population to reach 513 million and 19.6 million, respectively, we can calculate per capita changes in the value of consumption. This approach yields a per capita increase of roughly EUR 3.5 and EUR 8.8 in the EU, and EUR 108 and EUR 157.5 in Chile, for both the conservative and ambitious scenario, respectively, over the long term.

**Table 5.21: Changes in the Value of Consumption (EUR million, long term)**

Scenario	EU	Chile
Conservative	1,787	2,112
Ambitious	4,507	3,088

*Source: Own calculation based on DG Trade, European Commission*

The simulation results provided by the DG Trade also reports welfare changes using an equivalent variation (EV) approach, a measure of changes in economic welfare based on changes in price. In its most basic form, EV calculates the change in wealth (using current prices) that would be required to achieve the same utility that stems from a change in consumer welfare due to a change in prices (where income is unchanged). More specifically, EV, given in terms of the expenditure function  $e(\cdot, \cdot)$ , is modelled as follows:

$$EV = e(p_0, u_1) - e(p_1, u_1)$$

where  $e(p_0, u_1)$  is the expenditure required to obtain the new level of utility ( $u_1$ ), at initial prices ( $p_0$ ).

In the conservative scenario, welfare gains are similar for both the EU and Chile, estimated at roughly EUR 269 million and EUR 369 million, respectively. However, the EU welfare gains are much higher than those observed for Chile when going from the conservative to the ambitious scenario. As reported in the simulation results provided by the DG Trade, overall increases in aggregate welfare could be as high as EUR 712 million for the EU in the ambitious scenario, roughly EUR 184 million more than in Chile (Table 5.22).

**Table 5.22: Changes in Welfare (EUR million, long term)**

Scenario	EU	Chile
Conservative	269	369
Ambitious	712	529

*Source: Own calculation based on DG Trade, European Commission*

Aside from the quantitative evaluation of possible changes in consumer welfare, at the aggregate level, the modernisation of the EU-Chile Association Agreement is also expected to bring further benefits to consumers (both in the EU and Chile), such as providing consumers with a greater choice of quality products, but could also potentially improve labour standards and strengthen human rights (which is analysed in sections 7.2 and 8.2, respectively). However, to account for heterogeneity of consumers, we will also investigate whether changes in relative prices affect one group of consumers more than others, which can be found in the following section.

### 5.3.5 Cultural and Socio-economic Differences between the EU and Chile

The last stage of this section aims to take the cultural and socio-economic differences between the EU and Chile into consideration. In particular, this section will focus on the segments of society that could be most affected by the modernisation of the EU-Chile Association Agreement.

One segment of the population that could be vulnerable to the changes introduced by the modernisation of the EU-Chile Association Agreement are low income earners, particularly in Chile. Since its return to democracy in 1990, Chile's poverty rates have decreased, however, an opposite trend has been observed in Chile's inequality levels. According to the OECD, Chile ranks as the most unequal country among OECD members in terms of income distribution.<sup>115</sup> For example, in 2013, Chile's Gini coefficient was 50.5, in comparison to 30.5 observed in the EU. In Chile, nearly 33 per cent of all income is contained within the top 1 per cent of population. Further, 300 Chilean families, representing 0.01 per cent of total population, receives 11.5 per cent of total income.<sup>116</sup>

Part of Chilean society claims not to be able to afford food, according to OECD calculations using Gallup World Poll data. In 2011/2012, roughly 28 per cent of survey respondents declared that there were moments when they were not able to afford food during the past 12 months. This represents an increase of 0.02 percentage points compared to the 2006/2007 results.<sup>117</sup>

Another segment of the population that could be vulnerable to change, such as increased CPI, are young single parents. According to the OECD, among 15-29 year olds in Chile, there is a growing share of single parents, reaching 7.7 per cent in 2014 from 5.7 per cent in 2007. This compares to an average of 1.77 per cent for 22 EU countries.<sup>118</sup>

In section 5.1, our analysis shows that the modernisation of the EU-Chile Association Agreement as far as regards consumer prices could have a limited negative impact in Chile and a marginal positive impact in the EU. This is demonstrated by observing the effects price increases could have on households in different quintiles. For Chile, in both the conservative and the ambitious scenarios, it is noted that there could be a regressive effect in price changes, where households in lower quintiles could lose purchasing power to a greater degree than richer households, with concomitant impacts on levels of inequality. Meanwhile, section 5.1 notes that the opposite is observed for the EU, where lower income segments of the population could see increased purchasing power as a result of the modernisation of the EU-Chile Association Agreement. In this context, low income earners and youth single parents, particularly in Chile could be considered more vulnerable.

### 5.3.5.1 Food and Beverages Case Study

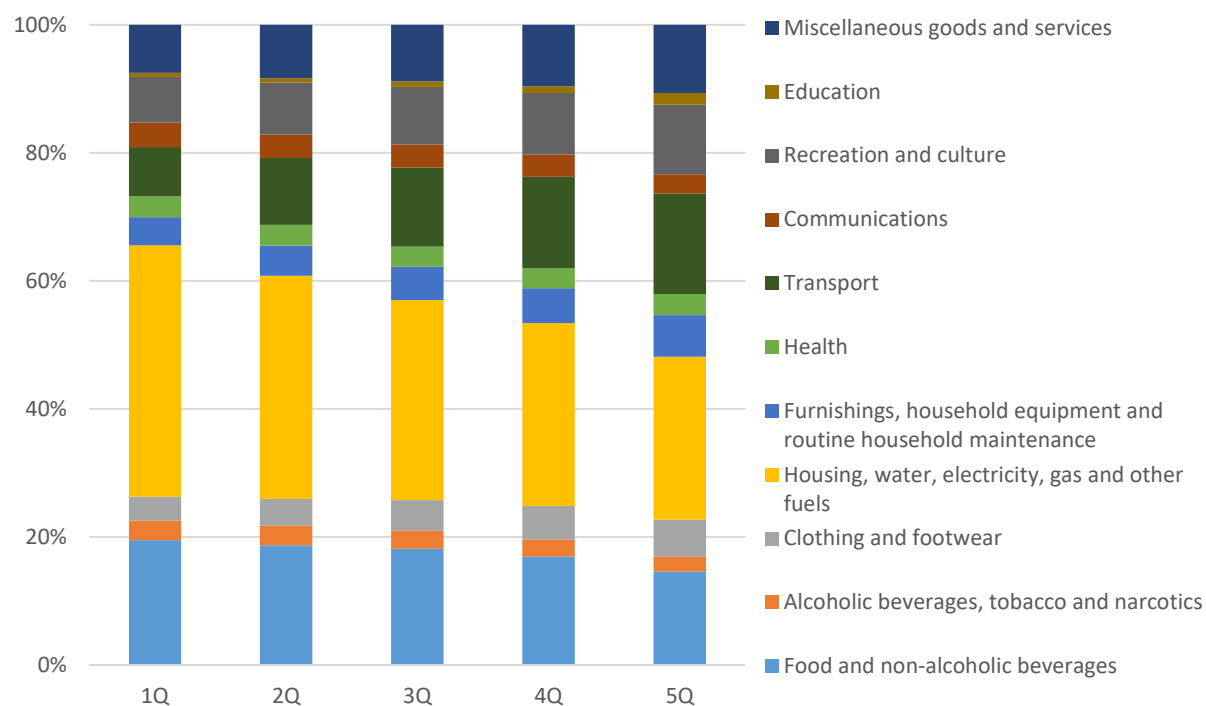
To gain a sense of the potential impacts of the modernisation of the EU-Chile Association Agreement on low income consumers, we will use the underlying concept of the methodology discussed in the literature review as a guideline in mapping per quintile budget shares dedicated to each commodity grouping to their respective CPI. More specifically, the following case study will map the potential changes in CPI for a chosen set of commodities, as reported in the simulation results provided by the DG Trade (Figure 5.4), to the share of budget expenditures for common baskets of commodities purchased by households within each quintile (Figure 5.5 and 5.6 – note: budget share information is collected from the European commission's Living Conditions and Welfare database and the Chilean Instituto Nacional de Estadísticas' Encuesta de Presupuestos Familiares survey, expenditure categories vary between sources).

<sup>115</sup> <http://www.oecd.org/social/income-distribution-database.htm>

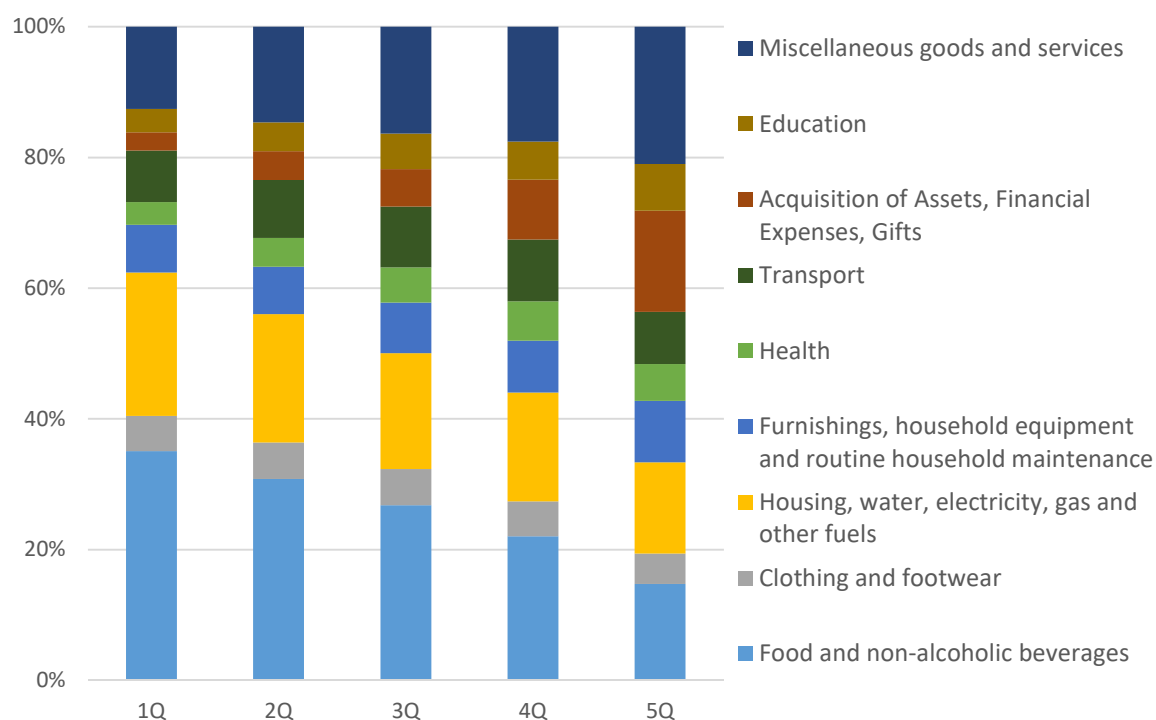
<sup>116</sup> [http://siteresources.worldbank.org/INTKNOWLEDGEFORCHANGE/Resources/491519-1399670184174/9563350-1400073516725/11Palma\\_inequality\\_IEA\\_final\\_Updated\\_version\\_June.pdf](http://siteresources.worldbank.org/INTKNOWLEDGEFORCHANGE/Resources/491519-1399670184174/9563350-1400073516725/11Palma_inequality_IEA_final_Updated_version_June.pdf)

<sup>117</sup> <https://www.oecd.org/chile/OECD-SocietyAtaGlance2014-Highlights-Chile.pdf>

<sup>118</sup> [http://www.oecd-ilibrary.org/social-issues-migration-health/society-at-a-glance-2016\\_9789264261488-en](http://www.oecd-ilibrary.org/social-issues-migration-health/society-at-a-glance-2016_9789264261488-en)

**Figure 5.5: EU Budget Shares by Quintile (2016)**

Source: the European commission's Living Conditions and Welfare database

**Figure 5.6: Chile Budget Shares by Quintile (2007)**

Source: the Chilean Instituto Nacional de Estadísticas' Encuesta de Presupuestos Familiares survey, conducted every 10 years

Given that these budget shares also cover less tradeable goods (such as housing and utilities), this section will narrow its focus to examine one case study, namely a case study on food and beverages, a category of tradable commodities that can occupy a significant share of budgets for lower income earners.

In assessing Table 5.23, it can be noted that, in Chile, the budget share dedicated to food and non-alcoholic beverages for lower quintiles is more than double the share dedicated by the upper quintile. Further, lower quintile expenditure on food and non-alcoholic beverages in Chile is roughly 15% higher than in the EU.

**Table 5.23: Budget Share Dedicated to Food and Non-alcoholic Beverages**

Quintile	EU	Chile
1Q	19.5	35.1
2Q	18.7	30.8
3Q	18.2	26.8
4Q	17.0	22.0
5Q	14.6	14.7

*Source: see figure 5.5 and 5.6*

From an aggregate level, the overall change in prices for food and non-alcoholic beverages in Chile are expected to increase in both the conservative and ambitious scenario (average increase of roughly 0.4% and 0.44%, respectively). Meanwhile, changes in CPI vary for the EU, some prices increase or decrease depending on the commodity grouping, but, overall the price impacts are significantly smaller than in Chile (see Table 5.24). Taking this into consideration, the data appears to support the conclusions drawn in section 5.1, where Chilean consumers in lower quintile could be negatively affected, with respect to the share food and beverage purchases represent in their budget expenditure.

**Table 5.24: CPI Change in Food and Non-alcoholic Beverages**

Sub-sector	EU		Chile	
	Conservative	Ambitious	Conservative	Ambitious
Cereals	0	0	0.60	0.65
Rice	0	0.01	0.40	0.44
Vegetables, fruit, nuts	-0.01	-0.01	0.70	0.74
Oilseeds, vegetable oils and fats	0	0	0.11	0.12
Sugar	0	0.01	0.36	0.43
Plant & animal fibres and other crops	0	0	0.50	0.55
Bovine and other ruminant meats	0	0.01	0.22	0.27
Other meat (poultry, pig)	0	0.01	0.37	0.44
Dairy products	0	0.01	0.42	0.49
Other food Products	0	0.01	0.20	0.23
Average price change	0	0	0.39	0.44

*Source: DG Trade, European Commission*



While this small case study is homogenous, and overlooks the share of imported goods in the typical consumer basket, it does illustrate two key points: 1) the share of budgets dedicated to food and beverages in lower income quintiles is higher for Chilean consumers than for EU consumers, meaning that lower income consumer in Chile would generally be more affected by relative price increases in these sectors; and 2) under both the conservative and ambitious scenario, it is expected that the CPI for food and beverage related goods are expected to increase more in Chile than in the EU over the longer term. It is important to underline, however, that the purchasing power of workers, particularly low skilled workers, who may safely be assumed to be more than proportionately represented in the lower income quintiles, is found to be increasing at a higher rate than the overall CPI<sup>119</sup> and more specifically than the prices for agri-food products.

### 5.3.6 Conclusions

Generally speaking, the signing of the modernisation of the Association Agreement between Chile and the EU is expected to generate an aggregate increase in consumer welfare in both the EU and Chile, in both the conservative and ambitious scenarios. In Chile, the relative increase in consumer prices for goods typically purchased by lower-income earners could possibly impact income inequality. However, drawing concrete and more broadly valid conclusions from this data would be difficult, as it takes a macroeconomic perspective and overlooks the share of imported goods in the typical consumer basket.

### References

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<sup>119</sup> Note that the effect on real wages presented in section 5.1.4 are net of CPI changes, i.e. corrected for any price increases.

## **6 Impacts on the Rest of the World**

### **6.1 Introduction**

The modernisation of the EU-Chile Association Agreement is expected to benefit both parties of the accord. Yet, while the Association Agreement is expected to enhance trading and investment relations between the two, it would inevitably have implications not only for economic interactions of both the EU and Chile with third countries, but is likely to cause deflections in trade relations of the third countries between themselves, notably in the cases where Chile is a member of a pre-existing trading bloc.

This section focus on the analysis of how the modernisation of the EU-Chile Association Agreement would impact the trade patterns of the rest of the world (RoW) in the medium- and long-term. To do so, the section is split into three sub-sections. First, the section provides a detailed outline of the current trade dynamics of the EU and Chile with third countries. This includes outlining existing trading blocs as well as free trade agreements (FTA) among these economies. Next, the section uncovers how the modernisation of the EU-Chile Association Agreement could change the composition of exports from third countries to the EU and Chile over the long-term drawing on the simulation results provided by the DG Trade. Finally, the section takes a look at how free trade agreements outside of the EU-Chile Association Agreement can impact trade on the rest of world, illustrated by a case study of North American Free Trade Agreement (NAFTA) and its role in the United States' trade adjustment process.

### **6.2 Current Trade Dynamics between the EU, Chile and Third Countries**

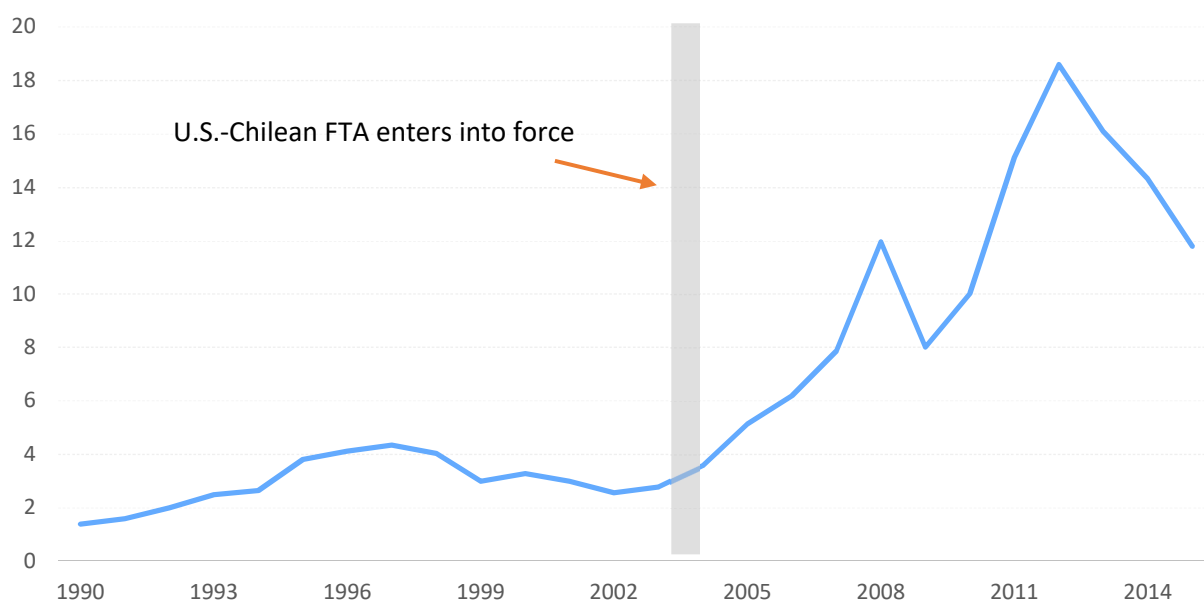
#### ***6.2.1 EU and Chile Free Trade Agreements with Third Countries***

As discussed in the introduction of this study, both the EU and Chile have signed a number of third-party trade agreements outside of the 2002 EU-Chile Association Agreement. These trade agreements play a key role in deciphering current trade dynamics, but could also help in understanding how the modernisation of the EU-Chile Association Agreement could impact the rest of the world.

For Chile, the most consequential of such agreements is the U.S.-Chilean FTA, which entered into force in January 2004. The effects of this agreement can be demonstrated by the surge in Chilean imports from the United States following ratification in 2004 (see Figure 6.1). The Canada-Chile FTA has also played a key role in developing Chile's trade relationships with the rest of the world, serving as Chile's first FTA with a developed economy. Chile has signed other notable agreements, such as the China-Chile FTA (which came into force four years after the EU-Chile Association Agreement) and the South Korea-Chile FTA. In addition, Chile, Columbia and Peru are associate members of MERCOSUR, a significant sub-regional trading bloc in Latin America consisting of full members Argentina, Brazil, Paraguay, Uruguay and Venezuela. Further, Chile, Colombia, Mexico and Peru are parties of the Pacific Alliance.

Similarly, the EU has also entered into a number customs unions, association agreements, as well as partnership and cooperation agreements with third countries. Aside from the agreements that have helped shape the European Union itself, such as its expansion in the early 2000s, and its accession to the WTO, notable trade agreements signed by the EU include the Customs Union agreement with Turkey (1995) and the free trade agreement with South Korea in 2010 (only coming into force in 2015), which have helped reduce customs duties in bilateral trade between each partner. Additionally, in 2016, the Canada-EU Comprehensive Economic and Trade Agreement (CETA) was signed.

**Figure 6.1: Chile Imports from U.S. (USD billion)**



Source: UN Comtrade Database

### 6.2.2 Trade Composition between the EU, Chile and Third Countries

Excluding trade with the EU-28, Chile's main trade partners in 2015 were China, the United States, Japan, South Korea, Brazil and Mexico, together accounting for 60.7% of its total trade (outlined above). Broken down into imports and exports, these trading partners account for 59.8% of Chile's total imports and 61.5% of Chile's total exports.

The top five commodity groupings imported by Chile from these partners include "other" (discussed in greater detail below), machinery, mineral products, vehicles and chemical products, each accounting for 18%, 16%, 9%, 8% and 5% of total Chilean imports, respectively (see Table 6.1). However, taking a closer look at the "other" commodity category imported by Chile, it can be noted that Chile predominantly imports consumer goods, iron and steel, as well as plastics and rubbers. The most important third country supplier of Chilean imports is China (supplying 23% of total Chilean imports), followed by the United States (19%), Brazil (8%), and South Korea, Japan and Mexico (each accounting for roughly 3%).

Similarly, the top commodity groupings exported by Chile to these partners consists of "other", mineral products, agriculture and food, chemical products, and machinery, accounting for 27%, 18%, 14%, 2%, and 0.5% of total Chilean exports, respectively (see Table 6.2). In the context of exports, the "other" category differs slightly and consist mainly of copper and ores, iron and steel, wood and wood pulp, other intermediate goods or raw materials, and vegetables. Similar to the composition of Chilean

imports, third country destinations for these goods include China (importing 26% of total Chilean exports), the United States (13%), Japan (9%), South Korea (7%), Brazil (5%) and Mexico (2%).

**Table 6.1: Chilean Imports from Third Countries (USD million – Excludes EU)**

Partner Comm.	China	USA	Brazil	South Korea	Japan	Mexico	% of total Chilean imports
<b>Other manufactured*</b>	7,686	1,518	888	363	312	374	18%
<b>Machinery</b>	5,154	2,818	417	381	305	795	16%
<b>Mineral products</b>	14	3,625	1,855	130	332	30	9%
<b>Vehicles and transport</b>	719	1,186	605	1,029	1,022	434	8%
<b>Chemical products</b>	781	1,408	373	69	69	353	5%
<b>Agric. &amp; Food</b>	242	826	690	5	5	141	3%
<b>Precision instruments</b>	203	401	29	18	60	32	1%
<b>% of total Chilean imports</b>	23%	19%	8%	3%	3%	3%	

Source: UN Comtrade Database

\*Other manufactured category includes the following HS codes: 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 94, 95, 96, 97.

**Table 6.2: Chilean Exports to Third Countries (USD million– Excludes EU)**

Partner Comm.	China	USA	Japan	South Korea	Brazil	Mexico	% of total Chilean exports
<b>Other manufactured*</b>	9,422	3,392	565	1,889	1,226	478	27%
<b>Mineral products</b>	5,606	240	3,332	1,606	588	78	18%
<b>Agric. &amp; food</b>	1,449	3,962	1,473	515	913	568	14%
<b>Chemical products</b>	187	394	87	121	274	167	2%
<b>Machinery</b>	6	219	0.8	0.3	26	49	0.5%
<b>Vehicles and transport</b>	1	39	0.7	0.2	81	2	0.2%
<b>% of total Chilean exports</b>	26%	13%	9%	7%	5%	2%	

Source: UN Comtrade Database

\*Other manufactured category includes the following HS codes: 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 94, 95, 96, 97.

Excluding intra-EU trade, the leading third countries that trade with the EU include the United States, China, Switzerland, Russia, Turkey, Norway and Japan, jointly accounting for 56.4% of total EU trade in 2015. In 2015, China, the United States, Russia, Switzerland, Norway, and Turkey represented 56.4%

of total EU imports. Meanwhile, also in 2015, the EU exported mostly to the United States, China, Switzerland, Turkey, Russia and Japan, accounting for 50.3% of its total.

At the commodity level, both exports and imports between the EU and third countries had very similar profiles in 2015. More specifically, as a share of total imports, the EU's main imports from third countries included: machinery (17%); other manufactured products, such as plastics, metals, precious stones, and furniture, (15%); chemical products (7%); mineral products (6%); vehicles and transportation (4%); precision instruments (3%); and agriculture and food (3%) (Table 6.3). Similarly, also as a share of 2015 total exports, the EU mainly exported: other manufactured products (10%); machinery (9%); chemical products (8%); vehicles and transport (7%); agriculture and food (2%); and precision instruments (2%) to third countries (Table 6.4).

**Table 6.3: EU Imports from Third Countries (Million EUR – Excludes intra-EU)**

<b>Partner Comm.</b>	<b>China</b>	<b>USA</b>	<b>Russia</b>	<b>Switzerland</b>	<b>Turkey</b>	<b>Japan</b>	<b>% of total EU imports</b>
<b>Machinery</b>	169,594	65,892	1,438	16,642	10,961	26,347	17%
<b>Other Manufactured*</b>	139,229	38,460	16,858	27,275	27,806	8,217	15%
<b>Chemical Products</b>	14,717	51,620	5,126	36,610	1,521	5,837	7%
<b>Mineral Products</b>	869	14,131	92,941	790	1,586	258	6%
<b>Vehicles and transport</b>	7,662	37,974	908	2,552	13,693	278	4%
<b>Precision instruments</b>	10,925	23,350	182	12,676	429	5,336	3%
<b>Agric. &amp; food</b>	6,280	12,284	1,892	4,466	5,281	13,138	2%
<b>% of total EU imports</b>	20%	13%	7%	6%	3%	3%	

Source: Eurostat

\*Other category includes the following HS codes: 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 94, 95, 96, 97.

**Table 6.4: EU Exports to Third Countries (Million EUR – Excludes intra-EU)**

Partner Comm.	USA	China	Switzerland	Russia	Turkey	Japan	% of total EU exports
<b>Other Manufactured*</b>	61,301	40,108	68,400	17,814	22,060	10,419	10%
<b>Machinery</b>	90,249	50,714	22,034	23,620	21,342	10,572	9%
<b>Chemical Products</b>	84,378	16,744	24,547	13,160	8,931	14,232	8%
<b>Vehicles and transport</b>	73,274	38,225	12,939	8,827	16,368	9,417	7%
<b>Agric. &amp; food</b>	19,289	8,906	7,849	5,393	3,058	5,329	2%
<b>Precision instruments</b>	26,744	10,292	6,060	2,908	2,563	5,089	2%
<b>% of total EU exports</b>	20%	9%	8%	4%	4%	3%	

Source: Eurostat

\*Other category includes the following HS codes: 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 94, 95, 96, 97.

### **6.3 The Modernisation of the EU-Chile Association Agreement and its Impacts on the Composition of Trade**

The objective of this section is twofold. First, drawing on the simulation results provided by DG Trade, this section seeks to evaluate the influence of trade liberalisation on third countries, including country groupings, to highlight cases where impacts of the modernised Association Agreement would be the largest. Second, case studies are constructed to demonstrate how trade agreements between third countries (outside of the EU-Chile Association Agreement) can play a role in trade diversion under this type of scenario.

#### **6.3.1 Key Trade Impacts on Third Countries**

While the comparative trade analysis outlined in the previous section of this section will serve as a useful roadmap, the main and primary pillar for assessing how the modernisation of the EU-Chile Association Agreement affects the rest of the world is the results of the simulation results provided by the DG Trade. This section looks at the percentage changes in trade included in this dataset in order to investigate which countries and regions will be most affected and how large this impact could be. Further, the analysis will look at the sectoral breakdown of changes to the EU's and Chile's trade with third countries. This will help identify in which sectors trade of the two partners is likely to be diverted from third countries and substituted by the commerce within the FTA.

As could be expected, the simulation results reveal that trade impacts on the rest of the world are most pronounced among the largest trading partners of both the EU and Chile as well as among economies where pre-existing trading blocs or trade agreements exist (see Table 6.5).

**Table 6.5: Change in total exports (% change, 2025)**

Country	Conservative Scenario	Ambitious Scenario
EU28	0.01	0.022
Chile	0.145	0.21
Turkey	0.08	0.083
Colombia	0.017	0.049
Japan	0.001	0.003
EU neighbours	0.001	0.003
Rest of the world	0	0.002
LDC	0	0.001
PVS	0	0
China	-0.001	0
EFTA	-0.001	0
Singapore	-0.001	0
Korea	-0.001	-0.001
Australia and New Zealand	-0.002	-0.002
Canada	-0.002	-0.003
Rest of TPP	-0.002	-0.003
Central America	-0.002	-0.005
USA	-0.003	-0.005
Mexico	-0.004	-0.008
Latin America	-0.005	-0.009
Mercosur	-0.005	-0.01
Peru	-0.006	-0.014

*Source: DG Trade, European Commission*

The sub-sectors most affected by the modernisation of the EU-Chile Association Agreement are a cross between the most important sub-sectors traded in Chile (as outlined in Table 6.1 and 6.2) and those witnessing the largest tariff cuts. For example, the main changes in third country exports to Chile are observed in the sub-sectors of machinery, motor vehicles, chemicals, oil, wood and paper, and transport sub-sectors.

Studying these results more closely, it is observed that the reduction or elimination of both tariff and non-tariff barriers increases competitiveness, due to increased trade with the EU, and therefore results in a decline in trade with some third countries. For example, under the ambitious scenario, Chile is assumed to eliminate its 4.45% tariff to the EU on motor vehicles. This results in an increase of EU motor vehicle exports to Chile of roughly EUR 918 million, which has a significant impact on the composition of Chilean imports from major third countries. More specifically, increased exports from the EU to Chile are partially offset by declines in exports from the United States (EUR 180 million), China (EUR 123 million), South Korea (EUR 119 million), Japan (EUR 74 million), Mexico (EUR 72 million), and MERCOSUR countries (EUR 63 million).

In terms of percentage changes, trade impacts across Chile's major trading partners are mostly uniform (where the conservative scenario is roughly half as pronounced as the ambitious scenario, due in part to the assumptions regarding tariff cuts under both scenarios). As a result, the level changes (i.e., U.S. dollar changes) are felt most by those with the largest share of Chile's import market. For example, under the ambitious scenario, the percentage change in trade diversion for machinery goods for both the United States and Mexico is 7%. However, given the United States has a much larger share of Chile's

machinery import market, the level impact is much higher for the United States (EUR 587 million) than for Mexico (EUR 17 million) (see Table 6.6 for more examples).

For some commodities, the elimination of tariffs imposed by the EU, and the ensuing increase in Chilean exports to the EU, results in increased trade competition for third countries. For example, under the ambitious scenario, the elimination of the 2.1% EU tariffs on vegetables and fruits results in increased Chilean exports (roughly EUR 57 million), which then leads to a decline in intra-EU trade (EUR 24 million), as well as declines EU imports from the United States (EUR 2.8 million), EU neighbours (EUR 2.5 million), and Central America (EUR 1.6 million), among others. Similar results can be found for beverages and tobacco, as well as “other food products”.

However, the most significant changes to the EU’s trade composition with third countries is not one that diverts trade due to increased competition, but one that results in trade backfilling in support of the EU’s increased trade with Chile. In this context, changes to the composition of EU imports from third countries are most pronounced for the sub-sectors of manufacturing and crude materials (again, as supported by the trends observed in Table 6.3 and the nature of tariff cuts inherent in the EU-Chile Association Agreement). For example, under the ambitious scenario, Chile’s tariffs to the EU on electronic equipment drop from 4.99% to zero. As a result, EU exports of electronic equipment are estimated to increase by EUR 127 million over the longer term. To make up for this difference, the EU’s import composition changes, where the EU increases its imports from China, the United States, and PVS countries (among others) by EUR 149 million, EUR 27 million, and EUR 21 million, respectively (see Table 6.7 for more examples). The result of trade backfilling to support EU exports to Chile are most prevalent for machinery, electronic equipment, chemicals, motor vehicles, metals, textiles, and oil.

### **6.3.2 Case Study**

Considering the importance of trade with the United States for both the EU and Chile, this section will examine this country as a special case study. The purpose of this section is to illustrate how idiosyncratic characteristics can lead to distinct trade outcomes.

#### **6.3.2.1 Trade Impacts on the U.S.: An Illustration of NAFTA at Work**

The United States is a key trade partner with both the EU and Chile. It is therefore not surprising that the simulation results provided by the DG reveal that they are among the most impacted by the potential modernisation of the EU-Chile Association Agreement (as discussed in the previous section). However, taking a closer look at how this scenario impacts the United States’ trade dynamics, the data illustrates a clear example of how free trade agreements outside of the EU-Chile Association Agreement can lead to opportunities for third countries.

As outlined in the previous section, the elimination of EU tariffs on vegetables and fruits imported from Chile leads to an increase of Chilean exports to the EU of roughly EUR 57 million. However, this increase in trade also results in an increase in the Chilean export price of fruits and vegetables (a percentage change increase of 1.46% in the ambitious scenario) which leads to decreased demand for Chilean exports in the United States (see Table 6.8).



**Table 6.6: U.S. Adjustments to Lost Exports***Source: Own calculation based on DG Trade, European Commission*

Commodity	Increase in Chilean export price (% change)	Change in exports to the United States (million EUR)		Canadian exports to the United States (million EUR)	Mexican exports to the United States (million EUR)
		EU	Chile		
Veg. & fruits	1.46%	2.2	-65.8	11.7	18.0
Other food prod.	0.29%	-1.7	-7.1	1.1	0.6
Cereals	0.65%	0.1	-3.5	2.7	0.0
Oilseeds	0.25%	-0.9	-0.2	0.6	0.0

Interestingly, the simulation results provided by the DG Trade indicates that both Canada and Mexico play a key role in substituting this decline in trade, do to their tariff free trade access under NAFTA. More specifically, over the longer term, both Canada and Mexico would increase exports of vegetables and fruits to the United States by a combined total of roughly EUR 30 million, covering more than half of the decline in Chilean exports. This type of observation also holds for other agriculture and food related sub-sectors, such as “other food products”, cereals, and oilseeds.

**Table 6.7: Changes in Third Country Exports to Chile; Conservative and Ambitious Scenarios Relative to the Baseline**  
**Units: Million EUR (% change)**

Trade partner	EU28		USA		China		Mexico		Mercosur		South Korea		Japan	
	Cons.	Ambt.	Cons.	Ambt.	Cons.	Ambt.	Cons.	Ambt.	Cons.	Ambt.	Cons.	Ambt.	Cons.	Ambt.
<b>Scenario</b>														
<b>Prod.</b>														
<b>Machinery</b>	712 (17%)	1481 (36%)	-281 (-3%)	-587 (-7%)	-161 (-3%)	-337 (-7%)	-8 (-3%)	-17 (-7%)	-32 (-3%)	-66 (-6%)	-14 (-3%)	-28 (-7%)	-22 (-3%)	-44 (-7%)
<b>Motor Vehicles</b>	441 (12%)	922 (25%)	-85 (-2%)	-180 (-5%)	-59 (-2%)	-123 (-5%)	-34 (-2%)	-72 (-5%)	-30 (-2%)	-63 (-5%)	-56 (-2%)	-119 (-5%)	-35 (-2%)	-74 (-5%)
<b>Chemicals</b>	141 (8%)	291 (16%)	-24 (-1%)	-57 (-2%)	-14 (-1%)	-33 (-2%)	-4 (-1%)	-7 (-2%)	-11 (-1%)	-24 (-2%)	-4 (-1%)	-9 (-2%)	-3 (-1%)	-7 (-2%)
<b>Oil</b>	116 (23%)	259 (52%)	0 (-3%)	0 (-7%)	0 (-3%)	0 (-7%)	0 (-3%)	0 (-7%)	-37 (-3%)	-81 (-7%)	0 (-3%)	0 (-7%)	0 (-3%)	0 (-7%)
<b>Wood and paper</b>	115 (16%)	249 (35%)	-13 (-2%)	-30 (-4%)	-14 (-2%)	-33 (-4%)	-2 (-2%)	-5 (-4%)	-10 (-2%)	-24 (-4%)	0 (-2%)	-1 (-4%)	0 (-2%)	0 (-4%)
<b>Transport</b>	70 (2%)	209 (7%)	-5 (-1%)	-14 (-4%)	-5 (-1%)	-16 (-4%)	0 (-1%)	-1 (-4%)	-2 (-1%)	-5 (-4%)	-1 (-1%)	-3 (-4%)	-3 (-1%)	-8 (-4%)

Source: DG Trade, European Commission

**Table 6.8: Changes in Third Country Exports to the EU-28; Conservative and Ambitious Scenarios Relative to the Baseline**  
**Units: Million EUR (% change)**

Trade partner	Intra-EU trade		China		USA		Turkey		PVS		Japan		EU neighbours	
	Cons.	Ambt.	Cons.	Ambt.	Cons.	Ambt.	Cons.	Ambt.	Cons.	Ambt.	Cons.	Ambt.	Cons.	Ambt.
<b>Scenario</b>														
<b>Prod.</b>														
<b>Machinery</b>	-70 (-0.01%)	-146 (-0.03%)	78 (0.04%)	184 (0.1%)	57 (0.05%)	132 (0.1%)	30 (0.1%)	41 (0.1%)	14 (0.03%)	33 (0.1%)	14 (0.04%)	33 (0.1%)	5 (0.03%)	12 (0.1%)
<b>Electronic equipment</b>	-44 (0%)	-96 (-0.1%)	64 (0.02%)	149 (0.1%)	12 (0.03%)	27 (0.1%)	5 (0.1%)	5 (0.1%)	8 (0.02%)	21 (0%)	2 (0.02%)	5 (0.1%)	0 (0%)	1 (0%)
<b>Chemicals</b>	-42 (-0.01%)	-100 (-0.01%)	16 (0.03%)	37 (0.1%)	41 (0.04%)	90 (0.1%)	2 (0.1%)	4 (0.1%)	11 (0.03%)	24 (0.1%)	5 (0.03%)	11 (0.1%)	4 (0.02%)	8 (0%)
<b>Motor Vehicles</b>	-4 (0%)	5 (0%)	12 (0.03%)	28 (0.1%)	33 (0.04%)	78 (0.1%)	22 (0.1%)	32 (0.1%)	7 (0.03%)	17 (0.1%)	9 (0.04%)	22 (0.1%)	1 (0.02%)	3 (0.1%)
<b>Metals</b>	-2 (0%)	-27 (-0.01%)	23 (0.04%)	50 (0.1%)	22 (0.1%)	44 (0.1%)	5 (0.04%)	10 (0.1%)	12 (0.04%)	24 (0.1%)	3 (0.04%)	6 (0.1%)	6 (0.03%)	12 (0.1%)
<b>Textiles</b>	-49 (-0.4%)	-77 (-0.1%)	1 (0%)	34 (0.03%)	0 (0%)	2 (0%)	89 (0.2%)	96 (0.2%)	-1 (0%)	6 (0%)	0 (0%)	0 (0%)	-2 (0%)	3 (0%)
<b>Oil</b>	-32 (-0.4%)	-72 (-0.8%)	0 (0.1%)	0 (0.1%)	0 (0.06%)	0 (0.1%)	0 (0.1%)	0 (0.1%)	23 (0.1%)	50 (0.1%)	0 (0.05%)	0 (0.1%)	5 (0.03%)	13 (0.1%)

Source: DG Trade, European Commission

## 7 Potential Social and Environmental Impacts of Modernising the EU-Chile Association Agreement

### 7.1 Literature Review of the Effects of Free Trade Agreements on Workers

One of the most undisputed insights of trade theory is that even though trade liberalisation increases welfare as a whole, the change in exposure to international trade can significantly alter the allocation of resources within a country. More specifically, by modifying the productive structure across industries that differ in factor intensity, international trade can affect the relative demand for the various factors of production and, therefore, adversely affect the employment and wages of workers employed in specific sub-sectors or geographical areas of a country. While in the presence of a perfect labour market workers should reallocate to the sub-sectors and/or areas within a country that benefited from liberalisation until a new equilibrium wage were reached, labour market frictions that impede the perfect mobility of workers could ensure that negative effects may well persist in the long run. A large body of literature in economics has therefore attempted to estimate the effects of trade liberalisation on labour market outcomes. However, with a few notable exceptions, most empirical studies on developed countries have focused on the effects of import competition (identified through tariff cuts, exchange rate devaluations, or any other price shocks) rather than the effects of trade agreements *per se* on outcomes of interest.

One of the most relevant methodological challenges that arise when trying to evaluate the effects of Free Trade Agreements (FTAs) on workers is the issue of anticipation and uncertainty about trade policy. If trade agreements were unanticipated, firms would not be able to change their behaviour prior to the policy implementation so that estimated effects of the policy change on workers would unarguably be unbiased. However, trade agreements are usually preannounced, so that both firms and consumers may adjust their behaviour in anticipation of the announced agreement. Inference about the effects of FTAs needs therefore to take into account these behavioural responses to anticipation or uncertainty about changes in trade policy. This issue is of particular relevance today as it is now widely established that the biggest benefits of trade agreements do not lie so much in the reduction of tariffs (that are now generally quite low throughout the world), but in the decline in the uncertainty about trade policy, which could have in principle a very large effect on trade flows and labour market outcomes.

#### 7.1.1 *Econometric evidence of effects on employment and wages at the industry, local, and firm level*

One of the main findings that arises from the econometric estimation of the effects of trade agreements on labour market outcomes such as employment and wages of different types of workers is that the magnitude of such effects crucially depends on the relevant labour market frictions within a country. Because of these frictions, observationally equivalent workers earn different wages, depending on the workers' industry affiliation and local labour market conditions, so that the effect of a trade agreement on workers' earnings and employment vary with industry affiliation and local labour market conditions. These effects also crucially vary depending on the specific country setting and employment structure, so that results can be significantly different depending on the development level of the specific country at hand. In a study that assumes imperfect mobility of workers across industries, Trefler (2004) documents contractions in employment in the Canadian industries that were subject to larger declines in tariffs induced by the CUFTA trade agreement with the United States, and notes the conflict between short-run adjustment costs (displaced workers and struggling plants) and long-run gains (for consumers and efficient plants). In his study, he finds that in industries that experienced the deepest Canadian tariff cuts employment fell by 12% due to increased import competition and labour productivity rose by 15%

as low-productivity plants contracted. For industries that received the largest U.S. tariff cuts, there were no employment gains, but plant-level labour productivity soared by 14%. Additionally, Lileeva and Trefler (2010), estimated that within-plant increases in labour productivity induced by the improved access to the U.S. market were large enough to raise labour productivity in Canadian manufacturing as a whole by around 5%. In addition, the FTA led to between-plant increases in labour productivity of 4.3% due to plant exit, and 4.1% due to expansion of high-productivity plants.

Other studies have emphasized the importance of the effects of trade policy on worker earnings that operate through local labour markets and thus location-specific component of wages. The definition of a geographic unit that corresponds to a local labour market is country specific, depending on the commuting and mobility patterns of workers within and across geographic areas in a country. To the extent that workers are not mobile across local labour markets, trade policy implemented at the national level can have differential effects on worker earnings across these geographic regions. McCaig (2011) focuses on the local labour market effects of a trade agreement in a developing country setting, which mainly lowered import tariffs of a major trade partner on exports from a low-wage country, the U.S.-Vietnam Bilateral Trade Agreement of 2004. He finds that declines in the import tariffs imposed by the United States on Vietnamese exports led to bigger poverty reductions in provinces in Vietnam that had a higher pre-reform concentration of industries that experienced larger tariff cuts, and that had therefore higher scope to expand exports to the U.S. Such lower poverty rates were mainly due to an increase in wages of workers in provinces better positioned to gain from the trade agreement, especially the less educated workers. In a related study, McCaig and Pavnik (2014) show that the agreement induced reallocation of workers from the informal sector to firms in the formal sector, which was more pronounced in internationally integrated provinces, with a consequent increase in aggregate labour productivity for the country as a whole.

In a study that looks at the effects of NAFTA on U.S. workers exploiting both industry and geographical variation (measuring each industry's vulnerability to Mexican imports, and each locality's dependence on vulnerable industries), McLaren and Hakobyan (2012) find evidence of both effects, with dramatically lower wage growth for blue-collar workers in the most affected industries and localities (even for service-sector workers in affected localities). Even though they state that the effect of NAFTA on most workers and on the average worker is on aggregate quite negligible, for an important minority of workers the effects are very negative. For instance, they state that "a high-school dropout living in an apparel and footwear dependent small town in South Carolina, even if she is employed in the non-traded sector such as in a diner where she would appear to be immune to trade shocks, would see substantially lower wage growth from 1990 to 2000 than if she were in, for example, College Park, Maryland, as the local workers in tradable sectors that do compete with Mexico start seeking jobs in the non-traded sectors". In addition, they find strong evidence of anticipatory adjustment in places whose protection was expected to fall but had not yet fallen.

Increased trade may also impact employment and wages *within* firms by modifying the relative demand of firms for workers with different skills. The literature on the effects of trade agreements *per se* on worker outcomes at the firm level is quite scarce; however, two studies show similar results for both developing and developed countries. Bustos (2010) considers the effects of the MERCOSUR trade agreement on workers in Argentine firms, and finds that of the 17% rise in the demand for skilled workers after the reduction in trade barriers, 15% took place within firms. Her empirical analysis confirms her model's prediction that a reduction in trade frictions can induce relatively more productive firms to upgrade technologies, leading to an expansion of trade volumes, an increase in the wage premium paid to the most highly skilled workers that are complementary to higher technology, and a decrease in the wage premium paid to moderately skilled workers. Baccini, Pinto and Weymouth

(2015) examine the distributional consequences of preferential trade agreements (PTAs) at the firm level using data from all the PTAs signed by the United States. They find that PTAs increase sales to the United States from the most competitive multinational corporation subsidiaries operating in partner countries, and also find increases in market concentration in partner countries following preferential liberalisation with the United States. By demonstrating that the gains from preferential liberalisation are unevenly distributed across firms, taken together these two studies show that skilled workers in most productive firms are the principal beneficiaries of trade agreements.

### 7.1.2 *Effects on labour rights and market standards*

Many globalisation opponents have argued that trade agreements may have negative effects on workers in developing countries by inducing noncompliance of firms with labour market standards or by increasing the proportion of workers in the informal sector of the economy, typically associated with lower pay and worse working conditions. In particular, the development of global supply chains can create incentives to locate investment in low wage and low standard countries as these enter the global economy; in turn some countries, especially developing countries, face incentives to relax domestic regulation of labour standards to compete for capital and attract investment, a phenomenon known as "race to the bottom" (Brown, Dearnorf and Stern, 1996). This is why business groups in more developed countries have typically sought to require a "level playing field" by including in trade agreements provisions that harmonize labour standards. Indeed, the number of trade agreements with labour provisions has increased significantly during the span of the last 20 years (Ebert and Posthuma 2011); nowadays, the provisions are increasingly included not only in North-South, but also South-South trade agreements. Roughly 60% of these is promotional in nature, while the remaining 40% have a conditional dimension, meaning that non-compliance with the labour standards included in the agreement has consequences of economic nature (Ebert 2015). Many academics take the view that the approach taken by the EU has been mainly of the former type.

The inclusion of labour provisions in trade agreements has both its staunch proponents and opponents. The former argue that they help to halt the lowering of national labour conditions in order to gain competitive advantage, and, by virtue of forcing parties to the contract to apply the labour standards in question, eliminate "the source of 'unfair' economic advantage", as well as positively affect lives of the workers (Salem and Rozental 2012). Those who criticise the practice argue that it is easily abused for protectionist purposes – albeit that claim is often refuted based on the fact that numerous anti-abuse procedures apply (Polaski 2004; Ebert and Posthuma 2011). Moreover, some researchers argue that standards should not only be included in bilateral and regional trade agreements, but also multilateral ones, from which they are more often than not excluded (Granger and Siroën 2006).

In terms of the actual evaluation of the impact of labour provisions on the labour situation, conceptualized under the terms of the Decent Work Agenda (ILO, 2012), the vast majority of the literature dealing with the effects of Free Trade Agreements (FTAs) on workers is of a theoretical nature, and it generally provides inconclusive results. The Ergon Associates (2011?) report to the European Commission, *Trade and Labour: Making effective use of trade sustainability impact assessments and monitoring mechanisms*, concludes that "there is (...) a clear suggestion that the impact of European trade is more likely to be positive than negative" (Ergon Associates, 2011). One of the main difficulty in conducting a conclusive quantitative analysis is due to data limitations, as a number of methodological challenges arise while trying to unequivocally attribute improvements in workers' situations – even partially – to the implementation of a single FTA (Ergon Associates 2011; Salem and Rozental 2012). As noted by Salem and Rozental (2012), "(...) there is no consensus on how to evaluate labour conditions. Cross-country comparisons are particularly risky because data are produced by national

statistical offices that may not use common definitions for the indicators. In addition, endogeneity issues surround the relationship between the ratification of conventions and labour conditions.” (Salem and Rozental 2012). In other words – there are almost no studies providing clear empirical evidence of the effect that trade agreements have on workers’ labour conditions (Stevens *et al.* 2015). As a result, a number of studies focus on analysing the history, as well as the institutional and legal side of the inclusion of labour provisions in trade agreements (Doumbia-Henry and Gravel 2006; Grandi 2009; Peels and Fino 2015; Ebert 2015).

The limited number of studies available suggests that labour standard commitments included in trade agreements alone do not influence labour conditions. At the same time, though, Salem and Rozental, argue that “research appears to show that agreements, when reinforced by factors such as enforcement mechanisms, positive incentives, and market forces, may improve compliance with labour standards, bringing about better labour conditions” (Salem and Rozental 2012). Some researchers argue, however, that this positive effect might not be in place in the case of developed countries, or, more specifically, in case of trade agreements between high-income economies. Häberli, Jansen, and Monteiro (2012) perform an analysis of data for 90 developed and developing countries between 1980 and 2005 and conclude that entering into a trade agreement at times “significantly weakened” unemployment benefits and employment protection standards; this negative effect was not, however, visible when rich countries signed agreements with low or middle income ones.

Another strand of literature looks at whether the process of negotiating a trade agreement in itself has any effect on the level of labour rights protection within states, generally arguing that the very perspective of signing a trade agreement (pre-ratification conditionality) leads states to improve the protection of their labour rights, as they anticipate that in doing so they will be a more attractive commercial partner for the developed states they wish to conclude a PTA with (Kim 2012; Ebert 2015). Kim (2012) finds that countries are likely to improve domestic labour protections when seeking a preferential trade accord, and even prior to negotiation, believing that doing so will improve their chances of successfully completing the agreement. Using a subset of U.S. bilateral trade agreements from 1985 to 2006 as evidence, Kim investigates the change in levels of a labour rights protection indicator over three time periods: pre-negotiation, negotiation and post negotiation of an FTA.<sup>120</sup> He finds that states are more likely to improve labour rights protections in the years prior to the U.S. implementing labour rights language into the Trade Act of 2002 than at other times, suggesting that states wishing to sign an FTA with the U.S. have taken steps to improve labour rights guarantees domestically in response to the U.S. law. Furthermore, though states with high levels of labour rights protection are less likely to make improvements, all states are likely to improve protection in the period before negotiation. The statistical analysis is supplemented by an inquiry into two cases that reflect patterns of behaviour found among two foreign countries: Oman and Morocco. In both cases, improvements in labour rights protection were triggered during the negotiation and ratification stages of the FTA. Though Morocco made improvements to its labour code, and ratified two ILO conventions in the years prior to the FTA, Oman responded to U.S. pressure to improve its labour practices only in the year prior to signing the accord. Even so, the FTA was ratified only after Oman reformed its labour code.

Similarly, Nolan Garcia and O'Connor (forthcoming, 2016) find that Central American states often make early improvements to domestic labour rights protections in the years prior to signing an FTA, usually

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<sup>120</sup> Kim and others use the The Cingranelli-Richards (CIRI) Human Rights Dataset indicators. This project collects a widely-used scale for labour rights protection based on U.S. State Department reports of human rights and labour rights violations to develop a scale where 2 designates that labour rights are fully protected in a country, a 1 indicates that labour rights are somewhat restricted, and a 0 denotes that labour rights are severely restricted.

by reforming labour codes to reflect ILO standards. Yet, Kim finds that while Latin American states take measures to improve labour rights protections on average 6 years prior to negotiations, there is a regional trend toward deterioration of labour rights just prior to signing an FTA. A 2014 study for the Inter-American Development Bank found that over the course of the 2000s, the number of labour inspectors increased by 20%, and the number of inspections increased by 60% among Latin American states that signed a trade agreement with the U.S. (Dewan and Ronconi 2014, 1). Moreover, one study by the ILO shows that in some countries, like Peru or Panama, labour provisions included in trade agreements “may have contributed” to the introduction of changes in labour laws and their more strict implementation (Ebert 2015). Finally, in a study analysing the labour chapters of the FTAs signed by the U.S. with Colombia and Peru, Villanueva and Alarcon (forthcoming) show how FTAs can operate as a mechanism of conditionality in the pre-ratification period. The experience of Colombia is proof of how failure to comply with certain labour standards can become a real obstacle to sign the agreement and can bring about the acceptance of a series of conditions, practically obliging a country to legislate in a certain way in order to conclude the agreement. In the case of Colombia, the need to count with the FTA influenced the promotion of several reforms of the labour legislation from the Government, generated adjustments in the structure of the Labour Ministry and the Office of the Prosecutor General of the nation, and also the adoption of all the components of the Labour Action Plan to improve workers’ rights<sup>121</sup>. These studies all suggest that the simple perspective of signing an agreement in itself, at least with the U.S. - with its mandate to include labour guarantees in a final text – can have a positive effect in promoting labour rights protections among trade partners.

### *7.1.3 Analysis of Free Trade Agreements concluded or negotiated by Chile and the EU*

The evaluation of the effects on workers of FTAs signed by Chile and/or the EU in particular, is mixed. For instance, the Chile-U.S. FTA was criticised by the U.S. Labour Advisory Committee for Trade Negotiations and Trade Policy (LAC), that argues that the agreement was a “big step backwards from the Jordan FTA” due to the dispute settlement process agreed on and the fact that, unlike in case of the Jordanian FTA, a party can only be challenged should it fail to enforce its own (and not the international) labour laws and standards (Labour Advisory Committee for Trade Negotiations and Trade Policy (LAC) 2003). LAC argues that because labour and commercial obligations are approached differently (i.e. with varying severity) in the Chile-U.S. FTA, the signing of the agreement not only threatened the jobs of U.S. citizens, but also potentially endangered the rights of both guest workers in the U.S. and workers in Chile. The organisation, positioning itself as “workers’ representatives”, concludes that this particular FTA benefited only big companies. The reservations concerning weaker labour rights enforcement provisions were echoed by some other researchers (Dolumbia-Henry and Gravel 2006; Polaski 2004; Weiss 2003). At the same time, the LAC report was criticised by the Congressional Research Service. The paper produced by Bolle (2003), comparing four FTAs signed by the U.S. – with Jordan, Chile, and Singapore, as well as Canada and Mexico (NAFTA) – that contain labour provisions, argues that the dispute settlement process included in the FTA under discussion was appropriate and that in fact Chile, at the time when the paper was produced, had already strengthened its labour laws (in contrast to LAC’s predictions).

Other researchers show cautious optimism similarly to the one expressed by Salem and Rozental. For instance, in the already quoted 2011 report commissioned by the European Commission’s DG Employment, Social Affairs and Inclusion (Ergon Associates, 2011), the authors used both qualitative

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<sup>121</sup> Ministerio del Trabajo. Informe de cumplimiento, Plan de Acción de Colombia y Estados Unidos para derechos laborales, 2014, available at <http://www.mintrabajo.gov.co/publicaciones-mintrabajo/3792-informe-final-plan-de-accion-de-colombia-y-estados-unidos-para-derechos-laborales.html>.



and quantitative methods to evaluate the effects of the 2002 EU-Chile Association Agreement on employment and decent work in Chile. Using publicly available data for the period 1997-2008, they analysed trade flows and Chilean labour market indicators (number of jobs, income levels, types of employment contracts and their average duration, training levels, accident reporting rates, as well as the proportion of women and indigenous workers employed). Unfortunately, they had to conclude that although there is some “tentative evidence” suggesting a positive link between an increase in trade volumes between the EU and Chile and the *overall* performance in terms of the chosen employment indicators in the sectors which benefited from increased trade over the period 2000-2006, its effect on *individual* indicators is marginal (only the impact on investment in training was described as “possible”), or at least not easily proven. Moreover, even the improvements on the employment indicators notice cannot be unequivocally linked to the increase in trade with the EU; in some sectors the improvements in questions were predominantly linked to labour shortages in the rural areas. That said, interviews with stakeholders for the purpose of the study clearly showed that requirements of EU companies and customers in terms of following standards of social responsibility (as well as environment protection) motivated some companies to follow stricter rules when it comes to the protection of workers’ rights. However, this crucially depended on the sector of the economy; for instance, in agriculture, wages had not increased for a period of 10 years prior to when the study was conducted, and remained to be some of the lowest in the country, particularly for women. The authors conclude that “the findings of this study are sufficiently noteworthy to justify further monitoring in Chile – both analysis and dialogue – of the type carried out in this study.”

More recently, ITAQA (2012) conducted an ex-post study of the EU-Chile Association Agreement. Much like the already mentioned authors they conclude that its social impact “would remain limited”, and any noticeable changes in workers’ incomes or factor prices would remain “small in magnitude” – especially in the EU (due to the difference in size between the parties to the agreement), where the only sector for which certain social impact was (“possibly”) identified was the export of Chilean molluscs to the EU mussels sector. In Chile, the impact on workers varies by sector; the fruit sector seems to have benefited most in terms of job creation, as has been the case in fisheries, seafood processing, and the winemaking sectors. Conversely, the “other machinery”, “basic metal industry”, “chemicals” and “paper and printing” sectors were identified to be among the most negatively affected, albeit these adverse effects on the number of jobs available never exceeded 10% of the positions available in each labour category. Overall, the actual changes in the relative employment caused by the signing of the agreement proved to be smaller than estimated in the study by Ergon. Moreover, the impact on income distribution is similarly small and positive. Unskilled workers’ wages increased by 0.33%, medium-skilled workers – by 0.36%, and high skilled workers gained 0.30%. A slight increase was also noticed in terms of net returns to small farmers.

The disaggregation of the impact of the Association Agreement by gender proved more difficult. The authors argue that the results are mixed; although women benefited more than men in terms of increases in the employment rates, most of these new jobs, created in the agriculture and aquacultures sectors, were temporary and low paid. Furthermore, the authors conclude that the impact on the indigenous communities could not be established, just as in the case of the health and education sectors, as isolating the effects of the Association Agreement from other factors proved impossible.

Other ex-ante studies conducted to assess the likely effects of FTAs signed by EU (EU-Andean Countries, EU-Central America, and an hypothetical EU-India FTA) predicted they would have only small effects in terms of the labour adjustment in the EU – much smaller than in the respective partner countries (Development Solutions, Manchester 1824, and CEPR 2009; ECORYS, CUTS International, and Centad (Centre for Trade & Development) 2009; ECORYS, Corporate Solutions, and Centro de

Estudios para el Desarrollo Rural 2009). Moreover, the adjustment costs are thought to be “significantly smaller than the long-term benefits” (Jansen, Peters, and Salazar-Xirinachs 2011); that said, the above mentioned costs may be severe for individual workers, especially the more experienced ones, while the unskilled workers tend to be better off.

Similar conclusions were reached by O’Ryan *et al.* (2011), who used a dynamic CGE model to assess the socioeconomic and environmental effects of FTAs on Chile; having compared the results of the EU-Chile and Chile-U.S. FTA they concluded that although the outcomes vary depending on numerous factors such as the volume of foreign investments and tax adjustments introduced, the unskilled labour-intensive sectors – and, as a result, poorest workers – always gained from the agreement (O’Ryan *et al.* 2011).

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## 7.2 Qualitative Analysis of the Impact of Free Trade Agreements on Labour Standards

The first stage of this section presents a review of the relevant empirical studies that inform the trade-based labour clauses debate, especially the impacts of trade-based labour rights conditionality on labour rights outcomes within countries. In light of this backdrop, a second stage provides a qualitative analysis of labour rights issues in the sub-sectors most likely to be affected by EU-Chile trade, including consideration of how the modernisation of the Association Agreement could impact Chile's ability to meet the guidelines of its country-specific Decent Work Agenda. A third stage revisits the rights and obligations featured in “new generation” EU trade agreements that commit EU members and their trade partners to promote international trade in such a way as to contribute to the objective of sustainable development. A final stage compares a series of trade agreements with labour mechanisms to which either the EU or Chile is party across their institutional frameworks. The resulting matrix of institutional design provides a comparison of current labour rights clauses across the rights enumerated in the agreement, roles reserved for stakeholders, the series of steps that parties must follow to resolve issues, and any dispute resolution avenues that may be available. The trade agreements included for this stage are the recent labour cooperation agreements between the EU and South Korea (2010), Singapore (2012), Central America (2012), and Colombia and Peru (2013). For Chile, these agreements include the U.S.-Chile FTA (2004), the Canada-Chile FTA (1997), and Chile's agreement with Colombia and Peru (2009).<sup>122</sup>

### 7.2.1 Trade Flows, Trade-based Labour Rights, and Outcomes for Labour

Though through 2009, 43 new trade agreements of 186 filed with the World Trade Organization included labour clauses -representing a nearly ten-fold increase over 1995-, there are still few empirical studies available to draw from to understand the effect of such agreements on labour rights outcomes. This is due largely to the fact that very few cases of violations have been filed for any agreements, with the exception of the U.S. multilateral programmes: NAFTA, CAFTA-DR and the U.S. Generalized System of Preferences (GSP) programme (Ebert and Posthuma, 2011; Rogowsky and Chyn, 2007). Some quantitative models have shown that increases in trade are associated with increased labour rights violations, especially among developing countries (Blanton and Blanton 2016), but that there is an intervening effect for democracy, which can help support worker's rights in times of globalization (Cingranelli, 2002; Cingranelli and Tsai, 2003). Where developing countries rely on limits to labour regulations in export zones in order to promote trade, worsening price competitiveness in export markets ensues, with the exception of the use of child labour, which expands exports in highly labour-intensive sectors (Maskus, 1997). These studies suggest that trade can play an important role weakening labour protections, especially within developing countries. As such, including social clauses meant to protect and promote labour obligations to trade agreements like the EU-Chile Association Agreement could mediate the potential negative effects of the intensification of trade on labour outcomes.

However, does including labour rights guarantees to trade agreements limit trade, and do social clauses, once in force, contribute to labour rights improvements in partner states? One way to answer the first question is to investigate whether labour rights clauses have been used as protectionist tools against developing countries. To date, the empirical record has found little evidence for such claims, though studies are very limited (Elliott and Freeman 2003; DiCaprio, 2004). Quantitative scholarship around

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<sup>122</sup> Both the proposed labour agreement for the Transatlantic Trade and Investment Partnership (TTIP) and the proposed labour agreement for the Trans-Pacific Partnership (TPP) were left out of the analysis given the signaled intention of the United States to no longer pursue them. The labour clauses in each respond largely to U.S. patterns of labour guarantees for trade, and without the U.S. participation in the case of the TPP, it is unclear whether a final agreement will include a labour chapter.

the second question has been limited generally to a few studies due to the lack of cases filed at the various panels to analyse. Of these, Kim (2012) finds that states are likely to adopt core labour standards into domestic labour regulations when facing the prospect of negotiating a trade deal with the United States, in anticipation of confronting the question of domestic labour standards during a negotiation phase. He finds that states are more likely to reform domestic laws before entering into negotiations or signing an agreement than after entering negotiations - an effect he terms *ex ante* due diligence. This underscores that the probability of entering a PTA with a labour clause alone can push states to reform labour codes to conform to internationally recognized labour standards. In a similar study, Postnikov and Bastiaens (2014) tested for these patterns for EU agreements, and found similar results, except that for EU agreements, there is *ex-post* improvement in labour protections. For Postnikov and Bastiaens, the institutionalised dialogue mechanisms of the social provisions of EU agreements promote social pressure from stakeholders and civil society that provokes political learning among trade partners, leading in turn to improvements in labour rights practices after the agreement is in force. Dewan and Ronconi (2014) found that labour clauses led to an increase in inspection capacity and frequency of labour inspections in Latin American states, while Bázillier (2008) found that respect for core labour rights led to an increase in per capita income: both important effects that give credence to the EU emphasis on using social aspects of trade to promote development on the one hand, and to facilitate technical assistance with trade partners on the other. Finally, Greenhill, Moseley and Prakash (2009) found that the most important factor in determining the level of labour rights among trading partners was not the level of openness to trade, but the level of labour rights protection among export partners. The adoption of labour rights clauses then portends the expansion of respect for labour rights through the global trading system, even for parties not directly part of an EU clause.

Beyond the quantitative studies, the qualitative work is largely centred on the U.S. agreements, where examples are available for in-depth case analysis. Among these, the U.S. GSP programme stands out as one programme which generally lead to overall improvements in labour rights protections in partner countries, particularly in Central America, and largely through the unilateral threat of suspending market access (Compa and Vogt, 2001; Frundt, 1998).<sup>123</sup> In specific Central American cases, like the Dominican Republic, pressure from civil society through the GSP process helped to spur reform of the labour inspectorate (Shrank, 2009). In other Central America states, the GSP may have helped to resolve specific problems of union representation (Frundt, 1998), without making much progress on improving working conditions overall (Rodas-Martini 2006). Yet, when the same countries were graduated out of the GSP and subjected to a new set of institutional arrangements for labour under the CAFTA-DR labour clause, the few cases that were filed led to labour rights improvements only in very limited ways and only in a few states, and labour rights protections deteriorated in Honduras and Guatemala (Nolan García and O'Connor, *forthcoming*). The experience of Central America under CAFTA-DR, compared with the GSP gives evidence for Greven's claim that the effect of U.S. labour provisions on the promotion of labour rights depends in part on the presence of strong domestic social actors and social pressure (Greven, 2005).

As regards the NAFTA side accord for labour, the North American Agreement on Labour Cooperation (NAALC), scholars generally agree that NAFTA has been limited in its impact on the labour standards and practices of its partners, and in particular on Mexico, which faced larger challenges than the U.S. or Canada in implementation and enforcement of its labour regulations. Few cases filed under the NAALC have resulted in substantial improvement of labour rights protections (Dombois, 2002; Finbow, 2006; Garvey, 1995; Harvey, 1994), though there are exceptions as regards changes to labour policy and practices within Mexico (Aspinwall, 2009; Graubart, 2008; Kay, 2005; Singh, 2002), and again, largely

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<sup>123</sup> For studies of other GSP country cases see Adams (1989), and Compa & Vogt (2001).

due to outside pressure from civil society on Mexico to promote labour protections (Nolan García, 2014).

In sum, both quantitative and qualitative studies suggest that increasing trade volume has in some cases been associated with the weakening of labour rights, especially in developing countries, but that the adoption of trade-based labour clauses has helped in some cases to mitigate the erosion of labour protections, albeit to differing effect. While there are gains to be made then from including labour clauses in trade agreements, the studies cited here also show that positive externalities for development can also arise from their inclusion.

### *7.2.2. Labour Rights Issues by Sub-sector in Chile*

This section on labour rights issues by sub-sector considers only sub-sectors that are projected to expand under a modernised EU-Chile Association Agreement, as it the intensification of production that is largely associated with the erosion of labour protections. The decline of production in contrast is associated with job losses. As in section 4.4.2.3 and Table 4.9, the largest increases in Chile's exports to the EU by sectoral output are found largely in in the agricultural sub-sectors. Particularly high increases in exports are projected for dairy products, followed by oilseeds, vegetable oils and fats, vegetables, fruits and nuts. Medium growth is projected in services, fishing and sugar. Services expected to expand include construction and water and electricity utilities within Chile.

#### **7.2.2.1 Agricultural Sub-sectors**

In the agricultural sub-sectors, which include for purposes of this analysis includes the dairy, fruit, vegetables, nuts, oilseeds, vegetable oils and fats, and sugar commodities exports, a number of labour rights standards as defined by the International Labour Organisation (ILO) are reported to be repeatedly violated, sometimes in order to gain competitiveness in export markets, and others as the result of inconsistencies between Chilean labour regulations and ILO Conventions signed and ratified by Chile. These include Freedom of Association, the right to collective bargaining, child labour and forced labour provisions.

#### *Freedom of Association and the Right to Bargain Collectively*

While the right to strike is recognized in the Chilean labour code, there are many limitations to striking in practice. In the agricultural sector, there is a limit on the right to strike during harvest season, which is incompatible with ILO Convention 87 on Freedom of Association (Guido et. al. 1998). As far as Collective Bargaining rights are concerned for the sector, whether a collective contract is reached is dependent fully on the willingness of employers to engage in bargaining. That is, there is no legal obligation for employers to bargain, which is incompatible with ILO Convention 98. Temporary workers have limited rights to bargain collectively under Art. 305.1 of the labour code.

Chile is in the process of passing a reform of the labour code, which while placing restrictions on the ability of employers to replace striking workers, does not otherwise address these perennial issues. Otherwise, labour legislation is generally effectively enforced in the formal sector (the informal sector is outside the purview of the labour inspectorate), including the rights to Freedom of Association and collective bargaining (U.S. Department of State, 2010).

Violations of the rights to Freedom of Association or collective bargaining in Chile are unrelated to export performance, and are wholly associated with legal recognition and practices associated with the Chilean labour code and its enforcement. As such, there is no expected relationship between intensification of trade in the agricultural sector and either the expansion or limitation of these rights.

### *The Use of Child Labour*

The U.S. Department of State *Annual Country Reports on Human Rights Practices* for 2015 noted that the employment of children remains a problem in the agricultural sector. Chilean labour law at Articles 13, 14 and 18 allows for the employment of youth between the ages of 15 to 18 with the express permission of their parents as long as they continue to attend school, and within further restrictions on hours of work and tasks to be performed as stipulated in Article 18 and Articles 1-11 of Law 50. Employers must also register such work contracts at a local labour inspector office under the auspices of the Ministry of Labour (MINTRAB) (U.S. Department of State, 2015a). According to the State Department report, children in rural areas are involved in the care of farm animals, as well as the harvesting, collection and marketing of crops. In urban areas, boys are employed to carry loads at agricultural loading docks. The 2015 *Findings on the Worst Forms of Child Labor* study prepared by the U.S. Department of Labor Bureau of International Labor Affairs (ILAB) reports that 29% of children between the ages of 5 to 14 working in Chile were found in the agricultural sector (ILAB, 2015, pp1).

Chile has made significant advancements in its efforts to eradicate child labour across the country, in part as a focus of the tripartite Decent Work Programme (ILO, GOC, 2008). As part of these efforts, the Government of Chile (GoC) recently implemented a ten-year National Strategy to Eradicate Child Labour and Protection of Adolescent Workers, and a bill was submitted to congress to create an Undersecretary for Children to oversee additional policies. Chile is also in the process of reforming domestic legislature to adhere to the principles of the UN Convention of the Rights of the Child (ILAB, 2015). The GoC counts on a number of agencies to enforce child labour laws and prosecute their violation, and continues to increase labour inspectorate funding and training to reduce child labour (ILAB, 2015). Finally, Chile participates in a number of programs region-wide and internationally to raise social awareness on child labour and help to reintegrate working children into non-work activities.

Reports on Chile provide some perspective that the working population of children is overall limited in Chile, and concentrated not in agriculture, but in service sectors. The important efforts being made by Chile in recent years to combat child labour suggest that increases in enforcement have led to a reduction in the use of child labour overall over time (ILAB, 2015). As such, an increase in trade in the agricultural sectors should not lead to an increase risk of the use of child labour in Chile, as this would be counteracted by additional programs to identify, combat and prosecute violations, as enumerated in the 2015-2025 National Plan.

### *Trafficking of Persons for Forced Labour*

U.S. Department of State *Annual Country Reports on Human Rights Practices* for 2015 noted that foreign citizens were subject to forced labour in the agricultural sector, sometimes as the result of human trafficking. However, evidence is limited and individual level data is not made public by the GoC, meaning that evidence of these activities are limited and the extent of the problem in the agriculture sector, and other productive sectors, is as yet unknown. The limited evidence available suggests that citizens of Bolivia, Colombia, Ecuador, Paraguay and Peru, including children, have been subject to forced labour as a result of human trafficking, including in the agricultural sector (U.S. Department of State, 2015a). The U.S. Department of State *Trafficking in Persons Report* for 2015 notes that Chile complies with the minimum standards for the elimination of human trafficking in international law instruments, and cites Law 20507 as providing sufficiently stringent penalties for engaging in human trafficking (U.S. Department of State, 2015b, pp. 119). A national Action Plan to combat human trafficking was launched in 2015 for a three-year period. Chile has also increased efforts to investigate trafficking instances, including establishing six anti-trafficking task forces in 2014. Specialized training for police, labour inspectors, and government officials are on-going, to sensitize enforcement agents to

recognize trafficking victims, and Chile maintains victim protection efforts (U.S. Department of State, 2015b).

While there is some evidence of forced labour through human trafficking used in the agricultural sector, data is too limited to make an assessment of the extent to which forced labour is used in the sector. Further, most enforcement efforts in Chile are focused on trafficking for commercial sexual exploitation, not forced labour. Chile continues to improve its efforts to eliminate human trafficking through policies and programmes that identify victims, investigate crimes, and prosecute perpetrators. To the extent that victims are children, additional programmes to eliminate child labour reinforce these efforts.

At this time, there is too little information on the extent of the problem to assess the risk of the increased use of forced labour in Chilean agriculture with an increase in trade; however, as with child labour, Chile is actively engaged in efforts to eliminate human trafficking, which suggests that the Government of Chile is on track to further limit the problem.

#### **7.2.2.2 The Construction Sector**

Workers in the construction sector enjoy only limited rights to collective bargaining, which is incompatible with ILO Convention 98. Violations of the rights to collective bargaining in Chile are unrelated to export performance, and are wholly associated with legal recognition and practices associated with the Chilean labour code and its enforcement. As such, there is no expected relationship between intensification of trade in the construction sector and either the expansion or limitation of these rights.

The U.S. Department of State *Annual Country Reports on Human Rights Practices* for 2015 noted that children assist in construction activities. The 2015 *Findings on the Worst Forms of Child Labor* study further notes that 10% of children ages 5-14 who work are found in industry, including construction, suggesting that that rate for this subsector is very low overall (ILAB, 2015, pp1). However, data is very thin and the types of activities that children are engaged in is unknown for the sector. The US Department of State *Annual Country Reports on Human Rights Practices* for 2015 noted that foreign citizens, including children, were subject to forced labour in the construction sector. As with the assessment above for agriculture, there is too little information on the extent of these two issues to assess the risk of the increased use of forced labour or child labour in the sector with an increase in trade; however, Chile is actively engaged in efforts to eliminate both human trafficking and child labour, which suggests that the Government of Chile is on track to further limit these problems.

#### **7.2.2.3 Water and Electric Utilities**

Public employees in the water and electricity sub-sectors do not enjoy the right to strike, and the right to collective bargaining is limited. In addition, unions in these sectors must submit to compulsory arbitration to resolve disputes. All three of these aspects of the Chilean labour code are incompatible with ILO Conventions 87 and 98.

Violations of the rights to Freedom of Association or collective bargaining in Chile are unrelated to export performance, and are wholly associated with legal recognition and practices associated with the Chilean labour code and its enforcement. As such, there is no expected relationship between intensification of trade in utilities, and either the expansion or limitation of these rights.

#### **7.2.2.4 The Fishing Sector**

The U.S. Department of State *Annual Country Reports on Human Rights Practices* for 2015 noted that children work in the fishing industry. The 2015 *Findings on the Worst Forms of Child Labor* study includes fishing with the agricultural sector, and as such, the extent of child labour in fisheries is



unknown. As noted for the agricultural sector, the important efforts being made by Chile in recent years to combat child labour suggest that increases in enforcement have led to a reduction in the use of child labour overall over time, for all sectors (ILAB, 2015). As such, an increase in trade in fishing should not lead to an increase risk of the use of child labour in Chile, as this would be counteracted by additional programs to identify, combat and prosecute violations, as enumerated in the 2015-2025 National Plan.

### *7.2.3 Rights Obligations under Current EU Labour Clauses and Selected Chilean Agreements*

The emergence of a new emphasis on the protection and promotion of labour rights as a key component for sustainable development came first with the release of the European Commission's 2006 blueprint for bilateral trade, *Global Europe: Competing in the World*. The 2010 EU-South Korea agreement was the first ratified under the new focus, and accordingly, a new social clause incorporating both labour and environmental issues appears in Article 13. The South Korean agreement, like the other "new generation" agreements of the EU, shares a commitment to promote international trade in such a way as to contribute to the objective of sustainable development, and considers trade-related labour and environmental issues as part as a global approach to trade and sustainable development. It should be noted that all EU clauses, and all Chilean clauses with the exception of the Chile-Peru clause, are incorporated into the main trade agreement, giving symbolic importance to sustainable development and labour rights protection as a concern on par with the commercial and investment issues of trade and integration.<sup>124</sup> The initial emphasis on including labour rights in trade accords was again reinforced in the more recent 2014 strategy for trade and investment, *Trade for All*.

Aside from sharing this fundamental vision, the "new generation" agreements also feature a series of similar obligations, including those related to rights and rights protections. The agreements each recognize the right of each Party to set its own levels of labour protection and establish priorities for its enforcement, while at the same time introducing no derogation principles which reaffirm that it is inappropriate to encourage trade or investment through lowering the levels of labour protection in domestic labour law and regulations. Each agreement references the ILO 1998 Declaration and Follow Up in asserting that domestic law should remain consistent with the ILO core labour rights, meaning Freedom of Association, the effective recognition of the right to Collective Bargaining; elimination of all forms of forced or compulsory labour; the effective abolition of child labour; and elimination of discrimination in respect to employment and gender. In sum, no EU agreement extends new burdens to Parties beyond implementing and enforcing existing domestic labour laws and international labour obligations.

The agreements that Chile is party to all feature very similar obligations, with two exceptions: the Chile-Canada agreement and the Chile-Peru agreement do not feature non-derogation clauses, and some agreements reach beyond the ILO 1998 fundamental core rights. For example, the Chile-Canada clause adopts the eleven labour principles of the NAFTA side accord as the labour principles of the agreement, probably in recognition of the eventual accession of Chile to NAFTA that seemed probable at the time of negotiation. Both the U.S.-Chile and Chile-Colombia agreements adopt the U.S. list of core labour rights, which adds the right to acceptable conditions of work in terms of hours, minimum wages and occupational safety and health to the core rights of the ILO. Finally, as the Chile-Peru agreement also incorporates migration issues, the rights of migrant workers through the 1990 UN Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families is also included.

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<sup>124</sup> The Chile-Peru agreement leaves labour and migration cooperation to a memorandum of understanding, the *Memorandum de Entendimiento sobre Cooperación Laboral y Migratoria entre la República de Chile y la República del Perú*.

Beyond these generally accepted obligations, each of the agreements offers additional mechanisms across four additional areas, but with significant variation. These areas include opportunities for cooperative activities including technical assistance, implementation structures, dispute settlement procedures and resolutions, and the roles for stakeholders and civil society. While each of these areas is included in each agreement, the level of institutionalisation and content varies considerably between agreements. Taken together with the general obligations and conceptualization of rights discussed above, these four areas mark the sets of institutions and areas of negotiations both extended in EU agreements, and followed by Chile, that might serve as the basis for a new EU-Chile Association Agreement labour chapter.

#### ***7.2.4 Institutions of EU Chapters on Trade and Sustainable Development***

A potential EU-Chile Chapter on Trade and Sustainable Development could follow the established pattern of EU “new generation” clauses by including a) the same emphasis on the right to establish national labour regulation and law, and determine national priorities for the application of labour law, b) a no derogation clause, c) national commitments to the ILO fundamental labour standards of the 1998 Declaration by ensuring national labour regulations are consistent with the Declaration and d) references to the ILO fundamental labour standards in establishing labour standards for the trade agreement itself. As each of these areas is included in all EU “new generation” clauses, are included in clauses to which Chile is already Party, and in light of the fact that Chile has ratified each of the relevant ILO conventions that make up the ILO Declaration, these points should be non-controversial.

##### **7.2.4.1 Cooperative Activities**

Cooperative activities play an important role in the diffusion of labour rights protection, including through information exchange and technical assistance, and therefore contribute to the spread of best practices through state to state dialogue. As such, fomenting cooperation is important to the trade and sustainable development emphasis of labour chapters. Even for agreements where the areas of cooperation are more limited in scope in comparison to other agreements, these still offer an extensive range of areas on which to cooperate and exchange information. These areas include the implementation of both international labour standards and domestic efforts at promoting decent work, and capacity building for administration of social security, human resources and job training. Among these agreements, the Canada-Chile agreement stands out for its extensive list of issue areas around which to build state-to-state cooperation, including avenues for technical assistance, and the development of reports and studies through which to share information. The EU-Singapore agreement presents the model of the most comprehensive set of cooperative activities. These entail information exchange, research activities, and the exchange of views around labour aspects of trade and sustainable development, including the linkages between international trade and domestic employment, laws and practices of industrial relations regimes, the collection of labour statistics, and other aspects of social protection.

However, state to state cooperation on labour issues is only possible to the extent that such cooperation is facilitated through bilateral institutions charged with managing cooperative activities. Institutionalisation varies widely across the agreements, with the Chile-Peru agreement representing the least institutionalised example, with very few institutions, and the Canada-Chile agreement at the other extreme, with the most advanced set of institutions to foment state-to state cooperation on labour issues. The Chile-Canada agreement, with its separate Canada-Chile Commission on Labour Cooperation (CCCLC), represents the most ambitious of these attempts, at least in design. It is not clear if the CCCLC Offices were ever established, as no record of cooperative activities between Chile and Canada exists. This points to a larger issue on how and when states determine where to begin to cooperate on labour

issues, and it is where cases received for resolution and dialogue can have an agenda setting effect. The long list of the cooperative activities promoted in the early years of the labour side agreement of NAFTA through the National Administrative Offices established by the agreement for this purpose, which responded to recurrent labour rights issues across North America as expressed in the case files, gives credence to this claim.

None of the agreements reviewed in this section have received cases for discussion to date, showing that changes in institutional design, away from a *states-only* model to one that creates an expanded role for stakeholders, is central to creating a list of priorities around which to build cooperative activities, which all parties have stated is a major interest in the labour chapters reviewed here.

#### 7.2.4.2 Monitoring Mechanisms

In terms of dispute settlement procedures and case resolutions, each of the agreements reviewed here, with the exception of the Chile-Peru agreement, include some mechanism for the resolution of issues about the enforcement of labour standards that may arise during the course of the agreement. For all, dispute measures are unrelated to the dispute channels set for commercial issues in the general agreements, but rather are subject to a separate set of procedures, available only to states, that follow disputes through a series of steps based on dialogue between parties in the pursuit of mutually acceptable solutions. The EU model is recognized for its emphasis on dialogue and cooperation, versus the U.S. model of fines and trade sanctions, as a mode for solving disputes. While much has been made of the potential use of including fines and trade sanctions as a stronger mechanism to promote compliance under the EU model, in effect, the EU model generally follows the U.S. model as it has been adopted in practice.<sup>125</sup> In the EU model, when issues arise, they are first discussed through offices established for this purpose (“points of contact”) by each Party. If dialogue here does not solve the labour issue, all agreements allow for a series of additional stages of increasingly higher level dialogue --across varying timelines-- to reach a solution, including meetings of the Sub-Committee (or Board) on Trade and Sustainable Development, in which Labour Ministries participate. The next stage is recourse to a panel of experts, which creates non-binding preliminary and final reports, the end of which results in the creation of an Action Plan, the implementation of which is overseen by the Commission or Board. In effect, this is very similar to the U.S. models in practice, as no case under the NAFTA or CAFTA-DR agreements have resulted in fines or trade sanctions to date, and only the Guatemala CAFTA-DR case has passed to panel arbitration, and that only after exceptional attempts to implement a 2013 Action Plan (Nolan García, 2011; USTR, 2015).

The relative effectiveness of the U.S. model in addressing labour disputes is not in its sanctions mechanisms, in as much as the design of the institutional mechanisms by which cases are brought, as will be discussed in further detail below. The strength of the EU agreements lies in the cooperative and dispute mechanisms as described above. For example, each of the EU agreements also provide a common, if basic outline of how a roster of experts should be assembled from a list of potential experts on labour law, international trade, or trade disputes, and how such panels are to be formed. The EU-Singapore agreement stands out as including a particularly developed set of guidelines for both establishing a Roster of potential experts and for invoking the Panel of Experts, in Article 13.17.

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<sup>125</sup> The GSP programme is a trade promotion initiative of the U.S. that extends benefits unilaterally. The U.S. can revoke benefits from its trade partners without negotiation, and it is this credible threat that has contributed to the usefulness of the GSP in promoting labour rights, especially in Central America (Frundt, 1998). Since this is not the case for reciprocal trade agreements, the GSP is excluded here.

### 7.2.4.3 Roles for Stakeholders and Civil Society

The EU agreements differ in terms of the roles reserved for stakeholders and civil society in the implementation and monitoring of the labour chapters and any disputes resulting from them. All “new generation” EU agreements, except the EU-Singapore agreement, include a Domestic Advisory Group (DAG), made up of representatives of labour, business and other relevant stakeholder groups, for the purpose of representing civil society interests in the Trade and Sustainable Chapter of the agreement and for advising the Commissions and other bodies on its implementation. However, across agreements the role for stakeholders varies. While for all EU agreements, stakeholders are to be invited once a year through the DAG to promote dialogue about the implementation of the agreement, often in parallel with government to government meetings, in almost all other areas, stakeholders play a very limited role.<sup>126</sup> Though the Singapore agreement has no institutionalised body for civil society participation, stakeholders hold the most expansive role, as beyond the yearly meeting, stakeholders serve as advisory groups to the Board in dialogues with the Parties, are invited to make comments on the initial drafts of reports by the panel of experts, and Parties must inform stakeholders of results of Action Plans resulting from expert panels.

While there is no formal channel for stakeholders to bring cases to dialogue with the Parties, it is also not expressly prohibited. There is also no formal channel for stakeholder complaints to entre dispute settlement proceedings, which is a main difference between the U.S. and European models.<sup>127</sup> In the US model there is no such formal role as advisors for U.S. civil society, stakeholders hold standing to bring cases in the U.S. model, and have continually filed cases under the U.S. labour clauses (Nolan García, 2011; Nolan García and O’Connor, *forthcoming*).

In order to promote labour clauses as a tool not just for the implementation of improved labour standards, but also to promote cooperation between states to improve labour related domestic practices, case files identify issues and priorities around to which to focus resources and effort. In the absence of cases, stakeholder inputs can reveal major labour rights enforcement issues that could be addressed through state to state dialogue, or provide the material for cooperative activities, which is the linchpin for spreading best practices. One solution is to open the Institutional and Monitoring Mechanisms to stakeholders, by giving Domestic Advisory Groups standing to request Government Consultations. In doing so, Parties to the agreements and any commissions formed to implement the labour chapters could not just incentivize the role of civil society in the agreements, but harness the agenda setting aspect of receiving cases to determine where to prioritize cooperative activities, and thus give momentum to the cooperative aspects of the labour chapters.<sup>128</sup>

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<sup>126</sup> However, Postnikov (2013) writes that the Commissions themselves almost never meet.

<sup>127</sup> And for Canada as well: Stakeholders cannot file petitions, and though have a formal role as advisors, enjoy few avenues for participation. Even cooperative activities and limited to experts, academics and practitioners, not stakeholders. There have been no cases filed at the Canada-Chile agreement, and no cooperative activities through the CCCLC on record.

<sup>128</sup> Postnikov’s extensive interviews show that civil society prefers a greater role in the labour chapters. Also, while there is a recognition that there are areas where the monitoring mechanisms could have stronger sanctioning power, there is a split between EU officials on how to manage the accords without also resorting to fines and trade sanctions (2013).

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## 7.3 Environmental Analysis

### 7.3.1 Introduction

In this section a detailed analysis is conducted of the external environmental costs and benefits of the different scenarios and their impacts on environmental quality, natural resources (including forest, fisheries and biodiversity) in the EU and Chile. In addition, the section also identifies how the different scenarios could contribute to greening of the economy, including by an increase of trade due to the abolition of tariff and non-tariff barriers, and to resource efficiency objectives and to promoting sustainable consumption and production.

The section starts with a brief review of literature on the environmental effects of trade liberalisation in general, and the environmental effects of regional trade agreements of the EU and Chile in particular. Then, the approach to decompose the projected changes in carbon dioxide (CO<sub>2</sub>) emissions in the various countries and regions that are distinguished by the simulation results of DG Trade into scale effects (as a result of increased output), composition effects (as a result of shifts in the relative weight of sectors) and possible technique effects (as a result of productivity increases that can be attributed to the different scenarios) is explained. Subsequently, the section explains which other environmental issues are covered and why they are covered, the key questions that are asked, the methods that are employed, and the indicators that are calculated. Finally, the results of the analysis are presented and discussed, and conclusions are drawn.

### 7.3.2 Review of Literature

The effects of freer trade on the environment have been the subject of a significant body of theoretical and empirical research. In the early 1970s, several authors began to examine the consequences of the existence of environmental externalities for standard trade theory, especially with respect to the theorem of comparative advantage and the gains from trade. A general conclusion from this literature was that domestic environmental externalities could reduce (or eliminate) the conventional gains from trade, but that the first-best solution to deal with this problem was not to restrict trade, but to ‘internalize’ the environmental externalities through appropriate government intervention. This work could therefore also be read as a theoretical justification of OECD’s famous ‘Polluter Pays Principle’ of 1972.

Theoretical and applied work on the environmental effects of trade liberalisation were greatly stimulated by the controversies surrounding the preparations and conclusion of the North American Free Trade Agreement (NAFTA) in the early 1990s. One important study of that time decomposed the impacts of trade liberalisation on the environment into three effects: the effects of changes in scale, composition and technique (Grossman and Krueger, 1991). The general ambiguity of theoretical models that dealt with environment-and-trade interactions could be explained by the fact that in many situations the three distinct effects would not all point in the same direction. The scale effect is proportionally related to the overall expansion (or contraction) of an economy after the liberalisation of trade. In most cases this effect will be positive, hence pollution will increase. The composition effect is related to the changes in sectoral composition of an economy after trade liberalisation. It may be the case that an economy moves towards an increased specialisation in polluting sectors, or, alternatively, towards clean sectors. Finally, the technique effect is related to the mix of polluting and clean inputs that is used by the economy. Trade liberalisation may affect this mix in two ways. First, trade liberalisation may affect the price ratio between polluting and clean inputs, thereby changing the optimal mix for producers and consumers. Second, if trade liberalisation increases the incomes of consumers, they may want to spend some of their additional income on more protection of the environment in order to enjoy a better environmental

quality. The government can meet this demand by imposing stricter environmental standards on polluting production processes, thereby indirectly affecting the ‘technique’ of production. Antweiler *et al.* (2001) put the ‘scale, composition and technique’ decomposition in a theoretical model framework and provide econometric estimates of their magnitudes in the case of sulphur dioxide concentrations in over forty countries. They find that a one percent increase in per capita GDP due to trade liberalisation reduces concentrations of sulphur dioxide by 1%, due to a particularly strong ‘technique’ effect (due to stricter environmental regulations). Frankel and Rose (2005) improve the statistical estimation methodology,<sup>129</sup> but confirm the empirical results of Antweiler *et al.* (2001) for sulphur dioxide and for nitrogen oxides, but not for other pollutants such as particulate matter and carbon dioxide.

In the same article, Antweiler *et al.* (2001) present two opposing theoretical views on the environmental effects of trade liberalisation. The first view, the Pollution Haven hypothesis, suggests that trade liberalisation will make countries with less stringent environmental regulations dirtier. Unilateral emission restrictions, as in the Kyoto Protocol, increase the comparative advantage of non-abating countries in ‘dirty goods’ production. Trade liberalisation encourages specialisation according to comparative advantages and hence encourages the shift of pollution-intensive industries to countries with less stringent environmental regulations (for recent empirical evidence on the effect of environmental policy on the patterns of international trade, see, for example, Kozluk and Timiliotis, 2016).

In contrast, the second view, the Factor Endowment hypothesis, suggests that when emissions are concentrated in capital-intensive industries, then trade liberalisation would lead to a further concentration of these industries in relatively capital abundant countries, i.e. industrialized countries. Developing countries would be encouraged to specialize according to their traditional comparative advantages, i.e., in labour-intensive and natural resource-intensive industries that are, on average, not pollution-intensive. Antweiler *et al.* (2001) argued, however, that it cannot be determined on first principles whether the Pollution Haven hypothesis or the Factor Endowment hypothesis will hold in a specific case of trade liberalisation. It is therefore a subject for empirical analysis.

Recently, research attention has been drawn to the effects of globalisation (and trade liberalisation) on land use changes and their impacts on deforestation, biodiversity and GHG-emissions (Lambin and Meyfroidt 2011; Meyfroidt *et al.*, 2013). It has been estimated that in 2004, international trade accounted for 24% of the global land footprint, or 12% of the total human appropriation of net primary production (Meyfroidt *et al.*, 2013). Lenzen *et al.* (2012a) estimate that for 30% of the species of flora and fauna that are under threat of extinction, the threat can be directly linked to international trade.

Some countries, including Brazil and Indonesia, have supplied much of the growth in global demands for agricultural products such as soybeans and palm oil, resulting in rapid agricultural and logging expansion, and associated deforestation. Meyfroidt *et al.* (2013) argue that novel research should analyse how new forms of market-based governance such as sustainable corporate sourcing, eco-labelling, market exclusion of commodities that do not meet minimum sustainability criteria (moratoria and boycotts), and multi-stakeholder commodity roundtables, influence land use through global value chains of specific forest and agricultural products.

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<sup>129</sup> Frankel and Rose (2005) note that income, trade, and environmental quality are determined simultaneously. This poses special problems for determining the causality of the effects. Frankel and Rose (2005) overcome this familiar endogeneity problem in the openness-and-environment debate by using an instrumental variable for international trade that is exogenous but highly correlated with trade (from the gravity model of international trade).



We now turn to studies that examined the environmental effects of regional trade agreements in which the EU and Chile participated. We start from the Chilean perspective. Chile is an open and export-oriented economy. Chile applies no export restrictions other than those falling under international agreements (e.g. endangered species, hazardous waste). By mid-2015, Chile had concluded 24 regional trade agreements (RTAs) with 65 countries. Seventeen of these contained environmental provisions of varying scope and depth (OECD/ECLAC 2016). OECD/ECLAC (2016) reports that most agreements since the late 2000s include substantive environmental provisions. The environmental impacts of RTAs have been the subject of a number of studies, including Beghin *et al.* (2002), Borregaard (2004), O’Ryan *et al.* (2010), Ergon Associates (2011), ITAQA (2012).

Beghin *et al.* (2002) develop an empirical simulation model to examine the links between trade liberalisation, pollution and public health in Chile. For this purpose, they link a 72-sector computable general equilibrium model of the Chilean economy to an air pollution-health model that translates changes in a large number of polluting emissions into changes in health status in the Santiago metropolitan area and values these changes in monetary terms. Beghin *et al.* (2002) analyse a number of trade liberalisation scenarios. For the purposes of the present study the NAFTA scenario is the most interesting one, because it describes a trade agreement between Chile and a more industrialised partner (North America). The overall economic impact of the NAFTA scenario would be small: a 1.4% increase in GDP over a ten-year period is estimated. There is a relatively strong composition effect: resource-based sectors such as fruit, wine and liquor, food processing except fishmeal would expand, while copper mining, iron and paper manufacturing would contract. Despite this composition effect, the overall effect on pollution emissions would be an increase between 0.4% and 3.4%, resulting in increased concentrations of air pollutants in the Santiago Metropolitan Area leading to increased health damage costs. The authors therefore argue for an integrated policy package that includes both trade liberalisation and the imposition of environmental taxes on air pollutants. Their modelling suggests that the health benefits of the environmental taxes exceed the efficiency losses induced by these taxes and that the overall package results in a welfare gain for Chile.

Borregaard (2004) discusses a number of trade liberalisation studies for Chile from the late 1990s and early 2000s. They include *ex ante* studies on the association agreements with MERCOSUR, NAFTA and the EU and sector studies on the mining industry, the transport sector and selected other sectors (fishmeal, copper, and timber). On the basis of these studies she concludes that the relationship between trade liberalisation and environmental/sustainability effects is highly complex. In almost all cases, the changes in tariff structures are small, given previous preferential tariff arrangements or trade agreements. In these circumstances, she questions the value-added of the frequent use of partial or general equilibrium models to inform the assessments, especially with regard to a wider discussion of longer term effects on liberalisation and globalisation, including potential changes in foreign direct investment, changes in regulatory structures and non-tariff measures.

O’Ryan *et al.* (2010) use a dynamic computable general equilibrium model (based on the Beghin *et al.* (2002) model) to assess the impacts of regional trade agreements of Chile, amongst others the 2002 association agreement with the EU. The result of the simulated tariff reductions is that Chile’s natural-resource based sectors, such as fruits, fisheries, preserves, sea products, animal feedstock and wood products expand over the simulation period 2000-2020, while mining, energy and construction are negatively affected. On the environmental effects, their simulations suggest that criteria air pollution emissions (particulates, VOC, SO<sub>2</sub> and NO<sub>2</sub>) increase, while bio-accumulative, toxic emissions (e.g. lead) to air, soil and water decrease in comparison the business-as-usual scenario.

Ergon Associates (2011) and ITAQA (2012) evaluate the EU-Chile trade agreement ex post for the European Commission. Ergon Associates (2011) report that in the fruit and wine sectors in particular, European buyers were placing increasing pressure on Chilean exporters to demonstrate compliance with social and environmental standards. While this might not be a direct effect of the EU-Chile trade agreement, it might be an indirect effect due to the greater trade between Chilean and European companies facilitated by the trade agreement. Also, the ITAQA (2012) evaluation acknowledged the difficulty of assessing the environmental consequences of the trade agreement given the many other trade agreements that came into force at that time and the structural changes of the Chilean economy in the aftermath of the agreement. Overall, the report concludes tentatively, that the impact of the EU-Chile trade agreement on the use of natural resources and degradation of the environment seemed marginal, while imposing higher environmental standards to trade with the EU (but also with the U.S. and Japan) made a positive contribution to sustainability (George, 2013).

It is difficult to find assessments of the effects of regional trade agreements on the European environment. The examination of a small sample of Sustainable Impact Assessments of such agreements, suggests that potential environmental effects in Europe are commonly not considered (PLANISTAT, 2002; Kirkpatrick and George, 2009).

The conclusions of this brief review of literature can be summarized as follows. *Ex ante* studies of regional trade agreements of Chile have commonly been based on modelling exercises with partial or general equilibrium economic simulation models. Not surprisingly (given the neoclassical nature of the models employed), they generally find that by decreasing trade barriers the Chilean economy increases its specialisation in sectors in which it has a comparative advantage due to its abundance of natural resources and low-cost labour. The resulting increases in production and exports may increase emissions of pollutants and resource degradation. This is to some extent counteracted by reduced environmental pressures from contracting sectors. Overall, the economic and environmental effects have been found to be small because the existing tariffs were not high in the first place, given previous preferential tariff arrangements or trade agreements. *Ex post* studies of regional trade agreements, including the 2002 EU-Chile trade agreement, found it difficult to attribute environmental changes directly to a specific trade agreement, but suggested that trade agreements could indirectly stimulate a constructive dialogue between Chilean exporters and developed-country buyers on improving social and environmental standards across the supply chain. It has been argued that current assessments lack information on potential changes in foreign direct investment, regulatory structures and non-tariff measures. Presumably because the asymmetry between the sizes of the EU and associated partners like Chile, not much attention has been paid to environmental effects of the agreement on the European environment.

### 7.3.3 *Decomposition analysis*

The way in which environmental change can be decomposed into scale, composition and technique effects can be illustrated by the following example (Antweiler *et al.* 2001). Assume a country with two industries. The one industry,  $X$ , is polluting and the other industry,  $Y$ , is non-polluting. The scale,  $S$ , of national production in the base year is  $S = p_x^0 X + p_y^0 Y$ , with  $p_x^0$  and  $p_y^0$  as initial prices. The units can be chosen in such a way that the prices are unity in the base year. Polluting emissions,  $Z$ , of industry  $X$  are a function of output and of the level of abatement. The level of abatement determines the emission intensity,  $e$ , of industry  $X$ . Hence,  $Z = eX$ , where  $e$ , the emission intensity, is measured as emissions per unit of output. The output of  $X$  is a fraction,  $\phi$ , of national product,  $X = \phi S$ . The emissions  $Z$  are the

product of the scale of the economy,  $S$ , the fraction of the polluting industry in the national product,  $\varphi$ , and the emission intensity,  $e$ . In formula:

$$Z = S\varphi e \quad (7.1)$$

As suggested above, trade liberalisation can affect the scale of the economy,  $S$ , its composition,  $\varphi$ , and the technique of production of  $X$ , i.e., its emission-intensity,  $e$ . If we consider only marginal, i.e., infinitesimal changes in these variables, we can totally differentiate equation (7.1):

$$dZ = e\varphi dS + eSd\varphi + S\varphi de \quad (7.2)$$

where changes in  $Z$ ,  $dZ$ , are explained by infinitesimal changes in  $S$ ,  $\varphi$  and  $e$ . Dividing both sides of equation (2) by  $Z (= S\varphi e)$ , yields an equation in percentage change:

$$\dot{Z} = \dot{S} + \dot{\varphi} + \dot{e} \quad (7.3)$$

The percentage change in emissions, is the sum of the percentage change in the scale of the economy,  $\dot{Z}$ , the percentage change in the share of  $X$  in national product,  $\dot{\varphi}$ , and the percentage change in emissions intensity,  $\dot{e}$ . The terms on the right-hand side of equation (7.3) therefore represent the scale effect, the composition effect, and the technique effect, respectively.

In the actual decomposition of historical changes in energy consumption or environmental change, and in the decomposition of model simulation results, second-order effects must be taken into account. The general decomposition formula of equation (7.2) may be exact for infinitesimal changes of the explanatory variables; it is not when non-marginal changes of these variables are considered. The general decomposition formula for non-marginal changes is:

$$\Delta Z = \varphi e \Delta S + S e \Delta \varphi + S \varphi \Delta e + \underbrace{S \Delta \varphi \Delta e + \varphi \Delta S \Delta e + e \Delta S \Delta \varphi + \Delta S \Delta \varphi \Delta e}_R \quad (7.4)$$

Where the (absolute) increase in emissions,  $Z$ , is decomposed into a scale effect, a composition effect, a technique effect, and four terms (above the accolade) that represent interaction, or second-order effects. Together, these last four terms are often referred to as the residual ( $R$ ) of the decomposition. Equation (7.4) can be written in a more compact form as:

$$\Delta Z = \Delta Z_S + \Delta Z_\varphi + \Delta Z_e + \Delta Z_R \quad (7.5)$$

Where the total change in pollution  $\Delta Z$  is decomposed into the changes of emissions due to the scale effect ( $\Delta Z_S$ ), the composition effect ( $\Delta Z_\varphi$ ), the technique effect ( $\Delta Z_e$ ), and the residual ( $\Delta Z_R$ ). This decomposition method evaluates changes from base-period values. The method is known as the ‘Laspeyres’ decomposition method, in analogy to the index number method of that name.

In decomposition analysis, the residual of the Laspeyres method can sometimes become very large, making the interpretation of the results difficult, and, in a way, defeating the purpose of the decomposition, namely to divide the change of a chosen indicator into factors of interest (Ang and Zhang, 2000). Several authors have developed methods to either reduce the magnitude of the residual or to make the residual vanish altogether. Boyd *et al.* (1988) were the first to point to the similarities between the decomposition problem and the index number problem in economics. These similarities on the one hand seem to imply that there is no ‘ideal’ decomposition method, just as there are no ‘ideal’

index numbers, but, on the other hand, they also provide criteria on which decomposition methods can be judged.

These criteria include the completeness test, the symmetry test, the time-reversal test, and the robustness to zero values (Ang and Zhang, 2000). Completeness refers to the property of the method to decompose change totally, i.e., without a residual. The symmetry test requires that the decomposition results are independent of the order in which the factors are evaluated. The time-reversal test refers to the property of the method to be invariant to whether it evaluates change from a base period to a final period or vice versa. Decomposition methods that are based on logarithmic transformations have a computational problem with zero numbers.

The Log Mean Divisia method of Ang and Liu (2001) builds on the continuous growth approach of Boyd *et al.* (1988). In this method, the change in emissions,  $\Delta Z$ , is treated as the outcome of a continuous growth process over time  $t = [0,1]$ , i.e.:

$$\Delta Z = \int_0^1 \frac{dZ}{dt} dt \quad (7.6)$$

Recalling from equation (7.1) that  $Z = e\phi S$ , and writing  $\frac{dZ}{dt}$  as  $\dot{Z}$ , a total differentiation of equation (7.6) yields (compare with equation (7.2)):

$$\Delta Z = \int_0^1 \dot{Z} dt = \int_0^1 (\dot{S}\phi e + S\dot{\phi}e + S\phi\dot{e}) dt \quad (7.7)$$

The Log Mean Divisia method is complete (no residual), it is symmetric, and it is also consistent in aggregation, meaning that the aggregation (adding-up) of indices for each subset of a particular set yields the same outcome as the indices for the entire set.

We will use the Log Mean Divisia method to decompose the simulated change in global energy-related CO<sub>2</sub> emissions that will be estimated by the economic analysis of the Commission into scale, composition and technique effects for both the EU, Chile and the rest of the world.

#### 7.3.4 Analysis of Environmental Impacts

The EU Better Regulation Toolbox (European Commission, n.d.) posits that the identification ('screening') and assessment of the most significant impacts is a core task of every impact assessment. It lists a number of potential environmental impacts to be screened and the questions that need to be addressed. The list is reproduced in Table 7.1 below. Table 7.1 also shows what type of analysis we have carried out to address the questions (quantitative or qualitative), and what indicators have been calculated.

**Table 7.1: Environmental Impacts Addressed (“Screened”) by the Environmental Analysis**

<b>Environmental impact</b>	<b>Question in the EU Toolbox</b>	<b>Type of analysis</b>	<b>Proposed indicator(s)</b>
<b>Climate</b>	Does the option affect the emission of greenhouse gases (e.g. carbon dioxide, methane, nitrous oxide, etc.) into the atmosphere? Does the option affect economic incentives set up by market based mechanisms (MBMs) created by Union law (e.g. first and second round incentives and price signals under the EU ETS) Does the option affect the emission of ozone-depleting substances (CFCs, HCFCs etc.)? Does the option affect our ability to adapt to climate change?	Quantitative	Change in global energy-related CO <sub>2</sub> emissions, region-specific changes in the emissions of methane (CH <sub>4</sub> ) and nitrous oxides (N <sub>2</sub> O)
		Qualitative analysis for other GHG, MBMs and adaptation	
<b>Air quality</b>	Does the option have an effect on emissions of acidifying, eutrophying, photochemical or harmful air pollutants that might affect human health, damage crops or buildings or lead to deterioration in the environment (soil or rivers etc.)?	Quantitative	Change in air emissions for the pollutants: CO, NO <sub>x</sub> , NMVOC, NH <sub>3</sub> , SO <sub>2</sub> , PM <sub>10</sub>
<b>Water quality and resources</b>	Does the option decrease or increase the quality or quantity of freshwater and groundwater? Does it raise or lower the quality of waters in coastal and marine areas (e.g. through discharges of sewage, nutrients, oil, heavy metals, and other pollutants)? Does it affect drinking water resources?	Quantitative	Change in water abstraction/consumption (m <sup>3</sup> ). Crop water use, Blue water use, Green water use, Grey water use
		Qualitative analysis, especially for the potential impacts on coastal and marine areas	
<b>Biodiversity, flora, fauna and landscapes</b>	Does the option reduce the number of species/varieties/races in any area (i.e. reduce biological diversity) or increase the range of species (e.g. by promoting conservation)? Does it affect protected or endangered species or their habitats or ecologically sensitive areas? Does it split the landscape into smaller areas or in other ways affect migration routes, ecological corridors or buffer zones? Does the option affect the scenic value of protected landscape?	Qualitative analysis based on the literature and the economic analysis (expansion of land-intensive sectors)	
<b>Soil quality or resources</b>	Does the option affect the acidification, contamination or salinity of soil, and soil erosion rates? Does it lead to loss of available soil (e.g. through building or construction works) or increase the		

Environmental impact	Question in the EU Toolbox	Type of analysis	Proposed indicator(s)
	amount of usable soil (e.g. through land decontamination)?		
<b>Waste production/generation/recycling</b>	Does the option affect waste production (solid, urban, agricultural, industrial, mining, radioactive or toxic waste) or how waste is treated, disposed of or recycled?	Quantitative	CO <sub>2</sub> emissions from waste (as a proxy for waste)
<b>Efficient use of resources (renewable and non-renewable)</b>	Does the option affect the use of renewable resources (fish etc.) and lead to their use being faster than they can regenerate? Does it reduce or increase use of non-renewable resources (groundwater, minerals etc.)?	Quantitative	Domestic Material Consumption, Material Intensity (DMC/cap), Material Productivity (USD/DCM), based on EWMFA database of CSIRO (36 material categories).
		Qualitative analysis on key sectors (mining, fishery, etc.) based on the literature and the economic analysis	
<b>Sustainable production and consumption</b>	Does the option lead to more sustainable production and consumption? Does the option change the relative prices of environmental friendly and unfriendly products? Does the option promote or restrict environmentally un/friendly goods and services through changes in the rules on capital investments, loans, insurance services etc.? Will it lead to businesses becoming more or less polluting through changes in the way in which they operate?	Qualitative analysis based on the literature and the economic analysis	
<b>International environmental impacts</b>	Does the option have an impact on the environment in third countries that would be relevant for overarching EU policies, such as development policy?	Qualitative analysis based on the literature and the economic analysis	
<b>Transport and the use of energy</b>	Does the option affect the energy intensity of the economy? Does the option affect the fuel mix (between coal, gas, nuclear, renewables etc.) used in energy production? Will it increase or decrease the demand for transport (passenger or freight), or influence its modal split? Does it increase or decrease vehicle emissions? Will the option increase/decrease energy and fuel needs/consumption?	Quantitative	Energy use (TPES) by fuel (tons of oil eq.). Energy Intensity (TPES/cap), Energy Productivity (USD/TPES).
		Qualitative based on literature and the economic analysis (income elasticity of the demand for transport)	

Environmental impact	Question in the EU Toolbox	Type of analysis	Proposed indicator(s)
<b>Animal welfare</b>	Does the option have an impact on health of animals? Does the option affect animal welfare (i.e. humane treatment of animals)? Does the option affect the safety of food and feed?	Qualitative analysis based on the literature	
<b>The likelihood or scale of environmental risks</b>	Does the option affect the likelihood or prevention of fire, explosions, breakdowns, accidents and accidental emissions? Does it affect the risk of unauthorised or unintentional dissemination of environmentally alien or genetically modified organisms?	Qualitative analysis based on the literature	
<b>Land use</b>	Does the option have the effect of bringing new areas of land ('Greenfields') into use for the first time? Does it affect land designated as sensitive for ecological reasons? Does it lead to a change in land use (for example, the divide between rural and urban, or change in type of agriculture)?	Qualitative based on the literature and the economic analysis	

Source: EU Better Regulation Toolbox (European Commission, n.d.) and own suggestions.

### 7.3.5 Approach to Quantitative Analysis

For the quantitative analysis, use will be made of the Eora multi-region input-output (Eora MRIO) database that provides a time series of high resolution Input-Output (IO) tables with matching environmental and social satellite accounts for 187 countries, including Chile and the 28 EU Member States (Lenzen *et al.* 2012b, 2013). The IO tables for the different countries record inter-industry transactions for a (usually) large number of economic sectors or industries for a particular year. They also record the inputs of primary sources of production and imports into the sectors. The rows of the IO table depict the *sales* of goods and services to other sectors and to final demand (including exports). The columns of the IO table depict the *purchases* of the sectors of intermediate inputs from other sectors, from primary factors of production, and from imports.

Eora MRIO provides satellite accounts for a large number of environmental indicators, including a large number of CO<sub>2</sub> and GHG emissions following the EDGAR (Emissions Database for Global Atmospheric Research) classification scheme (<http://edgar.jrc.ec.europa.eu/>), air quality, material usage, emissions from fertilizers, land use, and water use. These environmental indicators are directly linked to the specific sectors of the IO table. The indicators are placed as additional rows below the original IO table, representing them, as it were, as 'inputs' into production of a particular sector.

'Environmental indicator' coefficients are calculated by dividing the value of the environmental indicator by the value of total output of the sector (e.g. CO<sub>2</sub> emission in 1000 tonnes (kton) per unit of output of the electricity sector in USD).

A first-order indication of the environmental consequences of trade liberalisation is computed as the sum over all sectors of the products of changes in output per sector<sup>130</sup> and their ‘environmental indicator’ coefficients. The changes in output per sector as a consequence of trade liberalisation are taken from the results of the DG Trade CGE model, the ‘environmental indicator’ coefficients are calculated from the Eora MRIO tables, aggregated to the regional (EU28 and Chile) and sectoral dimensions of the DG Trade CGE model.<sup>131</sup> For the quantitative analysis, it will be assumed that the ‘environmental indicator’ coefficients are constant over time. Coefficients of the year 2011 are calculated to maximize the correspondence to the DG Trade CGE model. The possible evolution of the values of the coefficients over time (up to 2025) and its impacts on the environmental consequences will be qualitatively discussed.

### **7.3.6 Approach to Qualitative Analysis**

The estimated changes in the indicators in Table 7.1 provide a basis for a qualitative assessment on the impacts of the Association Agreement, including its sustainable development provisions, on the specific environmental areas identified above. The assessment will focus on the sectors and environmental areas potentially most affected. Here we will also evaluate whether such liberalisation commitments affect the ability of both Parties to maintain and amend regulatory provisions relating to the protection of the environment. In particular, we will discuss whether provisions under the Association Agreement affect commitments under existing Multilateral Environmental Agreements and we will examine how environmental issues have been taken into account in recent bilateral trade agreements of the EU with third countries and how this is likely to develop (e.g. Jinnah and Morgera, 2013; European Parliament 2016; OECD/ECLAC 2016). Furthermore, the assessment will explore to which extent the Association Agreement can offer opportunities for both sides to work together on increasing the sustainability of international supply chains and associated production processes.

### **7.3.7 Results of the Environmental Analysis**

#### **7.3.7.1 Climate**

##### ***Baseline***

The emissions of greenhouse gases (GHG) are rising fast in Chile. Although GHG emissions per capita are still low compared to other OECD and EU countries at 5.3 tonnes CO<sub>2</sub>-equivalent/capita,<sup>132</sup> the emissions of GHGs rose by 84% over the period 1990-2010. The most important GHG gas in Chile is carbon dioxide (CO<sub>2</sub>) from energy use and transport (77%), followed by methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O), mainly from agriculture and waste (23%). In its Intended Nationally Determined Contribution (INDC) to the United Nations Framework Convention on Climate Change (UNFCCC), Chile pledged to reduce GHG emissions per unit of GDP by 30% by 2030 relative to 2007, if economic growth is maintained at current levels (excluding LULUCF,<sup>133</sup> which has separate targets). The share will be increased to 35-45% if there is sufficient international financial support. OECD/ECLAC (2016)

<sup>130</sup> For the environmental calculations, the change in real output per sector is used (volume change with constant prices)

<sup>131</sup> The MRIO Table of Chile has 74 sectors/commodities that have been mapped to the 31 sectors/commodities of the DG Trade model. For the EU, the 28 EU Member States have been aggregated using a 26 sectors/commodities classification. They have also been mapped to the 31 sectors/commodities of the DG Trade model.

<sup>132</sup> CO<sub>2</sub>-equivalent is a measure that weighs different GHG on the basis of their Global Warming Potential over a certain time period (usually 100 years).

<sup>133</sup> LULUCF stands for Land Use, Land Use Change, and Forestry.



advocates that Chile steps-up its efforts to combat climate change, especially since it will most likely graduate from the OECD-DAC list of countries eligible to receive Overseas Development Assistance soon. Up to now Chile has financed most of its climate action from international and multilateral funds (OECD/ECLAC 2016).

The emissions of GHG per capita in 2014 in the EU were 8.7 tonnes CO<sub>2</sub>-equivalent/capita. The emissions decreased in the EU28 by 23% over the period 1990-2014. In the EU, CO<sub>2</sub> is also the most important GHG (79%), followed by CH<sub>4</sub> and N<sub>2</sub>O (15%), and industrial gases (5%). In its INDC to the UNFCCC, the EU and its Member States committed to a binding target of at least 40% domestic reduction in GHG emissions by 2030 compared to 1990.

### *Analysis*

The CGE model results suggest a global increase in energy-related CO<sub>2</sub> emissions of 0.09 million tonnes (Mton) of CO<sub>2</sub> in the conservative scenario and 0.11 Mton in the ambitious scenario in comparison with the baseline scenario. On the global scale, this is an insignificant increase of 0.0002% and 0.0003% of emissions in comparison to the baseline, respectively. Focusing on the EU and Chile in particular, the emissions increase in the EU would be 0.12 Mton CO<sub>2</sub> (0.003%) in the conservative scenario to 0.28 Mton CO<sub>2</sub> (0.007%) in the ambitious scenario. The emissions increase in Chile would be 0.18 Mton CO<sub>2</sub> (0.18%) and 0.36 Mton CO<sub>2</sub> (0.37%) in the conservative and ambitious scenarios, respectively. According to the CGE results, emissions in the rest of the world would, on balance, decrease in both scenarios (by -0.21 Mton and -0.54 Mton, respectively).

The changes in CO<sub>2</sub> emissions are the result of the decisions of many individual households and firms. As explained above, the changes can be decomposed into scale, composition and technique effects. Table 7.2 below presents the decomposition of emissions of both the EU, Chile and the rest of the world in both scenarios in Mton CO<sub>2</sub> compared to the baseline.

**Table 7.2: Decomposition of Changes of CO<sub>2</sub> Emissions into Scale, Composition and Technique Effects (in Mton CO<sub>2</sub>, percentage change between brackets)**

Effect	Conservative scenario			Ambitious scenario		
	EU	Chile	RoW	EU	Chile	RoW
<b>Scale</b>	0.04 (0.00)	0.07 (0.07)	-0.15 (0.00)	0.08 (0.00)	0.15 (0.15)	-0.38 (-0.00)
<b>Composition</b>	-0.01 (0.00)	-0.04 (-0.04)	0.10 (0.00)	-0.02 (-0.00)	-0.01 (-0.02)	0.12 (0.00)
<b>Technique</b>	0.09 (0.00)	0.14 (0.15)	-0.16 (-0.00)	0.22 (0.01)	0.23 (0.24)	-0.28 (-0.00)
<b>Total</b>	0.12 (0.00)	0.18 (0.18)	-0.21 (-0.00)	0.28 (0.01)	0.36 (0.37)	-0.54 (-0.00)

*RoW is Rest of the World*

*Source: own calculations based on DG Trade's CGE model output.*

The decomposition analysis shows that the scale effect is positive for the EU and Chile in both scenarios, but negative for the rest of the world. This suggests that the assumed bilateral trade liberalisation between the EU and Chile creates some trade diversion from the rest of the world.<sup>134</sup> The composition effects suggest a very small specialization in the EU and Chile in less CO<sub>2</sub> intensive sectors and the reverse for the rest of the world. The technique effect suggests that the emission intensity of the economy increases in the EU and Chile and decreases in the rest of the world.

Taking a closer look at changes at the industry level, the scale, composition and technique effects are dominated by developments in the electricity and transport sectors in both the EU and Chile. This is not surprising since these two sectors are responsible for three-quarters of energy-related CO<sub>2</sub> emissions in

<sup>134</sup> See chapter 6 for a more detailed analysis of the impacts on third countries.

both territories. The mechanisms are very similar in the EU and Chile in both scenarios, only the magnitudes of the effects are different. We can therefore illustrate the mechanisms in qualitative terms by elaborating on one scenario for one country, for example for the ambitious scenario in Chile. In this scenario, total industrial output in real terms – the scale of the economy - increases by 0.14% compared to the baseline.<sup>135</sup> Outputs of electricity production and transport change by -0.02% and 0.11% only, hence their share in industrial output decreases and the composition effect is therefore negative. Their emission-intensities, however, increase by 0.16% and 0.38%, resulting in a positive technique effect. This technique effect is the result of relative price changes of fuels that are projected by the CGE model, especially for petroleum and natural gas that become cheaper in the EU and Chile. Hence the demand for these energy resources in electricity production and transport increases. The projected increase of emissions in the European energy sector can be easily mitigated by the European Emission Trading System (EU ETS). Transport-related emissions are further analysed in section 7.3.7.9.

Changes in the other major GHG are calculated by the EOARA model. The emissions of methane (CH<sub>4</sub>) increase in Chile by 0.2% in both scenarios. The emissions of nitrous oxide (N<sub>2</sub>O) in Chile increase by 0.1% and 0.0%, respectively, in the two scenarios. Livestock production is responsible for the increase in CH<sub>4</sub> emissions, while the increase in N<sub>2</sub>O emissions can be mainly attributed to the sectors fruits and vegetables, livestock, and food processing (canning, vegetable oil and milk production). With the EORA model, we cannot project the changes in global emissions of CH<sub>4</sub> and N<sub>2</sub>O, but these are likely to be negligible.

### 7.3.7.2 Air Quality

#### *Baseline*

Poor air quality is a major concern for Chile, especially in large metropolitan areas, in the surroundings of large industrial and mining sites, and cities in the central and southern areas of the country where firewood is the main fuel used in homes. The emissions of particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) are associated with the incidence of cardiorespiratory diseases and premature death. Half the population is exposed to annual average PM<sub>2.5</sub> concentration levels above the national standard of 20 µg/m<sup>3</sup>, and 15% is exposed to levels exceeding 35 µg/m<sup>3</sup>.<sup>136</sup> Emissions of particulate matter and carbon monoxide (CO) increased by approximately 10% over the period 2005-2011, while emissions of nitrogen oxides (NO<sub>x</sub>, mainly from thermoelectric plants and road transport) nearly doubled. Emissions of sulphur dioxide (SO<sub>2</sub> mainly from copper foundries and other industrial plants) decreased in recent years. Chile has a pollution control policy in place with air quality standards and emission standards for stationary and mobile sources. Pollution Prevention and Decontamination Plans (PPDAs) is the main instrument for air quality management, but their effective implementation is often hampered for a variety of reasons (OECD/ECLAC 2016).

Air quality is also an important issue in Europe. Although emissions of the main air pollutants have declined in recent decades, still the 24-hour limit values for PM<sub>10</sub> were exceeded in 2012 for 21% of the EU urban population. While significant improvements were made in combating acidification (mainly by sulphur dioxide), less improvement has been made in reducing eutrophying emissions for agriculture (ammonia NH<sub>3</sub>) and combustion processes (nitrogen oxides NO<sub>x</sub>). In 2013, the European Commission adopted a Clean Air Policy Package with new air quality objectives for the period up to 2030, a revised

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<sup>135</sup> This number differs slightly from the number in Table 7.2, because the scale effect in Table 7.2 is calculated on all emissions (industries and households), while this scale effect only refers to industries.

<sup>136</sup> The guidelines of the World Health Organization classify an annual average PM<sub>2.5</sub> exposure of between 10 and 35 µg/m<sup>3</sup> as 'high' and above 35 µg/m<sup>3</sup> as 'severe'.

National Emission Ceilings Directive with stricter national emission ceilings for the six main pollutants, and a proposal for a new Directive to reduce pollution from medium-sized combustion installations.

### *Analysis*

The CGE model results suggest a very small increase in overall agricultural and industrial activity (output) in Chile of 0.08% in the conservative scenario and 0.13% in the ambitious scenario. This increase is, however, unevenly distributed across the sectors. The projected output growth is greatest for the agricultural sectors vegetables and fruit, oil seeds and dairy. The EORA model suggests that, everything else remaining equal, air polluting emissions of these sectors and food processing sectors (NH<sub>3</sub>, NO<sub>x</sub>, CO, and PM<sub>10</sub>) increase, but emissions from other sectors remain constant or decrease. Emissions of SO<sub>2</sub> from the manufacturing of iron and steel and non-ferrous metals decrease. Aggregated over all sectors, emissions of NH<sub>3</sub> increase by 0.3% in both scenarios, emissions of CO follow industrial output growth, emissions of NO<sub>x</sub> and NMVOC grow a bit less than output, and emissions of SO<sub>2</sub> are projected to decrease in both scenarios by -0.4 to -0.5%. These are small changes, and they will have minor effects on the remaining and ongoing challenges of Chilean authorities to improve air quality. As Chile maintains few, if any barriers to trade in air pollution abatement services (USITC 2005, ITAQA 2012), the Agreement is unlikely to promote the importation of air pollution services to Chile, but it might be able to promote technical cooperation in the area of energy efficiency which could have side-benefits on air quality.

According to the CGE analysis, industrial output and the composition of industry in the EU change little in both scenarios. The EORA projections of changes in the emissions of air pollutants are well below an increase of 1 kton per pollutant in absolute terms and well below an increase of 0.1% in relative terms. Taking into account the precision of the calculations, it can be concluded that the trade measures in both scenarios are unlikely to have an effect on the level of air pollution in Europe.

#### **7.3.7.3 Water Quality and Resources**

##### *Baseline*

The CGE model results suggest a very small increase in overall agricultural and industrial activity (output) in Chile of 0.08% in the conservative scenario and 0.13% in the ambitious scenario. This increase is, however, unevenly distributed across the sectors. The projected output growth is greatest for the agricultural sectors vegetables and fruit, oil seeds and dairy. The EORA model suggests that, everything else remaining equal, air polluting emissions of these sectors and food processing sectors (NH<sub>3</sub>, NO<sub>x</sub>, CO, and PM<sub>10</sub>) increase, but emissions from other sectors remain constant or decrease. Emissions of SO<sub>2</sub> from the manufacturing of iron and steel and non-ferrous metals decrease. Aggregated over all sectors, emissions of NH<sub>3</sub> increase by 0.3% in both scenarios, emissions of CO follow industrial output growth, emissions of NO<sub>x</sub> and NMVOC grow a bit less than output, and emissions of SO<sub>2</sub> are projected to decrease in both scenarios by -0.4 to -0.5%. These are small changes, and they will have minor effects on the remaining and ongoing challenges of Chilean authorities to improve air quality. As Chile maintains few, if any barriers to trade in air pollution abatement services (USITC 2005, ITAQA 2012), the Agreement is unlikely to promote the importation of air pollution services to Chile, but it might be able to promote technical cooperation in the area of energy efficiency which could have side-benefits on air quality.

According to the CGE analysis, industrial output and the composition of industry in the EU change little in both scenarios. The EORA projections of changes in the emissions of air pollutants are well below an increase of 1 kton per pollutant in absolute terms and well below an increase of 0.1% in relative

terms. Taking into account the precision of the calculations, it can be concluded that the trade measures in both scenarios are unlikely to have an effect on the level of air pollution in Europe.

### *Analysis*

The CGE model results predict an increase in agricultural activities in Chile, especially in the sectors vegetables and fruits, oil seeds and dairy. Associated water requirements for these activities will put additional pressure on Chile's fresh water resources. The EORA model predicts increases of the demand for irrigation water for crops of 0.5% in both scenarios, and the demand for water for grazing animals by 0.7% in both scenarios. The overall index for water pollution ('grey water') decreases slightly in both scenarios. However, the indicator for nitrogen run-off from farm land increases by 1.4% in the conservative scenarios and by 1.3% in the ambitious scenario. Given the present challenges to sustainable fresh water use in Chile, the projected increases in water demand and nitrogen run-off give reasons for concern.

The EORA model suggests that pressures on fresh water resources and nitrogen run-off in Europe decrease a little in both scenarios, but the changes are below the level of significance. Hence, it is unlikely that the trade measures in both scenarios will have an effect on Europe's water resources.

#### **7.3.7.4 Biodiversity, Flora, Fauna and Landscapes**

### *Baseline*

Chile has a diverse geography and climate that offer habitat to about 31,000 species of flora and fauna of which a quarter is endemic. Protected areas cover 19.5% of Chile's land and 4.3% of marine area and there are plans to extend the protected marine area to 24% of the total marine area (OECD/ECLAC 2016). Nevertheless, there are great threats to Chile's biodiversity. In an assessment of the status of 1,000 species, 62% were considered threatened. Threats include illegal logging, the introduction of exotic species, high pesticide and fertiliser use, forest fire, water scarcity and pollution, and climate change (OECD/ECLAC 2016). The main economic sub-sectors responsible for the threats are agriculture, forestry, fishing and aquaculture, and mining (OECD/ECLAC 2016).

The EU is one of the most densely populated regions of the world with long history of land use. This has resulted in diverse cultural landscapes that are home to a rich fauna and flora (European Commission, 2015). However, biodiversity is under pressure. Information reported by EU Member States under the Birds and Habitats Directives indicates only 23% of animal and plant species assessments and 16% of the habitat type assessments were considered to be in a favourable conservation status. The key threats to biodiversity are habitat change, pollution, over-exploitation, invasive alien species, and climate change (EEA 2015). The Birds and Habitats Directives (known as the Nature Directives) aim to protect biodiversity and are the key pieces of legislation underpinning the EU Biodiversity Strategy to 2020. Other relevant EU legislation includes the Water Framework Directive, the Marine Strategy Framework Directive, the Common Agricultural Policy and the Common Fisheries Policy.

### *Analysis*

The CGE model results predict an increase in some of the drivers of biodiversity loss in Chile, i.e. agricultural activities and associated use of land, water, fertiliser and pesticides, and fisheries to a lesser extent. Increased trade volumes also increase the risk of the introduction of invasive alien species, although Chilean legislation is particularly strict in this area. The final impacts on biodiversity are

difficult to predict as they depend very much on the locations where activities occur and on the management of these activities. For the EU, the main biodiversity threat is the increased invasion of alien species that is linked to larger volumes of overseas trade.

The potential modernisation of the Association Agreement also give opportunities for the EU and Chile to reduce pressures on biodiversity, by, for example, promoting organic agriculture which has still a negligible share of total agriculture in Chile (OECD/ECLAC 2016), by promoting more sustainable production methods in fish farms (aquaculture) for example through certification (e.g., *Salmon Chile*), and to intensify cooperation in the area of biodiversity policy, for example in the context of the Convention of Biological Diversity (CBD) of which both the EU and Chile are members. OECD/ECLAC (2016) advises Chile's government to systematically integrate of biodiversity conservation objectives into land-use planning, marine planning and sectoral policies, and to mainstream biodiversity considerations in project and plan appraisal mechanisms.

### 7.3.7.5 Waste Production, Generation, Recycling

#### *Baseline*

The generation of waste in Chile increased by 28% over the period 2000 to 2009 (OECD/ECLAC 2016). 43% of total waste is generated by households, 23% by construction, 17% by industry and utilities, 12% by agriculture, forestry and fishing, and 5% by mining and quarrying. Annual per capita generation of municipal waste in 2013 was 490 kg/capita and it increased by 17% from the year 2000. Almost all waste (97%) is deposited in landfills, which does not comply with modern sanitary standards. The recycling rate of waste is low, with a major contribution of informal waste pickers (OECD/ECLAC 2016). There are specific problems with hazardous mining waste and contaminated, abandoned mining sites. In 2012, Chile strengthened regulations on mining wastes in its Mining Closure Law and at present (2016), it is developing a Waste Framework Law, revising its regulation on hazardous waste management, and implementing the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. Under the Framework Law for Waste Management, Chile has introduced a system of extended producer responsibility, covering six priority products: lubricant oils, electrical and electronic appliances, car batteries, packaging and tires. It might be extended to other product groups. Chile is the first country in Latin America to adopt this kind of legislation and it might reduce the negative impact of trade in the future.

In Europe, waste generation in industry and households declined in the period 2004-2012, and production and consumption are becoming less waste-intensive. Annual per capita generation of municipal waste in 2012 was 478 kg/capita and it decreased by 2% from 2004. Europe has decreased landfilling of waste, both in absolute and relative terms. This is partly due to increases in incineration and recycling. In 2012, the recycling rate for municipal waste was 37%. The EU has set ambitious targets on waste prevention and the re-use of waste as a resource in its Roadmap to a resource-efficient Europe and the 7th Environment Action Programme.

#### *Analysis*

The CGE model results predict an increase in production and consumption in Chile. Everything else remaining the same, a proportional increase in waste generation can be expected. The EORA model, however, predicts no increase in waste generation in both scenarios. Subsequent the 2002 EU-Chile Association agreement, EU investments in services and utilities have brought experience in terms of logistics and organization under stricter environmental standards and higher liability exposure. ITAQA (2012) claims that this has contributed to the development of waste management, recycling and water

treatment in Chile. Further technical and policy cooperation between the EU and Chile in this area could be very beneficial.

In Europe, waste generation is expected to increase a little in both scenarios, but the changes are below the level of significance. Hence, it is unlikely that the trade measures in both scenarios have an effect on the volume of waste in Europe. It is also unlikely that the scenarios will have an effect on the way that Europe's waste is managed.

#### **7.3.7.6 Efficient Use of Resources**

##### ***Baseline***

Chile has one of the most resource-intensive economies of OECD countries, due to its dependence on mining and quarrying activities (particularly copper). Domestic material consumption (DMC) increased by 36% in the period 2000-10. Included in this increase is the growth of consumption of fossil fuels in this period (OECD/ECLAC 2016). DMC per capita is about 60 tonnes, whereas this indicator is about 15 DMC/capita for OECD and Europe (West and Chandl, 2013; Wiedmann *et al.*, 2015). Its resource productivity (value added per physical unit of resource consumption), however, is low. OECD estimates resource productivity in 2014 as 0.44 USD/kg, while that of OECD on average was 2.1 USD/kg. West and Chandl (2013) explain the low resource productivity from the fact that Chile adds little value added to its primary mineral resources beyond concentrating, before exporting them. It was already noted above that Chile's rate of recycling of municipal waste is low.

The EU is heavily reliant on imports of resources. In 2011, the EU imported almost 60% of its fossil fuel and metal resources (EEA 2015). Total DMC declined between 2000 and 2012, from 7.6 billion tonnes to 6.8 billion tonnes, but according to EEA (2015) this decline was largely due to the economic downturn since 2008. The EU's resource productivity in 2012 was EUR 1.73/kg, a slight improvement from its productivity in the year 2000. The EU's 7th Environment Action Programme (7th EAP) identifies as one of its priority objectives the need to "turn the Union into a resource-efficient, green, and competitive low-carbon economy." The EU's Roadmap to a resource-efficient Europe includes a vision for 2050, wherein "the EU's economy has grown in a way that respects resource constraints and planetary boundaries, thus contributing to global economic transformation."

##### ***Analysis***

The CGE model results suggest an overall increase in economic activity but also a slight diversification of Chile's economy in a less resource-intensive direction. Particularly, the model projects a diversification away from minerals to agricultural commodities, which are also resource-intensive but much less so than minerals and energy production. The EORA model suggests that DCM per capita slightly decreases in the conservative scenarios and slightly increases in the ambitious scenarios), resource productivity slightly increases in both scenarios. These changes are so small that they can be practically ignored. In the EU, DCM per capita and resource productivity remain unchanged. We conclude that it is unlikely that the scenarios will have an effect on the material-intensity and material productivity of both economies.

#### **7.3.7.7 Sustainable Production and Consumption**

##### ***Baseline***

The 2002 EU-Chile Association Agreement led to market-driven incentives for Chilean exporters to improve the sustainability of their production processes. ITAQA (2012) reports a "significant increase" in the trade of environmental goods, and widespread agreement among interviewed stakeholders that

the Agreement has contributed to the adoption of both greener technology and stricter domestic environmental standards. During workshops organized in May 2011, stakeholders pointed out that technology transfer in aquaculture had helped the Chilean industry adopt more environmentally friendly techniques. Interviews suggested that the FTA with the EU (but also with the United States) have been an important step for the adoption of stricter standards in the Chilean automotive sector (ITAQA, 2012).

### *Analysis*

Deeper trade integration through the modernisation of the EU-Chile Association Agreement may well encourage steps towards more sustainable production in Chile, through technical and policy cooperation, through technology transfer and through the demand of EU importers. It is however difficult to project the size of these steps, as well to disentangle the influence of the modernisation of the EU-Chile Association Agreement from other FTAs and from domestic pressures.

#### **7.3.7.8 International Environmental Impacts**

### *Analysis*

The results of the CGE model suggest that the economic impact on third countries are likely to be limited. When CO<sub>2</sub> emissions are taken as a rough proxy of environmental impacts, the decomposition analysis of CO<sub>2</sub> emissions suggests that environmental impacts in third countries will be small in both scenarios. Moreover, the change in CO<sub>2</sub> emissions is negative in all other regions, except for Peru and the region (other) Latin America, for which they are positive but extremely small. Hence, we conclude that international environmental impacts are likely to be small or negligible.

#### **7.3.7.9 Transport and the Use of Energy**

### *Baseline*

Although motor vehicle ownership in Chile is still relatively low in comparison to the EU, it more than doubled in the period 2000-2014. In the recent decade, the road network in Chile has been expanded and upgraded, especially in the Santiago Metropolitan Region. Despite efforts to upgrade and expand public transport in cities, there is persistent traffic congestion with severe air pollution impacts and increasing GHG emissions (OECD/ECLAC 2016). Fossil fuels dominate Chile's energy mix (68% of total primary energy supply).<sup>137</sup> Because Chile has limited domestic energy resources it is highly dependent on imports. Increases in electricity demand since the mid-2000s has been largely met by coal. Electricity generation in Chile is more carbon-intensive than in most other OECD countries. Solar and wind still play marginal roles in energy supply. However, in January 2016 the government of Chile launched an ambitious energy strategy, "Energy 2050", that sets the goal of generating 70% of national electricity generation from renewable sources by 2050. A recent study revealed that European companies have become major investors in renewable energy projects in Latin America and the Caribbean. Between 2005 and 2015 European companies have announced renewable energy projects in the region worth USD 58.8 billion. Chile was the main recipient of these investments with 36% of the total (ECLAC 2016).

In the EU, the increase in demand for transport is proportional to economic growth (EEA 2015). Since 1990, GHG emissions from transport have increased by 20.5%. The fastest growth was recorded in

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<sup>137</sup> The shares of total primary energy supply are: oil 40%, coal 18%, natural gas 10%, renewables (mainly biomass and biofuels) 32%.

international aviation (> 100%). Measures to reduce transport emissions include fuel-quality standards, exhaust-emission limits for air pollutants and CO<sub>2</sub>, national emission limits for air pollutants, and the EU Effort Sharing Decision for Greenhouse Gases. The European Commission's White Paper on Transport (2011) calls for a reduction of CO<sub>2</sub> from transport of at least 60% by 2050 from 1990 levels. It advocates a combination of new technology and more efficient use of existing technology.

### *Analysis*

The CGE model results suggest modest increases in transport in both scenarios. Transport activities in Europe remain constant in both scenarios;<sup>138</sup> in Chile transport activities decrease by -0.02% in the conservative scenario and increase by 0.11% in the ambitious scenario. The EORA model predicts that transport-related GHG emissions in Chile change between -5 and +25 kton CO<sub>2</sub>-equivalent; and remain stable in Europe. This relates however to all transport modes and makes no difference between domestic and international transport. To get an indication of the change in GHG emissions associated with changes in international freight transport between the EU and Chile as a result of the modernisation of the Association Agreement we performed an additional calculation based on a methodology developed by Cristea *et al.* (2013). This 'bottom-up' methodology uses weight-to-value ratios to calculate the weight (in kg) per USD value of exports for all GTAP sectors. Total emissions for the export of commodities from a GTAP sector from a source to a destination country are calculated by multiplying the weight of the exports by the distance of the transport route and by a transport mode-related emission factor. Cristea *et al.* (2013) differentiate between air and sea transport, and within sea transport they use different emission factors (g CO<sub>2</sub>-equivalent per tonne-km) for bulk transport, containers, oil tankers, LNG/LPG tankers, and transport of chemicals. We do not know exactly what shares of bilateral trade per product between the EU and Chile are carried out by sea transport and air transport, but ITAQA (2012) reports that, overall, 5% of the value of EU imports from Chile and 17% of EU exports to Chile is transported by plane. We further assume that air transport is only an option for products that are otherwise transported by container ship (so not for bulk ships or oil tankers). For distance, we took the shortest shipping distance between Valparaiso in Chile and Rotterdam in Europe (through the Panama Canal), which is 7,455 nautical miles or 13,807 km ([www.sea-distances.org](http://www.sea-distances.org)). The flight distance between Valparaiso and Amsterdam is 12,007 km ([www.worldatlas.com/travelaids/flight\\_distance.htm](http://www.worldatlas.com/travelaids/flight_distance.htm)). All other parameters are taken from Cristea *et al.* (2013). For the emission factor for air travel we took their 'low' estimate, reflecting the expectation that the energy-efficiency of the air fleet will continue to increase towards 2025. Table 7.3 presents an example calculation for international transport-related emissions of Chile in the ambitious scenario.

Calculated in the way described above, we find an increase in GHG emissions related to the change in total bilateral transport between the EU and Chile of 1.1 Mton CO<sub>2</sub>-equivalent in the conservative scenario and 2.2 Mton CO<sub>2</sub>-equivalent in the ambitious scenario. These estimates much higher than the EORA estimates, but the estimates cannot be completely compared with each other because the EORA estimates also include domestic transport while the 'bottom-up' estimates do not consider possible changes in GHG emissions of changes in transport between the EU and Chile on the one hand and third countries on the other hand, which could be positive or negative. Note also that the 'bottom-up' estimates are only indicative because, besides unavoidable aggregation errors, we had to use a number of untested assumptions such as the share of sea transport in total transportation for specific goods, and the shipping route.

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<sup>138</sup> In real terms (volume change with constant prices).



**Table 7.3: Calculation of Change in GHG Emissions of International Transport of Chile in Ambitious Scenario**

Commodity	Change in export*	Weight-to-value ratio	Share of sea transport	Distance by sea	Distance by air	Type of ship	Emission factor sea	Emission factor air	GHG emissions
	EUR mln	kg/EUR		km	km		g/tonne-km	g/tonne-km	tCO <sub>2</sub> e
Cereals	1.8	2.6	1	13807	12007	bulk	4.5	552	442
Rice	0.0	2.6	1	13807	12007	bulk	4.5	552	3
Fruits and Vegetables	56.8	0.9	0.95	13807	12007	container	12.1	552	38287
Oilseeds	26.9	2.6	1	13807	12007	bulk	4.5	552	6591
Sugar	0.0	2.6	1	13807	12007	bulk	4.5	552	7
Fibres and crops	-1.4	2.6	1	13807	12007	bulk	12.1	552	-332
Ruminant meats	-14.5	0.9	0.95	13807		container	12.1	552	-9724
Other meats	-9.9	0.9	0.95	13807	12007	container	12.1	552	-6685
Dairy	0.8	0.9	0.95	13807	12007	container	12.1	552	517
Wood & Paper	-2.7	1.0	0.95	13807	12007	container	12.1	552	-2073
Coal	0.0	n.a.	1	13807	12007				
Oil	0.0	3.7	1	13807	12007	oil tanker	5.0	552	0
Gas	0.0	4.6	1	13807	12007	LNG	16.3	552	0
Minerals	18.0	12.1	1	13807	12007	bulk	4.5	552	20577
Fishing	3.0	0.3	0.95	13807	12007	container	12.1	552	566
Other food	41.4	0.9	0.95	13807	12007	container	12.1	552	27955
Beverages & Tobacco	59.5	0.9	0.95	13807	12007	container	12.1	552	40110
Textile	-0.5	0.3	0.95	13807	12007	container	12.1	552	-93
Chemicals	-3.6	0.7	1	13807	12007	chemical tanker	10.1	552	-502
Oil & coal products	0.8	3.8	1	13807	12007	bulk	4.5	552	287
Metal products	-35.2	1.8	0.95	13807	12007	container	12.1	552	-46447
Non-Metal products	0.0	0.5	0.95	13807	12007	container	12.1	552	-6
Motor vehicles	0.0	0.1	0.95	13807	12007	container	12.1	552	0
Machinery	-0.5	0.2	0.95	13807	12007	container	12.1	552	-56
Electronic equipment	-0.1	0.1	0.95	13807	12007	container	12.1	552	-3
<b>Total merchandise trade</b>									69422

\* from DG Trade CGE model results 'bilateral trade': 'Chile\_ambitious\_2025' compared to 'Chile\_baseline\_2015'

\*\* by assumption

Source: based on Cristea et al. (2013) and own assumptions described in the text above the Table.

The EORA model suggests that the use of energy resources in Chile increases less than proportional to the increase in industrial output. Of the energy resources, the use of petroleum increases most in absolute and relative terms (by 46 TJ (0.01%) in the conservative scenario and 926 TJ (0.14%) in the ambitious scenario. In the ambitious scenario, the use of hydroelectricity also increases (by 61 TJ, 0.08%). In both scenarios, the use of biomass and waste in electricity generation decreases. This is principally due to the projected output decline in the sector paper & wood that employs its own waste for its own electricity generation. For the EU, the overall changes in energy use are negligible (< 0.1%). Energy use increases in the transport sector (natural gas, petroleum, biomass and solar) and in utilities (natural gas, coal, hydro, geothermal, wind, and biomass). There is a slight but insignificant increase in the own use of biomass as a source of energy in the paper & wood sector.

### 7.3.7.10 Animal Welfare

#### *Baseline*

In 2003 the EU asked for the introduction of a reference to animal welfare in the EU-Chile Association Agreement with the aim of developing standards. As exporter of meat, Chile agreed on the proposal.

The objective was to establish a mechanism of transparency and recognition of equivalence with protection of public, animal and plant health. The agreement mentioned specifically the aim of reaching a common understanding concerning animal welfare standards. The attention for animal welfare in the Agreement seems to have produced good results. In an assessment of its impacts, Cabane (2013) observes that the Agreement has played a positive role in the institutionalization of animal welfare in Chile, in particular for livestock production. Apart from the law on animal welfare and the creation of a sub-department in charge of animal welfare, there is a better understanding of animal welfare by meat producers in Chile through a participative process led by the Ministry of Agriculture. Cabane (2013) argues that trade opportunities offered by the Agreement were the main motivation for the policy shift. Improvements in animal welfare brought new opportunities for Chilean exporters, for example on the UK market (Cabane 2013). While attention to animal welfare differs between Member States in the EU (World Animal Protection, 2014), European regulations, particularly those on the protection of animals during transport, are at present, among the most advanced in the world (Caporale *et al.* 2005).

### *Analysis*

Chilean meat exporters are aware of the importance of maintaining or increasing animal protection standards for exporting to the EU. Further trade liberalisation between the EU and Chile in this sector will in all likelihood increase the attention in Chile for the welfare of animals, both in the meat and dairy sub-sectors. Hence, it may be expected that a modernisation of the Agreement may contribute to the continuation of improving animal welfare regulations in Chile, while it is not to be expected that it would undermine attention to animal welfare in Europe.

#### **7.3.7.11 The Likelihood or Scale of Environmental Risks**

We have found no evidence or suggestions that the likelihood or scale of environmental risks would be affected in either scenario.

#### **7.3.7.12 Land Use**

##### *Baseline*

Forest covers 23% of Chile's land area, arable land and pastures cover 21%, and the rest of the land is covered by rock and ice, low vegetation, wetlands or water, or occupies by urban areas and infrastructure (OECD/ECLAC 2016). In the past decade, infrastructure and agricultural development have led to a substantial rate of land conversion in central and northern Chile. Chile's forest area has also expanded in the recent decade. In the EU27,<sup>139</sup> forests and other wooded areas occupy 37% of the total area, cropland 25%, grassland 21%, scrubland 7%, water areas and wetland 5%, built-up and other artificial areas, such as roads and railways 4%.<sup>140</sup> In the past decade, artificial areas gained most land, while semi-natural vegetation, wetlands, agricultural land and open spaces/bare soils showed slightly decreasing trends. Forests and water bodies showed very small net increases in land areas (EEA 2015).

##### *Analysis*

The CGE model suggests that agricultural output in Chile expands in the both scenarios, possibly adding pressure to the ongoing land conversion in central and northern Chile. The scenarios do not seem to

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<sup>139</sup> Excluding Croatia.

<sup>140</sup>[http://ec.europa.eu/eurostat/statistics-explained/index.php/Land\\_cover,\\_land\\_use\\_and\\_landscape#Land\\_cover](http://ec.europa.eu/eurostat/statistics-explained/index.php/Land_cover,_land_use_and_landscape#Land_cover), accessed 5-12-2016.

encourage a further expansion of the forest area. Land use changes in the EU are likely to be insignificant.

### 7.3.8 Conclusions

The environmental effects of the changes in trade and sectoral composition in the conservative and ambitious scenarios are likely to be limited in Chile and the EU. Without mitigating action, CO<sub>2</sub> emissions are likely to increase somewhat in both regions because of scale and technique effects and the projected increase in transportation. While policies and measures to mitigate CO<sub>2</sub> emissions in the EU are well-developed, Chile has just started policy development with its Energy 2050 strategy. Because of its development status (as a member of the OECD) the prospects for continuing to rely on international and multilateral funds for climate action are uncertain, but private investment in renewable energy is on the rise. In our calculations, the increase in CO<sub>2</sub> emissions related to international transport are likely to dominate domestic increases. At present, the regulatory framework for mitigating CO<sub>2</sub> emissions in international transport is still relatively weak. Other environmental issues that require attention are increasing pressures on water, land and related impacts on biodiversity that are associated with the projected expansion of Chile's agricultural sector because of the increased export opportunities in both scenarios. Other environmental effects in the EU are likely to be insignificant.

The modernisation of the EU-Chile Association Agreement also offers opportunities for the EU and Chile to strengthen their cooperation on technical and policy cooperation in key environmental areas, including CO<sub>2</sub> emissions in international transport, the conservation of biodiversity under the Convention of Biological Diversity (CBD), animal welfare, and in the area of sustainable production and consumption where deeper trade integration may help stimulating the adoption of greener technologies and stricter domestic environmental standards. Other areas where increased cooperation could prove beneficial would include energy efficiency and renewable energy, efficiency in irrigation and water distribution, and efficiency in the application of fertilisers and pesticides.

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## 7.4 Literature Review of Impacts of Free Trade Agreements on Consumers

### 7.4.1 Preliminary Theoretical Considerations

Economic theory implies three ways in which consumers can benefit from trade liberalisation: lower prices, more variety, or higher quality. Basic international trade theory suggests that the introduction of a tariff (or equivalent non-tariff measures) on imported goods results in an increase in prices faced by consumers, which in turn leads to a decrease in consumer surplus. By the same logic, trade agreements reducing or removing tariffs (or equivalent measures) result in higher consumer surplus in comparison to protectionism (Viner, 1950). Moreover, trade liberalisation induces more competition on the domestic market, decreasing prices of domestically-produced goods as well (Levinsohn, 1993). The effect of trade measures on overall social welfare (including producers and the state) depends on a number of factors, such as a size of a country and structure of the market, but the general consensus is that higher tariffs mean lower consumer surplus (for a review of various cases, see for example Feenstra (2003)). Hence, according to the economic theory, trade agreements which reduce prices of imported goods unambiguously increase consumer welfare through this channel.

The recognition of the importance of varieties for consumer satisfaction in economic literature dates back to Lancaster (1975, 1979) who developed a model in which consumers differed in their “ideal variety” of a differentiated good, and Spence (1976) and Dixit and Stiglitz (1977), who presented a model with a representative consumer demanding many varieties of a differentiated good, the so called “love for variety”. The former approach was applied to international trade by Lancaster (1980) and Helpman (1981), with the latter most famously used by Krugman (1979, 1980, 1981). All those papers showed that increasing availability of varieties (together with the possibility of exploitation of scale economies) can be a significant benefit for consumers from international trade. Therefore, they provided a justification for trade between similar countries. As trade agreements bring about more varieties available for consumers, they result in higher utility, i.e., increased consumer satisfaction.

The aforementioned positive effects of trade liberalisation on consumers can be extended to the case of regional trade agreements (RTAs), where liberalisation benefits accrue to consumers in member countries. However, RTAs bring about yet another effect, trade diversion, which was highlighted for the first time by Viner (1950). In some cases, due to an RTA, consumers will switch from low-cost products from the rest of the world to the high-cost products from partner countries. In such a situation, clearly, efficiency and welfare decreases for the consumer, highlighting the need to take into account trade diversion effect in evaluating changes in consumer welfare arising from trade liberalisation, although Summers (1991) claimed that, regardless, positive effects on welfare are likely to dominate in case of RTAs.

### 7.4.2 Empirical Studies and General Overview

There exists a vast literature on estimated economic impact of trade liberalisation. As utility is not directly observable, changes in welfare are usually approximated using two types of welfare measures. These are equivalent variation (EV) or compensating variation (CV). EV measures – the amount of money the economy or the consumers for instance would need to be paid without the trade liberalisation to be as well-off as in case the liberalisation actually takes place, i.e., to be as well-off in the old situation as in a new setting. On the other hand, CV is the amount of money the economy or the consumers would need to be paid in case of trade liberalisation to be as well-off as in case no liberalisation actually takes place, i.e., to be as well-off in a new situation as in an old setting. This amount of money compensates

the price change triggered by trade liberalisation, and is negative if a country gains from trade (see the discussion on welfare measures, e.g., in Mas-Colell *et al.* (1995)).

Traditionally, the empirical literature on impact of trade agreements, including FTAs, focused mostly on overall social welfare measures and did not separately provide estimates of the benefits for consumers due to freer trade (Langenfeld and Nieberding, 2005), while those benefits have been inferred from the empirical results, not directly measured (Tovar, 2012). Only recently have economists started isolating the impact of trade liberalisation on consumers (Feenstra, 2006), although the literature is growing (Breinlich *et al.*, 2016). Early contributions to the study of price reductions resulting from trade liberalisation was presented in Smith and Venables (1988, 1991). These authors used simulated models to analyse the 1992 Single Market Programme in Europe, predicting a decrease in average prices thanks to the abandonment of price discrimination. It should be noted, however, that this specific liberalisation was related to non-tariff measures, as tariffs within the European Economic Community were already zero. Examples of studies confirming price reductions due trade liberalisation include Levinsohn (1993) who analyses data on Turkish firms and shows that trade liberalisation results in a decrease in mark-ups and as a result in prices faced by consumers; Kim (2000) who shows similar effects for Korea (associated more with quotas than tariff reductions); and Badinger (2007) who demonstrates how the Single Market Programme increased competition. Unfortunately, these studies do not measure such gains in terms of GDP.

In regards to the possible gains for consumers due to increased product variety, a structural analysis of such effects was initiated by Broda and Weinstein (2006). In their seminal contribution, they build on the methodology developed by Feenstra (1994), who created a technique to estimate the gains from the appearance of new varieties on the market using a price index. Their animating idea was that before the variety appears on the market, its price is assumed to be infinity to account for the fact that it is unavailable for consumers. Once a new variety appears on the market, the change in the price index depends on share of spending on that good and the elasticity of substitution between goods. If the former is higher or the latter is lower, then the new variety pulls down the overall price index, bringing about gains for the consumer.

Before applying this approach, Broda and Weinstein (2006) obtained the elasticities for 30,000 different products for the U.S. They showed that American consumers have low elasticities of substitution between similar goods produced in different countries, a fact which increases the gains from trade. Using these estimates of elasticities of substitution and disaggregated data on imported goods Broda and Weinstein (2006) developed an aggregate price index for the 1972-2001 period and showed that such a variety-adjusted import price index has fallen by 28% relative to a conventionally measured index over the whole period (or equivalently 1.2% per year). Based on this result, they estimated the gains from trade for the U.S. due to the expansion of import varieties to account for 2.6% of GDP in 2001 in terms of compensating variation.

As indicated above, the empirical literature on trade gains does not always focus on consumer welfare, concentrating on overall welfare instead. This is because empirical estimates of changes in real income takes into account various effects – changes in consumer prices affecting both consumer and producer surpluses, loss in government revenue due to tariff reduction, changes in input prices, efficiency gains, increased productivity, etc. Such general equilibrium calculations do not isolate impact on consumers *per se*. What is more, the eventual welfare of households depends not only on consumer effects (lower prices, more choice), but also changes in income (wages and salaries).

#### 7.4.3 *Impact of Trade Liberalisation on Chilean consumers*

Unfortunately, there are no separate studies on the impact of trade liberalisation on Chilean consumers available in the extant economics literature, with the most comprehensive examination completed in 2012 under DG Trade's aegis (ITAQA 2012). Similarly, an evaluation of the FTA between Japan and Chile prepared by the Japan External Trade Organization (JETRO, 2001) unsurprisingly indicates that, thanks to the FTA between Chile and Japan, consumers of imported goods will benefit from the reduced costs, thus increasing their consumer surplus. Moreover, it also noted that another effect of trade liberalisation will also be to increase the quantity of imports, giving the possibility of greater selection of products for consumers, especially in marine and agricultural products.

In their assessment of Chile's "additive regionalism" - negotiating bilateral free trade agreements with all significant trading partners - Harrison *et al.* (2002) take into account various trade policy options for Chile. They note that the overall welfare effects resulting from regional trade agreements are theoretically ambiguous, as was indicated above. Therefore, the authors provide a quantitative assessment and show that trade divergence amongst similarly-situated countries has caused welfare losses. Only FTAs with Northern partners (the U.S., the EU, and Japan) provide sufficient gains due to market access for Chile to overcome trade divergence effects. The investigation shows that actually global free trade provides the largest gains when compared to various RTAs.

Ryan *et al.* (2011) also implicitly recognize the gains from Chilean trade liberalisation for consumers. According to their work, in the case of unilateral tariff reductions, the impact on GDP in the short run is positive but in the medium term it is negative, due to a loss of competitiveness of domestic producers. However, they find that aggregate prices fall, meaning an increase in consumer surplus. In the case of the Association Agreement with the EU, they see an increase in consumption, not only because of lower prices resulting from trade liberalisation, but also due to an increase in wages (real disposable income increases). The FTA with the U.S. has similar welfare implications, slightly worse than in case of the EU, but still better than unilateral reduction in Chilean tariffs.

The ex-post evaluation of the Canada-Chile Free Trade Agreement (CCFTA) prepared by the Office of the Chief Economist Foreign Affairs and International Trade Canada (2013) shows that the majority of the gains of this trade agreement resulted from new product varieties available for consumers. The authors note that consumers in both countries highly appreciated the new varieties introduced under the CCFTA, with products that were not traded prior to the CCFTA accounting for 90% of the net increase in the value of Canadian exports to Chile. In regards to the effects of tariff reductions (and implied price reductions), the assessment also shows that most of trade growth after the agreement occurred in products that were duty-free prior to the CCFTA and in products that experienced tariff reductions of more than 10 percentage points. This suggests that considerable tariff reductions are much more important than moderate ones, and that trade liberalisation can also enhance trade (and thus consumer welfare) even in previously duty-free goods.

#### 7.4.4 *Impact of Trade Liberalisation on European Consumers*

In case of the European Union (EU), the literature on benefits for consumers from trade is more developed. In a pioneering study on gains resulting from increased product variety in the EU, Mohler and Seitz (2012), building on the approach of Feenstra (1994) and Broda and Weinstein (2006), estimated such gains for consumers from 27 countries. The authors used highly disaggregated data (10,000 product categories) from Eurostat for the period 1999-2008. They estimated approximately 170,000 elasticities of substitution and calculated the changes in a variety-adjusted price index. Their



analysis showed that gains from increased product variety can be substantial – up to 2.8% of GDP in the case of Estonia. However, there are important differences between the EU member states. In case of older and larger member states, the gains to consumers can be small or sometimes even negative, while the biggest winners are newer and smaller member states – on average the price index due to more varieties decreases by 1.68% per year which translates into 1.14% of GDP gains. The vast majority of gains comes from intra-EU trade, while the variety-based gains from trade with the rest of the world account only for a small portion of a drop in the price index.

Although the gains analysed by Mohler and Seitz (2012) can be attributed to different stages of EU external trade arrangements, their impact is not studied explicitly in their paper. This gap is filled by Breinlich *et al.* (2016), whose comprehensive study examines the impact of the EU trade agreements on UK and EU-12 consumers.<sup>141</sup> These authors aimed at decomposing the aggregate gains from trade for consumers into gains from more varieties, better quality and lower prices, to explain how FTAs affect each channel for consumer welfare. Using the Broda-Weinstein (2006) procedure they estimated demand elasticities of substitution using United Nations data for the 1993-2013 period. To account for quality and prices separately, they followed the methodology by Hallak and Schott (2011) and Khandelwal *et al.* (2013), assuming that higher market shares reflect better quality once differences in prices have been controlled for. Three measures affecting consumer welfare (prices, quality, variety) were compared before and after FTAs for the treated group of FTA partners, with a control group of non-FTA partners of the European Union to avoid attribution of pre-existing trends that would arise even in the absence of FTAs. The results of the investigation by Breinlich *et al.* (2016) suggest that the trade agreements the EU entered over the period 1993-2013 increased the quality of UK imports by 26% and lowered the quality-adjusted price of imports by 19%. In case of all consumers in the EU-12 these effects are similar: 28% and 11%, respectively. Interestingly, FTAs have a statistically insignificant impact on product variety imported into the EU-12 countries, which probably can be explained by the fact that EU-12 consumers already had access to most imported varieties before trade liberalisation in the analysed period. According to the estimates, as a result of concluded FTAs consumer prices in the UK fell by 0.5%, while for the whole EU12 by 0.3%. The authors project a decline in consumer prices for UK consumers of 0.4% from the Transatlantic Trade and Investment Partnership (TTIP) with the United States and 0.2% from FTA with Japan. These trade agreements are estimated to reduce consumer prices in EU-12 by 0.3% and 0.1%, respectively.

Similar predictions were made by the European Consumer Organisation (2016), which argued that “done well” the TTIP should lower consumer prices, along with improving consumers’ access to information and variety of products available. However, they do warn at the same time that certain provisions, such as rules on chemicals or data protection, should they remain unchanged, could be potentially harmful to the consumers. In terms of other trade agreements, the European Consumer Organisation is critical of the pending Comprehensive Economic and Trade Agreement (CETA), which in their opinion could undermine consumer protection, and in general underline a need for a more precautionary approach and cooperation between regulators, as well as greater transparency (such as in the case of the Trade in Services Agreement (TiSA)) while negotiating trade agreements.

Some insights into how trade agreements negotiated and concluded by the EU affect consumer welfare can also be inferred from the completed sustainability impact assessments (SIA) of those treaties (EC 2007a, 2007b, 2007c, 2009), although consumer welfare analysis is not the central point of these examinations. Overall SIAs show that impact of trade liberalisation on consumers is positive although

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<sup>141</sup> Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain and United Kingdom.

in case of EU FTAs with relatively small economies it can be negligible. The EU-Chile Association Agreement SIA (EC, 2002) suggested that consumer effects of the treaty are positive. The agreement was expected ex-ante to bring about a reduction in consumer prices relative to wages, thus improving consumer situation and standard of living. Likewise, in case of Economic Partnership Agreements between the EU and the Africa, Caribbean and Pacific (ACP) Group of States SIA (EC, 2007a) it is indicated that any negative impact of trade liberalisation may be mitigated by increased choice and lower prices for consumers. Similar consumer gains are recognized in SIAs of the Euro-Mediterranean Free Trade Area (EC, 2007b), the FTA between the EU and Ukraine (2007c, p. 205), the Association Agreement between EU and Mercosur (EC, 2009), the EU-Canada Comprehensive Economic and Trade Agreement (EC, 2011), the FTA between the EU and Georgia and Moldova (EC, 2012), and the FTA between the EU and Japan (2016, p. 207).

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## 8 Potential Human Rights Impact of Modernising the EU-Chile Association Agreement

### 8.1 Literature Review of Impacts of EU and Chile's Free Trade Agreements on Human Rights Outcomes

The extant literature of the effects of trade agreements -or trade itself- on human rights outcomes, is exceptionally thin. One of the reasons is due to the artificial division between personal integrity rights and political rights on the one hand, and social and economic rights on the other hand (first vs. second generation rights) (Leary, 1996). This division has generated a relatively large body of literature on the economic effects of trade on labour rights outcomes, and a comparatively small set of studies on the effect of these processes on human rights, when in international law, both sets of rights are formally human rights.<sup>142</sup>

#### 8.1.1 General Findings

For those economic studies that do treat first generation rights like personal integrity rights as outcomes, almost none investigate trade. Rather than investigate a direct linkage between trade and human rights abuses, most studies instead look for the effects of “globalization” more widely on human rights practices (see Dreher *et al*, 2012), or “foreign economic penetration” as an explanatory variable, of which foreign direct investment plays a key explanatory role.<sup>143</sup> All studies to date use general indicators of physical integrity rights and civil liberties as dependent variables, not compliance with specific human rights law instruments such as conventions. Finally, there is more work to be done on understanding the causal mechanisms of the relationship between trade and human rights: does a favourable human rights record increase trade? Or does trade itself help to protect human rights in some way? Though the empirical record on Europe to date suggests the second scenario, without a strong body of empirical work to drawn on for evidence, we cannot be certain on the direction of causality.

The few studies that examine directly the effect of trade on human rights outcomes analysing a cross-section of countries agree that trade is positively correlated with improvements in human rights practices. For example, Hafner-Burton (2005) tests the effects of trade on state repression of human rights using the Political Terror Scale (PTS) on physical integrity rights as the dependent variable. Using

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<sup>142</sup> For more on the labour rights as human rights argument, see Leary (1996).

<sup>143</sup> Richards, Gelleny, and Sacko (2001) investigated the effect of foreign direct investment, portfolio investment, foreign aid, and long-term debt on respect for physical integrity rights and political rights and civil liberties. Using maximum likelihood estimation techniques to estimate effects across forty-three developing nations for the years 1981-1995, they found systematic evidence of an association between foreign economic penetration and government respect for both physical integrity rights and political rights and civil liberties. Both foreign direct investment and portfolio investment are reliably associated with increased government respect for human rights (233). Meyer (1996) estimated the effects of FDI on civil liberties and political rights in a panel of fifty developing countries to show a positive relationship between higher levels of FDI and respect for both types of rights. Yet, he was later challenged by Smith *et al.* (1999) over his choice of measurements, and in a replication, his results did not hold. Using different measures of FDI and human rights, Smith *et al.* found negative relationships between FDI and respect for human rights. Both Spar (1998) and Apodaca (2001) find positive correlations. Apocada writes that FDI is an engine for capital accumulation and higher productivity, and so is an important instrument for economic development, which human rights scholars have long associated with higher human rights standards.

total imports and exports as a share of GSP, she finds that the more a state engages in trade, the lower the measure of state repression of human rights, and the greater the respect for civil liberties (619).

Similarly, Apodaca (2001) investigated the effect of exports on personal integrity rights in 152 countries in the developing world plus and the transitional countries of Eastern Europe and the former Soviet Union from 1990 through 1996. Using the PTS to measure human rights outcomes, she also found that an increase in exports was correlated with decreased levels of human rights abuses (597).

### **8.1.2 Human Rights Guarantees in EU Trade and Association Accords**

The Treaty on the Functioning of the European Union (2007), at Article 207, states that the common commercial policy of the EU “shall be conducted in the context of the principles and objectives of the Union's external action” (207.1, p140). Article 21 of the Treaty on European Union further clarifies which principles are to guide EU action in the international arena, as “democracy, the rule of law, the universality and indivisibility of human rights and fundamental freedoms, respect for human dignity, the principles of equality and solidarity, and respect for the principles of the United Nations Charter and international law” (2007, 21.1, p28). The value of including human rights clauses in EU agreements is that, through them, parties to the agreements declare their shared commitment to the promotion and protection of human rights, creating a clear legal basis on which parties can raise human rights issues. The human rights clause makes human rights a subject of common interest, and part of the dialogue between the parties on par with the other key provisions in trade accords. In the event of serious and persistent breaches of human rights, the human rights clause enables one party to the Agreement to take restrictive measures against the offending party in proportion to the gravity of the violations.

Since 1993, the EU has included human rights guarantees as an “essential element” into all of its trade agreements, association agreements, and cooperation and partnership accords (Hachez 2015). They all share, as last resort, a suspension mechanism that allows the European Union to react quickly to important episodes of breaches of democracy, or of serious and persistent human rights violations. These accords apply international human rights criteria to trade with more than 120 states, with attendant mechanisms for review and dialogue on one hand, or suspension on the other, which are both considerable tools for improving human rights practices in partner states. The ability of the EU to react quickly to grave violations of human rights abuses is now fully part of EU trade policy with third countries, as the ability to suspend agreements is now included in all clauses.

The first EU agreements with social clauses, the Lomé Conventions, and the Cotonou Agreement, established trade cooperation between the EU and seventy-seven African and Caribbean States under preferential tariffs. Human rights language was incorporated in Article 5 (2), but no sanctions mechanisms were included in the accord. When Lomé was superseded by the Cotonou Agreement<sup>144</sup>, stronger language and dialogue mechanisms were included. Although labour rights and economic guarantees form a large part of the social aspect of this accord (see Lazo Grandi, 2009), language regarding respect for human rights is prominent throughout the agreement, and human rights guarantees are included in Article 9.<sup>145</sup> The Procedures for dialogue and review are listed in Article 96, with suspension available, but used as a last resort. In practice, there has never been a full or partial trade embargo; rather, to avoid imposing humanitarian costs on populations, sanctions have been in the form

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<sup>144</sup> Formally, *the Association Agreement between the States of Africa, the Caribbean and the Pacific, and the European Community and its Member States*.

<sup>145</sup> See European Community (2000, 7).

of arms embargos, travel bans, revocations of visas, or freezing of assets of elites (Aaronson and Zimmerman 2008, 141).

In 1993, the Copenhagen European Council set conditions for EU membership which included that required of partner states the development of institutions that guarantee democracy and the rule of law, human rights, and the protection of minorities (Miller 2004). As such, the Europe Agreements (EAs), and Association Agreements (AAs) then included this language. Later, Partnership and Cooperation Agreements (PCAs) also included these clauses in order to open the dialogue channels for states that received foreign aid (Miller 2004). All types of agreements are now similar in that their preambles place emphasis on democratic principles and respect for the rule of law and human rights. Also, all contain “nonfulfillment clauses,” which allows the EU to respond if it considers that its partners have failed to fulfil its obligations under the treaty.

From 1996 through 2011, these clauses have applied in 23 cases, including for coups, election fraud and breaches of the rule of law.<sup>146</sup> Of these 23 cases, the application of human rights consultation mechanisms for human rights violations occurred in 2001 for Liberia and Zimbabwe, in 2004 for Togo, and in 2011 for Guinea-Bissau (Hachez 2015, 18-19). In the Zimbabwe case, targeted sanctions were applied, including the freezing of assets of members of the Government, a ban on their travel, and a ban on exports of equipment related to military activities (Miller 2004).

Though it is not clear whether suspending states has had an effect on improving their human rights record,<sup>147</sup> Fierro (2003) provides some evidence. By ending relations with rights abusers, Fierro writes that new behaviours have been adopted in response to demands for policy change in order to normalize relations.

Rather than through sanctions, human rights improvements may be adopted by states in preparation for trade negotiations. In her quantitative analysis, Hafner-Burton finds that one third of states improve their labour rights practices in preparation for signing an FTA with the EU within the two years of that FTA coming into force (2009, 161).<sup>148</sup> Engaging states over human rights issues as part of an FTA, especially in the context of eventual accession, changes the incentive for states to ignore human rights. Interest in signing a FTA can compel states to make institutional changes toward their protection that otherwise would not have been made, or not as quickly, in the absence of a trade accord (Hafner-Burton 2009).

Slovakia and Turkey serve as two illustrative case studies. Both made reforms to domestic laws in order to meet the human rights criteria of an accession review. In the case of Slovakia, the process began in 1993, and as Slovakia implemented the specific recommendations it received over the years over a number of domestic policies, including guidelines for democratic governance, and after having ratified the final human rights legal instruments, it qualified for consideration of accession in 2003 (Hafner-Burton, 2009, 152). In the case of Turkey, membership negotiations were opened in 2005, with the recognition that before they could move forward, Turkey would establish standards of conduct to fulfil,

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<sup>146</sup> For example, the 1998-1999 Consultations under Lomé with Nigeria, Guinea-Bissau, Togo and Comoros were triggered over breaches of democratic principles after *coups d'état*, as was the Article 96 consultation procedure in Haiti, but in relation to electoral irregularities in 2000. This case eventually led to the suspension of direct budgetary aid and the withholding of future aid from the European Development Fund for a number of years (Miller 2004, 30). A full list of consultations is available in Hachez (2015).

<sup>147</sup> Hafner-Burton provides qualitative evidence on Togo, Guinea-Bissau, and Mauritania to suggest that the consultation process moves States closer to human rights protection domestically, but at best provides perfunctory evidence from secondary sources (2009, 154-160). The example of the Côte d'Ivoire shows how rather easy it was for the government to ignore EU suggestions and still move forward on normalising relations with Europe.

<sup>148</sup> The measure of human rights is the Cingranelli and Richards CIRI scale on physical integrity rights.

including a specific plan to improve rule of law, the protection of minorities, freedom of speech, and the end of the use of torture (Hafner-Burton, 2009, 152). Though Turkey has made legislative reforms and constitutional reforms, including many amendments to the Constitution in 2001 alone in response to human rights recommendations in order to meet EU membership requirements, Turkey has not yet gone far enough to meet the EU human rights standard (Hafner-Burton 2009, 153).

Finally, in terms of effects while the FTA is still in place, Hafner-Burton finds that states that belong to EU FTAs with enforceable standards (meaning those with consultation mechanisms and access to “appropriate standards” sanction mechanisms) are more likely to improve their human rights practices over time than states that do not belong to such accords (2009, 162). Further, these types of FTAs have a greater effect on human rights behaviour than the ratification of UN personal integrity rights conventions.

### 8.1.3 *Human Rights in Chilean Trade Accords*

Trade liberalisation processes began under the military government in Chile and had the singular goal of achieving unilateral tariff reduction as part of the shift to market mechanisms. However, upon the transition to democracy, foreign governments began to negotiate with Chile on a wide range of cooperative agreements, including additional trade agreements. These second generation of trade accords included new non-traditional trade issues, including labour, human and environmental protection clauses (Lazo Grandi 2009). To date, Chile is party to fourteen agreements that include social clauses, including those with Canada, United States, P4 SEPA, Australia, European Union, EFTA, Japan, Colombia, China, Mexico, South Korea, Turkey, Malaysia and Peru (Polanco 2014). However, of these, only the Association Agreement with the EU makes reference to human rights guarantees. Although the agreements of the EFTA include references to human rights in the preamble and the investment chapters of several agreements, these do not include explicit human rights provisions or enforcement mechanisms (Bartels 2009). All other agreements signed by Chile refer to economic and social rights, or the promotion of labour standards.

To date, there is no empirical work that assesses the role of trade or trade agreements, including the EU accord, on human rights practices in Chile.

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## 8.2 Assessment of Human Rights Impacts for the Modernisation of the EU-Chile Association Agreement

As reviewed in other sections, both quantitative and qualitative work of the effect of trade on human rights outcomes suggest that trade has positive effect on human rights practices, though there are very few studies from which to draw evidence. However, both quantitative studies and qualitative studies, and studies of the EU specifically, would predict an overall positive relationship between the intensification of EU trade with Chile and human rights protections.

### 8.2.1 Human Rights Issues in Chile

Among the major human rights issues in Chile - past use of torture, extrajudicial killing and enforced disappearances; the use of force by police; gender discrimination; the rights and recognition of indigenous peoples; and the rights of sexual minorities - all but two are essentially questions of domestic legislation with no clear linkage to international trade. While both gender discrimination and the rights and recognition of indigenous peoples are two areas where resolution is largely placed again at the level of domestic legislation, the intensification of trade and investment with the EU through a modernised Association Agreement (AA) may introduce some effects at the margins. The forest sector has the most direct impact on the rights of indigenous peoples, as forestry plantations are in the same geographic region as historical indigenous Mapuche land claims, however, the predicted increase in trade in forestry products is minimal, and so is not expected to exacerbate land conflicts.

### 8.2.2 Gender Discrimination and Trade

Discrimination against women in Chile appears in many sections of the international human rights and labour rights instruments relevant to this report. For gender discrimination, the major issue according to UN reports and information gathered from reports of the Committee of Experts on the Application of Conventions and Recommendations of the International Labour Organisation (ILO) is the equal participation of women in the workforce, and a significant gap in equality of opportunity between men and women, which in turn has an important effect on wage inequalities. The International Labour Organisation Committee of Experts on the Application of Conventions and Recommendations (CEACR) and the Office of the High Commissioner for Human Rights (OHCHR) of the UN both noted with concern that a significant gap in persists in labour force participation rates between men and women. The Chilean ministry for women, SERNAM, noted that the labour participation rate of men in was 71.7% compared to 45.2% for women in 2012, representing a gap of just over 25% (ILO CEACR, 2012). The Government of Chile had responded by developing initiatives to promote equality in the workplace through 2020, and programmes to increase women's participation in high-quality employment, but to date, there is little information available on progress (HRC, 2013).

Barrientos (1997) writes that the export fruit sector in Chile is one sector where the gap in equality of opportunity between men and women persists. Of the labour force employed in fruit exportation, which is estimated at 6% of total economically active population, women represent half of the workforce (Barrientos, 1997; Anriquez et.al., 2016). Fruit export is roundly marked by seasonal cycles, which require labour-intensive picking and packing during harvest season at the end of the year, and a much smaller workforce during the year for planting and maintenance (Anriquez et.al., 2014). This cyclical feature leads women into seasonal work as *temporeras*, while men in the sector are more likely to hold permanent positions throughout the sector. Campos and Foster report that in of all fruit export employees, 56% of men held permanent contracts, while 24% of women were in permanent positions in 1996, which declined to 52% for men and rose to 25% for women in 2006 (Campos and Foster, 2012).

In comparison, Campos and Foster report that 70% of women in the sector held temporary positions in both 1996 and 2006 (p10). While Campos and Foster report that no more than 40% of male workers held temporary contracts in these years, Anriquez et.al. (2014) report a rate closer to 18% for the years 1990, 1993, 2006 and 2009 (pp 12). While women then already largely make up the temporary workforce, the growth of the sector in more recent years has led to the increased feminization of the sector, as the total number of workers has remained rather steady, while the rate of female and temporary work has risen (Anriquez et.al., 2014).<sup>149</sup>

Growth in this sector has led to increases in wages overall (Anriquez et.al., 2014). However, differences in wages remain between workers with a seasonal compared to a permanent work contract, even though this effect decreased from a 17.6% wage difference in 1996 to 3.9% in 2006 (Campos and Foster, 2012,10). This suggests convergence between wages in both permanent positions and temporary ones over time, yet important effects on women's wages remain, as women are disproportionately represented in the temporary positions. Women already do not earn the same wages as men for the same work, on average. Campos and Foster show that women were paid in average 83,971 pesos less per month (around 124 euro) than men, even when both had permanent positions, though this difference was reduced remarkably by 2006 to 4,358 pesos (around 6.40 euro) (p 13).

Contracting practices are found to be one factor that reduces wage inequality. In 1996, both 58% of men and women had a work contract, but as contracting expanded in the sector, more women than men worked under contract: 70% versus 67% (Campos and Foster, 2012, pp10). All workers without a contract receive lower wages, but for women, lack of a contract has a greater effect on wages than for men. Even when both men and women held work contracts (as compared to working without a contract), women were paid 15,462 pesos less than men in 1996 (23 euro), which increased to 19,033 in 2006 (28 euro) (Campos and Foster, 2012, 13).

As noted in section 3.1, agricultural imports account for a quarter of EU imports from Chile, and fruit figures prominently among imported agricultural products. Chile remains a major fruit exporter, according for 30% of total exports by value, it is the most important source of fruit exports in South America, and fourth in the world. While fresh fruit imports into the EU from Chile pay no duty given the ten-year phase-in, sanitary and phytosanitary measures continue to create inefficiencies for fruit exporters. Any impact on women and discrimination at work in the EU-Chile Association Agreement would most likely be minimal, in proportion to the amount of growth of trade expected in the fruit sector, itself projected as minimal. Data to date shows that on the other hand, wages are increasing across the sector as a whole, with reductions in wage inequalities for women over time.

If solutions are found in new negotiations, and fruit exports to the EU increase, increases in women's wages may provide an incentive to enter the sector, as Anriquez et.al. (2014) suggest, thus increasing women's work force participation rates. However, wage inequalities, while decreasing, have not been fully resolved, and affect women disproportionately. The expansion of contracting has been identified by Campos and Foster as important to further reducing income inequality between men and women in the sector. Additionally, the projected impacts could be monitored through the proposed labour cooperation mechanisms, as discrimination in regards to employment and gender is included as one of the fundamental core labour principles of the ILO.

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<sup>149</sup> Campos and Foster found an increase in the number of female agricultural employees of 65%, between 1996 and 2006, while the increase for men over the same period was 6.3% (2012, pp 6).

### 8.2.3 *The Rights of Indigenous Peoples*

While under authoritarian rule, the Chilean government intended to erase its indigenous past through an official discourse of assimilation. With the return to democracy, a policy reversal ensued, embracing the recognition of indigenous peoples as full members of Chilean society. One part of the new indigenous policy is the recognition of the right to land, and the return of ancestral lands to indigenous communities, which was taken away from them by the state under abusive circumstances, and sold to mining and forestry interests, remains an important policy goal. At the same time, the policy has created social tensions and land conflicts as indigenous people take part in mass action to defend their ancestral lands. Meanwhile, serious police violence against people of Mapuche origin in response remains a problem (OHCHR, 2009), and the political persecution against Mapuche leaders to derail land conflicts has been denounced repeatedly in UN human rights arenas. A UN Special Rapporteur report submitted to the Human Rights Council in 2014 detailed how Chile's anti-terrorism law is used to intimidate indigenous leaders, and the Inter-American Commission on Human Rights (IACHR) of the Organisation of American States received three cases against Chile in 2010 in this regard (IACHR, 2010).

As discussed in section 2.1, the key imports of the EU from Chile include mining products, mostly copper, but also other non-ferrous metals like aluminium. Mining also attracts the bulk of foreign direct investment (FDI) in industry, accounting for 45.4% of all FDI in Chile in from 2009 to 2014 according to Invest Chile. While investment by the United States (largely in copper mining) accounts for a large per cent of FDI to mining, the Netherlands, the UK and Spain, are also important investors. While copper mining takes place in the northern provinces of Chile near the Atacama Desert, aluminium, iron and other metals are mined in the southern provinces, including the areas that are experiencing conflicts over Mapuche land claims. To the extent that the proposed EU-Chile Association Agreement may promote EU investment in Chile, it is important to recognise that future investments in mining may hold the unintended risk of intensifying land conflicts.

There is no similar effect for forestry. Chilean timber products exported to the EU now enter duty free, after the ten-year phase-in. As such, it is unlikely that the modernisation of the EU-Chile Association Agreement will change trade patterns in forestry products, and thus is unlikely to contribute to land claim issues linked to the forest sector.

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### **8.3 Review of Monitoring and Recommendations issued to Chile on Compliance with International Human Rights and Labour Rights Conventions**

#### **8.3.1 *Chile's Compliance with International Human Rights Treaties***

Chile has signed and ratified sixteen of the eighteen international human rights treaties of the United Nations, with the exception of the ratification of both Optional Protocol to the International Covenant on Economic, Social and Cultural Rights and the Optional Protocol to the Convention on the Elimination of All Forms of Discrimination against Women, which establish the complaint and inquiry mechanisms for their respective treaties.

Chile participated in the Universal Periodic Review by the Human rights council of the UN during 2009, under which a report was filed, assessing the human rights challenges Chile was facing at that time. As follows, the major issues were continued use of excessive force by police as response to social protest – including torture--, discrimination against women and sexual minorities, and the recognition of rights of indigenous populations, especially the Mapuche. By 2012, Chile had responded in an interim report, filed in March of 2012 with the Office of the High Commissioner of Human Rights, which detailed the progress made three years on with the recommendations to improve human rights protections in Chile. A second Universal Periodic Review, in 2014, further details the administrative reforms and changes to practice that were implemented in Chile. What follows is a discussion of the major human rights challenges Chile faces, and the progress the government has made to address them over time, from the 2009 review through the 2014 reporting, across six major issues: forced disappearances, police conduct and repression of the right to assembly, discrimination against women, the recognition of rights of indigenous populations, and discrimination against sexual minorities.

##### **8.3.1.1 Torture, Extrajudicial Killing and Enforced Disappearances**

Chile is fulfilling its duty to investigate, bring to trial and punish those responsible for the massive and systematic human rights violations committed during the period of military rule from 1973-1990. The first democratic Government of 1990 set up a number of institutions to investigate the disappearance and execution of political prisoners during military rule, reintegrate political exiles and internal refugees, and pay reparations to victims of state terror. The armed forces entered into the national dialogue on human rights violations by 1999, and a second national commission, established in 2003, continues to investigate cases of torture, disappearances and extrajudicial killings with the support of successive democratic governments.

Though Chile continues to make important and significant milestones in addressing its past violations of human rights, it was still criticized in the 2009 UPR for not meeting other more recent standards. After the 2009 UPR, Chile established a National Human Rights Institution (INDH) in accordance with the Paris Principles (HRC, 2013b). The office is charged with the preparation of an annual report on the human rights situation in Chile, and the further harmonization of national legislation with international treaties.

The Government of Chile (GOC) proposed the creation of an office of the under-secretary for human rights, within the future Ministry of Justice and Human Rights, being discussed in the Senate as of 2013. That office will be charged with drafting a national human rights plan, “setting out tangible and measurable objectives and actions, to serve as a guide for action by State agencies to promote and protect human rights” (HRC, 2013b, 5).

Internationally, Chile ratified the Rome Statute of the International Criminal Court, in 2009, and as the International Convention for the Protection of All Persons from Enforced Disappearance entered into force in 2010, Chile was a signatory and ratifying state.

#### **8.3.1.1 Use of Force by Police**

The 2009 Universal Periodic Review (UPR) reported numerous instances of ill-treatment, unnecessary use of force, or brutality by the national police (*Carabineros*), amounting to torture or cruel, inhuman or degrading treatment of the civilian population, in particular of people engaged in the defence of their rights (HCR, 2009). Many public demonstrations culminated in confrontations with the *Carabineros*, who dispersed demonstrators with tear gas or water cannons, or arrested them (OHCHR, 2009).

Recommendations have been made continually to fully investigate all alleged cases of ill-treatment by the police, further strengthen accountability for human rights violations by the police, and implement a national prevention mechanism against torture (OHCHR, 2009). Torture is not yet penalized in the Chilean Criminal Code, while internationally it is considered a crime against humanity (OHCHR, 2009).

In response, the GOC established administrative prosecution departments in 2009 to investigate breaches of discipline in each of Chile's major police administrative divisions. In 2011, the GOC established the human rights department for the *Carabineros*. Together with the International Committee of the Red Cross (ICRC), the *Carabineros* defined a protocol for the use of force, and by 2012, the *Carabineros* and the ICRC drew up human rights plans and programmes to be used over the course of police training. Further, through an alliance with the Inter-American Institute of Human Rights, the investigative police (PDI) created comprehensive human rights training strategy for the School for Investigative Police, the Higher Academy for Police Studies and the Professional Training Centre. The GOC expects that through monitoring, discipline and training, better outcomes on the use of force become possible.

#### **8.3.1.3 Gender Discrimination**

Within the framework of the Human Rights Council, Chile promotes the integration of human rights of women and gender perspectives, good governance and the work of civil society. Domestic programs are in place to ensure that gender equity is integrated in public policies, including The National Service for Women (SERNAM), and the Plans on Equal Opportunities for Women.<sup>150</sup> In 2000, the Council of Ministers on Equal Opportunities was established, to monitoring compliance with the equal opportunities plans, and to introduce gender-related policies into ministries, and State corporations. Even so, discrimination on the basis of gender remains a prominent human rights issue in Chile.

For example, Chile continues to apply a matrimonial property regime under which the woman is deprived of any right to administer jointly-owned property or her own property, while the male head-of-household administers both types. A bill has been before the legislature to amend the law since 2011, but has not yet been voted on.

Abortion of any kind remains a criminal offence in Chile. There are documented cases of forced sterilization, and sterilizations performed without the consent of Chilean women living with HIV/AIDS (OHCHR, 2009). Act No. 20.418, enacted in 2010, elaborates government policy on sex education, and re-establishes access to free emergency contraceptives in the public health system, once banned in 2008.

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<sup>150</sup> A set of policies on equal opportunities for rural women was produced in 1997, and in 1999 the second Plan on Equal Opportunities for Women, for the 2000-2010 period, was implemented to consolidate gender policies in public institutions.

Domestic legislation on domestic violence, which was updated and replaced in 2005, was heralded as breakthrough legislation. Yet, Chile has yet to criminalize sexual harassment, or to adopt a specific definition of domestic violence as a criminal offence, covering both physical and psychological violence (OHCHR, 2009). There remains an alarmingly high prevalence of violence against women and femicide, which was established as a crime as only recently as 2010, by Act No. 20.480.

In recent years, the wage gap between women and men has increased, and a bill the establishing equal pay for men and women for equal work is still in the legislature (OHCHR, 2009). Health plan payments for men, married women and single women are still discriminatory (OHCHR, 2009).

Finally, Act No. 20.609, the Anti-Discrimination Act, was passed in 2012. It introduces measures to combat discrimination and a judicial mechanism for its enforcement. The Act included women as a protected category.

#### **8.3.1.4 The Rights and Recognition of Indigenous Peoples**

With the return to democratic governance to Chile in 1990, the policy of dividing communities and assimilating indigenous peoples was abandoned, and a new phase began, based on full participation of indigenous people in Chilean society. The Indigenous Act, passed in 1993, enumerates the rights of indigenous peoples, establishes an autonomous public institutional framework, promotes the restitution and protection of land and water, and affirms indigenous cultural and educational values. Chile signed and ratified ILO Convention No. 169 concerning Indigenous and Tribal Peoples in Independent Countries and has planned specific measures to implement the Convention through the Re-Conocer plan. Yet, Chile's own political Constitution has yet to recognize indigenous peoples.

One achievement of indigenous policy is the return of ancestral lands to indigenous communities, and recognition of the right to land which was taken away from them by the State in painful and abusive circumstances. However, the implementation of policies to address land issues and promote indigenous communities' economic and social development has been slow, which has created social tensions. Hundreds of indigenous people had been put on trial for taking part in mass action to defend their ancestral lands. Meanwhile, there is an average of 20 cases a year of serious police violence against people of Mapuche origin (OHCHR, 2009).

Political persecution against Mapuche leaders to derail land conflicts has been repeatedly denounced in UN human rights arenas. The planting of manufactured evidence by military police and intelligence services to convict Mapuche leaders has been commonplace, and recently Chileans courts have acknowledged such, ordering the release without charge of hundreds of Mapuche leaders due to lack of evidence (Auspice Stella, 2016, 4).

The Police Special Operations Group (GOPE) and members of the Dirección de Inteligencia de Carabineros de Chile (DIPOLCAR) have been strategically employed to extinguish Mapuche dissent. A Special Rapporteur report submitted to the Human Rights Council in 2014 stated that DIPOLCAR in particular has been deployed against Mapuche civilians to gather special intelligence using torture techniques normally reserved for application during extra-ordinary circumstances of war, under Chile's counter-terrorism law (Auspice Stella 2016, 3).

The Inter-American Commission on Human Rights (IACHR) of the Organisation of American States received three cases against Chile in 2010 in this regard (Cases 12.576, 12.611 and 12.612) alleging that Chile's counterterrorism law was being used against Mapuche leaders in order to derail political activity around land rights issues (IACHR, 2010). The IACHR noted with concern that the law has been mainly applied to the Mapuche people for acts that took place in the context of social demands relating to the defence of their rights to their ancestral lands (2010). The IACHR found in reviewing the case that the



statute itself is open to ambiguity, and due to legal imprecision, that the offenses with which the eight-people included in the cases were charged and convicted were then later classified as terrorist crimes, but not so at the time charges were filed. The IACHR ruled violations of Article 9 of the American Convention, and recommended reforms to the counterterrorism law.

In response, the GOC stated in the 2014 UPR that while the GOC has not targeted indigenous peoples, under the Counter-Terrorism Act the Ministry of the Interior and the regional and provincial governors are authorized to bring criminal proceedings against anyone responsible for the acts covered by the Act (HRC, 2013b, 11).

### **8.3.1.5 Rights of Sexual Minorities**

Since the return to democracy, policies of non-discrimination and social inclusion have been implemented with regard to sexual minorities. Important changes have been made in the areas of education and health, thanks to an open dialogue between the authorities and representatives of gays, lesbians and transsexuals. The Office of the Minister and Secretary-General of Government announced in 2004 the National Plan to Combat Discrimination in Chile, which talks of the need to end marginalization based on sexual orientation or gender identity. The 2012 Anti-discrimination law prohibits discrimination on the basis of sexual orientation or gender identity.

However, there are many barriers to equality before the law, and discrimination against sexual minorities is common. For example, legal and judicial practice is in conflict with enjoyment of the right to a family, since it prevents same sex couples from marrying, jointly administering property or obtaining custody of their children on an equal footing (OHCHR, 2009).

The Inter-American Court of Human Rights received a case against Chile regarding this matter in 2007 (IACHR, 2007). The Chilean Supreme Court of Justice had ruled that the petitioner, Karen Atala, should lose custody of her three daughters on the grounds that she was cohabiting with a person of the same sex. Court documents reveal justified grounds based on the sexual orientation of the mother and discrimination based on sex. The IACHR found violations of the American Charter in Articles 11 (the right to private and family life); 17 (right to a family); 19 (special protection of girls); 24 (right to equality and non-discrimination); and 8 and 25 (right to judicial guarantees and judicial protection). At the start of custody proceedings, Ms. Atala was on an equal footing with her former husband for obtaining custody of their daughters. However, as judicial authorities centred almost exclusively on Ms. Atala's sexual orientation, and therefore, applied a different standard of her evaluation, placing her in a position of clear disadvantage based on an issue not provided for in law for informing such decisions.

While in its 2014 UPR the GOC reported that a bill was submitted to the legislature to establish a civil partnership agreement by which same sex couples would fall under the same legal aspects as heterosexual couples, the GOC did not respond to any other aspects of discrimination based on sexual preference or gender identity.

### **8.3.2 Chile's Compliance with Fundamental Labour Rights Conventions**

Chile has ratified all of the fundamental labour rights Conventions as enumerated in the International Labour Organisation's (ILO) 1998 *Declaration on Fundamental Principles and Rights at Work*.<sup>151</sup>

The ILO has established two reporting bodies to monitor the implementation of the fundamental Conventions once they have been ratified: The Committee of Experts on the Application of Conventions

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<sup>151</sup> Chile ratified C87 and C98 on Freedom of Association and Collective Bargaining, C105 on Forced labour and C138 on Child labour in 1999, C100 and C111 on Discrimination in 1971, and C182 on Child labour in 2000.

and Recommendations (CEACR), and the Committee on Freedom of Association (CFA). Governments are obligated to file reports every two years with the CEACR noting progress on implementing the labour rights of the fundamental eight Conventions. In turn, the CEACR may respond with an observation, or a direct request. Observations are comments on questions raised by the application of a particular convention by a state, while direct requests generally involve technical issues and require further information from the governments in question. Both sets of comments, however, reveal ongoing issues on the application of labour standards in the countries in question. In the Chilean case, 5 direct requests and 2 observations were made to the Government of Chile from 2002 through 2015.

Since 1951, The Committee on Freedom of Association (CFA) has received complaints on alleged violations on Freedom of Association and Collective Bargaining (Conventions 87 and 98) from workers from various countries, including from those that have not ratified either Convention. Unlike the CEACR proceedings, CFA proceedings are panel disputes by which workers (and not governments) file complaints against governments over violations of freedom of association, collective bargaining, or the right to strike. If a case is accepted for review, the CFA establishes the facts of the case with the government in question. If there has been a violation of rights or principles, the CFA attempts to make remedies through social dialogue, sometimes in conjunction with the CEACR. From 2002 to 2015, thirty-five cases were filed and resolved about events in Chile, while another four cases are currently open, and two cases are in the follow-up stage. The six open cases received between 2009 and 2015 are analysed below.

### **8.3.2.1 Requests by the Committee of Experts on the Application of Conventions and Recommendations for Chile**

The Committee (CEACR) has emitted to date two comments on Compliance with the Forced labour conventions, two on Child labour, two on Freedom of Association and Collective Bargaining and one on Discrimination, including gender discrimination. All were received between 2012 and 2015.

#### *Forced Labour*

Two direct requests were made to the Government of Chile (GOC) on the Forced Labour conventions, both in 2015. One asks the GOC to again investigate amending the provisions of section 11 of the State Security Act and section 32 of the Penal Code, which gives the option of compulsory labour as a punishment for participation in strikes. In the second direct request, the GOC has yet to comply with a request to provide requested information on how a new provision to the penal code (Act No. 20.507), which criminalizes the trafficking of people and smuggling of migrants, would be implemented. The CEACR established through non-government sources that the GOC formulated an Action Plan to Combat Trafficking in Persons was established in December 2013, and formally requested detailed information on any measures undertaken to implement the Action Plan.

#### *Child Labour and the Trafficking of Minors*

One direct request and one observation were received for Chile regarding the Child labour Conventions, both in 2014. The Ministry of Social Development, the Ministry of Labour and Social Provision and ILO-IPEC carried out a survey on child labour activities in 2012, and found that of the 3,328,005 children aged 5- 17 years in Chile, 6.6% are engaged in child labour, and 90% (197,743) of those who do work are engaged in hazardous labour. The Unified System of Registration of the Worst Forms of Child Labour registered 360 cases in 2011, 367 cases in 2012, 370 cases in 2013, and 212 cases through June of 2014, the last year for which data is available.

For the Observation received in 2014, the GOC reported a number of programs that were established to combat child labour. These included establishing the National Service for Minors (SENAME) which

together with the ILO and the Chilean Global Compact Network developed the Guide on Child Labour in 2014. The Office of the Protection of Children's Rights (OPD) introduced the Inter-Sectorial Protocol on the Detection and Integral Attention for Children engaged in Hazardous Agricultural Work. Finally, the GOC reported that under the Bridge Programme (*Programa Puente*), 1,655 families (81.8 per cent) that requested assistance from the programme satisfied the minimum condition that no child under the age of 18 years had abandoned school for work, and 83 families (72.8 per cent) that requested assistance satisfied the minimum requirement that no child work in hazardous activities, or is engaged in the worst forms of child labour.

In the direct request received that year, the CEACR noted that the number of children used for commercial sexual exploitation increased from 2011 to 2015, despite the GOC's efforts to fight this through the Second Framework for action against the commercial sexual exploitation of children, regional initiatives against commercial sexual exploitation of children (ESCNNA), and cooperation between the National Service for Minors (SENAME) and the National Tourism Service (SERNATUR). The ILO requested information from the GOC on the application of the provisions of Act No. 20.507 concerning the commercial sexual exploitation of children, including the number of investigations, prosecutions and convictions, and the duration of the sentences imposed from this new act.

In the same direct request the CEACR asked again for information from the GOC on progress on amending Act No. 20.000 of 16 February 2005, to prohibit the use, procuring or offering of a child under 18 years of age for illicit activities, which in large part (39 per cent of children engaged in the worst forms of labour) includes their use in the trafficking of drugs.

#### *Discrimination in Employment and Occupation*

The CEACR filed one direct request in 2012, which mentioned discrimination in regards to race, gender and disability, as well as gender discrimination, including across wages and working conditions for women and between men and women.

#### *Racial Discrimination*

In July 2012, a new Anti-Discrimination Act established general language on measures to combat all types of discrimination based on race or ethnic origin, nationality, socio-economic situation, language, ideology or political opinion, religion or belief, trade union membership or participation in industry organizations, sex, sexual orientation, gender identity, civil status, age, family rank, personal appearance and illness or disability. The CEACR asked the GOC to provide information on the ways in which the act under question has been adopted, and noted that the criteria of colour, national extraction and origin were not included in the list set out in the Act, though they are included in the Labour Code. In accordance with the Indigenous and Tribal Peoples Convention (No. 169, 1989), it also requested information about the parliamentary process and recognizing persons of African descent as an ethnic group for the purposes of the anti-discrimination laws.

#### *Disability*

The National Disability Service undertook a study with the ILO on integrating disabled persons in the labour market. The CEACR requested the results of the above-mentioned study and asked that the GOC

provide information on the progress of new programs undertaken to integrate people with disabilities into the labour market, including specific data on the programmes' beneficiaries.<sup>152</sup>

### *Gender Dimensions of Discrimination*

In a report issued by the National Service for Women (SERNAM), in the first quarter of 2012 the labour participation rate of men was 71.7 per cent compared to 45.2 per cent for women. Although the labour force participation rate increased almost 2 per cent for women since 2009, the CEACR notes that a significant gap in equality of opportunity between men and women persists. Meanwhile, although the female unemployment rate overall has dropped between 2010 and the second quarter of 2012, differences in employment rates in sectors in which both genders are employed remain. As important, the wage gap between men and women increased between 2006 and 2009, from 29 per cent to 33 per cent.

The GOC reported a number of programs and initiatives in place to promote equality in the workplace. These include the Plan for Equality of Opportunity for Men and Women 2011–2020 and the Good Labour Practices with Gender Equity Programme (BPLEG), which are designed to increase women's participation in high-quality employment, to promote sound labour practices in enterprises by generating the conditions for more women to join the workforce, and to promote a balance between work and family life. Agreements with the Confederation of Production and Commerce (CPC) and its affiliates, the Chilean Chamber of Construction, the Confederation of Medium, Small and Micro-Enterprises of Chile (CONUPIA) and the Chilean-Spanish Chamber of Commerce (COMACOES) under the auspices of the BPLEG commit these entities to promote the aims of the programme. Further, the GOC, through the National Standardization Institute, developed National Standard NC3262-2012, a system of public certification for enterprises which are identified as complying with the BPLEG standards under the "Good Labour Practices Iguala" label.

Moreover, the GOC has implemented the Women Workers and Heads of Household Programme, which improves employability and entrepreneurship of women with family responsibilities in the first, second and third quintiles, the 4-to-7 Programme, which provides educational support for children aged 6-13 after the school day to allow women with family responsibilities to work, and the Entrepreneurship Programme. Finally, the GOC introduced Act No. 20595 of 17 May 2012, creating an employment subsidy for women.

The CEACR noted in 2012 that the impact of these programs is yet unknown, and requested that the GOC provide information, including statistical data, on the results of each of these actions on reducing discrimination on the basis of gender. The CEACR also asked the Government to keep on updating it on the implementation of the new standard and the Iguala Program.

Given the wage gap, the CEACR also asked the Government to revise section 62bis of the Labour Code under which men and women who carry out *the same work* must receive equal wages; it was previously noted that this provision is not the same as the right to earn the same wage for work of *equal value*, and weakens the protection of women's wages.

The CEACR requested that the GOC revise the amendment of Legislative Decree No. 3500 of 1980 to harmonize the minimum retirement age for men and women. At the time that the Decree was ratified, women aged 60 and men aged 65 were entitled to retire. Moreover, that Act No.20255 of 2008 inserts a

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<sup>152</sup> These programs include the Department of Social Programmes of the National Training and Employment Service (SENCE), and the Employment Placement Programme undertaken by the National Disability Service (SENADIS).

section into the Legislative Decree under which insured women aged 60-65 who have not retired shall be entitled to the invalidity pension and any further benefits due in respect of a survivor's pension. The CEACR requested more information on the implementation of these provisions and related data available on women over 60 active on the labour market, as the different ages for retirement cut women's working life short, and thus potentially limit the value of women's pensions.

According to various trade union organizations, the private pension scheme was (as of September, 2011) discriminatory towards women due to the differences in mortality scales used for men and women. The GOC responded that because women on average lived longer, the amounts they saved in their accounts had to be divided by more years. In an observation adopted in 2012, the CEACR requested that the GOC assess the impact of differentiated scales based on the amounts of the pensions actually received by pensioners under the current scheme, and to provide information in this regard.

The CEACR also asked about progress on amending section 349 of the Code of Commerce, which states that married women that had not entered separate property regime clause in their marriage contracts need to ask their husbands permission to enter into a commercial partnership. This amendment is part of a Bill to amend the Civil Code and other legislation to regulate the property regime for marriage, which at the time when the Observation was made (2012) was at the first stage of the constitutional procedure before the Chamber of Deputies.

#### *Freedom of Association and Collective Bargaining Rights*

The CEACR received one direct request and one observation regarding Freedom of Association and Rights to Collective Bargaining, both during 2013.

The direct request reminded the GOC on the need to amend the Labour Code on its restrictions on the right to strike, in order to come in line with Convention 98. The sections include numbers 372, 373 and 379, which require excessive majorities for calling a strike; section 374 which allows for an excessively short time for carrying out a strike once it has been called, section 381 on the possibility of replacing strikers; section 384 the prohibition on strike action in services that are non-essential, and section 385 on the possibility that the President of the Republic may order the resumption of work. The Committee requested that the GOC further ensure that agricultural workers enjoy the right to strike, repeal section 11 of Act No. 12927, which provides that a stoppage or strike in certain services may be penalized with imprisonment or banishment, and amend section 254 of the Penal Code, which provides for criminal penalties in the event of interruption of public services or public utilities or of dereliction of duty by public employees.

The CEACR again requested that the GOC amend additional laws, including Article 23 of the Political Constitution, which provides that the holding of trade union office is incompatible with active membership of a political party, and section 48 of Act No. 19296, which grants broad powers to the Directorate of Labour for the supervision of the accounts and financial and property transactions of associations.

The direct request makes note of a Committee on Freedom of Association case that was later referred to the CEACR for further review. The case concerned a complaint filed by the Trade Unions Federation of CODELCO Chile Supervisors and Professionals (FESUC) in 2012 on the challenge to the Labour code section 346, that at work places where a collective contract is in place, workers who are not in the union that bargained the contract must pay only 75 per cent of monthly union dues, not 100%. The Committee considered in its response that such clauses should be the result of free negotiation between workers' organizations and employers, not the Labour code. The Committee requested that the Government, in the context of aligning the legislation to the Convention as referred to in its report,

consider the possibility of amending the abovementioned section in the manner indicated, and to provide information on this matter in its next report.

Also, the 2015 direct request on the Abolition of Forced Labour cited above mentioned that State Security Act and section 32 of the Penal Code is incompatible with the Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87), as it imposes imprisonment as a punishment for participation in strikes.

The observation emitted by the CEACR in 2013 concerns technical issues with the Chilean Labour Code that should be amended so that Chilean law is in line with ILO Convention 98. These issues have been a perennial topic for the CEACR, and Chile has consistently signalled its willingness to make the amendments to the labour code, yet the changes had not yet been made in 2013, and there is no mention of them in the 2015 CEACR reports.

### **8.3.2.2 Committee on Freedom of Association Petitions against Chile**

Forty-one cases in total have been reviewed against Chile in the Committee on Freedom of Association (CFA) between 2002 and 2015. Of these, four remain open and two are in the follow up stage, meaning that these are confidential cases, and no public information is available on them beyond the year they were submitted, and the case sponsors. Thirty-five cases are closed, meaning the CFA has completed follow up on the allegations with the GOC, and case details have been made public. There is no information available from the CFA to learn how the violations were ultimately resolved by the Chilean labour authorities. It is unknown the number of complaints that were submitted to the CFA but not reviewed by the Committee during the time frame under consideration.

Of the thirty-five cases of which details are known, twenty cases concern private enterprises where actions taken by the management in regards to union activities contradicted the letter or spirit of Conventions 87 or 98. In the remaining fifteen cases, actions on the part of the GOC, or activities taking place in state owned enterprises or government ministries were part of the complaint. The complaints together list that the violation that occurred the most across all cases was interference in the right to association (20 cases), followed closely by union motivated dismissals (17 cases), and obstruction or non-compliance with collective contracts (15 cases), while interference with the right to strike was mentioned in thirteen cases.

#### *Interference with the Exercise of the Right to Association*

Twenty of thirty-five complaints (57 per cent) list some form of interference with the Right of Association by management or government agents, or inconsistencies in the Labour Code. By far the violation mentioned most often across complaints is that union members are pressured by superiors to give up their union membership or otherwise leave their trade union, often with threats of dismissal if they do not do so, including under threat of bodily harm. Other complaints list retaliation against trade union members through the non-renewal of work contracts, cases where trade union leaders were not allocated new work, and different work was allocated to union members.

A few cases listed attempts by management to avoid unionization, for example, by manipulating the employee roster, by using staffing supply companies for provision of services instead of employment contracts, or by asking workers to sign individual contracts rather than a collective agreement, which exclude workers from collective bargaining. A number of private enterprises were reported to attempt to sideline the trade union at their firms and force workers to negotiate with management through workers' delegates appointed by the employer. Finally, the complaints make clear that Freedom of Association violations are not the exclusive domain of the private sector, as excessive interference of

GOC authorities in union administration of various government dependencies are the topic of more than one complaint. Across the complaints reviewed in this period, the cases make clear that there remains significant weakness in the protection of unionists to exercise their right to free association in Chile.

#### *Union Motivated Dismissals*

Seventeen of thirty-five complaints assessed here (49 per cent) list union-motivated dismissals in the complaint. There is no overarching single reason as to why union members, including officers and leadership, are dismissed. However, across the petitions, it is clear that union motivated firings occur as a tool for intimidation for engaging in union activities (as does the threat of firing, which was not counted here), to foil bargaining of collective contracts (giving the timing of such firings), and as punishment for engaging in strikes and other union activities. Because of the high rate of occurrence, and the fact that union-motivated dismissals are as common in private enterprises as in the public sector, it should be noted that the firing of union members is a common tactic to weaken unions, especially during points of union contention, like during the negotiation of collective contracts.

#### *Obstruction or Non-compliance with Collective Bargaining Agreements*

Reports of non-compliance with Convention 98 are mentioned in fifteen of thirty-five, or 43 per cent of complaints. The most common claim is by the failure to comply with provisions of the collective agreement on the part of management, but some petitions mention cases where enterprises are unwilling to bargain with unions, or pressure workers to abandon collective bargaining altogether. In other cases, enterprises have excluded entire classes of workers from engaging in the bargaining unit, in contradiction of C98. Some workers have reported being bribed to give up rights under their collective contract in exchange for more attractive work assignments, and it is common that firms will collect a smaller portion of monthly union dues from workers not in the union that negotiated out contract, or fail to collect dues altogether, thus limiting the amount of dues available to the union and allowing free-riding among non-union workers, in contradiction of C98.

#### *Interference with the Right to Strike*

Although there are relatively fewer reports of limits on the right to strike compared to other violations (12 of 35 petitions, or 34%), the complaints are serious as they mention criminalization of strikes, and strike acts are often marked by violence and intimidation on the part of Chilean police and Carabineros.

The complaints discuss a bill sent to Parliament in 2001 that introduces amendments to the Penal Code which criminalizes a range of legitimate trade union protests and actions, like occupying workplaces and streets, and but also makes workers' representatives who organize such activities criminally liable for any public disorder that occurs. As a result, there a number of cases where government agents outlawed a work stoppage, or arrested trade unionists for striking, or enterprises used police to prevent strikers from demonstrating. Many complaints list violent repression of collective trade union actions, and in one case leading to the death of a worker who was shot by police during the course of a strike.

Section 381 of the Labour Code which while prohibiting the hiring of workers to replace strikers, provides for some exceptions, is employed widely.

The complaints report retaliation for striking at the firm level, including threats of dismissal, disciplinary proceedings, deduction of wages and other punitive measures against participants in strikes, as well as harassment at work, including the intimidation of union leadership in an attempt to delay strikes, and the dismissal of trade union members for having taken part in a strike.

The criminalization of strike activity and limitations on the right to strike are incompatible with ILO Convention 98.

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## Annex 1: Location of Research Tasks in the Study

Structure of the final report	Task
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1.2. General Objectives and Methods of the Study	
1.3. Structure of the Report	
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<b>Structure of the final report</b>	<b>Task</b>
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## Annex 2: Definition of the Relative Trade Indices

To control for the effects of the importer's and exporter's characteristics, relative trade indices are constructed and compared throughout the text above to understand trade flows since the inception of the trade part of the EU-Chile Association Agreement.

Define  $x_{ijkt}$  as representing an export flow from country  $i$  to country  $j$ , in product category  $k$ , at year  $t$  as in the 2012 ex-post evaluation report (ITAQA, 2012, p. 226).

Next, define this bilateral trade flow from exporter  $i$  to importer  $j$  relative to the bilateral trade flow from exporter  $i'$  different than exporter  $i$  to the same importer  $j$  to define the following ratio of bilateral trade flows across partners  $i$  and  $j$ :

$$R_{ii'jkt} = \frac{x_{ijkt}}{x_{i'jkt}}$$

Through time, this ratio of bilateral trade flows can therefore reflect the extent to which exports from exporter  $i$  have evolved against exports from another exporter  $i'$  on the importer market  $j$  for product category  $k$ . This ratio washes out the effect of possible changes in the importer  $j$ 's characteristics on import flows.

Likewise, define the bilateral trade flow  $x_{ij'kt}$  from exporter  $i$  to importer  $j'$  different than importer  $j$  for product category  $k$  relative to the bilateral trade flow from exporter  $i'$  different than exporter  $i$  to the same importer  $j'$  to define the following ratio of bilateral trade flows across partners  $i$  and  $j'$ :

$$R_{ii'j'kt} = \frac{x_{ij'kt}}{x_{i'j'kt}}$$

Through time, this ratio of bilateral trade flows can therefore reflect the extent to which exports from exporter  $i$  have evolved against exports from another exporter  $i'$  on the importer market  $j'$  for product category  $k$ . This ratio thus washes out the effect of possible changes in the importer  $j'$ 's characteristics on import flows.

Let's now define the ratio of the two preceding relative bilateral flows as a ratio of bilateral flow ratios (noted BR for bi-ratio):

$$BR_{ii'jj'kt} = \frac{R_{ii'jkt}}{R_{ii'j'kt}}$$

Through time, this ratio of bilateral flow ratios can therefore reflect the extent to which exports from exporter  $i$  have evolved against exports from another exporter  $i'$  on the importer market  $j$  for product category  $k$  relative to the extent to which exports from exporter  $i$  have evolved against exports from another exporter  $i'$  in another importer market  $j'$  for the same product category  $k$ . This ratio of ratios or difference-in-differences washes out not only the effect of possible changes in the importers  $j$  and  $j'$ 's characteristics on import flows but also the effect of possible changes in the exporters  $i$  and  $i'$ 's characteristics on export flows.

The reporting of the evolution of this ratio of ratios  $BR$  through time  $t$  can be facilitated when reporting it as relative to the  $BR$  when  $t = 2003$  or  $2004$  as a reference year. Let's now therefore finally define  $BR$  relative to its basis (noted RBR for relative bi-ratio):

$$RBR_{ii'jj'kt} = \frac{BR_{ii'jj'kt}}{BR_{ii'jj'k \text{ 2003 or 2004}}} * 100$$

This relative ratio of ratios  $RBR_{ii'jj'kt}$  can now be applied for different definitions of exporters  $i$  and  $i'$ , for different definitions of importers  $j$  and  $j'$ , and for different product categories  $k$  and be traced out through time  $t$  where  $t = 2000, \dots, 2003, 2004, \dots, 2015$ .

### 1. Analysis of the EU - Chile bilateral flows in goods and services

If interested in the Chile's exports penetration or concentration into the EU's importing market relative to its penetration or concentration in other importing markets, the evolution of trade in goods and services between the EU and Chile can be traced out and analysed for  $RBR_{ii'jj'kt}$  where:

- $i = \text{Chile}; i' = \text{Rest of the World (i.e., not Chile and the EU)}, j = \text{EU and } j' = \text{Rest of the World (i.e., not Chile and the EU)}$
- $k = \text{Total of all 1996 Harmonized System (HS), Total of all Eurostat Services}$
- $t = 2000, \dots, 2003, 2004, \dots, 2015$

If interested in the EU's exports penetration or concentration into the Chile's importing market relative to its penetration or concentration in other importing markets, it can also be traced out and analysed for  $RBR_{ii'jj'kt}$  where:

- $i = \text{EU}; i' = \text{Rest of the World (i.e., not the EU and Chile)}, j = \text{Chile and } j' = \text{Rest of the World (i.e., not the EU and Chile)}$
- $k = \text{Total of all 1996 Harmonized System (HS), Total of all Eurostat Services}$
- $t = 2000, \dots, 2003, 2004, \dots, 2015$

### 2. Analysis of the bilateral flows in goods and services of exporters competing against Chile's exports in the EU's importing market and against the EU's exports in the Chile's importing market

If interested in the exports penetration or concentration of an exporter (South Africa, Argentina or Peru) competing against Chile into the EU's importing market relative to its penetration or concentration in other importing markets, the evolution of trade in goods and services between the EU and this competing exporter can be traced out and analysed for  $RBR_{ii'jj'kt}$  where:

- $i = \text{South Africa, Argentina, Peru}; i' = \text{Rest of the World (i.e., not the exporter } i \text{ and the EU)}, j = \text{EU and } j' = \text{Rest of the World (i.e., not the exporter } i \text{ and the EU)}$
- $k = \text{Total of all 1996 Harmonized System (HS), Total of all Eurostat Services for } i = \text{South-Africa only}$
- $t = 2000, \dots, 2003, 2004, \dots, 2015$

If interested in the exports penetration or concentration of an exporter (Australia, China, EFTA, the U.S. or Japan) competing against the EU into the Chile's importing market relative to its penetration or concentration in other importing markets, it can also be traced out and analysed for  $RBR_{ii'jj'kt}$  where:

- $i = \text{Australia, China, EFTA, U.S., Japan}; i' = \text{Rest of the World (i.e., not the exporter } i \text{ and the EU)}, j = \text{Chile and } j' = \text{Rest of the World (i.e., not the exporter } i \text{ and Chile)}$
- $k = \text{Total of all 1996 Harmonized System (HS)}$
- $t = 2000, \dots, 2003, 2004, \dots, 2015$

### 3. Analysis of the changes in trade composition of the EU - Chile bilateral flows in goods and services

If interested in the evolution of the changes in the Chile's exports composition into the EU's importing market relative to the changes in the Chile's exports composition into other importing markets, then it can be traced out and analysed for  $RBR_{iiv'jj'kt}$  where:

- $i = \text{Chile}; i' = \text{Rest of the World (i.e., not the EU and Chile)}, j = \text{EU and } j' = \text{Rest of the World (i.e., not Chile and the EU)}$
- $k = \text{1996 HS 2-digits commodities category, Eurostat 3-digits service category (205, 236, 981)}$
- $t = 2000, \dots, 2003, 2004, \dots, 2015$

If interested in the evolution of the changes in the EU's exports composition into the Chile's importing market relative to the changes in the EU's exports composition into other importing markets, then it can be traced out and analysed for  $RBR_{iiv'jj'kt}$  where:

- $i = \text{EU}; i' = \text{Rest of the World (i.e., not the EU and Chile)}, j = \text{Chile and } j' = \text{Rest of the World (i.e., not the exporter } i \text{ and the EU)}$
- $k = \text{1996 HS 2-digits commodities category, Eurostat 3-digits service category (205, 236, 981)}$
- $t = 2000, \dots, 2003, 2004, \dots, 2015$

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