

# Ex-post evaluation of the implementation of the EU-Mexico Free Trade Agreement

Interim technical report

Client: European Commission - DG Trade

Rotterdam, 11 May 2015



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# Preface

The European Commission (DG Trade) awarded a contract to ECORYS, signed in December 2013, to carry out an evaluation of the implementation of the EU-Mexico Free Trade Agreement (FTA) and an assessment of the possible modernisation of this Agreement.

The EU-Mexico FTA entered into force in October 2000 for the part related to trade in goods and in 2001 for the part related to trade in services. It is part of the broader Economic Partnership, Political Coordination and Cooperation Agreement (the Global Agreement) concluded in 1997. In January 2013 leaders decided “to explore the options for a comprehensive update of this Economic Partnership, Political Coordination and Cooperation Agreement between the EU and Mexico.”

Ecorys is aware of the important role of this study in understanding the impact from the existing trade agreement (ex-post evaluation, first module of the study), and in providing input for possible negotiations on modernisation of the Agreement (ex-ante impact assessment, second module of the study). The study is only the second ex-post evaluation of the economic impact of an FTA commissioned by DG Trade, and as such will also contribute to the further development of methodologies to assess the impact of existing FTAs.

This is the Interim Technical Report for the ex-post analysis (first module of the study). The report is based on the terms of reference, the Ecorys proposal that was submitted to DG Trade and the subsequent discussions with the Steering Committee, and the EU Delegation in Mexico. There will be a separate Interim Technical report for the ex-ante analysis (second module of the study).

This report presents an analysis of the FTA itself and the context it operates in, an assessment of the economic impact of the Agreement as well as an assessment of the social, human rights and environmental impacts of the agreement. The results are based on a mix of quantitative and qualitative analyses, as well as stakeholder consultations. The report also outlines the next steps for the final report.

We invite you to read our report, share it with other interested stakeholders, and to provide us with your comments, questions and suggestions, which will help us to further improve the quality of the study.

The Ecorys Team  
May 2015



# Executive summary

In 1997 Mexico was the first country in Latin America that signed an Economic Partnership, Political Coordination and Cooperation Agreement (“Global Agreement”) with the EU. This Agreement came into force in 2000 and covers political dialogue, trade relations and cooperation. The Global Agreement also included trade provisions that were later developed into a comprehensive Free Trade Agreement covering trade in goods and trade in services, which came into force in October 2000 and 2001 respectively. In January 2013 leaders decided “to explore the options for a comprehensive update of this Economic Partnership, Political Coordination and Cooperation Agreement between the EU and Mexico.”

In this context, the European Commission contracted ECORYS to carry out an evaluation of the implementation of the EU-Mexico Free Trade Agreement (FTA) and an assessment of the possible modernisation of this Agreement. **This report presents the interim results of the ex-post analysis of the current EU-Mexico FTA** (first module of the study).<sup>1</sup>

## Objectives and approach

The objectives of the ex-post analysis are to:

- highlight and evaluate the actual economic, social, and environmental impacts (both immediate measurable effects and consequential impacts) of the agreement on both sides, and identify possible unintended consequences of the FTA;
- identify those sectors, activities and groups that have gained as a result of the FTA as well as those negatively affected and specify the most relevant provisions thereof for such effects.

In addition, the study should contribute to developing methodologies for future ex-post analysis of the EU's FTAs.

The approach to the study consists of a mix of qualitative and quantitative methods. In the study we use literature and statistics to analyse the economic, social and environmental developments from a few years before the agreement up until now. In addition, we apply a number of quantitative methods in order to isolate the FTA effects, or in other words, to establish to what extent the observed developments can be attributed to the FTA. Stakeholder consultations also play a key role in the approach. To involve stakeholders, we have developed a website, social media tools, and a survey. In the next phase of the study we will continue with the online consultations and the survey, while additionally organising a workshop in Mexico and conducting in-depth interviews in both the EU and Mexico.

## About the Agreement

At the time the FTA was concluded, it was the most comprehensive trade agreement that had ever been signed by the EU. The EU-Mexico FTA establishes trade disciplines in eleven areas: a.

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<sup>1</sup> In a separate report, the impacts of a modernization of the agreements will be analysed (ex ante analysis, second module of the study).

Market access, including tariff liberalisation schedule of trade in goods; b. Origin Rules, and customs cooperation; c. Safeguards; d. Standards, Technical Regulations and Conformity Assessment Procedures; e. Sanitary and Phytosanitary Measures; f. Government procurement; g. Competition; h. Trade in services; i. Investment and related payments; j. Intellectual property; and k. Dispute settlement.

A deeper analysis of the agreement demonstrates that while the coverage is comprehensive, specific provisions do not always go much beyond existing international commitments. For example, in the area of SPS and TBT the agreement does not go beyond what was already agreed in the WTO. In other areas (services, government procurement, competition policy) additional commitments are made.

Tariff reductions were implemented relatively fast. For a large share of goods, tariffs were eliminated immediately after the entry into force of the agreement. Within 4 years, all import tariffs on Mexican industrial products imported into the EU were eliminated and within 8 years, all tariffs on EU industrial products imported into Mexico were eliminated. For agricultural products, a number of sensitive products were exempted from tariff liberalisation and implementation periods for those products that were liberalised could be up to ten years.

The institutional framework of the Agreement also had some unique features at the time. The Joint Council, the main body governing the agreement, not only had the traditional function of monitoring and supervising the implementation and administration of the agreement, but also the primary responsibility of the agreement negotiation. This includes the negotiation of certain review clauses in the agreement concerning tariff liberalisation and some trade-related disciplines. Although the FTA contained these review clauses that were legally binding, each one of the review clauses implied a negotiation process, and the circumstances were such that there was not sufficient political will for concluding negotiations on each of these issues. The institutional framework does not seem to be a cause for this lack of progress. Other elements of the FTA were implemented as planned.

In terms of context, it should be noted that the FTA is only one aspect of Mexico's and EU's trade policy. Especially in Mexico, a number of regulatory reforms have been undertaken due to unilateral liberalisation, or due to provisions in other FTAs such as NAFTA. In addition, both parties have concluded several FTAs with other countries during the evaluation period.

## Economic impact

A first part of the economic analysis looks at the trends, based on data analysis. This shows that bilateral goods trade between the EU<sup>2</sup> and Mexico has expanded significantly after the entry into force of the FTA, with exports and imports having more than doubled. Bilateral imports and exports developed in a similar pattern, although the exports from the EU to Mexico have grown slightly faster than exports from Mexico to the EU. The trend in bilateral exports largely follows the trend in overall exports of both partners, but we do observe a small increase in the importance of both partners in each other's trade flows over time: the share of the EU in Mexican exports was 3.8 percent in 1999 and 4.9 percent in 2013, whereas the share of Mexico in EU exports increased from 0.5 to 0.7 percent. Bilateral trade is concentrated in a limited number of sectors, and while we

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<sup>2</sup> it should be noted that the EU expanded in number of countries during the evaluation period. In this paragraph, EU only includes the 15 Member States that have signed the original agreement.

observe an increase in diversification of EU exports to Mexico, for Mexican exports to the EU we observed more concentration, although again the changes are small. In services trade we also observe a significant increase in bilateral trade flows, but these changes are in line with developments in overall services trade. FDI flows between the two partners show a fluctuating pattern, not deviating much from the general trends in FDI flows.

To better understand how the FTA has contributed to the observed developments above, in the second part of the economic analysis, we have applied a Computable General Equilibrium (CGE) model to assess the current economic situation compared to a counterfactual scenario of what would be the situation without the FTA. To determine this counterfactual scenario, we use an econometric framework known as a gravity model, which can identify the impact of the current agreement on EU-Mexico trade beyond tariffs. Based on this analysis, we find that the current agreement does not generate additional trade beyond what is expected based on tariff elimination alone. Two exceptions are other transport equipment (aircraft), and petro-chemicals. There is however no specific provisions in the FTA that can explain this increase, although co-operation programmes initiated as part of the Global Agreement may have played a role. On this basis the FTA mainly had an impact because of tariff reductions, and therefore for the counterfactual scenario we assumed that that both trading partners would face MFN tariffs. Comparing the two scenarios gives an indication of the FTA-induced economic effects.

The results of the modelling show that the gains for Mexico from the bilateral tariff liberalization under the Agreement amounts to €2,876 million EUR in real income per year, while for the EU these gains amount to € 1,559 million annually. In percentage terms, Mexico's GDP would have been 0.34 percent lower if the Agreement would not have been implemented and the EU's GDP would be 0.01 percent lower. This asymmetrical effect is due to the difference in importance of the two country for each other as trading partners. The increase in income is also reflected in real wages. Compared to the counterfactual scenario without an FTA, real wages are 0.02 percent in higher, while in Mexico wages are between 0.24 and 0.45 percent higher, depending on the skill group. Low skill workers in Mexico seem to have gained a bit less compared to other skill groups as a result of the FTA, due to a contraction of the sector electrical machinery, which employed relatively more low skill workers, hence decreasing the demand for low skill workers relatively more than for other skill categories.

According to the simulations, the FTA triggered increases in trade, amounting to about 1.5-1.7 percent increase in Mexico's aggregate exports and imports, and a 0.05 percent increase in the EU's aggregate trade flows. Looking at bilateral trade flows, EU exports to Mexico show a slightly bigger increase, by 19 percent, than Mexican exports to the EU, with an estimated increase of 15 percent.

Reduction in tariffs between the trade partners are estimated to have led to minor losses in tariff revenues. For the EU the change compared to the counterfactual is €235.9 million which in terms of percentage change in tariff revenues is insignificant at 0.01 percent. For Mexico, the loss is estimated at about €625.3 million but also small in percentage terms with 0.14 percent.

At sector level, the model suggest that in the EU the changes in output have been small, varying between 0 and 0.2 percent. In Mexico output effects seem to have been somewhat more pronounced, with the largest changes according to the model taking place in two sectors: motor vehicles (+16.5 percent) and electrical machinery (-11.5 percent). The motor vehicle sector witnessed a large reduction in import tariffs in the EU, thereby increasing export opportunities and

related output increases. The expansion of this sector led to a contraction of the electrical machinery sector. Although tariffs for textiles and clothing on Mexican exports to the EU were also high these sectors did not expand in Mexico compared to the counterfactual as there were significantly larger tariff reductions for EU exporters, whom thus gained competitiveness against Mexican producers and pushed some of them out of production. The large reduction in tariffs in motor vehicles, textiles and clothing is also visible in the model results for bilateral trade, as these are the sectors which show the largest changes in bilateral trade flows.

## Social and human rights impact

When analysing the social impact of the EU-Mexico FTA, it is important to bear in mind that while the CGE model analysis and all quantitative social analyses based on it can isolate the effects of the EU-Mexico FTA, all qualitative attributions of effects to the EU-Mexico FTA need to be seen against a background of other influences, like implementation of other trade agreements (notably NAFTA), the Global Agreement, and domestic policy considerations.

### Decent work and the informal sector

The extent to which changes in employment are related to the FTA appear to be very small but positive. The CGE model isolates the FTA effects on wages, but is not able to assess changes in overall employment. Nevertheless, the wage changes are an indication of the demand for labour. With marginal increases in real wages in the EU as a result of the FTA, changes in employment due to the FTA are negligible. In Mexico, changes in real wages are slightly higher as presented above, but given the still small size of the increase, employment is not likely to have been significantly affected by the agreement here either – if there has been any effect it has been positive.

With respect to rights at work, the FTA itself does not have explicit provisions on this matter. Provisions on TBT and SPS, which may have an indirect effect on labour conditions (e.g. through effects on use of chemicals in production processes), are similar to what was already agreed in the WTO and therefore also did not affect labour conditions. Throughout the period of evaluation, ILO complaints related to the implementation of ILO core labour standards in Mexico seem to have largely remained the same. Increased interaction between EU and Mexican firms may have had an impact on labour rights, but this needs to be further investigated during the next stage of the study.

For the other pillars of the Decent Work agenda (social protection and social dialogue), no clear link with the FTA was found.

The informal sector in Mexico is large, but effects of trade agreements depend on many factors. In Mexico, informal employment is mostly concentrated in non-tradable goods, in sectors such as services, hotels and restaurants and construction. As most of these Mexican service sectors have experienced a small positive effect on output as a result of the FTA, it is not likely that informality in these sectors has increased.

### Poverty and inequality

Additional quantitative social analysis looks in more detail at the effects of the FTA on poverty and inequality, by combining CGE results related to income (wages) and expenditures (prices) with household survey data. In line with modest impacts reported so far, changes in poverty and inequality as a result of the FTA are very small, but show a positive trend. The number of people

below the absolute poverty line are estimated to have decreased from 58.3 million to 58.1 million. The number of people below the extreme poverty line shows a decrease from 18.87 to 18.82 million people. Also the number of people just above or below the poverty line decreased. The analysis of poverty effects for different groups of the population (by sex, age, education level, region, and place of residence (urban/rural)) show similar patterns.

### Human rights

With respect to human rights, the Global Agreement includes human rights, as it refers to the determination to conduct a trade relationship based on respect for democracy and human rights and contains a clause to provide for suspension of trade relations in case of human rights violations. This was an innovative feature at the time and marked the start of more focus on human rights in the EU's trade agreements. In practice, this clause has not been used despite observed human rights violations. Based on the relative small but largely positive changes identified in the economic and social analysis, effects of the FTA on human rights are not found to be large, and where there are effects, these are mostly positive.

### Environmental impact

Similar to what was stated under the social impact, it is important to bear in mind that while the CGE model analysis and all quantitative environmental analyses based on it can isolate the effects of the EU-Mexico FTA, all qualitative attributions of effects to the EU-Mexico FTA need to be seen against a background of other influences. As an example, there have been technical assistance programmes that included activities regarding meeting EU requirements in the fisheries sector, that may have contributed to increased sustainability of fishing, but are not directly related to (i.e. are not part of) the FTA.

Based on the CGE model, the environmental effects of the FTA are very small. In terms of resource intensity, there are marginal effects on fisheries (+0.02%) and land use (+0.13%) in Mexico, while for the EU the effects are even smaller, with 0.0% and 0.01% respectively. Global transport changes are also small: while air and water transport slightly increased compared to the counterfactual scenario, (0.17 and 0.6 percent respectively), land transport slightly declined (-0.04 percent). CO<sub>2</sub> emissions decreased in Mexico as a result of the tariff liberalization of the Agreement, with a decline of 0.41 million tons corresponding to 0.1 percent decrease in Mexican CO<sub>2</sub> emissions. In the EU, a small increase of about 0.56 million tons took place, translating into a 0.01 percent increase in the EU's CO<sub>2</sub> emissions. The opposite changes in CO<sub>2</sub> emissions in the EU and Mexico relate to the changes in sectoral output patterns for both partners, where Mexico experiences a decrease in polluting sectors while the opposite is true for the EU.

Looking in more detail at the air pollution, additional quantitative analysis building on the modelling results for Mexico shows that the FTA contributed to a reduction of some air pollutants, most notably in the emissions of sulphur oxides (-0.28%), and an increase of others, but that the effects are estimated to be quite small (except for sulphur oxides, the effects are below 0.1 percent). Most anthropogenic SO<sub>x</sub> emissions in Mexico come from the agricultural, electricity and petrochemicals sectors, which all have reduced output as a result of the FTA. Based on the same methodology, the FTA also appears to have reduced greenhouse gas emissions, due to the composition effect dominating the scale effect.

For other environmental elements (e.g. water, waste, biodiversity) the effects of the FTA are ambiguous but based on the overall economic and environmental results expected to be small.

Trade in environmental goods and services (EGS) as a result of the FTA may also have had an impact on the environment. The EU-Mexico agreement does not contain any specific provisions on EGS. Nevertheless the trade in these products and services are affected by the general FTA provisions. In our analysis, we studied six environmental goods in more detail. Although for most of these products trade flows have increased significantly (the direction of trade depending on the specific product), a clear link with the FTA is difficult to establish.

## Way forward

The main elements of Module 1 of the study (ex-post analysis) have been presented in this ITR. In the coming period, the emphasis will be on stakeholder consultation, especially to establish whether the link between the observed economic, social and environmental developments and the implementation FTA are confirmed by observations 'on the ground' - in other words to answer the question to what extent the FTA played a role in these developments. In addition, we will formulate the conclusions, including on the evaluation criteria effectiveness and coherence, as well as policy recommendations as a last step in the study process.

# 1 Introduction

## 1.1 Context of the study

### 1.1.1 *Political and economic relationship between the EU and Mexico*

As part of its trade strategy towards Latin America, the EU has concluded and is negotiating Free Trade Agreements (FTAs) with various countries and trading blocs in the region. Mexico was the first country in the region that signed an Economic Partnership, Political Coordination and Cooperation Agreement (“Global Agreement”) with the EU in 1997. This Agreement came into force in 2000 and covers political dialogue, trade relations and cooperation. The Global Agreement also included trade provisions that were developed in a comprehensive Free Trade Agreement covering trade in goods and trade in services, which came into force in October 2000 and 2001 respectively. Access to public procurement markets, competition, intellectual property rights and investment are also covered by this FTA.

These agreements have led to closer economic and political co-operation between the EU and Mexico. In 2008, Mexico became a strategic partner of the EU, which has further increased co-operation and dialogue. This strategic partnership specifically enhanced EU-Mexico cooperation on global issues like multilateralism (e.g. in the WTO), climate change and terrorism.

The existing FTA includes review clauses for increased liberalisation in agriculture, services and investment to further strengthen the relationship. In January 2013, both partners decided “to explore the options for a comprehensive update of the Economic Partnership, Political Coordination and Co-operation Agreement between the EU and Mexico”.<sup>3</sup>

### 1.1.2 *The context of the EU-Mexico FTA*

The period in which the FTA negotiations between the EU and Mexico took place, was more characterised by the conclusion of multilateral trade agreements instead of bilateral agreements, and preparations for the Doha Development Round. Back then, the focus of negotiations was on liberalisation of import tariffs.

Although the FTA between the EU and Mexico includes some elements of non-tariff measures besides tariff reductions, it does not yet go as far as the deep and comprehensive FTAs that the EU recently concluded with other partner countries. There is a clear trend for FTAs to focus more on the NTM aspects of trade as tariffs have become relatively less important barriers to trade compared to NTMs.

The NAFTA agreement with the US and Canada is very important for the Mexican economy. Therefore, it is also relevant to note that the EU has almost finished its FTA negotiations with Canada, and negotiations with the US are ongoing. Hence, trade relations with the entire region are currently strengthened.

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<sup>3</sup> See paragraph 22 of the EU-CELAC Santiago Declaration: [http://www.eeas.europa.eu/la/summits/docs/2013\\_santiago\\_summit\\_declaration\\_en.pdf](http://www.eeas.europa.eu/la/summits/docs/2013_santiago_summit_declaration_en.pdf). CELAC is the Community of Latin American and Caribbean States.

## 1.2 Objectives

The current study is divided into two modules:

1. An ex-post evaluation of the economic, social and environmental effects of the existing EU-Mexico FTA;
2. An ex-ante evaluation aiming at identifying the advantages and disadvantages of possible policy options for the modernisation of the existing FTA.

This interim technical report concerns Module 1 (for Module 2 there will be a separate interim technical report). The objectives of this particular part of the study as described in the Terms of Reference for this study are the following:

- highlight and evaluate the actual economic, social, and environmental impacts (both immediate measurable effects and consequential impacts) of the agreement on both sides;
- identify sectors, activities and groups that have gained as a result of the FTA and specify the most relevant provisions thereof for such effects;
- identify sectors, activities and groups that have been negatively affected as a result the FTA and specify the most relevant provisions thereof for such effects;
- identify unintended consequences of the entry into force of the FTA;
- pave the way for future ex-post analysis of the EU's FTAs, notably by identifying suitable methodological approaches to measure impacts of the FTA on the social and environmental dimensions.

## 1.3 Summary of methodological approaches

In this interim technical report, you will find the regulatory, economic, social, and environmental analyses that are part of the ex-post analysis. These analyses are based on thorough methodologies, which we briefly summarise below.

### **Detailed description of past policies**

For this we analyse the Agreement with respect to its context, structure, and institutional framework. This includes the description of main features of the Agreement vis-à-vis other Mexican and EU preferential trade agreements. Furthermore, Joint Council decisions, as well as measures adopted by national Mexican legislation as a result of the Agreement are described. Lastly, the functioning of the institutional framework is analysed, which is based on an assessment of the interrelations of the administration and implementation bodies of the Agreement, and the relevant Mexican government offices.

### **Evaluation of past policies along sustainability dimensions**

The approach to the ex-post evaluation of past policies along the sustainability dimensions are described below.

#### *a. Economic analysis*

- We conduct a general description of economic development and performance of EU and Mexico since start of FTA and a descriptive statistical analysis of trends and developments in key areas, such as intra-industry trade, composition/diversification, and tariff profiles. This will provide details in addition to the CGE analysis not only by presenting complementary indicators, but also by providing insights at a more disaggregated product level compared to the GTAP sectors of the CGE model;

- We combine a structural gravity analysis with a CGE model, which allows us to identify how the Agreement has contributed to the general economic development and trade between both regions, both at macro and at sector level.

#### *b. Social analysis*

- We provide a description of the current situation to draw a comprehensive picture of the social landscape. We look at historical changes in key social indicators from 2000 (and 6 years earlier depending on data availability) until today (or year for which most recent data are available);
- We conduct a quantitative social analysis, based on relevant CGE output indicators in combination with a household survey in order to draw conclusions on the Agreement's impact on poverty and inequality;
- Complementary to the quantitative analysis, we will conduct a qualitative social analysis, in which we will identify and describe FTA impacts related to e.g. ILO Decent Work indicators, human rights issues, and the informal economy.

#### *c. Environmental analysis*

- The environmental descriptive analysis presents an overview of developments in various environmental fields, based on indicators for e.g. air pollution, natural resources use, waste, and climate change. We look at historical changes of these issues from 2000 (and 6 years earlier depending on data availability) until today (or year for which most recent data and information are available);
- We use an extension of the CGE model in order to calculate the impact of the Agreement on GHG and air pollutant emissions. This also includes a decomposition of the effects into composition and scale effects;
- We subsequently link CGE results and indicators used in the description of the status quo in order to draw coherent qualitative conclusions. Furthermore, we look closer into the trade in environmental goods since the signing of the FTA.

### **Stakeholder consultations**

Stakeholder consultation is an essential element of the study. Dissemination of information related to the study to external stakeholders helps to validate preliminary results and put them into perspective. In addition, inputs from stakeholders will complement and expand the information found in the data and literature.

The main activities that are used to involve relevant stakeholders in the consultation process are summarised below.

**Table 1.1 Stakeholder consultation activities**

Activity	Explanation
Website	The dedicated website for this project is <a href="http://www.fta-evaluation.com/mexico">www.fta-evaluation.com/mexico</a> . A large part of this website is available in Spanish to facilitate the consultations in Mexico. It includes a 'downloads' section with relevant documents and study results, information about the EU-Mexico FTA, the study and other background information, agenda of upcoming events, including the workshop in Mexico, and links to other relevant websites.
Electronic consultation	The dedicated email address for communication with stakeholders is <a href="mailto:mexico@ecorys.com">mexico@ecorys.com</a> . This mode of communication is used e.g. for the distribution of electronic newsletters to inform stakeholders about the project activities and soliciting their inputs and feedback. In addition, social media are used to encourage and engage in stakeholder discussions.
Workshop in Mexico	After submission of this Interim Technical Report, a local stakeholder workshop will be organised in Mexico (Mexico City) to validate the results of the analysis and receive input and feedback for the final phase of the project.

Activity	Explanation
Survey	The online survey for all stakeholders (including companies, business associations, social and human rights organisations, trade unions, and environmental organisation) is still open: <a href="https://s.chkmt.com/?e=31906&amp;d=e&amp;h=5373634D6F27DC1">https://s.chkmt.com/?e=31906&amp;d=e&amp;h=5373634D6F27DC1</a> . The survey is available in English and Spanish. The survey will allow e.g. for the identification of FTA effects, remaining barriers and priorities, and competitiveness issues (global and for the sector specifically). This also allows us to consider in more depth relevant issues and impacts for SMEs.
Ad hoc consultations	Personal interviews will be conducted in a very targeted manner, to receive feedback from crucial stakeholders on specific issues or topics and deepen our understanding of these topics. These interviews will mainly take place during the next phase of the study.

Stakeholder consultation activities are conducted in close consultation with the Steering Committee in Brussels and the EU Delegation in Mexico in relation to the local workshop.

### Conclusions and policy recommendations

Conclusions and specific policy recommendations will be formulated in the Final Report, based on the regulatory, economic, social and environmental analyses. Recommendations will mainly be based on the ex-post analysis, as the findings and conclusions from this analysis will allow us to identify relevant recommendations building on past experiences for a possible modernisation of the agreement. In the conclusions, our focus will be on impact, but where possible, we will link our findings in the ex-post evaluation to aspects of coherence with regard to the policies discussed in the context of the agreement, as well as effectiveness related to initial objectives of the agreement.

## 2 Regulatory analysis

The regulatory analysis of the EU-Mexico FTA focuses on the content of the Agreement and the context in which it operates, including a comparison with similar agreements signed by Mexico or the EU. In addition, we will identify the regulatory changes brought about by the FTA. Finally, specific attention will be paid to the institutional structure of the FTA. A deeper understanding of these aspects is an essential starting point for the subsequent analyses (economic, social and environmental) to assess the impact of the FTA and its modernisation.

The main elements of the regulatory analysis are presented below.

### 2.1 Description of the EU-Mexico FTA: structure and content

The EU-Mexico FTA was the outcome of a long negotiation process between both parties, and a combination of several legal instruments that allowed for it to be implemented. The FTA resulted in the liberalisation of trade in goods and services, and agreements on other trade disciplines. At the time, the agreement presented some unique characteristics—e.g. it was the first trade agreement signed by the EU with a Latin American country, the scope of trade concessions and disciplines included was unprecedented, and the agreement was clearly based on asymmetry in the pace of trade liberalisation for each party. These unique characteristics must be taken into account to fully understand the structure and content of the FTA.

#### 2.1.1 Background, Chronology and Overview of the EU-Mexico FTA

After a long period of standstill in the relationship between the two parties, under the Framework for Cooperation Agreement between the European Economic Community and Mexico (December 1991)<sup>4</sup>, the parties signed the Joint Solemn Declaration in 1995<sup>5</sup>. In it they agreed to bilaterally negotiate on three main pillars: (1) strengthening the bilateral political dialogue, (2) improving cooperation in economic, technical, scientific and cultural areas, and (3) reciprocally liberalizing trade in goods and services within the framework of WTO rules. This commitment is commonly referred to as the starting point of a new relationship between the European Union and Mexico, allowing a negotiation mandate that would result in the free trade agreement.

Formal negotiations between the parties started in October 1996, after the EU General Council approval of the respective mandate. The Economic Partnership, Political Coordination and Cooperation Agreement between the European Community and its Member States, on the one part, and the United Mexican States, on the other part, unofficially called Global Agreement (hereinafter, GA) was signed in December 1997. The agreement set up the basis for the negotiation of a free trade agreement between both parties, together with an Interim Agreement (hereinafter, IA) on trade and trade-related matters. The latter provided the framework and mechanisms for trade liberalisation. A Final Act included both legal instruments and Joint Declarations of the parties.

The agreement established a Joint Council to supervise its implementation and to examine major issues arising from the bilateral commitments assumed by the parties, as well as a Joint Committee to assist the Joint Council in the performance of its duties.

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<sup>4</sup> European Communities' Official Gazette, No. L340, on December 11<sup>th</sup>, 1991.

<sup>5</sup> Signed in Paris, May 2<sup>nd</sup>, 1995. Source: Council of the European Union.

The IA was signed to allow trade negotiations without having the parliamentary approval of the GA<sup>6</sup>. Consequently, the IA, which was to be in force until the entry into force of the GA, was approved by the Mexican and European parliaments, respectively, in April and May 1998, and entered into force in July 1998. Nine negotiation rounds were held during a twelve-month period that concluded in November 1999. The GA was approved by European and Mexican parliaments, respectively, in May 1999 and March 2000. And the core Decisions of the Joint Council setting up trade liberalisation in goods and services entered into force, respectively, in July 2000 (Decision No. 2/2000) and March 2001 (Decision No. 2/2001).

### 2.1.2 *EU-Mexico FTA Structure and Content: A Descriptive Analysis*

The descriptive analysis of the EU-Mexico FTA will follow the order stated below as regards the subjects discussed and will refer to the corresponding sections of the GA and the Decisions taken by the Joint Council<sup>7</sup>.

The EU-Mexico FTA establishes trade disciplines in eleven areas:

- a. Market access, including tariff liberalisation schedule of trade in goods;
- b. Origin Rules and customs cooperation;
- c. Safeguards;
- d. Standards, Technical Regulations and Conformity Assessment Procedures;
- e. Sanitary and Phytosanitary Measures;
- f. Government procurement;
- g. Competition;
- h. Trade in services;
- i. Investment and related payments;
- j. Intellectual property;
- k. Dispute settlement.

#### *a. Market Access*

Market access provisions are contained under the Title III, Trade, of the GA—Articles 4 and 5<sup>8</sup>—; Title II, Trade Liberalisation, of the IA—Articles 2 and 3—; and Title II, Free Movement of Goods, of the Joint Council Decision No. 2/2000—Articles 2 to 24—and can be subdivided in two main groups: (1) market access provisions and (2) trade in goods liberalisation schedules and related provisions.

Within the first group, a Free Trade Area is established over a maximum of a ten-year transition period, and covered by the Article XXIV of the GATT of 1994<sup>9</sup>.

The agreement eliminates all import or export restrictions in bilateral trade<sup>10</sup> and grants national treatment to the imported products that shall be subject to the same internal taxes as similar

<sup>6</sup> In the same way, the Joint Declaration included in the Final Act mentioned above authorized the European Commission to negotiate services, investment and intellectual property chapters without having the approval of the GA. For a useful synthesis of the complexity of the legal structure for resolving the negotiation, approval and entry into force of the agreement, see Jaime Zabludovsky and Sergio Gómez Lora (2005), Table 1, page 14.

<sup>7</sup> The institutional framework and its functions are described in the section 2.4 below.

<sup>8</sup> Article 6 deals with trade in services, and Article 7 refers to the enforcement of the Joint Council Decisions related to trade liberalisation.

<sup>9</sup> The Article XXIV of the GATT 1994—complemented by an Ad Art XXIV and by an Understanding on the Interpretation of Article XXIV of the General Agreement on Tariffs and Trade 1994; see [www.wto.org](http://www.wto.org)—allows the setting up of regional trading arrangements as a special exception, provided that, in the cases of free trade areas or custom unions, duties and other trade obstacles are reduced or eliminated on substantially all sectors, and that third parties not members of the agreement do not worsen their trade access conditions with respect to the situation that they held before the free trade area or the customs union has been set up.

<sup>10</sup> Parties may adopt export restrictions or export customs duties under the Shortage Clause established in Article 16.

domestic products, and accorded the same treatment in terms of laws and regulations affecting similar domestic products sales, purchases, transportation and distribution (Articles 12 and 13). Annexes IV and V allow exceptions to these provisions for Mexico, provided that the exception measures are WTO-compatible and do not violate the MFN principle. Exceptions in Annex IV include import and export licenses to be applied to some petroleum products, residues and gases and allow Mexico to maintain prohibitions or restrictions to import of used products of textile (used clothing) and automotive sectors, while other restrictions on automotive and machinery sectors can only be maintained until the end of 2003. The Annex V allows Mexico to maintain promotion measures for the modernization of its automotive industry—enforced since 1989—until the end of 2003.

The second group refers to the elimination of tariffs (Chapter I), detailing the tariff elimination schedules of each party—Annexes I and II—, defining the base tariff to which import duties will be applied in conformity with the Harmonised System Code, and declaring parties' readiness to further reduce their tariff levels—i.e., faster than the original reduction schedule settled in the agreement.

The process of liberalisation of tariffs (Articles 4 to 9) is divided into two main groups: Industrial and Agricultural and Fisheries products, for which different categories have been defined with reduction schedules that vary from immediate elimination of duties to progressive diminution—in different transition periods of up to ten years, and in variable percentages of reduction.

Asymmetry in economic development between Mexico and the EU was recognized by establishing differential tariff reduction schedules and different transition periods in industrial and in agricultural and fisheries products.

Industrial products: Mexico shall completely eliminate its imports tariffs by 2007; four categories have been defined, the first corresponding to immediate elimination of tariffs, the second in a four-year period (by 2003), the third in a six-year period (by 2005) and the fourth in an eight-year period (by 2007). The EU shall completely eliminate its imports tariffs by 2003, subdivided in two categories of products: the first corresponding to immediate elimination of tariffs, and the second in a four-year period (by 2003). EU tariff concessions consolidate the preferential access granted to Mexico by the Generalised System of Preferences (GSP). In terms of industrialised products imports value at the year of the conclusion of the agreement, 82% of Mexican exports benefit from immediate elimination of duties to enter into the EU market, and the remaining 18% will be totally liberalised by 2003. EU exports of industrial products to Mexico will be totally liberalised in four phases: 47.6% of the EU imports into Mexico will be eliminated immediately, 5.1% by 2003, 5.6% by 2005, and the remaining 41.7% by 2007

Agriculture and Fisheries: the calendar of tariff eliminations is gradual and contains a greater number of categories, taking into account the sensitivity of these sectors' products. It also includes tariff quotas and seasonal windows for Mexican exports to the EU of some products—fruit juices, cooked, frozen or preserved fruits, natural honey, avocados, albumins, asparagus, flowers, eggs, peas, tuna, gum and molasses—, which represent about 21% of total exports value. Tariffs for both parties phase out over a ten-year period with four calendars of elimination of duties that show differential categories and rhythms of reduction for the EU and for Mexico. For EU exports to Mexico, 27.64% of imports value have immediate free access, 10.86% by 2003, 7.25% by 2008, and 3.80% by 2010; for some products such as meat, dairy products, cereals and bananas, tariff elimination is deferred and future negotiations will be subject to the provisions in Article 10. On the Mexican side, 58.16% of its exports to the European market will benefit from immediate free access, 10.04% will be duty free by 2003, 5.3% by 2008, and 0.64% by 2010<sup>11</sup>.

<sup>11</sup> Source: Mexican Secretariat of Economy.

Joint Council Decisions No. 2/2002 of May 2002 and 1/2004 of March 2004, implemented the acceleration of the elimination of tariffs for some products such as pharmaceutical products, batteries, motor vehicles, inorganic and miscellaneous chemical products.

The chapter on market access includes a Review Clause for Agricultural and Fisheries Products (Article 10), according to which no later than three years after the decision enforcement, the Joint Council shall: a) consider further steps in the process of trade liberalisation by reviewing, on a case-by-case basis, tariff levels and rules of origin of some categories of agricultural products; b) review tariff quota quantities for some agricultural products subject to this treatment; c) review “the relevant elements in the process of liberalisation of trade” for fisheries products; and review no later than September 1st, 2001 the possibility of opening a preferential tariff quota for tuna loins<sup>12</sup>.

#### *b. Rules of Origin*

Origin rules are regulated in Annex III of the Joint Council Decision No. 2/2000, which establishes the definitions of originating products, the general disciplines concerning the compliance of origin rules, general and specific rules of origin, and customs procedures, as well as documentary evidence required by customs authorities for the imported goods to benefit from preferential treatment.

Annex III is complemented by six Appendixes, namely:

- Appendix I: Introductory notes of explanation and interpretation of Appendixes II and IIa;
- Appendix II: Enunciates general and specific origin rules;
- Appendix IIa: Defines flexibility rules to be applied to some tariff headings with respect to origin rules in Appendix II;
- Appendix III: Describes the EUR.1 movement certificate;
- Appendix IV: Describes the invoice declaration as an alternative procedure of documenting origin and the cases in which it applies;
- Appendix V: Refers to the period of time to supply information for issuing an EUR.1 movement certificate retrospectively<sup>13</sup> and for drawing up an invoice declaration, that will be of two years for the European Community and of one year for Mexico.

The general criterion that defines a product as originating in one of the parties is its condition: either of having been wholly obtained in the exporting party; or if it incorporates materials which were not wholly obtained in the exporting party, then of having undergone sufficient working or processing in the exporting party.

Having said that, the origin regime is a combination of three criteria that fulfil the condition of sufficient working or processing<sup>14</sup>: (1) the change of tariff heading rule—i.e., the product has been substantially transformed to shift to a different tariff heading to that of the input materials used in its manufacturing—; (2) the minimum value locally added rule, expressed as a minimum given percentage of the former works price of the product, which ranges between 20% and 60%; and (3) a specific requirement in terms of processes that have to be undertaken in the product manufacturing.<sup>15</sup> This array of rules is detailed in Appendix II, and for some chemicals, footwear,

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<sup>12</sup> This preferential tariff quota was implemented by the Joint Council Decision No. 2/2004 of April 2004. None of the other have been implemented so far. Additionally, tariff concessions to imports into the EU of products covered by protected denominations—that do not apply (Article 8.10)—will be reviewed in the light of the evaluation of the progress made in the protection of intellectual property rights.

<sup>13</sup> The expedition of an EUR.1 movement certificate retrospectively is regulated in Annex III, Article 17.

<sup>14</sup> The criteria applicable to each tariff heading or sub-heading are defined in Appendix II and Appendix IIa; for some products only one condition has to be fulfilled, while for other products a combination of criterion 1 and 2 is required. Other tariff headings or sub-headings must comply with specific requirements (criterion number 3).

<sup>15</sup> Also called specific-product or specific-process origin rule.

apparel and clothing, and nuclear fuel elements specified in Appendix IIa, the agreement allows more flexible requirements for a limited transition period<sup>16</sup>.

The regime only allows bilateral cumulation<sup>17</sup> of origin, and provides a *de minimis* condition for non-originating materials which total value does not exceed 10% of the former ex-works price of the product, being Chapters 50 to 63 of the Harmonised System (textile and clothing) excluded of this rule. Additionally, prohibition of drawback of, or exemption from import duties applies to non-originating materials used in manufacturing of products that must fulfil origin requirements to be exported from one party to the other.

Self-certification of origin is limited, as evidence of certification of origin is accepted as an invoice declaration by approved exporters<sup>18</sup> (Annex III, Article 20) or for shipments valued under € 6,000.<sup>19</sup>

Finally, in Title VI (Articles 30 to 35), the parties establish a mutual assistance mechanism, the procedures for the verification of proofs of origin, penalties in case of incorrect information provided for the purpose of obtaining preferential treatment, and dispute handling related to the verification of origin—that must be submitted to the Special Committee on Customs Cooperation and Rules of Origin.

### *c. Safeguards<sup>20</sup>*

Article 15 of the Decision No. 2/2000 provides for a Safeguard Clause related to liberalised trade in goods. Safeguard measures can be adopted when imports of one party from the other show an increase that cause or threaten to cause serious injury to the domestic industry in the importing party, assuming that such measures shall not exceed what is necessary to remedy the situation, and should consist of the suspension of applicable tariff rate reduction within the liberalisation program of the agreement or the increase of tariff rate for the product concerned.

Safeguard measures can be adopted for a maximum period of one year, or three years in very exceptional circumstances. The importing party must offer, prior to the adoption of the safeguard measure, to the other party compensation, normally in the form of a substantially equivalent trade liberalisation—e.g., tariff concessions of equivalent trade effects. In the case that the parties do not agree on the offer of concessions, the exporting party can take compensatory tariff action under the condition of having trade effects equivalent to the safeguard imposed by the other party.

### *d. Standards, Technical Regulations and Conformity Assessment Procedures*

Standards, Technical Regulations and Conformity Assessment Procedures are regulated in Article 19 of the Joint Council Decision No. 2/2000. It generically covers technical barriers to trade as defined by the WTO (i.e., the WTO TBT Agreement) that affect, directly or indirectly, trade in goods.

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<sup>16</sup> As part of the tariff liberalisation programme described above, a special treatment is allowed to the Mexican automotive sector in terms of its origin requirements: for the first three years a percentage of 50% of local value added will be imposed to Mexican exports, being this percentage of 60% after this transition period. It must also be noted that the definition of the concept of originating products and methods of administrative cooperation was modified by the Joint Council Decision No. 5/2002 (relating to Annex III to Decision No. 2/2000); and that Joint Committee Decisions nos. 1/2002, 1/2004, 1/2007 and 1/2010 amended the extension of the rule of origin of certain goods, specifically relating to explicative notes that list the working or processing required to be carried out on non-originating materials for the final manufactured product to be considered as originary of one of the parties, granting it until mid-2014. See section on Identification of Regulatory Changes below.

<sup>17</sup> The extent to which production may be aggregated with third countries keeping originating status for the purpose of the applicable rule of origin.

<sup>18</sup> An “exporter who makes frequent shipments of products under this Decision” (Annex III, Article 21).

<sup>19</sup> An interpretation of this and other articles is provided in the “Explanatory notes concerning Annex III of the EC-Mexico Agreement (Decision 2/2000 of the EC-Mexico Joint Council).

<sup>20</sup> It must be noticed that in relation with Antidumping and Countervailing Measures (Article 14) the parties confirm their rights and obligations arising from the WTO Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994 and from the WTO Agreement on Subsidies and Countervailing Measures.

The corresponding provisions can be subdivided in two groups: substantive provisions on the one hand, and procedural provisions on the other hand.

Within the first group, the parties confirm their rights and obligations under the TBT Agreement, i.e., Most Favoured Nation (MFN) treatment, national treatment and transparency obligations, and state their will to intensify bilateral cooperation in this field, including exchange of information, bilateral consultations, promoting the use of international standards and facilitating the adoption of their respective ones. However, there are no commitments going beyond the WTO agreements.

As regards the procedural provisions, a Special Committee on Standards and Technical Regulations is established. The functions of the Committee include monitoring the implementation and administration of this article, providing a consultation and discussion forum, and enhancing cooperation on the development, application and enforcement of standards, technical regulations and conformity assessment procedures. Remarkably, the intention of working towards the approximation and simplification of labelling requirements, explicitly mentioning the terms applied to leather products to converge with international practices, represents an exhaustive commitment that stands out over the rest of the provisions in this article, even if the wording appears as somehow vague and non-binding. In a similar sense, issues such as the promotion of harmonisation of standards or the implementation of mutual recognition agreements are not present, lessening to some extent the impact of the provisions of this article.

#### *e. Sanitary and Phytosanitary Measures*

Article 20 of the Joint Council Decision No. 2/2000 regulating Sanitary and Phytosanitary (SPS) Measures shows to some extent the same format as the one referred to under standards and technical regulations, i.e. similar substantive and procedural provisions. Regarding substantive provisions, the article essentially alludes to the commitments undertaken by the parties under the WTO Agreement on the Application of SPS Measures.

A Special Committee on SPS Measures is established to deal with the monitoring and application of the corresponding provisions, providing a forum to identify and address problems arisen from the application of such measures, exchanging information and developing specific provisions related to the application of regionalisation or equivalence assessment.

#### *f. Government Procurement*

Government Procurement provisions are contained in Title V (Article 10) of the GA and in Title III (Article 4) of the IA, and in Title III, Government Procurement (Articles 25 to 38) of the Joint Council Decision No. 2/2000.

According to the mandate established in the IA, the above mentioned Decision regulates substantive and procedural conditions to provide each party access to the procurement markets of the other party. The main topics included concern the coverage of the agreed liberalisation, non-discriminatory access to the agreed markets, threshold values, legal and transparent procedures, clear challenge procedures, and the use of information technology.

The agreement covers (Article 25) procurement methods such as purchase, lease or rental, with or without an option to buy, and central purchase entities or utilities, thus excluding provincial or sub-federal levels<sup>21</sup>. Entities and goods and services covered are listed in Annexes VI, VII, VIII and IX.

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<sup>21</sup> As correctly pointed out by some authors, due to the fact that Mexico is not a member of the WTO Government Procurement Agreement and because a parity level of procurement access with NAFTA was a key interest for the EU, the agreement was modelled on NAFTA provisions on the Mexican side and on WTO GPA on the European side. See, for example, Philippe De Lombaerde (2003), pp. 107 and ss.

Article 26 details the provisions under national treatment and non-discrimination principles, establishing, among other points, that each party will provide “immediately and unconditionally to the products, services and suppliers of the other party, no less favourable treatment than that accorded to domestic products, services and suppliers; and that 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.

In reference to procurement procedures, provisions are included in Article 29, while Annex XII specifies the rules and procedures of each party. These rules and procedures can only be modified if amendments to the corresponding NAFTA or WTO GPA provisions take place, in which case the modifications will have to maintain equivalent treatment to the other party, and if not the affected party may have recourse to the dispute settlement mechanism.

Other relevant provisions are those related to bid challenge (Article 30), that grant the suppliers rights to challenge the procedures for awarding contracts, and those on information and transparency (Article 31).

A Special Committee on Government Procurement is created in Article 32, which is tasked, among other things, with the evaluation of the effective access of suppliers of a party to procurements of the other party and the monitoring of the application of the provisions of this chapter, as well as with making recommendations for improvement and amendment of the scope of the procurement agreement.

Further negotiations are foreseen between the parties in the case additional advantages are granted by one of the parties to a third party, with a view to extend such advantages to the other party on a reciprocal basis (Article 37).

#### *g. Competition*

Provisions on Competition are regulated in Article 5 of the IA (Article 11 of the GA), and in Title IV of the Joint Council Decision No. 2/2000 (Article 39 and Annex XV).

The IA and the GA state that measures to be adopted by the parties regarding competition policy aim “to prevent distortions or restrictions of competition that may significantly affect trade between Mexico and the Community.” To this end the parties must establish mechanisms of cooperation and coordination among the competent authorities with respect to agreements between undertakings, abuse of a dominant position, mergers between undertakings, and state monopolies, among other competition-related topics.

The regulatory framework instituted in Annex XV contains very detailed provisions that are in contrast with the rest of the – much more general – provisions related to other trade disciplines regulated in the agreement. A complete set of guidelines for competition authorities to follow in the execution of enforcement activities that affect competition is arranged. Even if the obligations so created are not enforceable (in the sense that they are not legally binding for the parties nor allow the recourse to the dispute settlement mechanism in case of an alleged breach of any of the competition provisions), the parties are obliged to:

- adopt or maintain measures aimed to prevent or eliminate anti-competitive conduct;
- to take enforcement actions with regard to these measures; and
- to mutually cooperate through notifications, consultations and exchange of information.

Chapter I of the Annex XV contains the General Provisions: Article 1 enunciates the objectives of the mechanism, defining that the parties will apply their respective competition laws in order to prevent anti-competitive activities, and Article 2 defines competition laws and competent authorities, as well as enforcement and anti-competitive activities. Chapter II contains provisions referred to notifications, exchange of information, coordination of enforcement activities, consultations, avoidance of conflicts, confidentiality and technical cooperation.

The process of notification (Article 3) encompasses the situations in which one party should notify the other about its enforcement activity, particularly when such enforcement activity is relevant to enforcement activities of the other party or affect its interests. The purpose of such notification is to allow the notified party to make an informed evaluation of the proposed actions of the notifying party and their effects. Exchange of information, regulated in Article 4, provides for the facilitation of an effective implementation of competition policy by each of the parties.

The other two important provisions of the Annex XV relate to the coordination of enforcement activities (Article 5) and the avoidance of conflicts (Article 7). The first set of provisions allows the coordination between competition authorities in relation with specific cases, notwithstanding that each of the parties' authorities can take autonomous decisions. The second one establishes that each party "shall (...) take into consideration the important interests of the other Party in the course of its enforcement activities", seeking a "mutually acceptable solution" when adverse effects result for one party from the enforcement activity of the other party.

Finally, Article 9 provides for mutual technical assistance focused on the strengthening of the implementation of competition laws and policies, among other activities, through training, joint studies on competition laws and policies, and dissemination of information through their respective Web pages.

#### *h. Trade in Services*

Services liberalisation is addressed in the Joint Council Decision No. 2/2001 (Title II, Trade in Services, Articles 2 to 27<sup>22</sup>), according to the mandate stated in the IA (Trade Liberalisation, Article 2), and in the Joint Declaration included in the Final Act,<sup>23</sup> authorising the European Commission to negotiate the issues under the competence of the member states—services, among them—without the previous approval of the GA.<sup>24</sup>

The process of liberalisation of trade in services covers all four modes of services supply<sup>25</sup> and all sectors, with the exception of those sectors that are usually excluded, such as audio-visual, air transport and maritime cabotage. The process should be "in accordance with the relevant WTO rules, in particular, Article V of the General Agreement on Trade in Services (GATS),"<sup>26</sup> thus making provision for its three general principles on market access, Most Favoured Nation (MFN) treatment and national treatment.

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<sup>22</sup> The Decision includes two Annexes: Annex I containing the list of non-conforming measures (or reservations) corresponding to the "negative-list" approach adopted in the negotiation of financial services liberalisation; and Annex II that specifies the authorities responsible for Financial Services (referred in Articles 23 and 24, on the constitution of the Special Committee on Financial Services and consultations.

<sup>23</sup> See Background, chronology and overview of the EU-Mexico FTA, at the beginning of this section.

<sup>24</sup> It is to be noticed that the IA does not mention services liberalisation as part of the objective of Trade Liberalisation, as its Article 2 refers to the establishment of "a framework to encourage the development of trade in goods and services, including a bilateral and preferential, progressive and reciprocal liberalisation of trade in goods".

<sup>25</sup> That is, according to GATS: cross-border trade, consumption abroad, commercial presence, and presence of natural persons.

<sup>26</sup> Article 6 of the GA.

Under the principle of market access (Article 4) the parties agree that they shall not maintain nor adopt limitations on the number of services suppliers, on the total value of services transactions or service operations, on the total number of persons employed, and on the participation of foreign capital; the same provisions are enacted for Financial Services (Article 12).

Under the principle of MFN (Article 5, and Article 15 for Financial Services), the parties commit to treat each other's services suppliers or financial services suppliers in a manner no less favourable than that granted to like services or financial services suppliers of any third country. A reservation is made for treatment to third parties with whom a separate agreement has been signed and notified under Article V of the GATS, and at the same time such a treatment can be negotiated in the case of future agreements with third parties.

Finally, the principle of national treatment specifies that service suppliers from one party shall receive a treatment no less favourable than the treatment given to domestic services suppliers.

Two important points have to be observed with respect to liberalisation process. On the one hand, a standstill clause is established (Article 7.2) that prevents the parties from introducing or increasing discrimination, i.e., a commitment to maintain the openness level at the moment of the enforcement of the agreement by consolidating the domestic legislation. On the other hand, a commitment is undertaken to adopt a decision "providing for the elimination of substantially all remaining discrimination (...) in the sectors and modes of supply covered by this Chapter" no later than three years following the enforcement of the agreement (Article 7.3, and a similar commitment for Financial Services, in Article 17.3). These commitments have not yet been implemented.

Article 9, in a similar sense, instructs the Joint Council to settle the procedures needed to ensure the mutual recognition of requirements, qualifications, licenses and other regulations necessary for the authorisation, licensing, operation and certification of services providers, within a three year period. In January 2008<sup>27</sup> the Joint Council decided to "encourage the relevant representative bodies (...) to provide the Joint Committee with recommendations on mutual recognition." After reviewing and validation of these recommendations by the Joint Committee, their implementation should be negotiated by the parties.

Finally, on the procedures side, a Special Committee on Financial Services is created (Article 23) to supervise the implementation of the corresponding chapter, and to consider financial services issues referred by the parties and the application of measures listed in Annex I. In addition a consultation process is considered in Article 24, regarding any matter related to this chapter.

#### *i. Investment and Related Payments*

EU-Mexico FTA Investment related provisions are regulated in Decision No. 2/2001 of the EU-Mexico Joint Council, according to the mandate of the Article 9 of the GA, to adopt the measures to liberalise investment and related payments between the parties. The specific provisions are included in Title III, Investment and Related Payments, Articles 28 to 35 of the said Decision.

In general terms, there are no investment provisions other than those related to payments and capital flows, since the coverage of investment promotion and protection provisions themselves is left to bilateral investment treaties (BITs) between Mexico and individual Member States.<sup>28</sup>

<sup>27</sup> Joint Council Decision No. 1/2008: Implementing Article 9 of Joint Council Decision No. 2/2001 of February 27<sup>th</sup>, 2001, on the establishment of a framework for the negotiation of mutual recognition agreements.

<sup>28</sup> Mexico has subscribed Bilateral Investment Treaties with the following members of the EU: Austria, Belgium (and Luxemburg), Czech Republic, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Portugal, Slovakia, Spain, Sweden, and the United Kingdom.

Nevertheless, other substantive investment-related provisions are regulated in the chapters on financial services, under the commitments undertaken by the parties in the GATS.

Within the general framework, the provisions related to the investment promotion clause (Article 33 of the Decision No. 2/2001) refer to: information mechanisms on legislation and investment opportunities; the objective of reaching uniform and simplified procedures; and investment promotion addressed to small and medium enterprises, as instruments for encouraging reciprocal investment. Liberalisation of investment-related payments and capital movements are explicitly associated with direct investment, investment in real estate and purchase and sale of securities (Article 28). With the exception of situations in which serious difficulties for exchange-rate policy or balance of payments exist, all restrictions on payments shall be progressively eliminated, introducing a standstill clause on any new restrictions (Articles 29 to 31). In addition both parties invoke their international investment commitments, particularly the OECD Codes of Liberalisation (Article 34), even if this provision is excluded from the dispute settlement mechanism (Article 37).

Regarding the other substantive investment-related provisions, these arise from the commitments adopted within the GATS framework by the parties and specifically refer to the principles of market access and MFN and National treatments. These provisions - already described in detail in the previous paragraphs<sup>29</sup> - include, for instance, prevention of pre-admission requirements for investment by foreign service suppliers to access to the market of one of the parties, and restrictions to the amount of foreign capital invested in domestic companies or to individual or aggregate foreign investment.

Finally, Article 35 introduces a Review clause, according to which the parties commit themselves to “review the investment legal framework, the investment climate and the flow of investment between their territories consistent with their commitments in international investment agreements not later than three years after the entry into force of this Decision.” So far, this clause has not been implemented.

#### *j. Intellectual Property Rights*

Intellectual Property Rights (IPR) are regulated in the Title V (Article 40) of the Joint Council Decision No. 2/2000 and in the Title IV (Article 36) of the Joint Council Decision No. 2/2001, according to the provisions established in the GA (Title V, Article 12).

General principles stated in Article 12 of the GA cover the protection of patents, industrial designs, geographical indications—including designation of origins—, trademarks, topographies of integrated circuits, copyright—including copyright in computer programmes and databases—, and protection against unfair competition and of undisclosed information. It establishes that both parties must undertake “the appropriate measures with a view to ensuring an adequate and effective protection in accordance with the highest international standards, including effective means to enforce such rights.”<sup>30</sup> The Joint Council is mandated to constitute a consultation mechanism among the parties and the measures to ensure compliance with these objectives by means of the adhesion to the relevant multilateral conventions on intellectual property rights.

According to this mandate, the Joint Council established a Special Committee on Intellectual Property Matters<sup>31</sup> “with a view to reaching mutually satisfactory solutions to difficulties arising in

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<sup>29</sup> See paragraph h. Trade in Services.

<sup>30</sup> GA, Article 12.

<sup>31</sup> Title V (Article 40) of the Joint Council Decision No. 2/2000.

the protection of intellectual property.”<sup>32</sup> In addition both parties agreed<sup>33</sup> on their obligations related to multilateral conventions on intellectual property, namely:

- the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs);
- the Paris Convention;
- the Berne Convention;
- the International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations;
- the Patent Cooperation Treaty; and
- the UPOV Convention (Protection of New Varieties of Plants).

Additionally, the parties took the commitment to immediately accede to the Nice Agreement (International Classification of Goods and Services for the purposes of the Registration of Marks), and within a three years period to the Budapest Treaty (International Recognition of the Deposit of Microorganisms for the purpose of Patent Procedure), while declaring that they will “make every effort” for their accession to the WIPO Copyright Treaty of 1996 and the WIPO Performances and Phonogram Treaty of 1996.

The above mentioned rules and commitments do not include specific provisions on control of abusive or anti-competitive practices, on enforcement of intellectual property rights, or on procedural and remedial aspects of civil and administrative procedures—as, for instance, are included in NAFTA. Therefore, the regulations of this chapter of the agreement appear restricted to the general principles to be complied with by both parties.<sup>34</sup>

#### *k. Dispute Settlement*

Dispute settlement is regulated in Title VI of the Joint Council Decision 2/2000 and in Title V of the Joint Council Decision 2/2001. Its provisions apply to matters related to trade in goods and services, capital movement and payments, public procurement and competition. Arbitration procedure, however, is *not applicable* to matters related to:

- the WTO agreements on antidumping, on subsidies and countervailing measures, on TBT and on SPS;
- measures adopted because of balance of payments difficulties;
- the constitution of free trade areas and custom unions with third parties;
- mutual recognition of requirements, qualifications, licences and other regulations agreements in trade in services, in conformity with Article VI of GATS;
- intellectual property rights; and
- international commitments of the parties on investment.

The instrument considers only government-to-government process, and does not include any provision for dispute settlement between private parties.

The mechanism envisages a consultation process between the parties within the Joint Council that has 30 days to resolve any dispute on the application or interpretation of legal instruments covered. This resolution shall adopt the form of a Joint Council Decision, specifying the implementing measures to be taken by the party concerned, as well as the time period to do it.

Once the consultation process has been exhausted, the concerned party can request the establishment of an arbitration panel, detailing the measure and provisions of the legal instruments

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<sup>32</sup> Including intellectual property rights enforcement issues.

<sup>33</sup> Title IV (Article 26) of the Joint Council Decision No. 2/2001.

<sup>34</sup> Some enforcement problems have arisen in the field of Geographical Indications, and others concerning counterfeiting and piracy goods in some manufacturing sectors, about which the documents consulted report no progress or positive outcomes from the Special Committee.

covered with respect to which the dispute is claimed.<sup>35</sup> Three arbitrators are appointed—one by each party and a third, to act as a chair, to be agreed by both parties—to constitute the panel. The panel must submit an initial report with its findings and conclusions to the parties, and the parties may submit written comments to the panel. A final report from the panel must be issued in a period of time not longer than six months since the panel constitution (four months if the case involves perishable goods).

The measures to implement the final report are binding for the party concerned, and must be immediately implemented or in a term to be agreed by both parties.

In the case that the party concerned fails to implement the measures or these are inconsistent with the final report, a consultation process will be started with the aim to agree on a mutually acceptable compensation. If this agreement is not reached, the complaining party is entitled to retaliations, consisting of the suspension of benefits corresponding to the legal instruments equivalent to those affected by the measure object of the dispute, preferably in the same sector or sectors affected.

As part of the general provisions, it is stated that arbitration proceedings under this ruling will not consider issues related to WTO rights and obligations of the parties, and that the parties' recourse to it shall be without prejudice of actions under the WTO dispute settlement system. Nevertheless, the provision also establishes that once a settlement procedure under one of the mechanisms is initiated, the complaining party cannot have recourse to the alternative forum until the proceedings of the chosen forum have been concluded.

## 2.2 Analysis of the FTA context

This section will consider two relevant issues related to the significance of the EU-Mexico FTA.

On the one hand, it is important to review the context in which the agreement has been signed, as well as the Mexico trade policy at the time of its negotiation and entry into force, and during the period covered by the present study.

On the other hand, other trade agreements by Mexico are briefly analysed in order to establish a comparison with the EU-Mexico FTA, having first outlined comparison criteria based on key elements of each agreement, e.g., trade and investment flows, coverage of tariff liberalization, transition periods, and other provisions related to trade disciplines and to their institutional framework.

### 2.2.1 General context and Mexican trade policy

The Mexican economic crisis at the beginning of the 80's marked the launching of a structural reform of trade policy (as part of a larger economic reform process), developed over three identifiable phases:

1. Unilateral liberalization;
2. Strengthening of the liberalization process through the commitments assumed by Mexico in its accession to the GATT;
3. Building a wide network of free trade agreements.

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<sup>35</sup> Annex XVI outlines the Model Rules of Procedure for arbitration panel proceedings.

The first phase, unilateral trade liberalization, can in turn be subdivided into several consecutive steps. In the first half of the 1980s, import restrictions—i.e., prior import permits and import licenses—were eliminated, followed by the start of the reduction in import tariff levels, so that quantitative restrictions were reduced to only a third of total imports, and a slight reduction in average tariff. During the second half of the 1980s, trade reforms deepened, with further elimination of import restrictions and tariff reductions.

Mexico's accession to the GATT represented a strong commitment, more as a sign of the consolidation of trade policy reform rather than in terms of additional liberalization in trade flows. Moreover, under the stabilization economic programme undertaken in 1987, further cutbacks in import tariffs and the continuation of decline in import quantitative restrictions coverage—pushed by the necessity of inflation control— were introduced. This resulted in an average tariff level of 10% and less of a third of total imports subject to import licenses.

By the end of the 1980s, the incoming administration of President Carlos Salinas de Gortari made a shift in trade policy, mostly obeying to macroeconomic policy needs than to a change in Mexico's vision about its international insertion. A set of tariff measures was put in place with a declared aim to eliminate tariff dispersion, thus leading to an increase of average protection rates, responding to the fiscal needs of the new government—i.e., to raise government revenue by expanding the tax base. Together with these changes, Mexican trade policy focused on consolidating the benefits of the accession to GATT, while tentative steps were taken toward closer integration with the United States, by exploring the possibility of sectoral agreements.

The changes in international context at the beginning of the 1990s, implied that deeper trade integration would be a necessary condition to attract foreign investment. This is commonly seen as one of the main factors motivating Mexico to enter into the negotiation of the North American Free Trade Agreement (NAFTA) with the USA and Canada. The negotiation and conclusion of NAFTA mark the beginning of the third phase in Mexico's trade policy reform, started in the early 1980s.

When the North American Free Trade Agreement (NAFTA) entered into force at the beginning of 1994, it represented not only the largest FTA in the world, but also an ambitious agreement including trade related disciplines that had thus far not been part of this type of agreement. Besides the elimination of tariff and non-tariff barriers—which were extended to the agricultural sector—, NAFTA incorporated liberalisation of trade in services, and important commitments in investment flows, public procurement, intellectual property rights and a dispute settlement mechanism, protecting the rights of the signatory parties as well as those of private investors and exporters. Furthermore, environmental and labour clauses were agreed by (1) the creation of a Commission for Environmental Cooperation to coordinate efforts to develop and implement protection programmes for certain species; and (2) a formal process through which the public could raise concerns about labour law enforcement directly with governments, and the undertaking of cooperative programmes on industrial relations, occupational safety and health, child labour, gender equality, and protection of migrant workers.

Undoubtedly, not only the trade and economic results of the agreement, but also the implementation of its commitments, strongly contributed to the deepening of Mexico's trade policy reforms and its progressive consolidation. Thus, for example, as per 2013 statistics, NAFTA total trade in goods was worth US\$ 1,138.9 billion, representing an increase of 289.2% since 1993 (US\$ 292.6 billion). Trade in services reached a value US\$ of 133.5 billion in 2012—a growth of 204.1% in comparison with 1994. And foreign direct investment flows increased by 88.7% between 1994

and 2011—a percentage that is above the growth of total FDI within the same period—, reaching a value of US\$ 10.7 billion.<sup>36</sup>

Pursuant to this policy, Mexico agreed on similar treaties with other countries and regional blocks, becoming the country with the largest number of trade agreements among Latin American countries: 12 free trade agreements and a number of partial scope trade agreements within the framework of the Latin American Integration Association (LAIA)—see Table 2.1 below. Mexico's trade growth shows the significance of its trade agreements network in the context of the above described trade policy. According to the WTO, by 2011, 81.3% of total Mexico's trade in goods is with countries with which Mexico has trade agreements, a more than impressive number, even if most of it results from the exchange of goods with its NAFTA partners (67%).<sup>37</sup>

It is clear that this third phase shows the building-up of a network of trade agreements as a key element of Mexico's trade strategy, and also that it has consistently been embedded into its trade policy as a whole—together with unilateral liberalization and trade policy reforms—during the period under study.

Besides, actions taken in parallel with the above must be considered to further substantiate this conclusion. The gap between preferential and Most Favoured Nations (MFN) tariffs in conjunction with the composition of trade flows—i.e., the relative share of trade under preferential and non-preferential tariffs—became a source of distortions negatively affecting competitiveness, trade administration efficiency and customs transparency. The observed distortions - confronting a MFN average tariff for manufactured products of 15.6% in 2003 with very low or zero preferential tariffs, even if applied to a smaller portion of total trade - were negatively affecting competitiveness to the extent that higher levels of MFN protection put domestic users of imported inputs originating from countries outside the trade agreements network at a disadvantage compared to their competitors in markets with preferential access. In addition, there were inconsistencies in the tariff structure, where imported inputs were subject to duties which were actually higher than the ones applied to the final products. On the other side, tariff dispersion along with the proliferation of different trade regulations under trade agreements were one of the causes of a mounting complexity in customs administration and hence generated incentives for smuggling, corruption practices, tax avoidance and evasion. This concerned complex regimes of origin, but also temporary imports and preferential ad valorem tariffs allowed to domestic promotion programmes<sup>38</sup>, antidumping and countervailing measures, safeguards and import permits, etc..

Aware of the negative impacts of these distortions, Mexico embarked on a new process of unilateral liberalization since 2009, which essentially reduced or eliminated MFN tariffs to 8.357 tariff headings of the Mexican nomenclature. This reform is considered by the majority of analysts as the most ambitious unilateral liberalization policy undertaken by the country. Tariff reductions were applied in several stages between 2009 and 2012, and represented a decline of the tariff average for non agricultural<sup>39</sup> merchandises imports from 10.4% to 4.3%.

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<sup>36</sup> WTO (2014), Villarreal and Fergusson (2014) pp. 9-11 and 17-18, Gary Hufbauer and Gustavo Vega (2002), pp. 5-8, and Mexico Secretariat of Economy

<sup>37</sup> WTO (2013a) pp. 31 and ss.

<sup>38</sup> For example: PROSEC (2002)—sectoral promotion programmes—; and IMMEX (2006)—promoting manufacturing, maquila and export services industry. See Section 2.3 "Identification of Regulatory Changes".

<sup>39</sup> Chapters 1 to 24 of the Harmonized System, corresponding to agricultural products, were excluded from the reform.

**Table 2.1 Trade Agreements signed by Mexico<sup>40</sup>**

Agreement – Signatory Countries / Regional Blocks	Enforcement Date	Type of Agreement
North American Free Trade Agreement (NAFTA). Mexico – United States – Canada	January 01, 1994	FTA – Goods and Services
Mexico – Costa Rica <sup>41</sup>	January 01, 1995	FTA – Goods and Services
Mexico – Nicaragua <sup>42</sup>	July 01, 1998	FTA – Goods and Services
Mexico – Chile <sup>43</sup>	August 01, 1999	FTA – Goods and Services
Mexico – European Union	July 01, 2000 (Goods) March 01, 2001 (Services)	FTA – Goods and Services
Mexico – Israel	July 01, 2000	FTA – Goods
Northern Triangle FTA El Salvador – Guatemala – Honduras <sup>44</sup>	March 14, 2000 (Guatemala & El Salvador); June 01, 2001 (Honduras)	FTA – Goods and Services
Mexico – European Free Trade Association (EFTA)	July 01, 2001	FTA – Goods and Services
Mexico – Uruguay <sup>45</sup>	July 15, 2004	FTA – Goods and Services
Mexico – Japan	April 01, 2005	FTA – Goods and Services
Mexico – Bolivia <sup>46</sup>	June 07, 2010	FTA – Goods
Mexico – Colombia <sup>47</sup>	August 02, 2011	FTA – Goods and Services

<sup>40</sup> Sources: Own elaboration based on WTO (2013a), OAS-SICE, World Bank Library, and Mexico Secretariat of Economy.

<sup>41</sup> Replaced by the Central America FTA.

<sup>42</sup> Ibid.

<sup>43</sup> Deposited at the Latin American Integration Association (LAIA) under the designation AAP.CE No. 41 (Partial Scope Economic Complementarity Agreement No. 41).

<sup>44</sup> Ibid.

<sup>45</sup> A previous Partial Scope Economic Complementarity Agreement subscribed within the framework of the Latin American Integration Association (LAIA) – AAP.CE No. 5, enforced in March 01, 2001 – was replaced by this agreement, that was also deposited at LAIA under the designation AAP.CE No. 60 (Partial Scope Economic Complementarity Agreement No. 60). Other sectoral LAIA agreements between Mexico and Uruguay – designated as Partial Scope Commercial Agreements (AAP.C), in chemical, recording, electronic, and photographic industries – were also absorbed by the AAP.CE No. 60.

<sup>46</sup> The Mexico-Bolivia FTA – signed in September 1994, deposited at the Latin American Integration Association (LAIA) as Partial Scope Agreement No. 31, and enforced in January 1995 – was replaced by this new agreement, deposited at the LAIA as Partial Scope Economic Complementarity Agreement No. 66.

Agreement – Signatory Countries / Regional Blocks	Enforcement Date	Type of Agreement
México – Central America (El Salvador – Nicaragua – Honduras – Costa Rica – Guatemala) FTA	September 01, 2012 (El Salvador and Nicaragua); September 01, 2013 (Guatemala); July 01, 2013 (Costa Rica); January 01, 2013 (Honduras)	FTA – Goods and Services
Mexico – Peru <sup>48</sup>	February 01, 2012	FTA – Goods and Services
Mexico – Panama <sup>49</sup>	Pending <sup>50</sup>	FTA – Goods and Services
Mexico – Ecuador	December 14, 1987	LAIA <sup>51</sup> – Partial Scope Agreement on the Renegotiation of the Historical Heritage (AAP.R No. 29).
Mexico – Paraguay	July 01, 1994	LAIA – Partial Scope Agreement on the Renegotiation of the Historical Heritage (AAP.R No. 38).
Mexico – Uruguay <sup>52</sup>	December 29, 1999	LAIA – Partial Scope Economic Complementarity Agreement (AAP.CE No. 5).
Mexico – Cuba	February 28, 2001	LAIA – Partial Scope Economic Complementarity Agreement (AAP.CE No. 51).
Mexico – Argentina	June 01, 2001	LAIA – Partial Scope Economic Complementarity Agreement (AAP.CE No. 6).
México – MERCOSUR <sup>53</sup> (Argentina, Brazil, Paraguay, Uruguay)	January 01, 2003 <sup>54</sup>	LAIA – Partial Scope Economic Complementarity Agreement (AAP.CE No. 55). Automotive sector

<sup>47</sup> The agreement was originally deposited at the Latin American Integration Association (LAIA) under the designation AAP.CE No. 33 (Partial Scope Economic Complementarity Agreement No. 33). This agreement, whose signatory countries were Colombia, Mexico and Venezuela, entered into force in January 1995. In November 2006 Venezuela formally denounced the agreement, that remained in effect for Mexico and Colombia. Between 2009 and 2011 negotiations were held to expand the agreement scope, that finally entered into force in January 2011, adding provisions on market access, origin rules, and administrative institutions.

<sup>48</sup> Deposited at the Latin American Integration Association (LAIA) under the designation AAP.CE No. 67 (Partial Scope Economic Complementarity Agreement No. 67).

<sup>49</sup> Mexico and Panama signed a Partial Scope Agreement (AAP. A25 No. 14; April 24 1986) under the Article 25 of the Latin American Integration Association (LAIA). Article 25 establishes that preferences granted by the parties in the agreement to non LAIA members are automatically extended to LAIA member countries of "relatively lower economic development", namely the Plurinational State of Bolivia, Ecuador and Paraguay.

<sup>50</sup> The agreement was signed on April 3, 2004; not yet enforced.

<sup>51</sup> Latin American Integration Association. The LAIA was instituted by the Montevideo Treaty of 1980. Its country members are: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay, Venezuela, Cuba (accessed in 1999), and Panama (accessed in 2012).

<sup>52</sup> Replaced by Mexico-Uruguay FTA.

<sup>53</sup> Common South Market. This agreement will be terminated when replaced by a Mexico-MERCOSUR free trade agreement (according to the provisions established by the LAIA-AAP.CE No. 54).

<sup>54</sup> Mexico-Paraguay enforced since February 01, 2011.

Agreement – Signatory Countries / Regional Blocks	Enforcement Date	Type of Agreement
Mexico – Brazil	May 02, 2003	LAIA – Partial Scope Economic Complementarity Agreement (AAP.CE No. 53).
México – MERCOSUR (Argentina, Brazil, Paraguay, Uruguay)	January 05, 2006	LAIA – Framework Agreement which objective is to create a Free Trade Area. Deposited at LAIA as Partial Scope Economic Complementarity Agreement (AAP.CE No. 54) <sup>55</sup> .
México – Bolivia, Paraguay and Ecuador	April 30, 1983	LAIA – Regional Market Opening AR.AM No. 1, 2 and 3 <sup>56</sup>
Mexico – LAIA countries	April 27, 1984	LAIA – Regional Tariff Preference Agreement <sup>57</sup> AR.PAR No. 4

<sup>55</sup> The Mexico-MERCOSUR Framework Agreement includes (Article 2º) all the agreements subscribed or to be subscribed between Mexico and the MERCOSUR country members (Argentina, Brazil, Paraguay, Uruguay) under the Montevideo Treaty of 1980.

<sup>56</sup> Unilateral tariff preferences conceded to these countries, considered as less developed countries within the LAIA framework.

<sup>57</sup> LAIA members grant, on a reciprocal basis, a tariff preference on trade on goods. All tariff lines are covered, except for those in the list of exceptions drawn up by each country.

## 2.2.2 Comparison of Mexico's FTAs

Two preliminary conclusions emerge from the preceding analysis. The first one is that the Mexican strategy of multiplying its commercial partners through trade negotiations with third countries is, and continues to be, a key element of Mexico trade policy. And since in this context tariff barriers do not appear as the main issue to be negotiated, trade-related disciplines will be the centre of the agreements currently under negotiation and of those coming in the future, probably going or trying to go beyond WTO standards, as long as WTO Doha Round keeps its present pace of progress.

The second conclusion concerns the fact that trade offs to be taken into account are obviously neither the same as when the EU-Mexico FTA was signed, nor have the same significance for the parties, in the sense that defensive and aggressive negotiation positions will not appear as distinct as they were at that time. The comparison of the EU-Mexico FTA with other FTAs that Mexico has negotiated must be viewed in the light of this premise.

Having said that, a brief descriptive analysis of trade agreements signed by Mexico with third parties or currently under negotiation is the first step to approach the comparison among EU-Mexico FTA and other relevant Mexico FTAs, as well as to establish some basic criteria to support such a comparison.

Mexico is the most prolific signer of trade agreements among Latin American countries: a total of 20 trade agreements have been negotiated with third parties—regional blocks as well as individual countries<sup>58</sup>—, and most of Mexico's trade is with countries with which it has trade agreements. Of Mexico's total trade, trade within the framework of trade agreements represents 81.4%, of which 67% corresponds to the United States and Canada (NAFTA), 14.3% to other free trade agreements—of which EU-Mexico FTA represents 56.6%, equivalent to 8.1% of Mexico's total trade—, and 2.2% to other trade agreements (i.e. preferential partial scope agreements).<sup>59</sup>

Trade agreements signed by Mexico during the period of this study can be grouped into three categories, namely:

- Preferential—partial scope—agreements;
- Free Trade Agreements;
- Trade initiatives currently under negotiation.

The following table (table 2.2) shows the basic trade figures between 1994<sup>60</sup> and 2013.

**Table 2.2 Mexico trade by type of trade agreement 1994-2013<sup>61</sup>**

AGREEMENTS / TRADE VALUE <sup>62</sup> SELECTED YEARS	1994	2013	% Variation and Share	
	USD Millions		2013-1994	%
MEXICO TOTAL TRADE <sup>63</sup>	117,199.0	761,306.0	549.6	100.0
MEXICO FREE TRADE AGREEMENTS				
NAFTA	90,890.0	506,325.0	457.1	66.5
Costa Rica <sup>64</sup>	122.0	4,151.0	3,302.5	0.5

<sup>58</sup> See Table 1.

<sup>59</sup> Source: Mexico Secretariat of Economy, data for 2011.

<sup>60</sup> Independently of the enforcement date of each trade agreement (see Table 1 below), 1994 has been considered as the base year for the comparison.

<sup>61</sup> Sources: Own elaboration based on WTO (2013a), OAS-SICE, World Bank Library, and Mexico Secretariat of Economy

<sup>62</sup> Exports + Imports

<sup>63</sup> Due to the fact that figures for Mexico Free Trade Agreements with third parties include some of the individual countries with bilateral FTA's, Mexico Total Trade figure does not match the sum of FTA's trade values.

<sup>64</sup> Part of the Mexico-Central America FTA since July 2013 (see Table 2.2 below).

AGREEMENTS / TRADE VALUE <sup>62</sup> SELECTED YEARS	1994	2013	% Variation and Share	
	USD Millions		2013-1994	%
Nicaragua <sup>65</sup>	100.0	1,408.0	1,308.0	0.2
Chile	1,288.0	3,523.0	173.5	0.5
European Union	18,344.0	63,121.0	244.1	8.3
Israel	215.0	728.0	238.6	0.1
Northern Triangle <sup>66</sup>	1,153.0	3,993.0	246.3	0.5
EFTA	901.0	3,020.0	235.2	0.4
Uruguay	136.0	592.0	335.3	0.1
Japan	11,774.0	19,317.0	64.1	2.5
Bolivia	32.0	231.0	621.9	0.0
Colombia <sup>67</sup>	427.0	5,647.0	1,222.5	0.7
Peru	264.0	2,356.0	792.4	0.3
Panama <sup>68</sup>	208.0	1,064.0	411.5	0.1
LAI Framework Partial Scope Agreements	2,225.0	14,358.0	545.3	1.9
Rest of the World	6,534.0	129,219.0	1,877.6	17.0

### Comparison to EU-Mexico FTA

Only a few of the existing trade agreements are strictly comparable to the EU-Mexico FTA: NAFTA, and the Mexico FTAs with Chile, Colombia and Peru. These FTAs have a set of trade-related provisions beyond liberalization of trade through tariff elimination, and are equivalent in terms of deepening integration. In addition, these countries are all in negotiations within the framework of the Pacific Alliance, and the Trans-Pacific Partnership Agreement. In the rest of this section, the main provisions of each one of these agreements will be analysed in contrast to the provisions established by the former, specially underlining their differences where they exist.

Concerning the above mentioned FTAs, the criteria of relative importance of trade and investment flows are strongly biased in favour of NAFTA. As shown in Table 2.3 below, trade flows with the EU and NAFTA represent 75% of total Mexico's trade, and 67.3% of total foreign direct investment. Coverage of tariff liberalization is above 95% of tariff lines for the FTAs with EU, NAFTA, Colombia, Chile, Central America and Uruguay, and below that percentage for the rest—Peru, Japan, EFTA countries, Bolivia and Israel are included in this subgroup. In addition, it must be remembered that Israel and Bolivia FTAs only cover trade in goods, and that Panama FTA is still not enforced.

A supplementary criterion for the selection appears to be suitable for the purposes of the comparison: together with Chile, Colombia and Peru, Mexico is currently in negotiations within the framework of the Pacific Alliance, and is also part of the Trans-Pacific Partnership Agreement, with Chile and Peru, and other eight countries.

<sup>65</sup> Part of the Mexico-Central America FTA since September 2012 (see Table 2.2 below).

<sup>66</sup> Replaced by the Mexico-Central America FTA (see Table 2.2 below).

<sup>67</sup> Until November 2006, Venezuela was part of this agreement (see Table 2.2 below).

<sup>68</sup> Enforcement still pending (see Table 2.2 below).

**Table 2.1 Mexico Relevant FTAs Main Indicators Comparison**<sup>69</sup>

Indicators	Free Trade Agreements				
	EU	NAFTA	CHILE	COLOMBIA	PERU
Tariff Liberalization Coverage <sup>70</sup>	97.0%	99.5%	99.2%	96.3%	82.3%
Percentage of Mexico's Total Trade	8.1%	67.0%	0.6%	0.9%	0.3%
Percentage of Total Foreign Direct Investment	12.4%	54.9%	0.0%	0.0%	0.3%

Two additional considerations must be made before entering into the comparison analysis:

1. Including NAFTA provisions on trade liberalization in goods and services, but also trade-related disciplines that in most of the cases are of the so-called WTO-plus provisions, implies that all free trade agreements negotiated by Mexico after NAFTA could embrace these commitments without practically affecting its trade policy configuration. In other terms, the agreements within this category and hence subject to comparison in this study, do not represent or imply significant changes in Mexican trade policy;
2. The second consideration relates to the EU Generalized System of Preferences (GSP)<sup>71</sup> and how Mexico benefits under it were affected by the negotiation of the EU-Mexico FTA. At the time of EU-Mexico FTA negotiations, Mexico was one of the beneficiaries of the GSP, a system through which the EU, like other developed countries, unilaterally grants tariff preferences on MFN tariff levels to developing countries, under certain conditions that are set in the corresponding GSP regulations.

In general terms, the GSP grants preferential treatment to EU imports originating from beneficiary countries under four categories<sup>72</sup> of margins of preference according to 'goods sensitivity': 15% preferential margin for very sensitive products, 30% for sensitive products, 65% for semi-sensitive products, and 100% for non-sensitive products. As mentioned by Zabludovsky and Gómez Lora<sup>73</sup>, the changes introduced by the amendment of 1994 made the preferences received by Mexico practically irrelevant. According to these authors, while 70% of Mexican exports had been considered as non-sensitive before the amendments to the GSP enforced since January 1995, only 20% fell under this category from that year onwards, since 80% of Mexican exports were thenceforth considered as semi-sensitive, sensitive, or very sensitive.<sup>74</sup>

The nature of the GSP implies unilateral concessions and are only subject to the goodwill of the donor. In addition, the proliferation of trade agreements of the EU with third parties progressively

<sup>69</sup> Sources: Own elaboration. Statistics on trade and investment: Mexico Secretariat of Economy.

<sup>70</sup> Percentage of tariff lines subject to tariff liberalization under the agreement.

<sup>71</sup> Also called Generalized Scheme of Preferences.

<sup>72</sup> Scheme amended in 1994, for the period 1995-2004, enforced since January 01, 1995. This review introduced major changes with respect to the basic features of the precedent regulations. In addition, two other features were introduced: the country-sector graduation, determining that products imported from beneficiary countries exceeding 15% of EU imports of that product (12.5% for textiles and textile articles) result in the cessation of benefits for the exporting country; and special incentive arrangements for the protection of labour rights, of the environment and combating drug production and trafficking. These two features, however, are not relevant for the present argument.

<sup>73</sup> Jaime Zabludovsky and Sergio Gómez Lora (2005) pp. 3-5. See also Cuyvers and Soeng (2012) pp. 65-71.

<sup>74</sup> A more accurate view of the magnitude of these changes is also shown by Zabludovsky and Gómez Lora. Before the modifications of the GSP, manufactures exports to the EU represented 58% of Mexico's total exports to the European market—petroleum (30%) and agricultural and other raw materials (12%). As 70% of those exports received the benefit of GSP and the remnant could be exported free of MFN tariff, all manufactured products were exported to the EU duty free. Additionally, for exports of sensitive products, quantitative import restrictions imposed by the former scheme—e.g., exports from Mexico below the quantitative limitation entered to the EU market duty free—, and as Mexico did not normally reach those ceilings, could also benefit of GSP preferences for this category. See Jaime Zabludovsky and Sergio Gómez Lora (2005) p. 5.

eroded the preferences that Mexico received under the scheme. These two elements are among the main reasons that pushed Mexico to negotiate a free trade agreement with the EU.

Apart from the above, taking GSP applied tariffs to Mexican exports as base tariffs for the tariff elimination schedule actually deepened GSP scheme and the preferential treatment became permanent<sup>75</sup>.

#### *Market Access provisions and liberalization programme*

All the agreements are based on liberalization programmes that group good and/or services in different categories subject to:

- different paces of tariff reductions, faster for less sensitive products and slower for most sensitive products,
- tariff quotas for some products—notably for agricultural products; and
- exceptions, i.e., products that are not subject to the liberalization schedule and remain with their MFN tariff levels.

Main differences can be found in the type of products included in each of the categories, as well as in the number of categories agreed and the length of transition periods—broadly, transition periods go from immediate liberalization to 8, 10 and 15 years.

However, the most important difference between the EU-Mexico FTA and the rest of FTAs, except for NAFTA,<sup>76</sup> lies in the fact that the former is based on asymmetrical tariff liberalisation, taking into account the asymmetry in levels of development.

Regarding origin rules, there are no substantial differences in terms of the criteria applied, other than those proper to the characteristics of sectors subject to tariff liberalization, e.g. in the case of NAFTA related to the automotive industry.

#### *Services*

Trade in services presents more similarities than differences between FTAs subject to comparison in this section. All four modes of services supply are considered, as well as specific chapters referred to telecommunications (except for Mexico-Peru FTA), temporary entry of persons (except for the EU-Mexico FTA), and financial services (except for Mexico-Chile FTA). The NAFTA includes reservations related to communications, professional technical services, land transportation, and financial services.

#### *Anti-dumping and Countervailing Measures*

Concerning unfair trade practices—i.e., anti-dumping and countervailing measures—as already pointed out in Section 2.1, the EU-Mexico FTA does not contain provisions other than referring rights and obligations of each one of the parties to the WTO Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994 and to the WTO Agreement on Subsidies and Countervailing Measures<sup>77</sup>.

In contrast, NAFTA recognizes the right of the parties to apply their national legislations on anti-dumping and countervailing measures, providing that they are not inconsistent with the WTO agreements. Nevertheless, provisions also include two important points, namely: (1) a binational

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<sup>75</sup> Mexico has finally been excluded as GSP beneficiary country by the recently revised EU GSP, in force since January 01, 2014.

<sup>76</sup> NAFTA liberalizes more than 80% of trade for Mexican exports to USA and Canada, while Mexico liberalizes about 42% of total trade at the signature of the agreement, 18% at the fifth year, 38% at the tenth year and the rest at the fifteenth year. Tariff base rates are those of the Generalized System of Preferences conceded by USA and Canada to Mexico.

<sup>77</sup> Joint Council Decision No. 2/2000, Article 14.

panel to review national legislations amendments and final determination of anti-dumping and countervailing duties; and (2) a specific procedure to safeguard the panel review system, consisting of consultations among the parties and the establishment of a special committee to settle the complaint.

The Mexico-Peru FTA also recognizes that each one of the parties will apply their national legislations on anti-dumping and countervailing measures, and establishes a series of specific procedures for the investigation and imposition of anti-dumping and countervailing duties, as well as a cooperation mechanism between local competent authorities. Similar provisions have been settled in the Mexico-Colombia FTA, while the Mexico-Chile FTA does not contain any provision regarding this topic.

### *Investment*

The Investment chapter is probably the one that presents the most differences among the agreements that are the subject of comparison in this section. These differences are not only related to content but also, and mainly, to a greater or lesser depth in terms of scope.

On the one hand, the EU-Mexico FTA essentially refers the promotion and protection of investments to the bilateral investment agreements framework, not having any other substantive provision in this respect, except for the provisions related to the financial services.

On the other hand, NAFTA has a set of investment provisions that is commonly referred to as a model of its kind for bilateral or multilateral investment legal frameworks—its well known Chapter 11. In the first place, investment definitions go beyond the traditional scope that only covers foreign direct investment flows, adding issues like equity and debt security, debt finance and real state, thus deepening their potential regulatory impact. Secondly, the national treatment and MFN principles encompass the establishment, acquisition, expansion, management, conduct, operation, and sale or other disposition of investments in all economic activities and for all investments, subsequently compelling the parties to treat foreign investors already established and domestic investors in the same way. In addition the list of prohibited performance requirements applies not only to foreign investments but also to all other investments in the territory of the parties. Thirdly, Chapter 11 of NAFTA introduces strong investment protection clauses, ruling out direct or indirect nationalization or expropriation, or equivalent measures, and including also the concept of indirect expropriation.<sup>78</sup> Lastly, there is an investment related dispute settlement mechanism, which, besides its comprehensive procedures, allows private investors to submit a claim; i.e., the mechanism is not only applicable for government to government disputes.

Investment provisions of the Mexico-Chile FTA are almost similar to those of NAFTA, evidently showing some small differences in its wording, but essentially keeping the same content and scope. The FTAs with Colombia and Peru also have the same structure, although there is a more restrictive list of prohibited performance requirements.

### *Public Procurement*

All the FTAs have provisions regulating public procurement, with the exception of the Mexico-Peru FTA. Further, all public procurement provisions correspond to 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

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<sup>78</sup> When an investor claims to be unfavourably affected by actions or regulations of the host state.

settlement mechanism of the agreement in alleged cases of nullification or impairment related to government procurement regulated in this chapter.

### *Competition Policy*

The EU-Mexico FTA, the Mexico-Chile FTA and the NAFTA contain competition policy provisions establishing the adoption or maintaining of measures to proscribe anti-competitive conduct according to their national legislation, and include definitions of monopolies and state enterprises. These agreements also establish information exchange and technical cooperation mechanisms. The last two agreements additionally contemplate the interdiction of recourse to the dispute settlement mechanism in matters related to this chapter.<sup>79</sup>

The Mexico-Colombia FTA only contains provisions on monopolies and state enterprises, and an ad hoc committee is created to elaborate recommendations on the relationship between competition local legislations and the FTA. The Mexico-Peru FTA has no provisions related to competition policy issues.

### *Intellectual Property Rights*

All the agreements—with the exception of the Mexico-Peru FTA, as stated below—regulate IPR according to the criteria usually followed in the last generation free trade agreements. Regulations also refer to the parties commitment to their obligations in IPR multilateral conventions and international treaties.

Having said that, the NAFTA is the agreement with the strongest protection provisions, encompassing among other things: national treatment, control of abusive or anti-competitive practices or conditions, specific provisions on enforcement of IPR, specific procedural and remedial aspects of civil and administrative procedures, and enforcement of IPR at the border. The NAFTA regulations on IPR, which have been qualified as WTO-plus because of the protection depth they set up in comparison with the respective WTO Agreement (TRIPS), strongly contrast with the regulations established by the EU-Mexico FTA, which are restricted to the general principles that the parties have to comply with.

The Mexico-Peru FTA only includes the protection of appellations of origin concerning the protection of IPR.

### *Dispute Settlement*

All the agreements have dispute settlement mechanisms that are in accordance with the WTO corresponding agreement, although specific provisions or procedures may differ somewhat. The most important differences refer to the recourse of private investors to the dispute settlement procedure and to the selection of the dispute settlement forum by the complaining party.

On the first topic, all the agreements but the EU-Mexico FTA provide the recourse to the dispute settlement mechanism between a party and an investor of the other party; a difference that seems consistent with the weakness of the investment chapter of the EU-Mexico FTA in terms of its substantial provisions.<sup>80</sup>

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<sup>79</sup> As Marsden and Whelan point out, the obligations in the corresponding annex to the EU-Mexico FTA “are not legally binding on the parties” since they are not subject to any sanction for non compliance of the provisions hereby established, and “the parties will not have recourse to the dispute settlement procedures of the FTA for an alleged breach of any of the competition provisions”. Nevertheless, they also assess that “there is no express prohibition on the use of dispute settlement procedures in the case of an alleged violation of Annex XV: however it has been conceded by these authorities at interview that either (1) the chances of sanction under the EU-Mexico FTA dispute settlement procedures for alleged ‘violation’ of Annex XV is so remote as to be a non-issue; or (2) that as a matter of interpretation the dispute settlement procedures in question do not apply to Annex XV”. See Philip Marsden and Peter Whelan (2004), pp. 29-30.

<sup>80</sup> See the arguments regarding to this matter in Section 2.1: “Description of the EU-Mexico FTA: Structure and Content”.

Concerning the second topic, even if in all the cases the complaining party can select the WTO forum or the agreement forum, in the EU-Mexico FTA, once a party has initiated a procedure under one of the forums, it cannot institute it until the first one chosen has been concluded, while in the other FTAs considered in this comparison, the selected forum has to be used to the exclusion of the other.<sup>81</sup>

Lastly, it is worth mentioning that all the agreements except the EU-Mexico FTA make explicit the legal concept of nullification or impairment as a valid reason to invoke the dispute settlement procedure.

### *Environment and Labour*

NAFTA is the only agreement that includes two specific instruments to address environmental and labour issues: the North American Agreement on Environmental Cooperation and the North American Agreement on Labour Cooperation, both containing provisions on the enforcement of domestic legislations, general obligations of each one of the parties, the creation of specific Commissions on Environment and Labour matters, and a mechanism of resolution of disputes.

The EU-Mexico FTA includes provisions on environment only in the cooperation chapters, establishing that “Cooperation between the Parties may lead to the conclusion of a sectoral agreement in the field of environment and natural resources if deemed appropriate.”<sup>82</sup>

The other three agreements only refer to the commitment of the parties to not reduce environmental requirements to promote foreign investment.

### *Institutional Framework*

The institutional framework of the FTAs considered vary according to the agreements’ specific structure, the depth of the commitments assumed and the complexity of the provisions set up. Nevertheless, the comparison is different from the analysis of the substantive chapters of the accords. When comparing the institutional frameworks, the number and typology of the institutions created is known, but nothing can be assessed on their functioning or even their efficiency in carrying out their responsibilities.

Keeping this in mind, the first important difference that can be distinguished is that in the case of the EU-Mexico FTA the institutional framework built up served not only to the purpose of the agreement administration but, most significantly, to negotiate the liberalization of trade in goods and services under the umbrella of the Interim Agreement and until the Global Agreement was fully enforced. Instead, the other FTAs designed an institutional framework exclusively to administrate the commitments already negotiated and assumed by the parties.

The EU-Mexico FTA institutional framework relies on two main bodies, the Joint Council and the Joint Committee, and a number of special committees—among them: Customs Cooperation and Rules of Origin, Standards and Technical Regulations, SPS, Government Procurement, etc.<sup>83</sup> Concerning the other agreements, Mexico-Peru shows the most simple structure: an Administrative Commission, Committees on Market Access, Rules of Origin and Customs Procedures, SPS, and Supply Shortage, and Working Groups on some specific issues. Mexico-Colombia adds to this structure Committees on Government Procurement and Competition Policy, among others, thus reflecting the greater complexity of this agreement stipulations.

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<sup>81</sup> The NAFTA makes an exception in the cases of disputes related to the environmental agreement and to the SPS chapter.

<sup>82</sup> Article 34 of the Global Agreement, “Cooperation on the environment and natural resources”.

<sup>83</sup> See Section 2.4 for a complete description of Mexico-EU institutional framework.

The Mexico-Chile institutional framework is above the standards of the above agreements in terms of the number of committees and of the issues and functions which they are responsible for. A Free Trade Commission is in charge of the general supervision and administration of the agreement, and relies on the support of a Secretariat. Additionally, several Committees have been set up, on the matters of market access and market access-related issues and on other trade disciplines— Investment and Cross-border Trade of Services, Air Transportation, Temporary entry of persons, and Trade and Competition.

Finally, NAFTA presents the most complex institutional framework of all the agreements included in this comparison. A Free Trade Commission and its Secretariat on one side, and several committees and working groups on the other, including those on Goods, Agriculture, Used Clothes, SPS, Standards measures, Standards on Automotive industry, Land Transportation, and Telecommunications, Textiles labelling, Financial Services, Small and Medium Enterprises, and Dispute settlement between private parties.

Finally, one substantive element distinguishes the EU-Mexico FTA from the other FTAs. While this agreement appears to be primarily commercially or economically motivated<sup>84</sup>, in an attempt to neutralize the impact of trade diversion of NAFTA, trade liberalization is only one of three dimensions of the comprehensive “Economic Partnership, Political Coordination and Cooperation Agreement”; it also encompasses political dialogue and cooperation. The review of the extended negotiation process of the EU-Mexico FTA suggests as a hypothetical scenario that the EU focus on the political and cooperation dimensions was one of the most difficult impediments to overcome. The EU priority assigned to these two dimensions, *vis à vis* the strong role played by the commercial purpose in Mexico’s vision, appeared to Mexico as a conditionality and even as a possible subjacent intention of transforming such provisions into non-trade barriers. In fact, the EU subordinated the start of negotiations to the acceptance of the principles of democracy and human rights. And at the same time, it engaged in assisting Mexico to meet those conditions by means of cooperation covering not only trade-related matters but also social issues, democracy and human rights.<sup>85</sup>

### 2.2.3 *Developments in EU trade policy*

The EU has a common commercial policy since the Treaty of Rome in 1957. Originally, the EU had the competence included trade in goods, but only for part of trade in services, commercial aspect of intellectual property and investment, where competence was shared with the EU Member States. The Treaty of Amsterdam, the Treaty of Nice and finally the Treaty of Lisbon have gradually extended the competence of the EU to apply with a few exceptions to trade in services, protection of intellectual property rights and foreign direct investment. Consequently, trade agreements covering areas of exclusive EU competence will now be adopted by a qualified majority (and not unanimous) vote within the Foreign Affairs Council of the EU and will no longer have to be ratified by member state national parliaments.

The changes in competences of the EC in EU Trade policy reflect the changing nature of trade and trade negotiations, in which services, IPR and investment have gradually become more important. This was already reflected in the Uruguay Round, leading to the establishment of the WTO, which also covers services, IPRs and regulatory issues such a standards.

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<sup>84</sup> See, for instance, Maria Garcia (2013) pp. 534-35, and Stephen Woolcock (2007) pp. 3-5.

<sup>85</sup> See Matthias Busse, Matthias Huth, Georg Koopmann (2000) for further arguments and references, particularly Section 3, pp. 12-20.

In its Communication “Global Europe” the EU announced its increased focus on FTAs while keeping multilateral agreements as the key priority. Also in “Trade, Growth and World Affairs” the complementary nature between bilateral/regional FTA and multilateralism is stressed, and FTAs are considered as a stepping stone toward progress at the multilateral level. These documents also stress the increased importance of non-tariff barriers, in areas like services, investment, IPR, government procurement, and regulatory barriers (e.g. food safety standards, technical requirements).

#### *2.2.4 Comparison with EU's FTAs*

In terms of trade agreements, the EU has a long history of trade agreements. In December 2013, it had over 50 agreements.<sup>86</sup> In addition, it is in the process of negotiating more agreements. An overview is presented in the table below. particularly interesting in the context of this study are the negotiations between the EU and the US and between the EU and Canada, as both negotiating partners are also part of NAFTA.

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<sup>86</sup> Source: [http://trade.ec.europa.eu/doclib/docs/2012/november/tradoc\\_150129.pdf](http://trade.ec.europa.eu/doclib/docs/2012/november/tradoc_150129.pdf)

**Table 2.2 Overview of the EU's trade agreements in place and under negotiation**

Country name	Type of FTA
<b>Trade agreements already in place</b>	
Norway	Bilateral FTA
Iceland	Bilateral FTA
Switzerland	Bilateral FTA
Faroe Islands	Bilateral FTA
Macedonia (FYROM)	Association Agreement
Albania	Association Agreement
Montenegro	Association Agreement
Bosnia & Herzegovina	Interim Agreement on Trade
Serbia	Interim Agreement on Trade
Andorra	Customs Union
San Marino	Customs Union
Turkey	Customs Union
Moldova	Association Agreement
Georgia	Association Agreement
Palestinian Authorities	Association Agreement
Syria*	Cooperation Agreement
Tunisia	Association Agreement
Morocco	Association Agreement
Israel	Association Agreement
Jordan	Association Agreement
Lebanon	Association Agreement
Egypt	Association Agreement
Algeria	Association Agreement
Mexico	Economic Partnership, Political Coordination and Cooperation Agreement
South Africa	Trade, Development and Cooperation Agreement
Antigua & Barbuda	CARIFORUM Economic Partnership Agreement
Belize	CARIFORUM Economic Partnership Agreement
Bahamas	CARIFORUM Economic Partnership Agreement
Barbados	CARIFORUM Economic Partnership Agreement
Dominica	CARIFORUM Economic Partnership Agreement
Dominican Republic	CARIFORUM Economic Partnership Agreement
Grenada	CARIFORUM Economic Partnership Agreement
Guyana	CARIFORUM Economic Partnership Agreement
Haiti	CARIFORUM Economic Partnership Agreement
Jamaica	CARIFORUM Economic Partnership Agreement
St Kitts and Nevis	CARIFORUM Economic Partnership Agreement
St Lucia	CARIFORUM Economic Partnership Agreement
St Vincent & the Grenadines	CARIFORUM Economic Partnership Agreement
Suriname	CARIFORUM Economic Partnership Agreement
Trinidad & Tobago	CARIFORUM Economic Partnership Agreement
Madagascar	ESA Economic Partnership Agreement
Mauritius	ESA Economic Partnership Agreement
Seychelles	ESA Economic Partnership Agreement
Zimbabwe	ESA Economic Partnership Agreement
South Korea	Bilateral FTA

Country name	Type of FTA
<b>Papua New Guinea</b>	Pacific Economic Partnership Agreement
<b>Fuji</b>	Pacific Economic Partnership Agreement
<b>Colombia</b>	Bilateral FTA
<b>Peru</b>	Bilateral FTA
<b>Chile</b>	Bilateral FTA
<b>Costa Rica</b>	As part of Central America – EU FTA
<b>El Salvador</b>	As part of Central America – EU FTA
<b>Guatemala</b>	As part of Central America – EU FTA
<b>Honduras</b>	As part of Central America – EU FTA
<b>Nicaragua</b>	As part of Central America – EU FTA
<b>Panama</b>	As part of Central America – EU FTA
<b>Cameroon</b>	CEMAC Economic Partnership Agreement
<b>Trade agreements currently under negotiation</b>	
<b>USA</b>	Bilateral FTA
<b>Canada</b>	Negotiations finished, FTA to be implemented
<b>Ukraine</b>	Bilateral FTA
<b>Singapore</b>	Negotiations finished, FTA to be approved by institutions
<b>Malaysia</b>	Bilateral FTA
<b>Vietnam</b>	Bilateral FTA
<b>Thailand</b>	Bilateral FTA
<b>Japan</b>	Bilateral FTA
<b>India</b>	Bilateral FTA
<b>Ecuador</b>	Bilateral FTA
<b>Mercosur</b>	Regional FTA
<b>West Africa (ECOWAS)</b>	ACP Economic Partnership Agreement
<b>Central Africa (CEMAC)</b>	ACP Economic Partnership Agreement
<b>Eastern and Southern Africa (ESA)</b>	ACP Economic Partnership Agreement
<b>Eastern African Community (EAC)</b>	ACP Economic Partnership Agreement
<b>South African Development Community (SADC)</b>	ACP Economic Partnership Agreement
<b>Pacific</b>	ACP Economic Partnership Agreement

Source: DG Trade ([http://trade.ec.europa.eu/doclib/docs/2012/november/tradoc\\_150129.pdf](http://trade.ec.europa.eu/doclib/docs/2012/november/tradoc_150129.pdf) and [http://trade.ec.europa.eu/doclib/docs/2006/december/tradoc\\_118238.pdf](http://trade.ec.europa.eu/doclib/docs/2006/december/tradoc_118238.pdf)).

Given the long list of trade agreements, it would go beyond the scope of the study to analyse these all in detail. In addition, many of the agreements are signed as part of a broader co-operation strategy and therefore also differ in content. E.g. trade agreements for accession countries and neighbourhood countries are more focused on regulatory approximation towards EU rules and regulations than other trade agreements. The EU has no 'model FTA' to form the basis of negotiations with all partners.

Here we would like to show how the EU-Mexico FTA differs from one of the most recently concluded FTAs with one single country of the EU: the FTA with South Korea, which was signed in October 2010 and is provisionally applied since July 2011. It is the first major FTA that the EU concluded after announcing new trade policy strategy in 2006, as indicated above.

### Comparison with the EU-South-Korea FTA<sup>87</sup>

The EU-South Korea FTA has 15 chapters, and separate annexes on non-tariff barriers in four sectors: automotive products, pharmaceuticals and medical devices, chemicals, and consumer electronics. Although in terms of topics addressed the EU-Korea and EU-Mexico FTAs do not differ that much, the additional sectoral annexes that provide for specific sectoral disciplines on non-tariff barriers to trade, as well as the Trade and Sustainable Development chapter are clear differences. The EU-Korea FTA also creates new opportunities for market access in services and investments and covers areas such as intellectual property, government procurement and competition policy.

The **Trade and Sustainable Development** chapter contains provisions to promote sustainable development and enhancing environmental and labour protection standards. The positive attention for these issues is a clear change from previous trade agreements of the EU and by now also implemented in other agreements (e.g. in the FTA with Moldova). A specialised committee has been set up as part of the institutional structure to deal with the implementation of this chapter.

With respect to **goods** trade, the coverage and pace of implementation of tariff reduction does not substantially differ from the EU-Mexico agreement. Also in this case, for many products tariffs are eliminated immediately after the entry into force of the agreement, while after 5 years almost all industrial tariffs are eliminated. A limited number of highly sensitive agricultural and fisheries products have transitional periods longer than 7 years. As in the EU-Mexico agreement, the coverage and speed of implementation for agricultural products is lower compared to trade in manufactured goods, although the coverage of Korean products is lower and the implementation period longer as compared to Mexico.

In terms of **services** the agreement goes beyond previous FTAs concluded by the EU in terms of sector coverage and the depth of market access commitments. The agreement covers both cross-border supply and liberalisation of investment. The scope includes diverse services sectors, such as transport, telecommunications, finance, legal, environmental and construction services. There are separate provisions on computer services, postal and courier services, telecommunication services, international maritime transport services, financial services and e-commerce.

In the area of **SPS**, the key elements of the SPS chapter are the introduction of a formal dialogue on SPS issues affecting trade, specific commitments on transparency, consultation, working towards developing a common understanding on international standards and equal treatment of all EU Member States. The chapter identifies areas of special attention (e.g. animal welfare, designation of pest-free and disease-free areas) and introduces a procedure for the recognition of disease-free areas.

In the area of **TBT**, there is a similar focus on information sharing and discussion, but it is especially the sector-specific commitments that go beyond WTO, e.g. in consumer electronics EU companies can conduct safety testing in the EU, which reduces trade costs.

In the field of **IPR**, there are additional commitments, notably it provides protection for a number of geographical indications.

With respect to **government procurement**, the FTA expands the mutual commitments of both parties under the Government Procurement Agreement (GPA) to an additional area, namely EU public works concessions and Korean 'build-operate-transfer' (BOT) contracts.

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<sup>87</sup> This analysis is based on H. J. and Vanhullbusch, M. (2014) Regional co-operation and free trade agreements in Asia; Cooper, W. et al (2011) The EU-South Korea Free Trade Agreement and its implications for the United States, and European Commission: The EU- Korea Free Trade Agreement in practice.

With respect to **competition policy**, the FTA promotes co-operation and information exchange in the area of competition policy, but also contains new provisions on subsidies. This particularly concerns the obligation on both sides to report transparently to each other their respective distribution of subsidies to their economies (state aid), the agreement to remove or remedy subsidies if they distort competition and also affect international trade, and the prohibition of certain types of subsidies that are considered particularly distortive.<sup>88</sup>

With respect to **investment**, it should be noted that since the Treaty of Lisbon the EU has the mandate to also negotiate investments. Since the negotiation mandate for the EU-South Korea FTA was obtained before the Lisbon Treaty, the FTA does not contain investment provisions similar to what is covered under bilateral investment treaties (BITs). In more recent negotiations (e.g. with Canada) we see the inclusion of more substantive investment provisions, including an investor-state dispute settlement (ISDS) mechanism.

Finally, the institutional provisions of the EU-South Korea FTA established a significant number of specialised committees and working groups between the two parties to monitor the implementation of the Agreement. The annual Trade Committee at ministerial level plays a supervisory role and ensures that the FTA operates properly.

## 2.3 Identification of regulatory changes caused or induced by the FTA

The identification of regulatory changes undertaken by the parties through the EU-Mexico FTA implementation process will be analysed from two—interrelated—points of view:

1. The FTA implementation process itself, i.e. the changes made in trade legislation that correspond to the adaptation of local regulations to the commitments assumed in the agreement, in other words the so called implementation process. To this end, the Decisions of the Joint Council and the Joint Committee, and other amendments to the Mexican legislation will be identified;
2. The trade policy measures adopted by Mexico since the entry into force of the FTA, that appear related with the FTA implementation process even if they are not necessarily associated with the obligations imposed by the agreement. Since Mexico has undertaken several and important trade policy reforms in the last years, these subsequent regulatory modifications must be taken into consideration as well, inasmuch as they are relevant for a full understanding of Mexico current trade policy regime, that will eventually be the actual context of a future renegotiation of the EU-Mexico FTA.

### 2.3.1 Implementation Decisions

The Decisions of the Joint Council and the Joint Committee can be grouped in the following categories, according to their content:

#### 1) Rules of Procedure

- **Decision No. 1/2001:** Establishes the rules of procedure of the Joint Council; creates the Joint Committee and establishes its rules of procedure;
- **Decision No. 4/2002:** Adopts the rules of procedure of the Special Committees on Customs Cooperation and Rules of Origin, on Standards and Technical Regulations, on Sanitary and

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<sup>88</sup> EU Centre in Singapore (2011) The EU-Korea FTA and its Implications for the Future EU Singapore FTA, Background Briefing No. 4, June 2011.

Phytosanitary Measures, on Steel Products, on Government Procurement, on Intellectual Property Matters, and on Financial Services.

## 2) Trade Liberalization in Goods and Services

- **Decision No. 2/2000:** Implementing liberalization of trade in goods and trade-related disciplines—i.e., customs, Sanitary and Phytosanitary measures, government procurement, competition, dispute settlement procedure, specific duties of the Joint Committee, etc.;
- **Decision No. 2/2001:** Implementing liberalization of trade in services, investment and related payments, measures to protect intellectual property rights, and a specific trade related dispute settlement procedure;
- **Decision No. 2/2002:** Acceleration of the elimination of customs duties applicable to certain products contained in Annexes I and II to Decision No. 2/2000;
- **Decision No. 3/2002:** Relating to the tariff treatment of certain products listed in Annexes I and II to Decision No. 2/2000;
- **Decision No. 5/2002:** Relating to Annex III to Decision No. 2/2000, concerning the definition of the concept of originating products and methods of administrative cooperation;
- **Decision No. 1/2004:** Acceleration by Mexico of the elimination of customs duties applicable to certain products contained in Annex II to Decision No. 2/2000 originating in the EU;
- **Decision No. 2/2004:** Introducing a preferential tariff rate quota for certain products originating in Mexico;
- **Decision No. 1/2005:** Introducing a corrigendum regarding the entry into force of tariff quotas.

## 3) Accession of New Members<sup>89</sup>

- **Decision No. 3/2004:** Amending Joint Council Decision No. 2/2000, following the accession to the EU of the Czech Republic, the Republic of Estonia, the Republic of Cyprus, the Republic of Latvia, the Republic of Lithuania, the Republic of Hungary, the Republic of Malta, the Republic of Poland, the Republic of Slovenia and the Slovak Republic, to adapt provisions concerning trade in goods, certification of origin and government procurement;
- **Decision No. 4/2004:** amending Joint Council Decision No. 2/2001, following the accession to the EU of the Czech Republic, the Republic of Estonia, the Republic of Cyprus, the Republic of Latvia, the Republic of Lithuania, the Republic of Hungary, the Republic of Malta, the Republic of Poland, the Republic of Slovenia and the Slovak Republic, to adapt provisions concerning trade in services;
- **Decision No. 2/2008:** amending Joint Council Decision No. 2/2000, as amended by Joint Council Decision No. 3/2004, following the accession to the EU of the Republic of Bulgaria and of Romania, to adapt provisions concerning trade in goods, certification of origin and government procurement;
- **Decision No. 3/2008:** amending Joint Council Decision No. 2/2001, as amended by Decision No. 4/2004, following the accession to the EU of the Republic of Bulgaria and of Romania, to adapt provisions concerning trade in services.

## 4) Other Implementation Decisions

- **Decision No. 5/2004:** adopting provisions on mutual administrative assistance in customs matters;
- **Decision No. 1/2008:** implementing Article 9 of Joint Council Decision No. 2/2001, on the establishment of a framework for the negotiation of mutual recognition agreements.

Concerning the **Joint Committee**, **four Decisions** are registered during the period of this study, namely: **Decisions Nos. 1/2002, 1/2004, 1/2007 and 1/2010**. All of these refer to the extension of

<sup>89</sup> An additional protocol to take into account the accession of these new members was concluded in 2005 (Official Journal of the European Union, March 12, 2005).

the rule of origin of certain goods, specifically relating to explicative notes that list the working or processing required on non-originating materials for the final manufactured product to be considered as originating from one of the parties. The extension was successively granted until mid-2014. Moreover, Decision No. 1/2007 refers to the rule of origin and the management method used to allocate quotas for certain products, notably textiles.

### 2.3.2 Trade Policy Regulations

Mexico's juridical system—which is based on the Mexican Constitution, the highest ranking legal instrument—recognizes international treaties as hierarchically placed above local and federal laws and regulations. It is then reasonable to assume that main domestic legal instruments are harmonized with international trade agreements provisions, obviously including among the latter the multilateral ruling system governed by the WTO.

The Foreign Trade Law (LCE) of 1993, reformed in 2006, forms the basis of the legal regime for trade policy. It is supplemented by other laws and regulations relevant to the present analysis, including: Law on General Import and Export Taxes (LIGIE), Customs Law, Foreign Investment Law, Federal Laws on Metrology and Standardization, Animal Health, and Plant Health, Federal Copyright Law, and Government Procurement, Leases and Services. In addition, within the context of the multilateral trade system, Mexico has accepted the Fourth and Fifth Protocols to the GATS (basic telecommunications and financial services), and the Protocol amending the TRIPs. However, is not party to Plurilateral Agreements on Government Procurement, Trade in Civil Aircraft or Information Technology.

The formulation and administration of foreign trade policy and trade promotion falls under the responsibility of the Secretariat of Economy (SE), in cooperation with the Secretariat of Foreign Affairs (SFA). Among the competencies of the SE are the determination of tariff levels and the evaluation and determination of trade restrictions. The Foreign Trade Law also creates two commissions on external trade matters: the Foreign Trade Commission (COCEX) and the Joint Export Promotion Commission (COMPEX), the former having power to issue opinions on the adoption or amendment of tariff and non-tariff measures, the latter tasked with analysing and proposing measures to facilitate trade.

The regulatory framework will be scrutinized following the order of topics and disciplines in the FTA, detailing the modifications that have taken place within the period under consideration together with a brief description—when pertinent to the present study—of their content and connotations.

#### Tariff Schedule

The tariffs applied by Mexico are contained in the Law on General Import and Export Taxes (LIGIE) and based on the Harmonized Commodity Description and Coding System (HS). The LIGIE, enforced in 2007, has been amended several times since then. Among the main modifications observed, a unilateral tariff reduction programme was initiated in January 2009 to be implemented over five years, is one of the most important changes, followed by two other modifications, introduced in 2010 and 2013, involving the elimination of tariffs on 3,852 and 165 headings respectively. Additionally, Mexico adopted the HS 2012 in July 2012, which slightly increased the number of headings of the tariff nomenclature.<sup>90</sup>

As a result of the unilateral liberalization programme, both the level and the distribution of tariffs underwent important changes. On the one hand, over the five-year period mentioned above, the percentage of duty-free headings reached 58.3% of the tariff structure, in parallel to a decrease of

<sup>90</sup> By September 2012, the number of headings is 12,264 (HS 2012). Cf. WTO (2013a).

the number of headings with tariffs between 0% and 15%, and those exceeding 15%. On the other hand, the programme considerably reduced the dispersion of tariff levels, now for the most part (97.2% of the headings) in a range between 0% and 20%.

Tariff reductions or exceptions are still granted to imports included in PROSEC (imports of industrial inputs) and IMMEX (temporary imports) programmes<sup>91</sup>.

### Customs and Customs Procedures

Mexico has had a certified enterprises programme since 2002, which administratively facilitates the process of customs clearance of goods to importers and exporters<sup>92</sup>. This programme was modified in 2011<sup>93</sup>, reorganizing the original certified enterprises scheme and incorporating the “New Certified Enterprises Scheme”, focusing on compliance with safety standards related to logistics and supply chains.

Besides this, customs regime and procedures have been through three major changes since the modifications introduced in 2008, within the framework of the 2007-2012 Customs Modernization Plan.<sup>94</sup> The purpose of this plan was to facilitate trade flows, professionalize customs personnel, utilize appropriate systems and technology, and speed up customs clearance of imports and exports.

First, registration requirements, customs documents and other import procedures were modified in 2008 by a Decree aimed to make administrative procedures easier. This amendment eliminated a number of import requirements, such as for instance:

- the enrolment in the Register of Importers in Specific Sectors, reducing the obligation to goods involving a potential risk to public health or national security;
- security to cover the difference between the value declared by the importer and the value estimated by the Mexican Tax Administration Service (SAT), that was maintained only for used vehicles; and
- documents to be submitted to identify, examine and control certain goods—as well as streamlined procedures to obtain certification of origin.

The Decree also provided for the creation of a digital window, one of the trade facilitation initiatives of the 2007-2012 Customs Modernization Plan, and abolished the requirement to submit a certificate of origin for importers of products subject to compensatory duties.<sup>95</sup>

Second, a digital window for foreign trade was adopted in 2011, enabling the entry into force of the “single window”<sup>96</sup>, which combines a number of procedures established by various Ministries and is required in order to conduct foreign trade transactions, including non-tariff measures and administrative charges.

Third, in the field of customs valuation, Mexico eliminated the estimated price mechanism<sup>97</sup> in 2008 for all products, with the exception of used vehicles. The list of remaining products was subsequently amended in 2007 and 2011.

<sup>91</sup> Both programmes are briefly explained below.

<sup>92</sup> Cf. Customs Law, Articles 100-A and 100-B. Visit <http://www.wipo.int/wipolex/en/details.jsp?id=14600>

<sup>93</sup> Amendment to the General Foreign Trade Rules 2011, published in the Official Journal of December 15, 2011.

<sup>94</sup> Cf. Administración General de Aduanas (2008).

<sup>95</sup> Decree published in the Official Journal of March 31, 2008.

<sup>96</sup> Decree published in the Official Journal of January 14, 2011.

<sup>97</sup> This mechanism consisted in a security to be deposited in a customs account to cover the difference in payments and compensatory duties between the declared price and the estimated value, when the former had been lower than the latter at the time of the imports declaration.

## Other regulations affecting imports and exports

### *Import and Export Restrictions*

Mexico has a prior import and export permit regime regulated by a Secretariat of Economy Decision issued in 2007<sup>98</sup>. Decision on goods is subject to prior permits (hereinafter the Permits Decision).

Since July 2011, the permit (and certificate of origin) requirement has been lifted for several types of used vehicles assembled in Mexico, Canada or the United States, and a timetable was agreed for the phasing out of the permit requirement for used vehicles from Canada and the United States, within NAFTA.<sup>99</sup> This process will be completed on January 1<sup>st</sup>, 2019, when no prior import permit will be required for any vehicle which serial number corresponds to a vehicle manufactured or assembled in Mexico, the United States or Canada, irrespective of its age. Within this same framework agreement, Mexico lifted, in April 2008, the import permit requirement for sugar from the United States.

Mexico has a list of products of which exports are prohibited (27 tariff headings), and requires a prior export permit for petroleum products, diamonds in the rough and iron ores (21 tariff headings). Export permits for cement to the United States were abolished in 2009<sup>100</sup>.

Since October 2011, Mexico has required a prior permit for the export of conventional weapons, and dual-use goods, software and technology. Moreover, since March 2012, a prior authorization from the Ministry of Energy has been required to export (or import) nuclear materials and fuels, radioactive materials, equipment generating ionizing radiation, dual-use equipment, goods and technology in the nuclear field.<sup>101</sup>

Mexico has an authorized exporters category under which an exporter may dispense with a certificate of origin if it exports to the European Union or EFTA member countries. Since April 2012, the authorized exporters category has also applied to Japan, within the framework of the Economic Association Agreement between Mexico and Japan, of March 2012.

### *Contingency measures*

Contingency measures – i.e. anti-dumping, countervailing duties and safeguards – applied under the regulations of the LCE and its implementing norms in conformity with WTO agreements, have been amended in 2006. The modifications pertained to the general procedures, procedures specific to anti-dumping and countervailing duties, other special procedures, and violations and administrative penalties<sup>102</sup>.

### *Technical regulations and standards*

Under Mexican law, all domestic or imported products must comply with technical regulations of various types: product standards; standards for commercial information to be included on labels; metrological standards; business practice standards; and appellation of origin standards. General conformity assessment<sup>103</sup> guidelines for a Mexican Official Norm (NOM), originally published in 1997, were amended in 2004.<sup>104</sup> In addition, Mexico has Mutual Recognition Agreements with the

<sup>98</sup> Official Journal of July 6, 2007 and of September 3, 2012.

<sup>99</sup> Official Journal of July 1<sup>st</sup>, 2011, and 10<sup>th</sup>. Amendment to the Secretariat of Economy Decision issuing General Rules and Criteria for Foreign Trade, published in the Official Journal of December 29, 2008. The Decree entered into force upon publication and will remain in effect until January 31<sup>st</sup>, 2013.

<sup>100</sup> Amendments to the Secretariat of Economy Decision issuing General Foreign Trade Rules, Official Journal of: June 16, 2008; March 28, 2011; December 30, 2011; and April 1<sup>st</sup>, 2009.

<sup>101</sup> Official Journal of June 16, 2011, and of June 18, 2012.

<sup>102</sup> Decree published in the Official Journal of December 21<sup>st</sup>, 2006, amending pertinent articles of the LCE.

<sup>103</sup> The assessment procedure to determine the degree of compliance with NOMs or conformity with international standards or other specifications.

<sup>104</sup> Official Journal of October 24, 1997: "Policies and procedures for conformity assessment; Procedures for certification and verification of products subject to compliance with NOMs"; amended on July 27, 2004.

governments of the United States and Canada on conformity assessment of telecommunications equipment<sup>105</sup>.

Under the Official Mexican Standard of 2004 on General Labelling of Products, any Mexican or imported product to be sold in Mexico must bear a label in Spanish providing commercial information on the product, together with instructions and guarantees.<sup>106</sup> Among changes on labelling regulations, the information to be included on labels of pre-packaged food and non-alcoholic beverages was amended in January 2011; amended<sup>107</sup> labels must now indicate, *inter alia*, nutritional information, the list of ingredients or additives that cause hypersensitivity and the date of expiry or the date to be consumed by. Since then, the requirement for a Spanish translation of ingredients that can be expressed in the International Nomenclature of Cosmetic Ingredients (INCI) no longer applied to perfumery and cosmetics products<sup>108</sup>. In September 2012, the requirements on commercial information for grapes, avocados and mangoes were lifted as well.<sup>109</sup>

As a further matter, the Federal Commission for Protection from Sanitary Risk (COFEPRIS) introduced two important changes in sanitary regulations. First, in 2011, COFEPRIS gradually lifted between 2008 and 2010<sup>110</sup> the requirement to have a pharmaceutical plant in Mexico in order to obtain sanitary registrations. Only manufacturers with a local plant were able to obtain these registries before this modification. The new requirement allow then foreign manufacturers to register pharmaceutical products if authorised to manufacture medicines by a competent authority in their country of origin.. Secondly, in July 2013, COFEPRIS updated the requirements for Active Pharmaceutical Ingredients Good Manufacturing Practices and Good Distribution Practices<sup>111</sup> to homologate them to the European Union standards.<sup>112</sup>

#### *Export Promotion*

The Federal body responsible for promoting foreign investment, exports and the internationalization of Mexican companies, ProMexico, was created in June 2007.<sup>113</sup> It provides economic and technical support to companies involved in, or seeking to become involved in an internationalization process.

#### *Other Incentives*

Two promotion programmes currently exist to promote exports and local manufacturing through tax and tariff incentives:

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<sup>105</sup> Respectively published in Official Journal of May 28, 2012; and July 28, 2011.

<sup>106</sup> Official Journal of June 1<sup>st</sup>, 2004.

<sup>107</sup> In January 2011, standard NOM-051-SCFI-1994, which governed the requirements, was replaced by standard NOM-051-SCFI/SSA1-2010. The latter, on general specifications for the labelling of pre-packaged food and non-alcoholic beverages and on the commercial and sanitary information, published in the Official Journal of April 5, 2010, replaced standard NOM-051-SCFI-1994, published in the Official Journal of 24 January 1996. NOM-051-SCFI/SSA1-2010 came into force on 1 January 2011. For the purposes of verification and monitoring compliance with the specifications on commercial information, application of the standard was extended until June 1<sup>st</sup>, 2011 for certain products (Notification of extension, for the purposes of verification and monitoring, of the application of Mexican Official Standard NOM-051-SCFI/SSA1-2010 [...], concerning product-specific NOMs, issued by the SE, published in the Official Journal of December 13, 2010).

<sup>108</sup> "Decree amending the third paragraph of Article 25 and adding an Article 196 *bis* to the Regulations for Sanitary Control of Products and Services," published in the Official Journal of January 26, 2011. These Regulations were published in the Official Journal of August 9, 1999. The latest amendment was published on October 9, 2012. The Mexican authorities have indicated that the purpose of this amendment is harmonization with relevant international practices.

<sup>109</sup> Thirteenth Amendment to the SE Decision issuing General Rules and Criteria for Foreign Trade published on July 6, 2012, published in the Official Journal of September 3, 2012.

<sup>110</sup> Decree published in the Official Journal of August 5, 2008, amending Articles 168 and 170 of the Regulations on Health Inputs.

<sup>111</sup> Mexican Official Norm NOM-164-SSA1-2013.

<sup>112</sup> Homologation is the act by which competent authorities officially acknowledge that specifications for pharmaceutical products comply with the standards.

<sup>113</sup> Decree published in the Official Journal of June 13, 2007; and amended in February 29, 2008. ProMexico Organigram has been published in the Official Journal of March 10, 2011.

1. The IMMEX programme, introduced in 2006<sup>114</sup> and amended in 2008 and 2010. In substance, the IMMEX programme allows temporary import of the goods needed to produce, transform or repair goods from abroad for subsequent export and to provide export services, free of import tariffs and Value Added Tax<sup>115</sup>. The amendment of 2010 abolished the Export-Intensive Enterprises (ALTEX) and the Foreign Trade Enterprises (ECEX) programmes, incorporating their benefits into the IMMEX (while the plans from companies benefiting from one or another programme remained in force, under their original terms and providing the compliance of certain conditions);
2. The PROSEC programme,<sup>116</sup> which enables companies producing specific goods to import inputs and machinery intended to produce such goods at a preferential tariff, irrespective of whether the produced goods are for the domestic market or for export. Subsequent amendments added new sectoral programmes (in 2007 and 2008), and included new tariff headings and removed others<sup>117</sup>. Tariff headings having similar or higher tariff levels than the MFN tariff in 2008 therefore ceased to be covered by PROSEC.

### Foreign Investment Regime

Foreign investment in Mexico is regulated by the Foreign Investment Law (LIE) and its implementing regulations, as well as by the Mexican Constitution (Articles 27 and 73).

The LIE (1993) is consistent with the foreign investment chapter of NAFTA, providing national treatment and eliminating performance requirements for most foreign investment, while liberalising criteria for automatic approval of foreign investment, even if reserving some sectors with a restriction to foreign investors, only for Mexican nationals or the Mexican government.

LIE has been amended in 2008, 2011 and in 2012;<sup>118</sup> all of the modifications introduced through these amendments can be considered as relevant to the present study<sup>119</sup>.

It is worth pointing out that investment provisions of the EU-Mexico FTA contain a review clause according to which the parties take the commitment “to review the investment legal framework, the investment climate and the flow of investment between their territories consistent with their commitments in international investment agreements not later than three years after the entry into force of this Decision.”<sup>120</sup> However, no progress has been registered up to now to this respect.

### Public Procurement

During the period under study, several modifications occurred in public procurement procedures, including the terms for open international public bidding procedures; the maximum limit to be contracted under special procedures; the preference margin to be granted for Mexican goods when comparing bids; and the operation of the information platform for government procurement called

<sup>114</sup> Decree to promote the manufacturing, maquila and export services industry (IMMEX Decree), Official Journal of November 1<sup>st</sup>, 2006.

<sup>115</sup> Article 29 of the Law on the Value Added Tax.

<sup>116</sup> Decree establishing various sectoral promotion programmes, published in the Official Journal of August 2, 2002.

<sup>117</sup> Amendments published in the Official Journal of: December 27, 2007; March 4, 2008; May 27, 2008; December 16, 2009; September 23, 2010; and December 26, 2011. The programmes apply to the following sectors: electricity; electronics; furniture; toys, games and sports articles; footwear; mining and metallurgy; capital goods; photography; agricultural machinery; chemicals; rubber and plastic articles; iron and steel industry; medical equipment, medicines and pharmaceuticals; transport (except for the automotive industry); paper and paperboard; wood; hides and skins; automotive industry and automobile parts; textiles and made-up articles; chocolates, confectionery and the like; coffee; food industry; fertilizer industry and various industries.

<sup>118</sup> The text of the law and its amendments can be consulted in WIPO archives:

[http://www.wipo.int/wipolex/es/text.jsp?file\\_id=220833](http://www.wipo.int/wipolex/es/text.jsp?file_id=220833)

<sup>119</sup> The amendment of 2008 modified the list of activities reserved to Mexican nationals or Mexican companies with a “foreigners exclusion clause,” removing credit unions from that list.

<sup>120</sup> Joint Council Decision 2/2001, Article 35: Review clause.

the CompraNet.<sup>121</sup> Most of these changes reflected amendments in the public procurement regulatory framework, namely: the Law on Public Sector Procurement, Leases and Services (LAASSP),<sup>122</sup> the Law on Public Works and Related Services (LOPSRM),<sup>123</sup> the Law on Public-Private Associations,<sup>124</sup> the Mexican Petroleum Law,<sup>125</sup> and their respective implementing regulations.<sup>126</sup>

Regarding the preference margin to be applied in international public invitations to bid (open bids or bids under an agreement), this was raised to 15% of the cost of the goods of national origin in comparison with imported goods.<sup>127</sup>

A government procurement programme was launched in 2009 to encourage the participation of Micro, Small and Medium Enterprises (MSMEs) in invitations to bid for procurement by Federal Government agencies and departments, including training and financing. The objective of this programme was to reach a MSMEs participation level of 35%.<sup>128</sup> In 2009 the Mexican government created the Interministerial Commission for Federal Public Administration Procurement and Works from Micro, Small and Medium-Sized Enterprises, responsible for issuing recommendations and proposing measures to that end. It launched a website in 2010 with information on current invitations to bid, business opportunities, training and financing possibilities ([www.compradelgobierno.gob.mx](http://www.compradelgobierno.gob.mx)).

### Competition Policy

The Federal Law on Economic Competition (LFCE)<sup>129</sup> and its implementing regulations<sup>130</sup>, that regulate competition and monopolies, was amended in 2011 and 2012. Among the modifications introduced, the most relevant was made in 2011, giving the Federal Competition Commission (CFC) greater responsibilities, facilitating compliance with the LFCE, and improving enforcement<sup>131</sup>.

### Intellectual Property Rights Legislation

The regulatory framework protecting Intellectual Property Rights has experienced several modifications in recent years. There were changes to the Industrial Property Law, the Federal Copyright Law, and their respective implementing regulations, and to the Federal Law on New Plant Varieties. Additionally, pertinent articles of other Intellectual Property Rights-related laws were modified, i.e., the Customs Law,<sup>132</sup> the Federal Labour Law,<sup>133</sup> the Federal Code of Penal Procedure,<sup>134</sup> the Commercial Code<sup>135</sup> and the Federal Penal Code.<sup>136</sup>

<sup>121</sup> Since July 2010, it allows all procurement procedures to be conducted electronically in accordance with the LAASSP.

<sup>122</sup> Official Journal of January 4, 2000, and amendment published in the Official Journal of January 16, 2012.

<sup>123</sup> Official Journal of January 4, 2000, and amendment published in the Official Journal of April 9, 2012.

<sup>124</sup> Official Journal of January 16, 2012.

<sup>125</sup> Official Journal of November 28, 2008.

<sup>126</sup> Implementing regulations for: the LAASSP and for the LOPSRM, in the Official Journal of July 28, 2010; for the Mexican Petroleum Law, published on September 4, 2009; and for the Law on Public-Private Associations published on November 5, 2012.

<sup>127</sup> Previously of 10%. Decree published in the Official Journal of May 28, 2009, amending the LAASSP, the LOPSRM, the Federal Law on the Administrative Liability of Civil Servants and the Federal Penal Code; and Rules for applying the preference margin to the cost of goods of national origin in comparison with the cost of imported goods in open international procurement procedures by agencies and departments of the Federal Public Administration, published in the Official Journal of December 28, 2010.

<sup>128</sup> Official Journal of December 30, 2002, amended in 2012.

<sup>129</sup> Official Journal of December 24, 1992, and last amended in April 9, 2012.

<sup>130</sup> Official Journal of October 12, 2007.

<sup>131</sup> Official Journal of May 10, 2011: Decree amending, supplementing and repealing various provisions of the LFCE.

<sup>132</sup> Amended in 2006, 2012 and 2013. The modifications introduced refer to new transportation of merchandises requirements and controls. Customs Law can be consulted in the archive of the World Intellectual Property Organization (WIPO): <http://www.wipo.int/wipolex/en/details.jsp?id=14600>.

<sup>133</sup> Amended in 2012, attributing rights of the inventions by workers and employees.

<sup>134</sup> Amended in 2010, 2012 and 2014. Penalizes crimes typified by the Industrial Property Law. Cf. WIPO: <http://www.wipo.int/wipolex/en/details.jsp?id=3090>.

In 2010, the procedure established by the Industrial Property Law for obtaining a patent was amended, and provisions on applications and renewal of registration and licensing of trademarks were added. On the other hand, an amendment of the requirements for the registration of trademarks consisting of a commercial name or slogan, or of a name, was introduced in 2011.

Concerning the legislation of appellations of origin, there were declarations on protection of the appellations of origin of several products between 2000 and 2003, as well as resolutions on the protection for the appellations of origin of alcoholic beverages and handicrafts in 2003.

A National Anti-Piracy Decision was adopted in 2007 to protect copyright, related rights and industrial property, by establishing three lines of action to combat counterfeiting and piracy, namely: the promotion of public awareness on the issue, the restructuring of the market, and the combat of illegal acts. In 2012, Mexico signed the Anti-Counterfeiting Trade Agreement, with the objective of building up an inclusive international framework to halt illegal trade in pirated and/or counterfeit goods.

Concerning the resolution of intellectual property litigations, the Federal Tribunal of Fiscal and Administrative Justice was created in 2008. It is a Regional Chamber for Intellectual Property Matters with responsibility throughout Mexico for settlement of cases brought against decisions taken on the basis of intellectual property legislation, including international agreements—e.g., TRIPS.

Regarding health issues related to IPR, in 2008 Mexico accepted the Protocol amending the TRIPS Agreement that introduced a criterion of flexibility in order to facilitate access to medicines in accordance with the provisions in that agreement.

On this same matter, general principles to marketing biosimilar medicines and implementing regulations setting out the criteria and procedures to that matter were respectively introduced in the General Law on Health (Article 222bis, added in 2009) and in resolutions of the Secretariat of Health (2011). This new regulatory framework for biosimilar medicines includes, among other things, the following elements: classification of biotechnology medicines into innovative and biosimilar; provisions on labelling; requirements for releasing imports and for obtaining sanitary registration of biotechnology medicines; studies needed to prove the efficacy and safety of a product, and places in which they must be conducted; and time-limits for decisions on sanitary registration.

Lastly, a decision of the National Supreme Court of Justice (SCJN) in 2010 ruled what is called 'linkage' between sanitary registration and intellectual property rights (i.e., rights protected by valid patents). The patent–marketing authorization linkage system for pharmaceutical products involves interparty collaboration of IMPI and the Commission for the Protection against Sanitary Risks (COFEPRIS); this linkage system ruling compels IMPI to publish in the Industrial Property Gazette the listing of all valid patents covering allopathic drugs, and COFEPRIS is obliged to observe said gazette to deny marketing authorization for a drug that infringes any of the listed patents.

Mexico is a contract party of 21 of the treaties administered by WIPO<sup>137</sup>. Among the agreements that Mexico committed to subscribe in its FTA with the EU,<sup>138</sup> the Nice Agreement concerning the

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<sup>135</sup> Amended in 2012, introducing a provision for traders to perform their industrial or commercial activities honestly refraining from acts of unfair competition.

<sup>136</sup> Amended in 2010 and 2013. Refers to crimes typified by the Industrial Property Law. Cf. WIPO: <http://www.wipo.int/wipolex/en/details.jsp?id=7918>.

<sup>137</sup> For more information, visit [http://www.wipo.int/treaties/en/ShowResults.jsp?search\\_what=C&country\\_id=123C](http://www.wipo.int/treaties/en/ShowResults.jsp?search_what=C&country_id=123C).

International Classification of Goods and Services for the purposes of the Registration of Marks and the Budapest Treaty of the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure were acceded in December 2000 and are in force since March 2001. In addition the WIPO Copyright Treaty and the WIPO Performances and Phonogram Treaty were ratified in 2002. Among the rest of the WIPO treaties, the Vienna Agreement, the Strasbourg Agreement and the Locarno Agreement have been in force since 2001, and the Madrid Protocol since 2013. The Singapore Treaty on the Law of Trademark Registration was signed in 2006, but it is not yet in force.

Other relevant modifications to mention here are: the agreement between the Mexican Institute of Industrial Property (IMPI) and the United States Patent and Trademark Office (USPTO) on a programme to accelerate patent procedures, which came into force in September 2012; and the adoption by the Mexican government of a Special Science, Technology and Innovation Programme for 2008-2012 for promoting research and development to motorize private investments, in force since 2008.

## 2.4 Analysis of the FTA's institutional framework

The institutional framework of the EU-Mexico FTA will be approached from two separate, but interrelated angles:

- The institutional framework composition—i.e. the Joint Council, the Joint Committee, the Special Committees, their functions and responsibilities;
- The ways in which this institutional framework has contributed to trade liberalisation and to new/revised trade-related regulations.

Two distinctive characteristics of the EU-Mexico FTA help to explain the constitution and functioning of the institutional framework:

1. Different from other agreements of its kind, because of the way in which the EU-Mexico FTA was negotiated, the Joint Council (JC)—which is the main representative body regarding the administration of the agreement—played a primary role in the negotiation of the trade agreement as a whole, approving decisions and additional protocols needed to complete the agreement original stipulations;
2. The texts of the Global Agreement (GA) and Joint Council Decisions contain review clauses concerning tariff liberalisation and some trade-related disciplines, and it is the Joint Council's responsibility to further negotiate each one of those topics within a pre-established timeline. Consequently, the Joint Council also had a negotiation mandate beyond the one initially settled in the Interim Agreement (IA).

### 2.4.1 The Institutional Framework

The institutional framework is established in Title IV (Articles 7 to 12) of the IA and Title VII, Institutional Framework (Articles 45 to 50) of the GA. According to these provisions, the institutional framework consists of a Joint Council, a Joint Committee, Special Committees established by the Joint Council, and the Dispute Settlement mechanism.<sup>139</sup>

The Joint Council is a body constituted at ministerial level to “examine any major issues arising from within the framework of this Agreement and any other bilateral or international issues of

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<sup>138</sup> As pointed out in Section 2.1, IPR chapter provisions include a commitment to accede to four WIPO treaties.

<sup>139</sup> The Dispute Settlement mechanism, that is part of the institutional framework, will not be analysed in this section, since it has been described and analysed in Section 2.1.

mutual interest” (IA, Article 7; GA, Article 45). It is composed by Members of the Council of the EU and the European Commission, and members of the Government of Mexico. It must establish its own rules of procedure, and it is presided over in turn by representatives of the EU and Mexico (IA, Article 8; GA, Article 46).

Article 9 of the IA (Article 47 of the GA) gives the Joint Council the power to take decisions—binding on the parties—and make recommendations, both by mutual agreement. Article 10 of the IA (Article 48 of the GA) establish the Joint Committee as a body that will assist the Joint Council. This body can delegate any of its powers in the Joint Committee and will determine its functions and duties. Finally, Article 11 of the IA (Article 49 of the GA) establishes that the Joint Council may decide the constitution of any other special committees, which will be defined in its rules of procedure.

The EC-Mexico Joint Council established its rules of procedure as well as the duties and functions of the Joint Committee by Decision No. 1/2000 of March 23<sup>rd</sup>, 2000, that entered into force on February 27<sup>th</sup>, 2001.

Apart from the above-described functions of the Joint Council that are defined in the IA and the GA, the rules of procedure set up modalities for the agenda and the minutes of the meetings (Articles 8 and 9), and the decisions and recommendations (Article 10). Articles 1-8 of the Appendix regulate the procedures of the Joint Committee, referred to the same matters as those mentioned above for the Joint Council, and including the cases in which the Joint Committee takes decisions or makes recommendations by delegation of the Joint Council. One important point of the rules of procedure of the Joint Council, as well as of the Joint Committee, is that in both cases their meetings shall not be public (Article 11 and Appendix, Article 5).

By Decision No. 4/2002 (November 6<sup>th</sup>, 2003), the Joint Council adopted the rules of procedure of the Special Committees: On customs cooperation and rules of origin, on standards and technical regulations, on sanitary and phytosanitary measures, on steel products, on government procurement, and on intellectual property matters (set up by Decision No. 2/2000); and on financial services (set up by Decision No. 2/2001). Like the other two institutional bodies, their meetings are not public (Article 6). Special Committees can make recommendations when pertinent, that have to be forwarded to the Joint Committee (Article 9).

#### *2.4.2 Evaluation of the Functioning of the Institutional Framework*

As briefly mentioned in previous sections, as well as in the introduction of this section, the EU-Mexico FTA institutional framework presents a unique characteristic: Its main body, the Joint Council, was invested with the power of making decisions that actually implied the negotiation of trade liberalisation and trade-related disciplines of the agreement. Therefore, the institutional framework not only had the traditional function of monitoring and supervising the implementation and administration of the agreement, but also the primary responsibility of the agreement negotiation.

Summarizing the main elements explaining this peculiarity—as they have been mentioned several times in previous sections—the agreement consisted of three juridical instruments, namely the Global Agreement, the Interim Agreement and the Joint Declaration included in the Final Act<sup>140</sup>, a legal construction allowing the EU to overcome the institutional restrictions derived from the competences of the European Commission—that has the authority to negotiate trade in goods—and those of the Community member states—authority over investment, services and intellectual

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<sup>140</sup> See Section 2.1.

property rights issues— in order to enforce all aspects of the agreement. Therefore, the Joint Council was set up with the mandate to negotiate the trade-related elements of the agreement, under the umbrella of the Interim Agreement, thus avoiding the requirement of a previous approval of the Global Agreement.<sup>141</sup>

Considering that according to the rules of procedure of the Joint Council and the Joint Committee, their meetings “shall not be public,” it should be noted that this fact is an important limitation to evaluate how these bodies have fulfilled their mandates, as well as to analyse their agenda and the contents of the debates on the issues related to the implementation and administration of the agreement. Therefore, the only information sources upon which the analysis can be based are the texts of their decisions and the press releases of the meetings, even if the latter merely expose those points and opinions that have been agreed and decided to make public<sup>142</sup>.

The Joint Council has produced 17 Decisions since the enforcement of the agreement (Table 2.5). Three of these (Decisions No. 1/2000, 1/2001 and 4/2002) relate to the setting up of rules of procedure of the Joint Council, the Joint Committee and the Special Committees.

**Table 2.3 Decisions of the Mexico-EU Joint Council and Joint Committee**

Decision number/year	Date	Abstract of contents
<b>JOINT COUNCIL</b>		
Decision No. 1/2000	23 March 2000	Adopting Joint Council rules of procedure.
Decision No. 2/2000	23 March 2000	Implementing liberalisation of trade in goods, government procurement markets opening, a cooperation mechanism in the field of competition and a consultation mechanism in intellectual property rights, and establishing a dispute settlement mechanism. Annexes I to XVI containing trade liberalisation schedules, regime of origin and other provisions related to government procurement. Joint Declarations I to XV.
Decision No. 1/2001	27 February 2001	Establishing the Rules of Procedure of the EU-Mexico Joint Council and the Rules of Procedure of the EU-Mexico Joint Committee.
Decision No. 2/2001	27 February 2001	Implementing Articles 6, 9, 12(2) (b) and 50 of the Economic Partnership, Political Coordination and Cooperation Agreement: liberalisation of trade in services, investment, intellectual property rights and dispute settlement mechanism. Annexes I to III containing list of commitments, entities and model rules of procedure.
Decision No. 2/2002	13 May 2002	Relating to the accelerated elimination of customs duties of certain products listed in Annexes I and II to Decision No. 2/2000 of the EU-Mexico Joint Council.
Decision No. 3/2002	13 May 2002	Relating to the tariff treatment of certain products listed in Annexes I and II to Decision No. 2/2000 of the EU-Mexico Joint Council.
Decision No. 4/2002	6 November	Adopting rules of procedure of the EU-Mexico Special Committees.

<sup>141</sup> See, for example, David Luff (2011) for a detailed explanation on the European Union negotiation, enforcement and implementation of preferential agreements, competences and ratification processes.

<sup>142</sup> Table 1 condenses the Joint Council and Joint Committee decisions, with a brief description of their contents. Table 2 enumerates the meetings of both institutional bodies since the agreement enforcement. The information about the decisions and the meetings (press communiqués or joint declarations) has been obtained from public sources, all of them mentioned in the References Annex.

Decision number/ year	Date	Abstract of contents
	2003	
Decision No. 5/2002	24 December 2002	Relating to Annex III to Decision No. 2/2000 of the European Union-Mexico Joint Council of 23 March 2000, concerning the definition of the concept of originating products and methods of administrative cooperation.
Decision No. 1/2004	29 March 2004	Accelerating the elimination of customs duties of certain products listed in Annex II of Decision No. 2/2000 of the EU-Mexico Joint Council.
Decision No. 2/2004	28 April 2004	Introducing a preferential tariff rate quota for certain products originating in Mexico and listed in Annex I to Decision No 2/2000 of the EC Mexico Joint Council.
Decision No. 3/2004	29 July 2004	Amending Joint Council Decision No. 2/2000.
Decision No. 4/2004	18 May 2005	Amending Joint Council Decision No. 2/2001.
Decision No. 5/2004	15 December 2004	Adopting, pursuant to Article 17(3) of Decision No. 2/2000, an Annex to the said Decision on mutual administrative assistance in customs matters.
Decision No. 1/2005	21 February 2005	Introducing a corrigendum in Decision No. 3/2004 of the EU-Mexico Joint Council
Decision No. 1/2008	15 January 2008	Implementing Article 9 of Joint Council Decision No. 2/2001 of 27 February 2001 on the establishment of a framework for the negotiation of mutual recognition agreements.
Decision No. 2/2008	25 July 2008	Amending Joint Council Decision No. 2/2000, as amended by Joint Council Decision No. 3/2004.
Decision No. 3/2008	15 December 2008	Amending Joint Council Decision No. 2/2001, as amended by Decision No. 4/2004.
<b>JOINT COMMITTEE</b>		
Decision No. 1/2002	20 December 2002	Relating to Annex III to the Joint Council Decision No. 2/2000, concerning the definition of the concept of originating products and methods of administrative cooperation.
Decision No. 1/2004	22 March 2004	Relating to Annex III to the Joint Council Decision No. 2/2000, concerning the definition of the concept of originating products and methods of administrative cooperation.
Decision No. 1/2007	14 June 2007	Relating to Annex III to the Joint Council Decision No. 2/2000, concerning the definition of the concept of originating products and methods of administrative cooperation.
Decision No. 1/2010	17 September 2010	Relating to Annex III to the Joint Council Decision No. 2/2000, concerning the definition of the concept of originating products and methods of administrative cooperation.

Decisions No. 2/2000 and 2/2001 are, as previously stated, the core instruments of trade in goods and services liberalisation, and trade-related disciplines, both strictly corresponding to the GA and IA negotiation mandates. Directly connected to these, Decisions No. 2/2002, 3/2002, 5/2002, and

1/2004, regulate aspects related to trade liberalisation issues, particularly, the first one accelerating the elimination of duties.

Five decisions amend previous decisions, all of which are related to trade matters. Decision No. 3/2004 (also amended by Decision No. 1/2005) introduces amendments to the Decision 2/2000, following the accession of new members to the EU. Decision 2/2008 also introduces amendments to the Decision 2/2000 (as amended by Decision No. 3/2004), following the accession of new members to the EU. In a similar vein, Decision No. 4/2004 (amended by Decision No. 3/2008) introduces amendments to the Decision No. 2/2001.

Finally, three Joint Council decisions implement commitments established by the original negotiation mandate. Decision No. 2/2004 introduces a preferential tariff rate quota for tuna loins originating in Mexico. Decision No. 1/2008 set up a framework for the negotiation of mutual recognition agreements—a commitment that had been settled to be agreed no later than three years after the enforcement of the agreement. And Decision No. 5/2004 establishing mutual administrative assistance in customs matters—a commitment that should have been implemented no later than one year after the enforcement of the agreement.

Regarding the 4 Decisions of the Joint Committee (Decisions No. 1/2002, 1/2004, 1/2007, and 1/2010), all of these relate to regime of origin rules, specifically providing successive extensions of the application of the requirements to be fulfilled by some products to be consider originating products, according to the Joint Council Decision No. 2/2000. In other terms, these provisions correspond to the mandate of the Joint Council to decide on a temporary extension of the flexibility of those requirements as stated at the moment of the agreement on trade on goods liberalisation.

The alternative way in which the performance of the institutional framework can be reviewed is by observing the issues that have been treated in the Joint Council and Joint Committee meetings (Table 2.6), from the press communiqués released about them. Before going into the analysis of these meetings, we note that apart from the Joint Council and Joint Committee meetings, the installation of a Joint Working Group between the EU and Mexico was announced last February.<sup>143</sup> This Joint Working Group will assess the progress of the bilateral political dialogue, cooperation and trade between the parties and formulate recommendations to serve as the basis for the start of negotiations to modernize the EU-Mexico FTA.

**Table 2.4 Meetings of the Mexico-EU Joint Council and Joint Committee**

Meeting number	Place	Date
I – Joint Council	Brussels	February 2001
I – Joint Committee	Brussels	October 2001
II – Joint Council	Brussels	May 2002
II – Joint Committee	Puebla (Mexico)	October 2002
III – Joint Council	Athens	March 2003
III – Joint Committee	Brussels	November 2003
IV – Joint Committee	Mexico	November 2004
IV – Joint Council	Luxembourg	May 2005
V – Joint Committee	Brussels	October 2005
VI – Joint Committee	Mexico	October 2006
V – Joint Council	Santo Domingo (Dominican Republic)	April 2007
VII – Joint Committee	Brussels	November 2007
VIII – Joint Committee	Mexico	October 2008

<sup>143</sup> Press communiqué of Mexico Foreign Ministry, February 13th, 2014.

Meeting number	Place	Date
VI – Joint Council	Prague	May 2009
IX – Joint Committee	Brussels	November 2009
X – Joint Committee	Mexico	October 2010
XI – Joint Committee	Brussels	October 2011
VII – Joint Council <sup>144</sup>	Mexico	February 2012
XII – Joint Committee <sup>145</sup>	Mexico	June 2013

The issues treated in the seven meetings held by the Joint Council since 2001 can be divided in three groups: (1) evaluation of bilateral relations (including the treatment of multilateral matters of mutual interest), (2) bilateral cooperation, and (3) trade issues. Regarding this third group, the analysis of the press communiqués does not give any real insight into the existence of contentious issues and hence of the actions to be taken to solve them. They merely include positive or neutral assertions on the progress of the agreement, written in a diplomatic language.

Nevertheless, it is important to note how the issue of the framework for future negotiations established in the GA has been assessed. For example, the following references extracted from the press communiqués of the meetings of the Joint Council show how the issue of the review clauses was treated, making evident that no progress has been made in these aspects of the negotiation, notwithstanding which the parties reaffirm their “intention” or their “interest”:

- III Meeting, March 2003: “(...)15. The parties reviewed the general state of bilateral trade issues and appreciated the work done over the last year by the technical bodies foreseen in the Agreement, with the objective of ensuring the development of the trade flows and the deepening of administrative cooperation. In this sense, they reiterated the importance of fulfilling the trade commitments reached at the Joint Committee of October 2002”;
- IV Meeting, May 2005: “(...) 13. With the regard to the work ahead, the parties took stock of the negotiation on the FTA review clauses in agriculture, investments and services, committing themselves to making progress with the view to deepening such a FTA”;
- V Meeting, April 2007: “(...) 17. The Parties examined the state of play of negotiations on the review clauses on agriculture, services and investments, and confirmed their intention to make progress”;
- VI Meeting, May 2009: “(...) 26. The Parties reiterated their interest in moving forward in the negotiation under the revision clauses foreseen in the Mexico-EU FTA in the areas of agriculture and fishing, services and investment, with the aim of deepening their bilateral trade relations”;
- VII Meeting, February 2012: “(...) 22. The parties noted the state of play of the negotiations in accordance with the review clauses in the FTA, and reaffirmed their interest to consider all other options to deepen bilateral trade relations”.

In what concerns the treatment of trade issues<sup>146</sup> by the Joint Committee in its 12 meetings held since the enforcement of the agreement, conclusions are very similar to those emerging from the analysis of the Joint Council meetings. Supposedly focused in a more detailed manner on implementation aspects of the trade agreement, the information that can be extracted from the press communiqués does not add new elements to assess the evolution of the bilateral agenda.

<sup>144</sup> According to some official sources of information, the VIII meeting of the Joint Council should have been held during the first semester of 2014, nevertheless there is no public registry of its realization.

<sup>145</sup> The press communiqué of the XII Joint Committee meeting declares that the next meeting will take place in Brussels during the second semester of 2014. At the moment of the conclusion of this report, no information is available of the realization of this meeting.

<sup>146</sup> Press communiqués generally subdivide the treatment of the issues in three groups: political dialogue, cooperation and trade. Only the latter is considered here.

No specific topics under treatment by the Special Committees are revealed, other than general mentions to their progress and positive results reached. In some cases, an instruction to technical experts is given to push forward work on specific situations, without giving any further reference about them.

Only in four areas concrete references are made about problems requiring corrective actions or commitments to be undertaken to facilitate trade flows. These include:

- Customs procedures, a specific situation was addressed related to the payment of taxes through custom brokers. The issue was totally or partially solved by the improvements introduced by Mexico in its customs procedures by facilitating the payment of duties and taxes directly by the companies;<sup>147</sup>
- Standards and technical regulations, on which an agreement was reached to explore areas in which equivalence of technical standards and conformity assessment procedures could be mutually recognised, among others, for electrical and electronic products; additionally, a mention was made about the progress on modification and adoption of norms;
- In the area of SPS measures, both parties confirmed their determination to implement transparent import conditions according to the recommendations of the international standard organizations;
- A specific recognition was made by the EU to Mexico, welcoming the advances proposed to improve the protection of geographical indications<sup>148</sup>.

Lastly, the Joint Committee has also addressed the issue of the review clauses, in a way practically identical to the Joint Council, as it can be observed from some of the references that can be found in the press communiqués:

- II Meeting, October 2002: "(...) The parties reiterated their commitment to optimise the measures adopted in the framework of the Agreement. To do so, they urged that the technical bodies established by the Agreement continue their work in order to assure that trade flows are developed normally, by including the reduction in unwarranted technical barriers that affect bilateral trade";
- IV Meeting, November 2004: "(...) examined the review clauses on the chapters of agriculture, services and investment, with the objective to reach agreements to further liberalise their respective markets";
- V Meeting, October 2005: "(...) The parties also reviewed and took stock of the state of progress in the discussions on the review clauses established in the Free Trade Agreement in the areas of agriculture, services and investment. The parties confirmed their intention to conclude such a review by the end of 2005";
- VI Meeting, October 2006: "(...) work on the technical negotiation of review clauses on agriculture, services and investment was examined. To this respect, the parties confirmed their intention to conclude this process";
- VII Meeting, November 2007: "(...)The parties agreed that the work on the review clauses of the EU-Mexico FTA on agriculture, services and investment should be accelerated";
- VIII Meeting, October 2008: "(...) Both parties examined the state of play of the FTA review clauses regarding agriculture and fishery products, services, and investment. They took note of the entry into force of Decision 1/2008 related to the framework for Mutual Recognition Agreement on Services and jointly agreed to intensify the efforts in order to achieve further progress in those areas, in view of the deadlines set in the FTA";
- X Meeting, October 2010: "(...) Mexico and the European Union agreed on the common interest for deepening the mutual trade liberalization through the provisions of the review clauses of the EU-Mexico Free Trade Agreement on agriculture, trade in services and investment. The Parties

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<sup>147</sup> This topic was addressed in the X and XI Joint Committee meetings.

<sup>148</sup> This issue has been raised by some European sectors as a non-tariff barrier. See Section on Identification of NTBs.

took note of the results of the negotiation processes carried out in 2010, and confirmed the importance to reach ambitious results in conformity with the interests of each Party”;

- XI Meeting, October 2011: “(...)The Parties agreed on their common interest in deepening the mutual trade liberalization through the provisions of the review clauses of the EU-Mexico Free Trade Agreement on agriculture, services and investment. The Parties underlined their commitment to continuing this process and envisaged the possibility to enlarge the scope of the reviews to other areas in order to reach ambitious results in conformity with the interests of each Party”.

### 2.4.3 Conclusions

In terms of the general evolution of the bilateral relationship and specially from the point of view of its results and effects on bilateral trade and investment flows, the EU-Mexico FTA can be characterised as successful. Trade barriers have been dismantled as programmed—with few exceptions that are mentioned in the corresponding sections of this study. These exceptions are not important contentious issues, but concern a small number of fields with lasting trade obstacles that have already been subject of a claim but have still not been solved; they include mainly non-tariff barriers or trade issues in which negotiation progress has not been achieved as expected. Taking this assertion as valid, it should be reasonable to conclude that the institutional framework of the agreement has accompanied its evolution and fulfilled the functions for which it was instituted, in spite of the unsolved issues that can be attributed more to a lack of political will from the parties than to a failure of the agreement institutions.

At the time, the agreement was evaluated as innovative with respect to the other EU agreements and also to most of the last generation free trade agreements, because it did not merely negotiate trade liberalisation and trade-related disciplines but also set up a framework for future negotiations.

There is a consensus among different authors about the fact that review clauses contained in the agreement had not only been innovative but legally binding for the parties, thus guaranteeing their enforcement within the established timelines. In other terms, the wording of the review clauses appears as mandatory, even if no sanctions or alternative remedies have been added to this mandate, for instance the recourse to the dispute settlement mechanism in case of not compliance. Nevertheless, even accepting that they are legally binding, each one of the review clauses implied a negotiation process, just the same as the negotiation of tariff schedules or the other trade-related disciplines.

The evidence after almost 15 years of the agreement enforcement shows that the objective behind that innovative idea was not actually reached. It can be argued, in a first view, that the institutional framework is to be blamed for this non-fulfilment, but a closer judgment must take into account the fact that merely setting up a framework for future negotiations does not of itself guarantee that there will be a sustained commitment to negotiate. In other terms, the ex post analysis of this allegedly failure—in the sense of an analysis focused on the results obtained—suggests that circumstances surrounding each one of these commitments were not compelling enough to facilitate the negotiation. The preliminary conclusion is therefore that the failure cannot be attributed to the configuration or the functioning of the institutional framework.<sup>149</sup> In any case, the non-fulfilment of these commitments gives rise to the idea that these topics should be included in the modernisation agenda, especially if a deeper degree of integration and equivalence with other trade agreements—e.g., NAFTA—are the objectives intended to be reached.

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<sup>149</sup> The references to these issues in the press communiqués on the meetings of the Joint Council and the Joint Committee reaffirm this conclusion.

Regarding the possible improvements in the scenario of a modernisation of the agreement, the following observations are considered as consistent with the preceding analysis:

- There are not failures or non-fulfilment of tasks that may be attributed to the design of the institutional framework or to its operation procedures (frequency of meetings, representation, etc.);
- In a similar sense, the observed failure in reaching some of the initially postulated objectives—such as the negotiation of the review clauses—can not be attributed to its design, but rather to the fact that, in the case of issues to be negotiated, it seems that the conditions were simply not conducive to an agreement, due to the lack of political will or to an unfavourable scenario—for example, the inexistence of complementarity of needs and interests of the parties to advance in the originally planned or intended direction;
- The current situation—i.e., the scenario of a possible modernisation of the accord—does not face the same circumstances nor the same urgencies. Therefore, a similar institutional design can perfectly adapt to the future agreement from the point of view of their administration and implementation functions and duties;
- However, to make the commitments legally binding to the parties, it is recommendable to give the institutional bodies the power to monitor non-compliance, enabling them to make recommendations to the governments on issues of mutual interest where non-compliance has been observed<sup>150</sup>;
- The dispute settlement mechanism should be reviewed to include trade-related disciplines that have been excluded or not included in it—which is possible only if the commitments to negotiate in areas such as intellectual property rights and investment go beyond what is currently agreed to include more detailed and legally binding provisions;
- Finally, the roster of Special Committees should also be reviewed, at least from two perspectives: first, because some of them may not have at present the same validity that they had at the time of the agreement negotiation; second, in the light of their effectiveness as communication channels to address problems and obstacles to be considered and solved by the Joint Committee and/or the Joint Council.

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<sup>150</sup> The model of NAFTA can be a good reference to follow on this point.



## 3 Economic analysis

The purpose of this chapter is to present a descriptive analysis of economic developments in the EU and Mexico in the period just before and since implementation of the FTA and to subsequently conduct and ex-post impact evaluation of the FTA against this background.

We thus start with a analysis of economic trends and developments in Mexico and the EU. This analysis includes general economic developments for both the EU and Mexico since the signing of the Free Trade Agreement in 2000 and an analysis of the evolution of trade between the EU and Mexico in goods and services and of FDI - beginning six years prior to the entry into force of the FTA until as recently as possible. The aim of this exercise is not only to provide a description of the two economies but by presenting trends and shares to also to help the reader put the findings of the ex-post evaluation of the FTA into perspective.

The second part of this chapter is dedicated to the ex-post economic impact analysis of the FTA, based on gravity analysis and CGE modelling. This exercise serves to identify the impact of the FTA by comparing the current situation to a situation where there would not have been an FTA in place. The results of the CGE modelling exercise are presented at the overall, macro-economic level, at sector level and for a selected number of social and environmental indicators. Finally we also briefly consider the impact of the FTA in total factor productivity in Mexico, based on a review of the relevant literature.

### 3.1 Economic trends and developments

#### Data sources used

For the general economic development we use commonly recognised sources and databases such as OECD Stats and World Bank. International trade data is taken from WITS (UN COMTRADE) in HS1988/92 classification to allow for sufficient length of time series, i.e. starting six years before the free trade agreement. Because of data quality, we do not disaggregate further than two digit sector levels.

We conduct the analysis of the trade and FDI developments at HS2 level to provide a higher level of detail than the GTAP sectors of the CGE model can provide. The trade statistics are retrieved from UN COMTRADE via the WITS platform. For retrieving statistics of trade in services we consulted the Trade in Services Database (Francois and Pindyuk, 2013). The OECD TiVA database is used to retrieve statistics on trade in value added. FDI statistics are retrieved from UNCTADStat.

#### 3.1.1 General economic developments in Mexico and the EU

##### Economic developments in Mexico

Mexico is classified as an upper middle income country by the World Bank and had a GDP of USD 1.261 trillion in 2013.<sup>151</sup> The country gains interest from global investors and business leaders, as they see it as an emerging market with growth prospects and as an ideal location for reaching the

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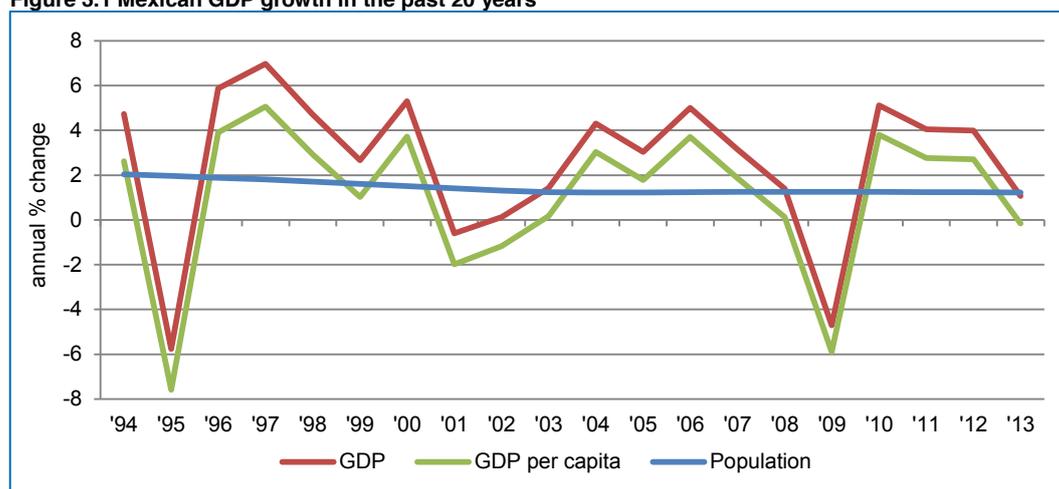
<sup>151</sup> World Bank, link: <http://data.worldbank.org/country/mexico>.

US Market<sup>152</sup>. Mexican income per capita is about one-third of income per capita in the US, and income is highly unequally distributed.<sup>153</sup>

### GDP and productivity

**Figure 3.1** below shows the developments in Mexican GDP growth in the past 20 years. It shows that GDP and GDP per capita have been growing according to the same pattern, with some serious relapses in 1995 (the Mexican peso crisis), 2001 and 2009 (global economic crisis). GDP per capita grows at a slightly slower rate than aggregate GDP. The main reason for this difference is the steady Mexican population growth, which is indicated by the blue line in **Figure 3.1** below.

**Figure 3.1 Mexican GDP growth in the past 20 years**



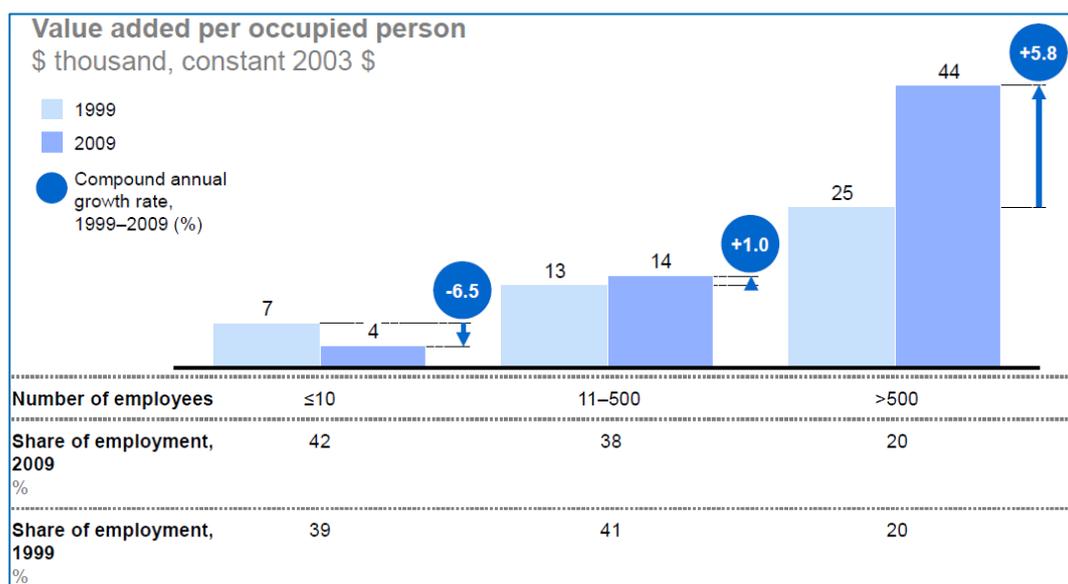
Source: World Bank, World Development Indicators.

Mexico has been struggling with raising its growth rates and improving living standards for the past three decades, despite extensive economic and trade reforms, including an unprecedented and far reaching trade agreement with the US and Canada (NAFTA). Mexican economic growth is falling behind compared to other developing nations. The main reason for this seems to be that multifactor productivity is lagging behind, thereby offsetting the positive contributions to GDP of labour force growth and human capital accumulation (OECD 2013b, p.12). The annual growth rate of labour productivity has on average been 0.8 percent between 1990 to 2012. The traditional economy of Mexico, which consists of small and often informal enterprises, is growing faster in terms of jobs than the highly productive and internationally competing modern part of the economy. Hence, the share of Mexican workers in the traditional economy is increasing over time, which leads to lower aggregate productivity (McKinsey 2014, p.7). This is illustrated by the figure below, where we see that the employment share of small firms in total employment is increasing, while its labour productivity is decreasing.

<sup>152</sup> McKinsey&Company (2014), A tale of two Mexicos: Growth and prosperity in a two-speed economy. McKinsey Global Institute, March 2014. Preface.

<sup>153</sup> CIA World Factbook, link: <https://www.cia.gov/library/publications/the-world-factbook/geos/mx.html>.

**Figure 3.2 Developments in labour productivity of Mexican firms**



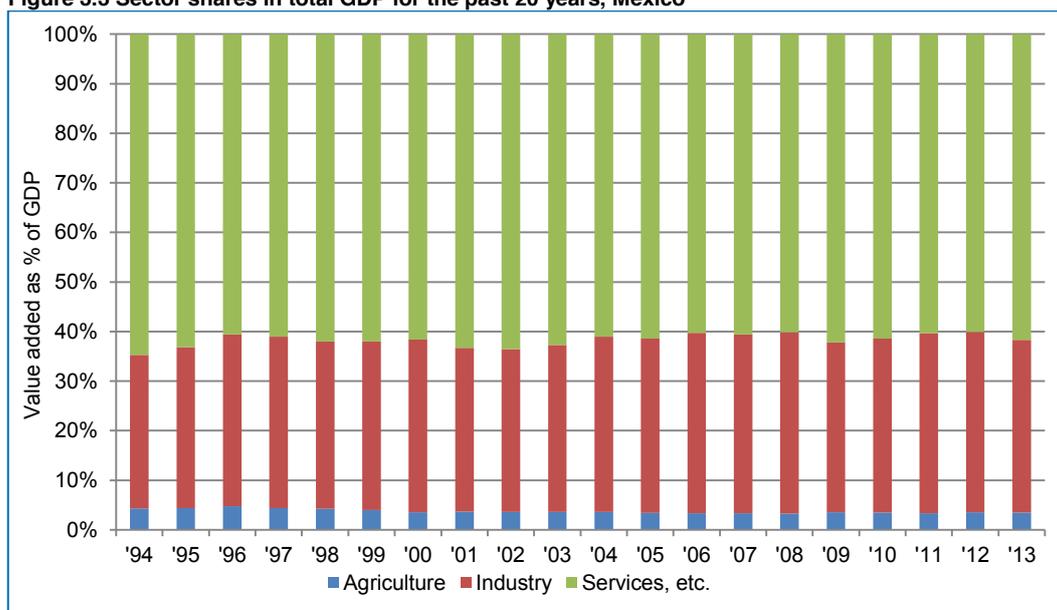
Source: Censos Económicos 1999 & 2009, Instituto Nacional de Estadística y Geografía; in McKinsey Global Institute (2014).

Despite these productivity issues, it is expected that Mexican economic growth will accelerate in the coming years, due to (i) reforms recently approved and implemented by the government, (ii) the government's announcement of a large private-public investment programme in the coming five years, (iii) increased private consumption thanks to an improved outlook for Mexican households, and (iv) benefits from the improved outlook for the US economy, Mexico's main trade partner.<sup>154</sup>

### Sectoral growth

**Figure 3.3** below shows the sector shares of agriculture, industry and services in total Mexican GDP. It makes clear that services are the most important contributor to GDP, accounting for more than 60 percent of GDP for most years. The agricultural sector is relatively small compared to industry and services. The sectorial shares in GDP have not changed much over the past 20 years.

**Figure 3.3 Sector shares in total GDP for the past 20 years, Mexico**

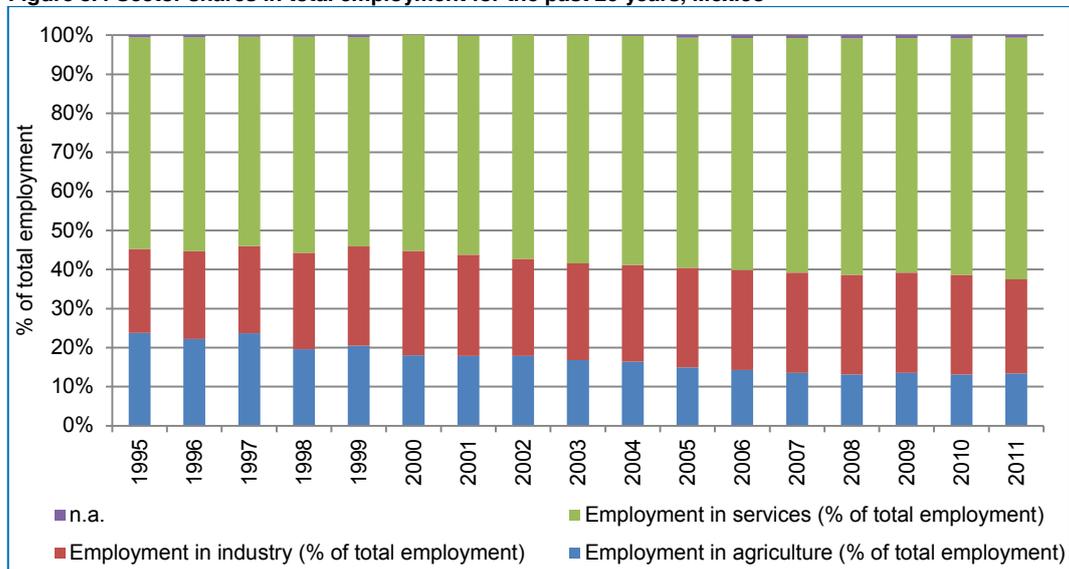


Source: World Bank, World Development Indicators.

<sup>154</sup> Rabobank (2014), Country Report Mexico. Rabobank Economic Research Department, 6 June 2014, p.2.

When considering sectoral employment shares in total employment, it becomes clear that the share of people employed in the agricultural sector has been declining in the past 20 years, from 24 percent in 1995 to 13 percent in 2011. Employment in services has clearly increased, from 54 percent in 1995 to 62 percent in 2011 (see **Figure 3.4**).

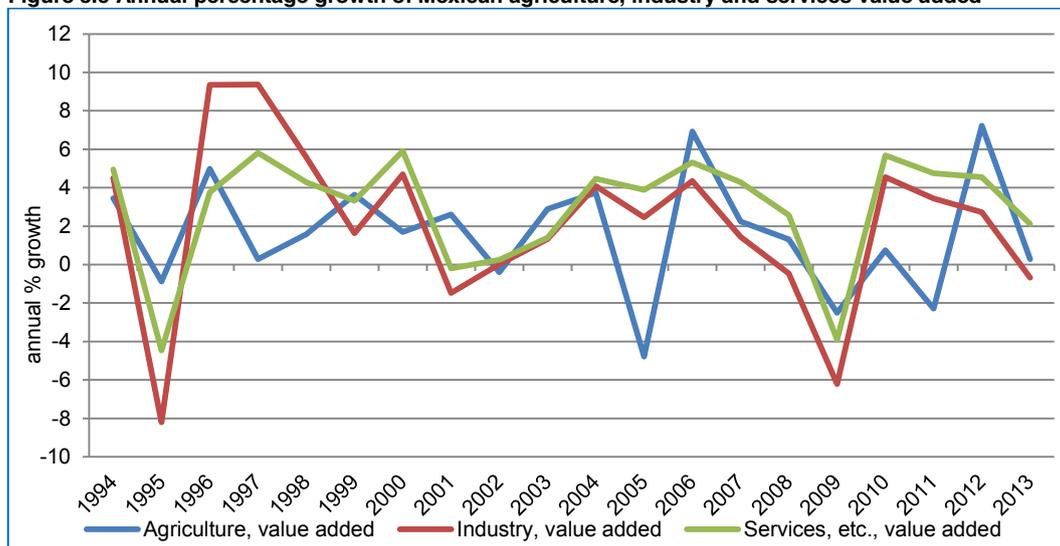
**Figure 3.4 Sector shares in total employment for the past 20 years, Mexico**



Source: World Bank, World Development Indicators.

**Figure 3.5** below shows the growth rates of these three sectors in the past 20 years. We observe that value added of industry and services have followed more or less the same growth pattern, while agriculture has followed a different path. There was a large negative effect on value added due to the 1994/95 and 2008/09 crisis.

**Figure 3.5 Annual percentage growth of Mexican agriculture, industry and services value added**



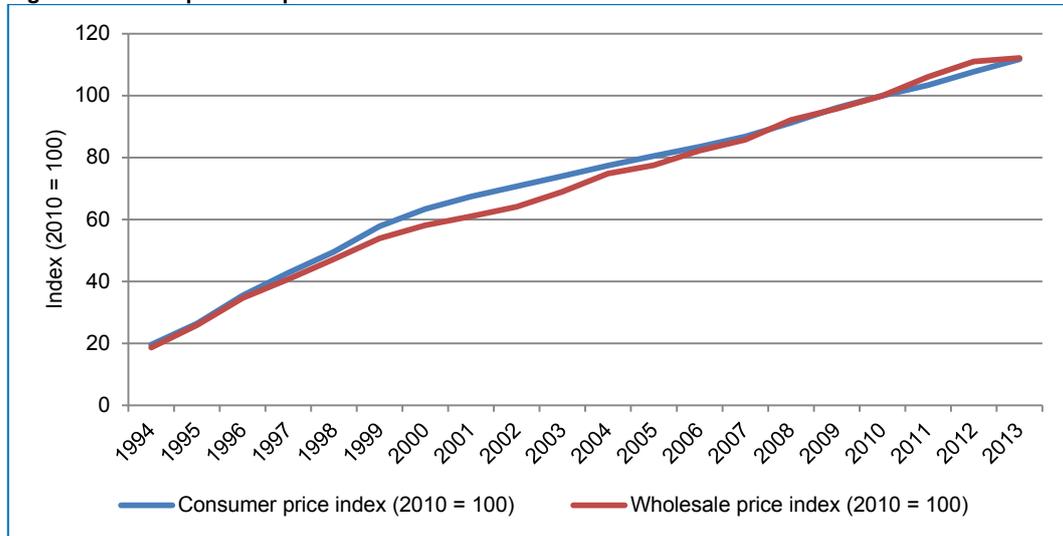
Source: World Bank, World Development Indicators.

### Price levels

In the past decades, and particularly before 2000, the Mexican economy experienced high inflation rates, with an average inflation rate of 69.9 percent between 1980-1989 and 20.5 percent between 1990-1999. **Figure 3.6** below presents the developments of price indices. Both consumer and producer prices have increased at more or less the same rate in the past 20 years. We see a small change after the year 2000; the annual price increases seem to become less steep. This is

probably related to the inflation targeting policy of the Central Bank that was adopted in 1999 and gradually implemented until formal application in 2001. The implementation of this inflation targeting policy was possible only after the constitutional reform of 1993 that granted more autonomy to the Central Bank.<sup>155</sup>

**Figure 3.6 Development of price levels in Mexico**

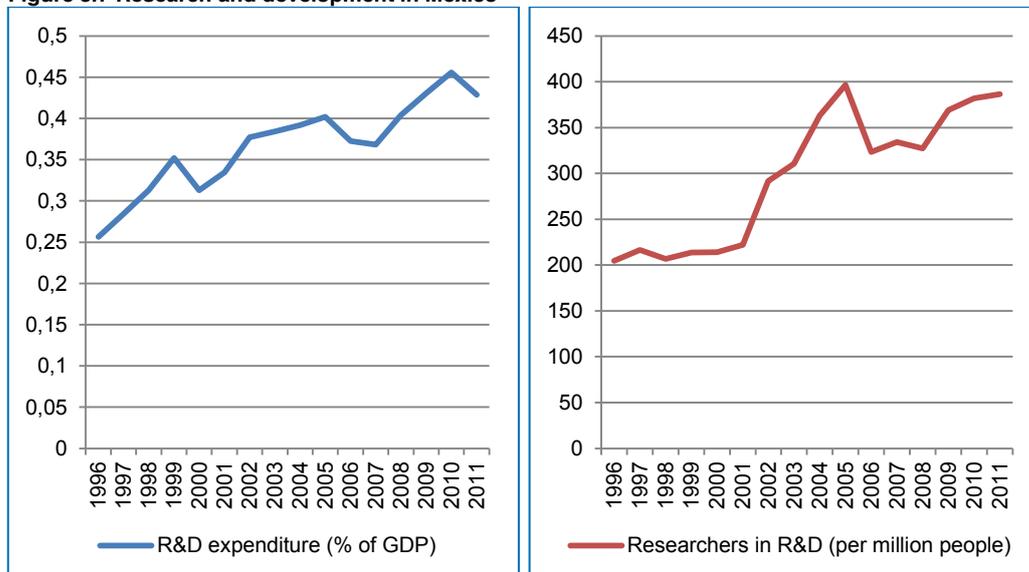


Source: World Bank, World Development Indicators.

### Science and technology

**Figure 3.7** below presents two indicators related to science and technology, namely R&D expenditures (both public and private) as a percentage of GDP and the number of researchers working in R&D. Both indicators are increasing over time. Especially the latter indicator increased significantly after the year 2001. However, OECD (2013a, p.36) reports that the share of GDP spent on R&D in Mexico's business sector is still the lowest of all OECD countries.

**Figure 3.7 Research and development in Mexico**



Source: World Bank, World Development Indicators.

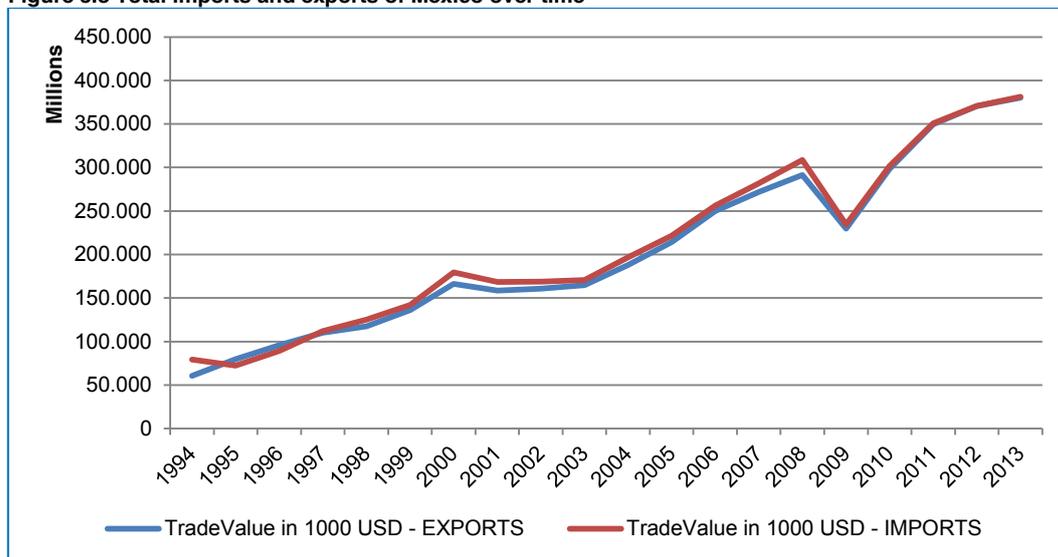
<sup>155</sup> <http://www.focus-economics.com/country-indicator/mexico/inflation>.

### International trade

In the past two decades, Mexican trade policy has shifted from import substitution to an outward, export-oriented focus. In this period, the degree of trade openness has doubled, with the trade value now at approximately 60 percent of GDP (OECD, 2013a, p.156). The overall trade-weighted average tariff on Mexican imports is 2.9 percent, with import duties ranging from 0 to 35 percent. In addition, with some exceptions, all imports are subject to a VAT of 15 percent.<sup>156</sup>

**Figure 3.8** below presents total imports and exports of Mexico over time. It shows that they follow the same pattern and are relatively equal in value, although there is a trade deficit in most years. In 2013, the trade deficit was USD 1.09 bn. A large part of exports go the US, due to its proximity and size of the US market, and the Mexican export sector is often seen as excessively dependent on the US market.<sup>157</sup> In 2013, exports to the US accounted for 78.9 percent of total Mexican exports, followed at a distance by the EU (5.2 percent), Canada (2.7 percent) and China (1.7 percent).<sup>158</sup> Mexican exports to the world are dominated by a few products: Electrical machinery & equipment & parts, telecommunications equipment, sound recorders, television recorder (20.6% of total exports in 2013), Vehicles other than railway or tramway rolling stock (20.3%), Nuclear reactors, boilers, machinery & mechanical appliances, computers (14.1%) and Mineral fuels, oils, waxes & bituminous sub (12.8%).

**Figure 3.8 Total imports and exports of Mexico over time**



Source: WITS / UN COMTRADE.

### Maquiladoras

The phenomenon of Maquiladoras is important for Mexican exports. Maquiladoras are companies that enjoy special tax breaks for assembling export products with imported inputs. This policy has been in place since the 1960's. Maquiladoras are responsible for 65 percent of the manufacturing exports, with total annual export values of more than USD 178 billion per year (PwC Mexico, 2013, p.3). However, in 2013 the Mexican government decided to remove a range of deductions and allowances for maquiladoras, which could be detrimental to the Mexican export sector (The Economist, 2013).

<sup>156</sup> The Economist Intelligence Unit, link: <http://country.eiu.com/Mexico>.

<sup>157</sup> The Economist Intelligence Unit, link: <http://country.eiu.com/Mexico>.

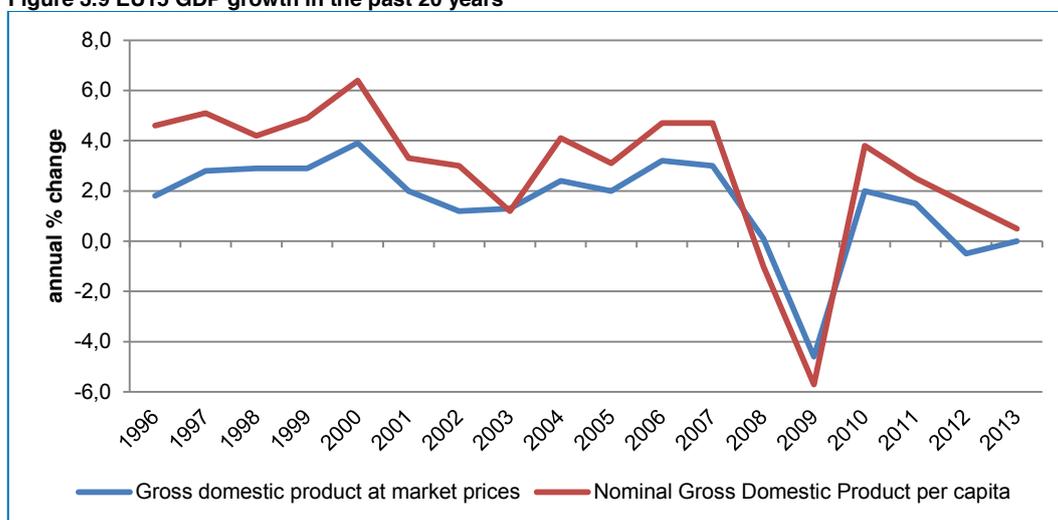
<sup>158</sup> WTO, link: [http://stat.wto.org/CountryProfiles/MX\\_e.htm](http://stat.wto.org/CountryProfiles/MX_e.htm).

## Economic developments in the European Union

We now turn to the economic developments in the European Union, which was significantly smaller at the time of signing the free trade agreement with Mexico compared to its current size. In the year 2000, when the free trade agreement with Mexico entered into force, the European Union still consisted of 15 member countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxemburg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom. This group of countries is described later in this chapter as the “EU15”. After 2000, 13 more Member States joined the EU at different points in time.<sup>159</sup> When these countries became part of the EU, they automatically joined the free trade agreement with Mexico. For the sake of data comparability, throughout this section we present the time series for the EU15 only.

**Figure 3.9** below shows the GDP growth of the EU15 aggregate over the past years. GDP of the EU15 has been growing, except in the crisis years of 2008/09 and 2012. We see that GDP per capita growth is generally higher than aggregate GDP growth, with the exception of the crisis years. In contrast to Mexico, capital and productivity growth drive the overall growth in this region.

**Figure 3.9 EU15 GDP growth in the past 20 years**



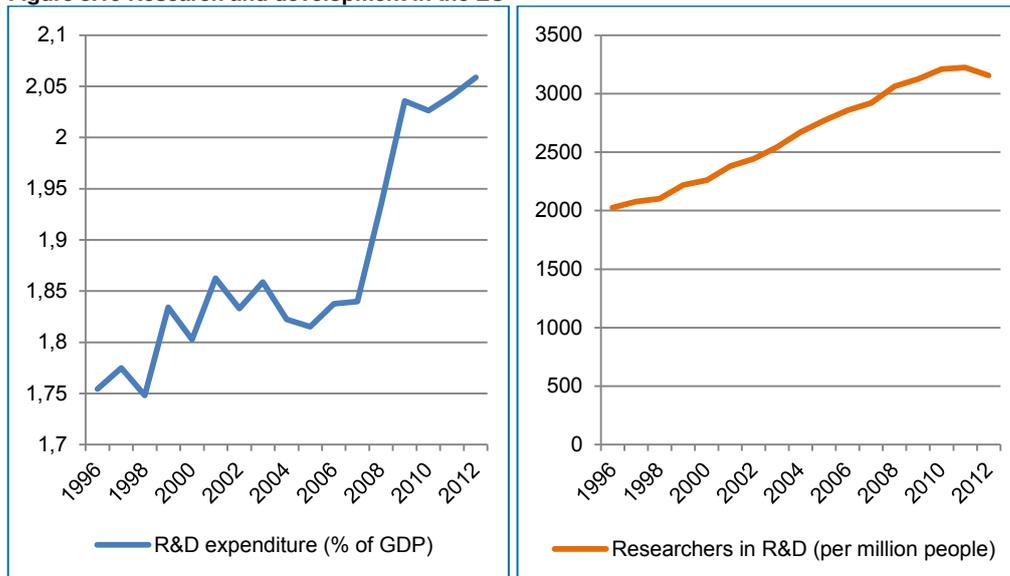
Source: Eurostat.

**Figure 3.10** below shows developments related to science and technology in the EU. It illustrates that both R&D expenditures (public and private) as a percentage of GDP as well as the numbers of researchers working on R&D are growing over time, but also that both figures are significantly higher in the EU compared to Mexico. However, the growth rates of both R&D indicators are higher for Mexico.<sup>160</sup>

<sup>159</sup> Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia.

<sup>160</sup> The compound annual growth rates over the period 1996-2011 for the indicators “R&D expenditure (% of GDP)” and “Researchers in R&D (per million people)” for Mexico are respectively 3.49% and 4.33%. The compound annual growth rates over the period 1996-2012 for the same indicators for the EU are respectively 1.01% and 2.81%.

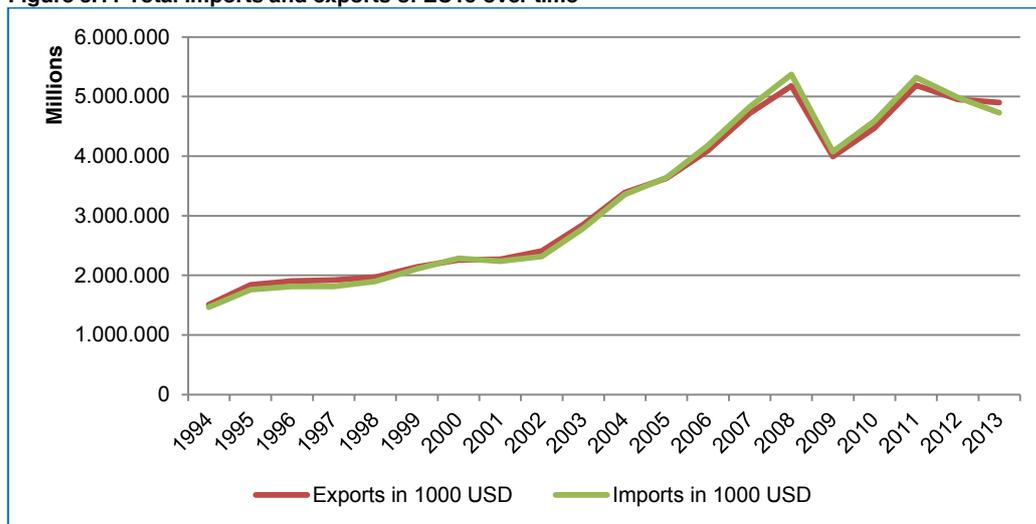
**Figure 3.10 Research and development in the EU**



Source: World Bank, World Development Indicators.

**Figure 3.11** below shows total imports and exports of the EU15 over time. These have been growing according to the same path. During the crisis years of 2008/09 there was a serious fall back to 2005 levels, and in 2012/13 values went down again after a recovery of trade in 2010/11.

**Figure 3.11 Total imports and exports of EU15 over time**



Source: WITS / UN COMTRADE.

### 3.1.2 The evolution of trade and FDI between Mexico and the EU

In the year 2000, the free trade agreement between Mexico and the EU entered into force, with the part of the agreement related to trade in services entering into force in 2001.<sup>161</sup> In this section we will analyse the evolution of trade between the EU and Mexico in goods and services and of FDI - beginning six years prior to the entry into force of the FTA until as recently as possible.

Before presenting the developments in the past 20 years with respect to bilateral trade and FDI, we will first describe how the tariff structures of both parties changed as a consequence of the FTA. To

this end we provide an overview of the tariffs of both Mexico and the European Union before and after the Free Trade Agreement, differentiated by agricultural and non-agricultural products.

### Tariff profiles

The tables below provide tariff profiles for both Mexico and the EU15 (and thus later the EU28). In **Table 3.1** we observe that the EU is the third biggest source of Mexican imports. For the EU, we see that effectively applied tariffs (both simple average and weighted average) have gone down for all product groups (agricultural and industrial products and petroleum). Duty-free imports have increased significantly for all categories compared to the situation before the FTA.

**Table 3.1 Tariff profile Mexico, duties faced by main trade partners, 1995 and 2009**

Partner Name	Imports Value in 1,000 USD (2009)	Simple Average AHS		Weighted Average AHS		Share of duty-free imports	
		1995	2009	1995	2009	1995	2009
<b>Agricultural products</b>							
United States	13,797,409	6.99	0.85	6.47	0.76	23.2%	93.3%
Canada	1,312,307	7.33	1.36	3.06	1.04	64.6%	98.2%
<b>EU15</b>	<b>907,887</b>	<b>14.07</b>	<b>9.51</b>	<b>11.49</b>	<b>5.71</b>	<b>4.6%</b>	<b>65.0%</b>
China	173,777	14.64	14.64	12.03	10.83	8.0%	21.8%
Brazil	146,429	13.17	11.79	14.22	9.79	7.9%	10.9%
<b>Industrial products</b>							
United States	89,758,309	5.96	0.14	6.24	0.11	24.1%	98.5%
China	31,738,162	14.35	10.33	14.40	4.38	3.5%	45.1%
<b>EU15</b>	<b>22,274,094</b>	<b>12.99</b>	<b>0.00</b>	<b>10.39</b>	<b>0.00</b>	<b>16.0%</b>	<b>100.0%</b>
Japan	10,961,980	12.87	4.10	10.90	2.36	15.0%	52.3%
Canada	5,808,153	6.47	0.00	5.64	0.00	31.7%	100.0%
<b>Petroleum</b>							
United States	8,091,816	4.36	0.00	4.36	0.00	0.0%	100.0%
<b>EU15</b>	<b>2,309,255</b>	<b>7.27</b>	<b>0.00</b>	<b>7.27</b>	<b>0.00</b>	<b>0.0%</b>	<b>100.0%</b>
Canada	75,849	4.36	0.00	4.36	0.00	0.0%	100.0%
Japan	71,243	7.27	3.50	7.27	2.91	0.0%	0.0%

Source: WITS / TRAINS.

The OECD (2013a, p.157) mentions that Mexican tariffs have reduced significantly in the past years, but there is room for further reduction. Further liberalisation of tariffs and investment would enable Mexico's deeper integration into global value chains. Moreover, especially in services sectors, non-tariff measures are still prevalent, limiting trade.

**Table 3.2** below provides a similar table for the EU side, in which we see the imports from the main trade partners for the total European Union and tariff information. When focussing on Mexico, we see that both simple and weighted average effectively applied tariffs have decreased.

**Table 3.2 Tariff profile European Union, duties faced by main trade partners, 1995 and 2010**

Partner Name	Imports Value in 1000 USD (2010)	Simple Average		Weighted Average		Share of duty-free imports	
		AHS		AHS			
		1995	2010	1995	2010	1995	2010
<b>Agricultural products</b>							
Brazil	15,664,826	6.22	5.92	6.40	3.10	43.4%	59.9%
United States	9,559,561	8.79	6.45	3.70	3.25	37.2%	33.4%
China	5,188,421	6.45	5.77	4.86	5.24	52.4%	42.4%
Switzerland	4,644,188	9.34	4.64	10.69	0.43	9.2%	87.7%
Canada	2,317,914	8.54	6.02	3.42	1.76	44.6%	69.2%
<b>Mexico</b>	<b>1,046,320</b>	<b>7.22</b>	<b>1.43</b>	<b>8.11</b>	<b>1.71</b>	<b>11.9%</b>	<b>67.0%</b>
Norway	547,658	9.45	5.32	5.09	3.68	44.4%	40.2%
Japan	256,497	10.10	7.39	8.18	6.18	15.1%	12.7%
<b>Industrial products</b>							
China	366,848,078	2.55	3.87	3.86	3.42	37.7%	36.5%
United States	202,210,144	6.10	3.90	4.65	1.77	13.5%	43.8%
Switzerland	106,610,555	6.12	0.08	4.84	0.00	19.8%	100.0%
Japan	87,332,209	6.23	4.00	6.44	3.26	2.2%	29.2%
Norway	39,278,607	6.08	0.13	5.28	0.36	11.7%	88.0%
Canada	27,512,952	6.14	3.90	3.15	1.02	42.0%	67.9%
Brazil	25,177,282	2.22	3.78	1.59	1.58	68.8%	62.6%
<b>Mexico</b>	<b>13,483,842</b>	<b>2.49</b>	<b>0.00</b>	<b>1.81</b>	<b>0.00</b>	<b>57.7%</b>	<b>100.0%</b>
<b>Petroleum</b>							
Norway	47,487,814	2.89	0.00	0.35	0.00	94.0%	100.0%
United States	6,857,432	2.89	1.98	5.66	2.25	1.9%	1.2%
<b>Mexico</b>	<b>3,361,119</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>100.0%</b>	<b>100.0%</b>
Brazil	2,900,126	0.00	0.00	0.00	0.00	100.0%	100.0%
Canada	982,501	2.89	1.98	3.68	1.56	36.3%	30.6%
Japan	455,845	2.89	2.86	5.77	2.21	0.0%	0.0%
Switzerland	223,000	5.77	0.00	5.77	0.00	0.0%	100.0%
China	106,123	0.00	0.00	0.00	0.00	100.0%	100.0%

Source: WITS / TRAINS.

### Tariff Rate Quotas

The Free Trade Agreement between Mexico and the EU also includes Tariff Rate Quotas (TRQs) for 53 products originating in Mexico, defined at 8-digit product codes.<sup>162</sup> In Annex F, we have identified the TRQs in place and the concerning inner and outer TRQs. It can be observed that in 2013, the EU did not import most of the products with a TRQ from Mexico at all. The only two products for which the TRQ has been filled in 2013 are 0709 20 00 (fresh or chilled asparagus) and 2009 19 11 (orange juice). Reasons for this will be further investigated in the next phase of the study.

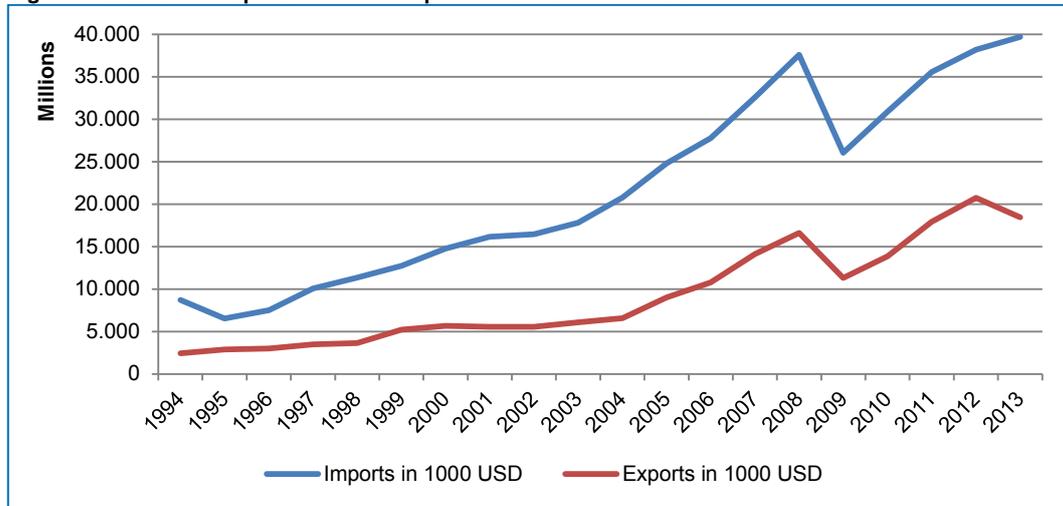
### Bilateral trade

Figure 3.12 below presents imports and exports of Mexico from and to the EU15 over the past 20 years. Bilateral imports and exports grow according to the same pattern. The value of total bilateral imports is higher than the value of exports and the gap is widening over time. There is a drop in

<sup>162</sup> [http://www.sice.oas.org/Trade/mex\\_eu/english/Decisions\\_Council/Dec2\\_Annexes\\_e/Annex\\_1\\_e.pdf](http://www.sice.oas.org/Trade/mex_eu/english/Decisions_Council/Dec2_Annexes_e/Annex_1_e.pdf) (see page 1-3).

both imports and exports in the period of the global crisis around the year 2009. It should be noted here that the EU is still not a big export partner for Mexico, with a share in total Mexican exports of 5.2 percent.

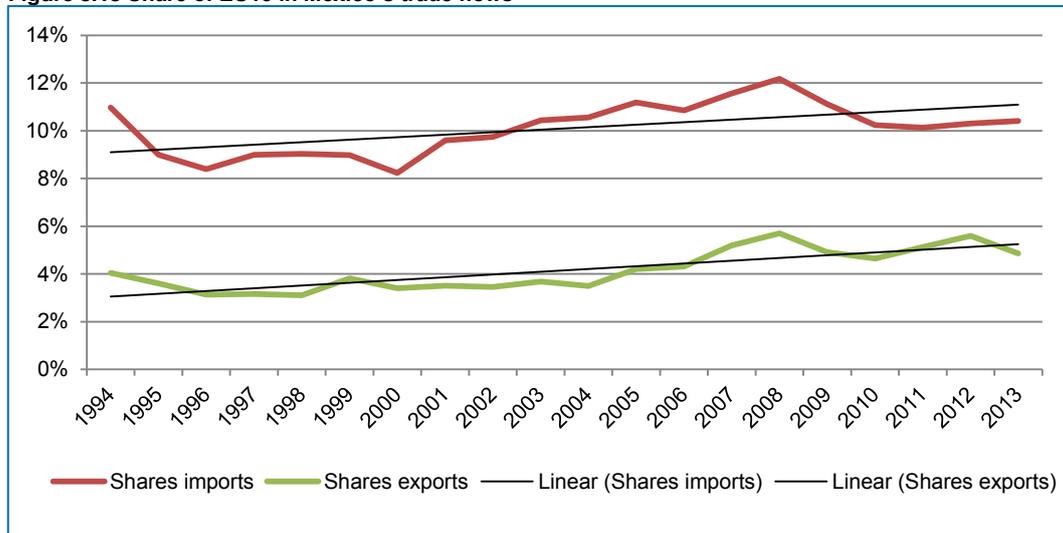
**Figure 3.12 Mexican imports from and exports to the EU15 over time**



Source: WITS / UN COMTRADE.

The figure above shows that since the early 2000's, bilateral trade is increasing at a faster rate than before, however this observation also held for total exports of Mexico and the EU15 to the world in general (see **Figure 3.8** and **Figure 3.11**). Therefore, below we present the shares of bilateral trade between Mexico and the EU15 in total trade to see whether trade with the EU15 really intensified.

**Figure 3.13 Share of EU15 in Mexico's trade flows**

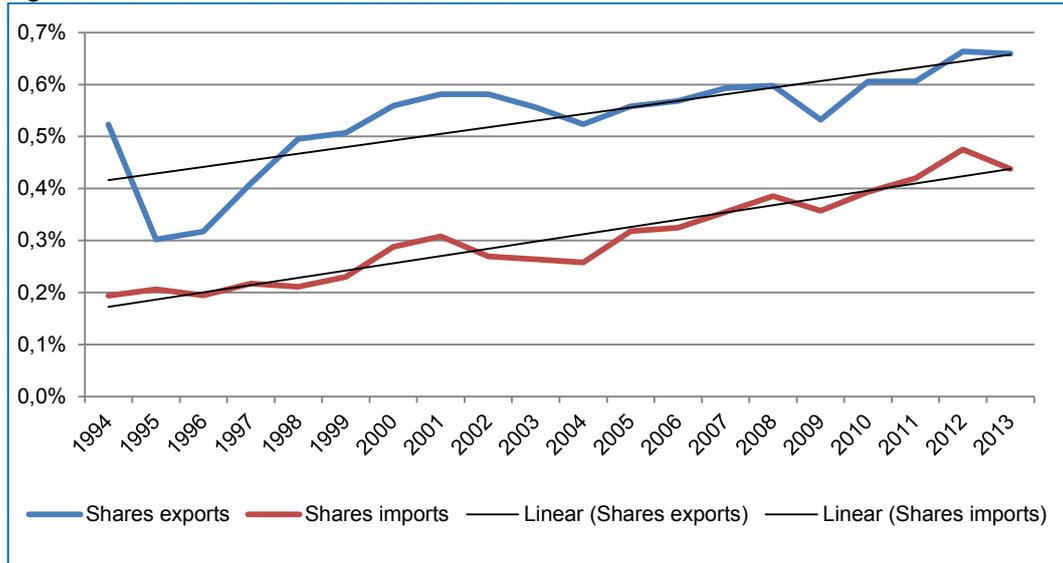


Source: WITS / UN COMTRADE.

**Figure 3.13** above shows the share of the value of Mexican exports and imports to the EU15 as a percentage of total Mexican exports and imports to the world. Next to the shares, also linear trend lines are presented. We observe that both shares are gradually increasing over time, indicating that the EU15 is becoming more important as a trade partner for Mexico compared to other countries.

**Figure 3.14** below includes similar rates and trend lines but then for the EU15. Also here we see steadily increasing shares, however at levels that are much lower than above. This shows that Mexico is not such an important trade partner for the EU15, however, it is becoming more important over time.

**Figure 3.14 Share of Mexico in EU15's trade flows**

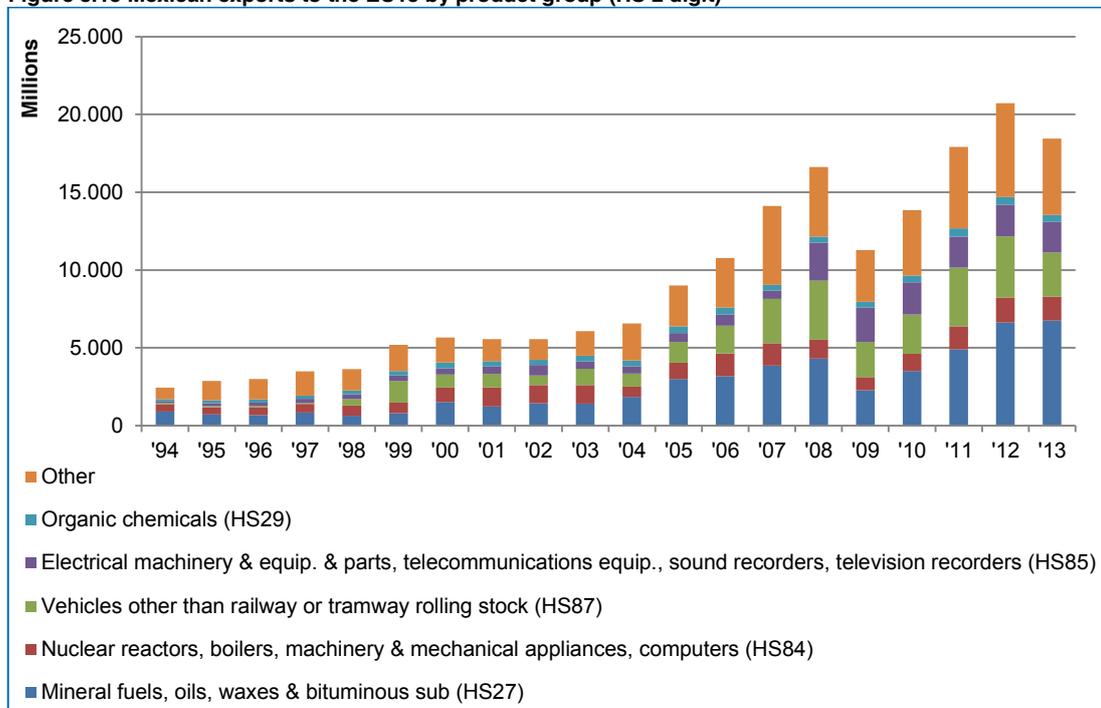


Source: WITS / UN COMTRADE, Ecorys calculations.

The figures above show clear positive developments over the past 20 years, which indicate that the trade relationship between Mexico and the EU has become increasingly important, however later analyses in section 3.2 should clarify whether the FTA has played a role in these positive trends.

**Figure 3.15** below shows the most important export sectors of Mexico to the EU15, which include two chemical and three industrial sectors. Together these five sectors were responsible for 70 percent of total Mexican exports to the EU in 1994 and 73 percent in 2013. The category “Other” includes 92 other product groups at two-digit level.

**Figure 3.15 Mexican exports to the EU15 by product group (HS 2 digit)**



Source: WITS / UN COMTRADE.

The growth in exports of Mexico's biggest export products for the EU market which can be observed from the figure above, went together with a decrease of EU's import tariffs on Mexican products, as shown for the set of important export product groups in the table below, although the tariff levels were already quite low before the signing of the FTA.

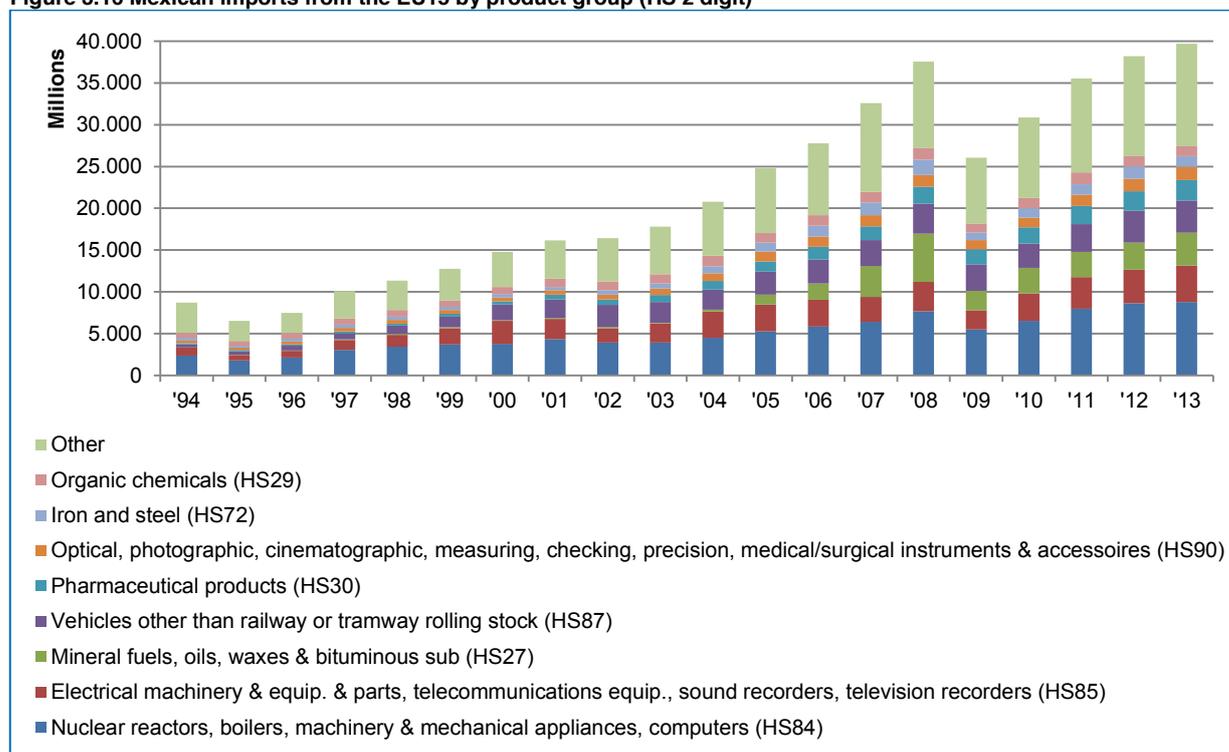
**Table 3.3 Simple average AHS tariff levels in 1999 and 2009 for EU imports from Mexico.**

Product	Product name	1999	2009
27	Mineral fuels, mineral oils and products of their distillation	0.44	0
29	Organic chemicals	2.01	0
84	Nuclear reactors, boilers, machinery and mechanical appliances and parts thereof	1.69	0
85	Electrical machinery and equipment and parts thereof	2.08	0
87	Vehicles other than railway or tramway rolling stock and parts and accessories thereof	5.96	0

Source: WITS / UN COMTRADE.

**Figure 3.16** below shows the export flows from the EU15 to Mexico by sector. Also here we see that a small number of sectors is responsible for a large part of trade (69 percent in 2013).

**Figure 3.16 Mexican imports from the EU15 by product group (HS 2 digit)**



This growth in Mexican imports from the EU went together with a decrease in Mexican import tariffs as a result of the FTA, as shown in the table below for the biggest import products from the EU. As can be seen initial import tariffs in Mexico were much higher than in the EU.

**Table 3.4 Simple average AHS tariff levels in 1999 and 2009 for Mexican imports from the EU.**

Product	Product name	1999	2009
27	Mineral fuels, mineral oils and products of their distillation	11.15	0
29	Organic chemicals	9.74	0.03
30	Pharmaceutical products	12.54	0
72	Iron and steel	11.93	0
84	Nuclear reactors, boilers, machinery and mechanical appliances and parts thereof	12.1	0
85	Electrical machinery and equipment and parts thereof	15.78	0
87	Vehicles other than railway or tramway rolling stock and parts and accessories thereof	18.37	0
90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof	13.25	0

Source: WITS / UN COMTRADE.

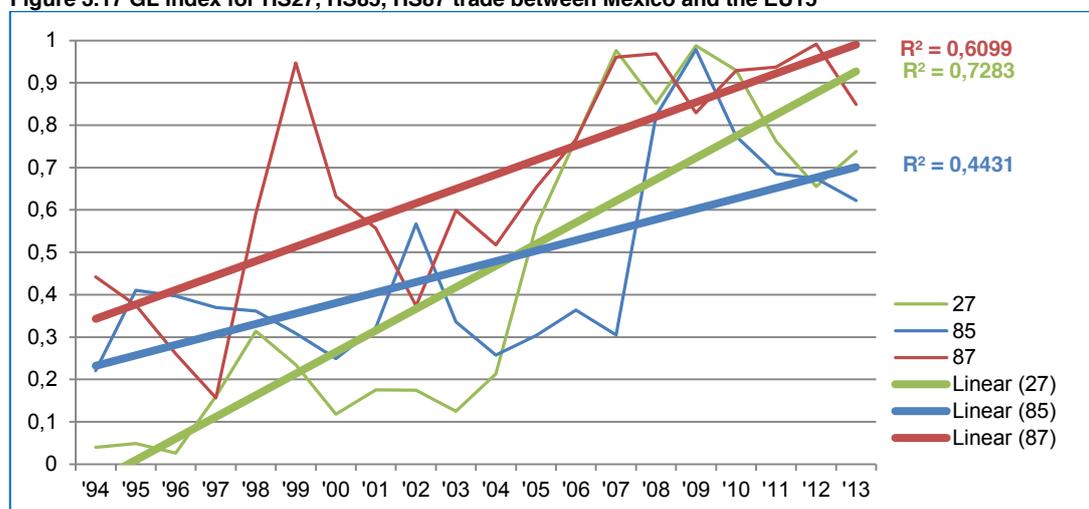
Although the tariff reductions are likely to have played a role in the expansion of trade in these products, it is also clear that they will not be the only explanatory factor. For example, the tariffs on mineral fuels and oils and related products were among the lowest for the products in the table above, but the importance of this product in Mexican exports from the EU has increased considerably since 2005. Reasons behind such trends will be further investigated in the next phase of the study.

#### *Intra-industry trade*

From the above two graphs we can conclude that quite some big export sectors are important for imports as well, which suggests there is quite some intra-industry trade. The intensity of intra-industry trade can be measured with the Grubel-Lloyd index, which indicates the level of similarity between import and export products. For details about the calculation of this index, we refer to Annex B.

By construction, this index is between 0 and 1, whereby higher indices represent higher levels of intra-industry trade. An example of the evolvement of the Grubel-Lloyd index over time is given below for sectors HS27, HS85, and HS87 as these have been important both in terms of Mexican exports to and imports from the EU.

**Figure 3.17 GL index for HS27, HS85, HS87 trade between Mexico and the EU15**



Source: WITS / UN COMTRADE, Ecorys calculations.

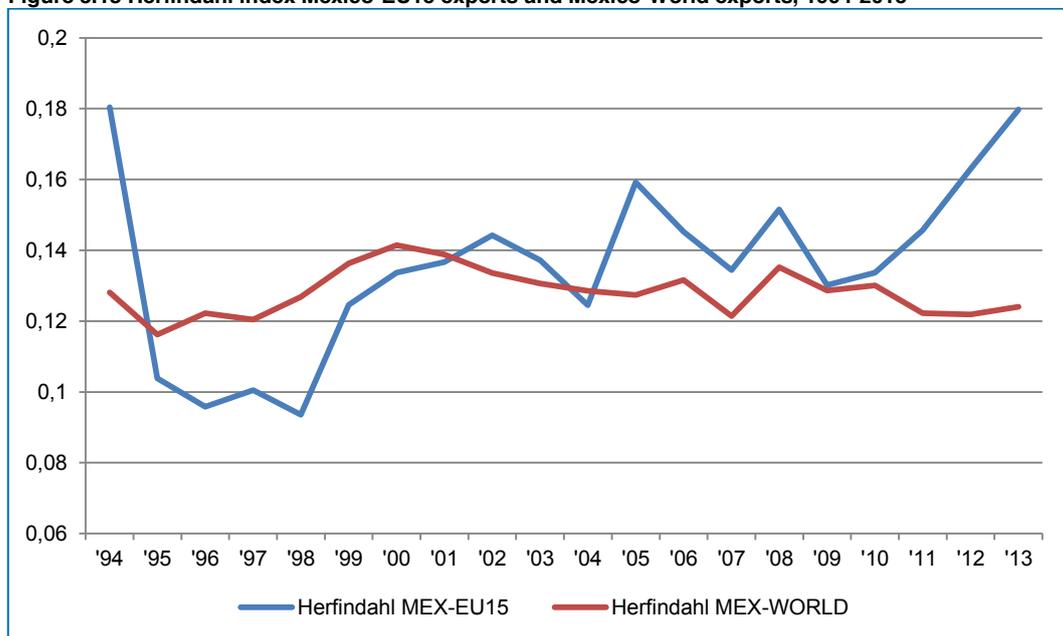
We see large fluctuations over time, however the trends are in the positive direction. This indicates that intra-industry trade for these three sectors has been increasing over time.

### Export diversification

It is interesting to explore whether bilateral trade between Mexico and the EU has diversified over time, i.e. whether exports have become more concentrated in a limited number of products or sectors, or if the range of products exported has become more broad. Export diversification can be estimated with the Herfindahl concentration index. This index ranges between 0 and 1, where 0 means high diversification and 1 means high concentration of trade. For details about the calculation of this index, we refer to Annex B.

The Herfindahl index is calculated for bilateral exports from Mexico to the EU15 over the past 20 years, see **Figure 3.18** below.

**Figure 3.18 Herfindahl index Mexico-EU15 exports and Mexico-World exports, 1994-2013**

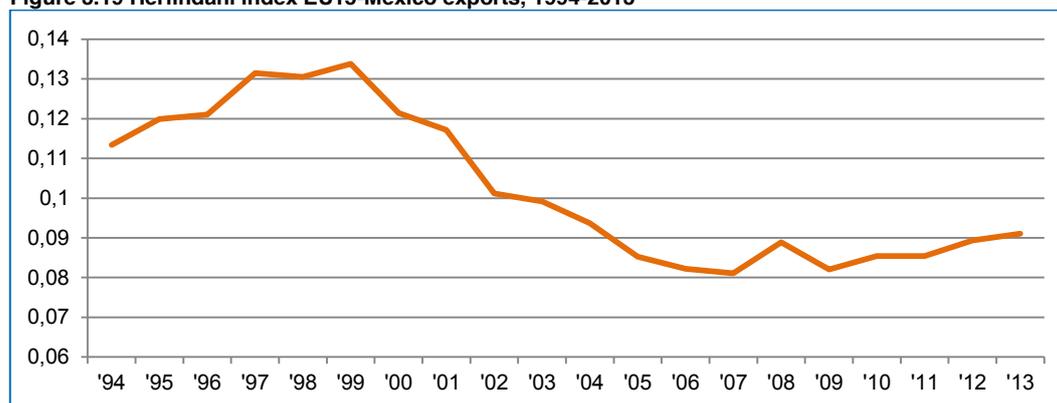


Source: WITS / UN COMTRADE, Ecorys calculations.

We see that the Herfindahl index for Mexico-EU15 exports is increasing between 1998 and 2013, after a decline in 1994/95 and some smaller drops in several other years. The increasing trend in the Herfindahl index indicates that exports from Mexico to the EU15 are becoming less diversified over time, i.e. some concentration takes place. When we compare this with the index for total exports, we see that the latter remains more constant. Recently, Mexican bilateral exports to the EU have been more concentrated than average Mexican exports.

**Figure 3.19** below presents the Herfindahl index for exports from the EU15 to Mexico. Here we see that the reverse happens, namely that the Herfindahl index decreases over time and so exports are becoming more diversified.

**Figure 3.19 Herfindahl index EU15-Mexico exports, 1994-2013**



Source: WITS / UN COMTRADE, Ecorys calculations.

### Comparative advantages

To find out in which sector Mexico has a comparative advantages, we use the revealed comparative advantage (RCA) index from Balassa (1965). When the Balassa index for a certain sector is above 1, this sector is seen as having a comparative advantage. For details about the calculation of this index, we refer to Annex B.

In 2013, the following 19 out of 97 Mexican HS2 product groups showed a revealed comparative advantage according to the Balassa index. Note that these comparative advantages are in general and not calculated for a specific relationship with the EU.

**Table 3.5 Revealed comparative advantages of Mexico at HS 2 digit level in 2013**

HS	Description
01	Live animals
07	Edible vegetables and certain roots and tubers
08	Edible fruit and nuts; peel of citrus fruit or melons
14	Vegetable planting materials
17	Sugar & sugar confectionery
22	Beverages, spirits & vinegar
33	Oils & resinoids, perfumery, cosmetic or toilet preparations
36	Explosives, matches, pyrotechnic products
69	Ceramic products
70	Glass & glassware
78	Lead and articles thereof
79	Zinc & articles thereof
83	Miscellaneous articles of base metal
84	Nuclear reactors, boilers, machinery & mechanical appliances, computers
85	Electrical machinery & equip. & parts, telecommunications equip., sound recorders, television recorders
86	Railway or tramway locomotives, rolling stock, track fixtures & fittings, signals
87	Vehicles other than railway or tramway rolling stock
90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments & accessories
94	Furniture, bedding, cushions, lamps & lighting fittings nesoi, illuminated signs, nameplates & the like, prefabricated buildings

For the EU15, we observe that the Balassa index is  $> 1$  for 51 out of 97 sectors. Below we present the 10 sectors with the highest RCA values, i.e. the most pronounced comparative advantages for the EU15.

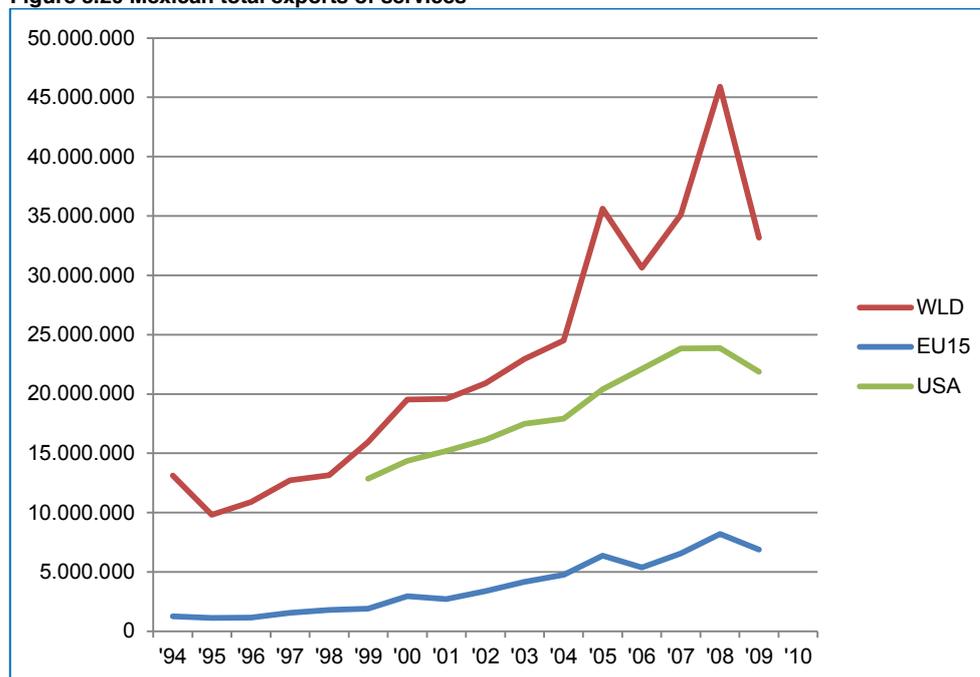
**Table 3.6 Revealed comparative advantages of the EU15 at HS 2 digit level in 2013**

HS	Description
01	Live animals
04	Dairy, eggs, honey, & ed. products
06	Live trees & other plants
18	Cocoa & cocoa preparations
19	Preps. of cereals, flour, starch or milk
22	Beverages, spirits & vinegar
30	Pharmaceutical products
33	Oils & resinoids, perfumery, cosmetic or toilet preparations
45	Cork & articles of cork
88	Aircraft, spacecraft, & parts thereof

### Trade in services

We now turn to trade in services. **Figure 3.20** below presents Mexico's total exports of services, and exports to the US and EU15. It makes clear that the US is by far the more important trading partner for Mexico as compared to the EU15.

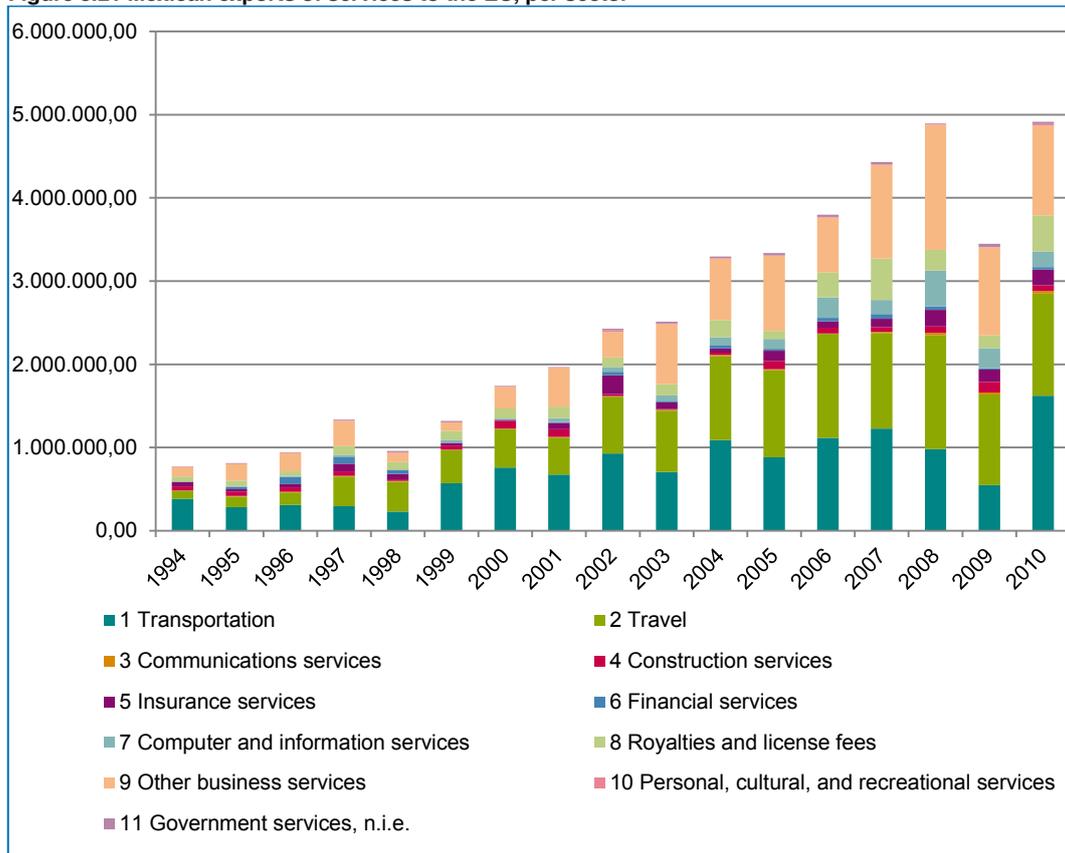
**Figure 3.20 Mexican total exports of services**



Source: Francois and Pindyuk, Consolidated data on trade in services, 2013.

**Figure 3.21** below presents bilateral exports of services from Mexico to the EU15, split by sector. We see that three out of the 11 sectors are particularly exported, namely Transportation, Travel, and Other Business Services.

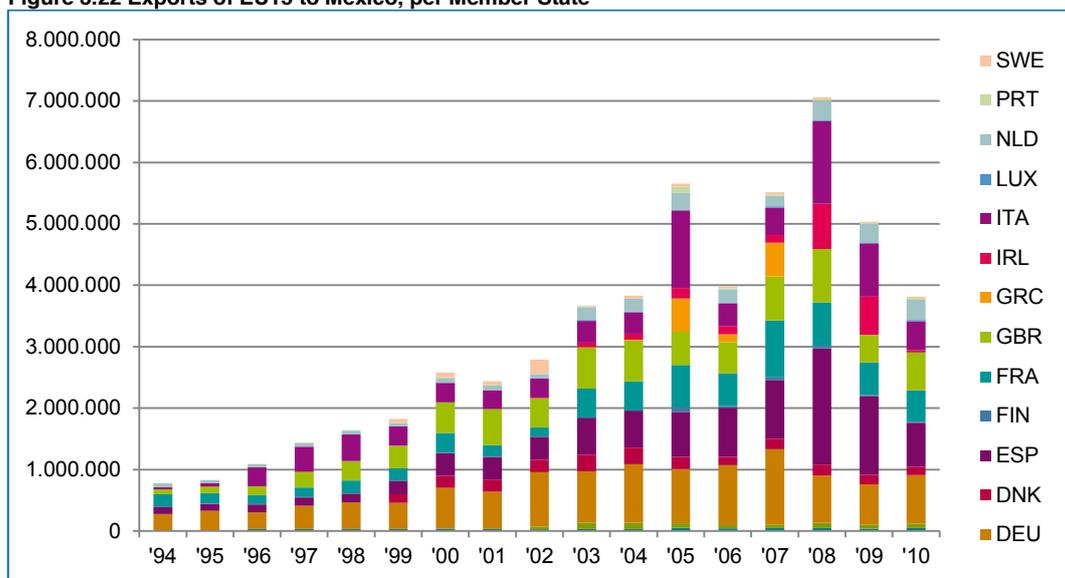
**Figure 3.21 Mexican exports of services to the EU, per sector**



Source: Francois and Pindyuk, Consolidated data on trade in services, 2013.

The figure below presents the exports of the EU15 to Mexico, split by Member State. In general we can observe an increasing trend over time, however with a significant drop in 2006 and in 2009 and 2010. The largest exporters to Mexico are Germany, Spain, France, the UK and Italy.

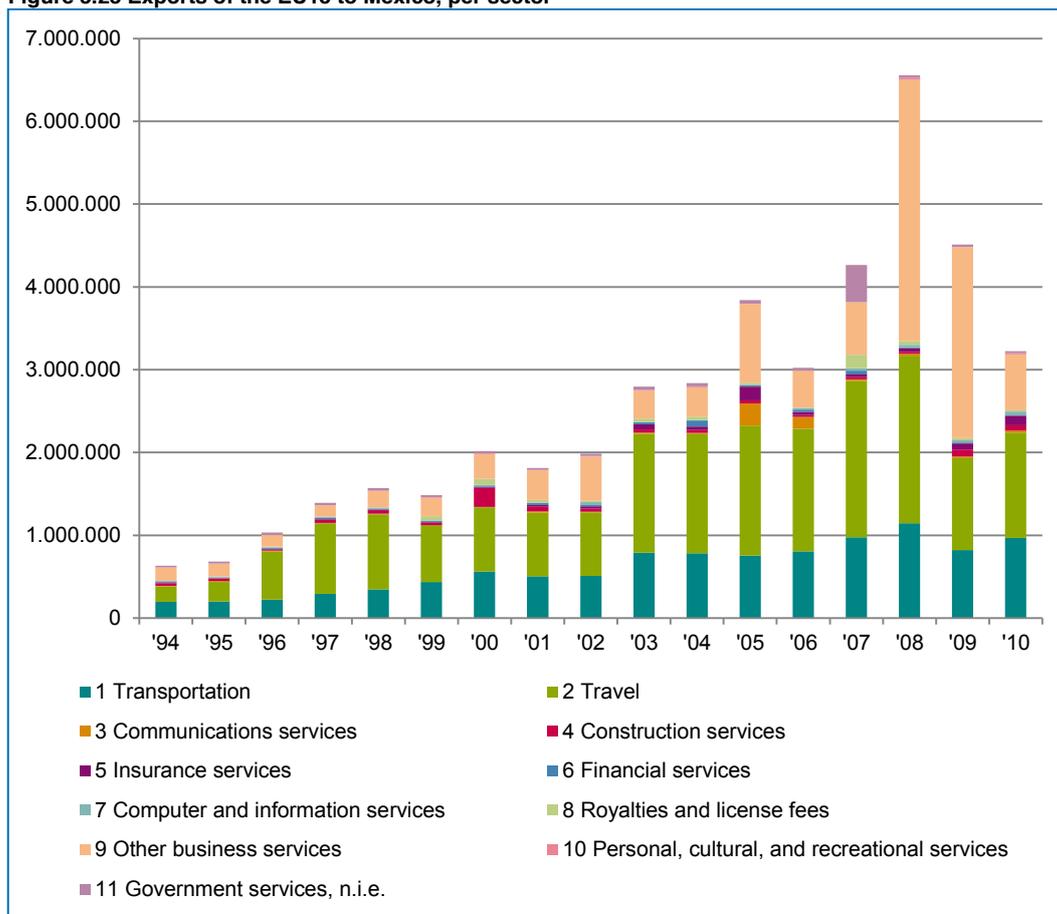
**Figure 3.22 Exports of EU15 to Mexico, per Member State**



Source: Francois and Pindyuk, Consolidated data on trade in services, 2013.

The Figure below shows again the exports of the EU15 countries to Mexico, but now split by sector. Three sectors stand out as significant export products, being Transportation, Travel, and Other business services. These are the same sectors as were identified for Mexican exports to the EU.

**Figure 3.23 Exports of the EU15 to Mexico, per sector**



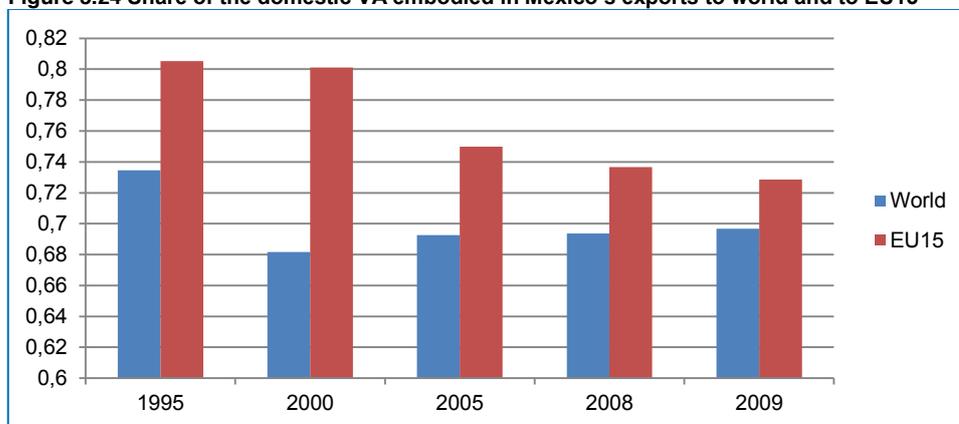
Source: Francois and Pindyuk, Consolidated data on trade in services, 2013.

### Share of domestic value added in exports

Final goods and services are often composed of inputs from several countries around the world.<sup>163</sup>

Figure 3.24 below shows the shares of domestic Mexican value added that are embodied in Mexico's total exports to the world and to EU15. We observe that the share of Mexican domestic value added in exports to the EU15 is higher than in exports to the rest of the world, but is declining over time, while the share in exports to the rest of the world is increasing.

**Figure 3.24 Share of the domestic VA embodied in Mexico's exports to world and to EU15**

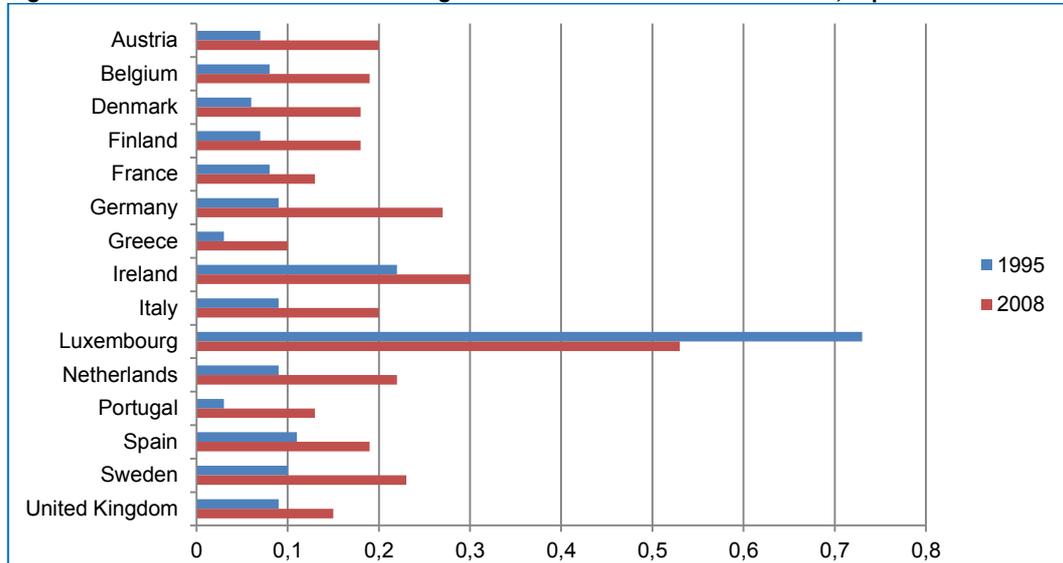


Source: OECD TiVA database.

<sup>163</sup> <http://www.oecd.org/industry/ind/measuringtradeinvalue-addedanoecd-wtojointinitiative.htm>.

Below we present the traded value added of the EU15 to Mexico. The indicator and years presented are different than above due to differences in data availability. Here we see “value-added embodied in foreign final domestic demand”, which shows the exported value added of the EU, both through direct final exports and via indirect exports of intermediated products through other countries, to Mexican final consumers, which can be households, government, charities, etc.

**Figure 3.25 Value added embodied in foreign final domestic demand as % of GDP, exports EU15-MEX**



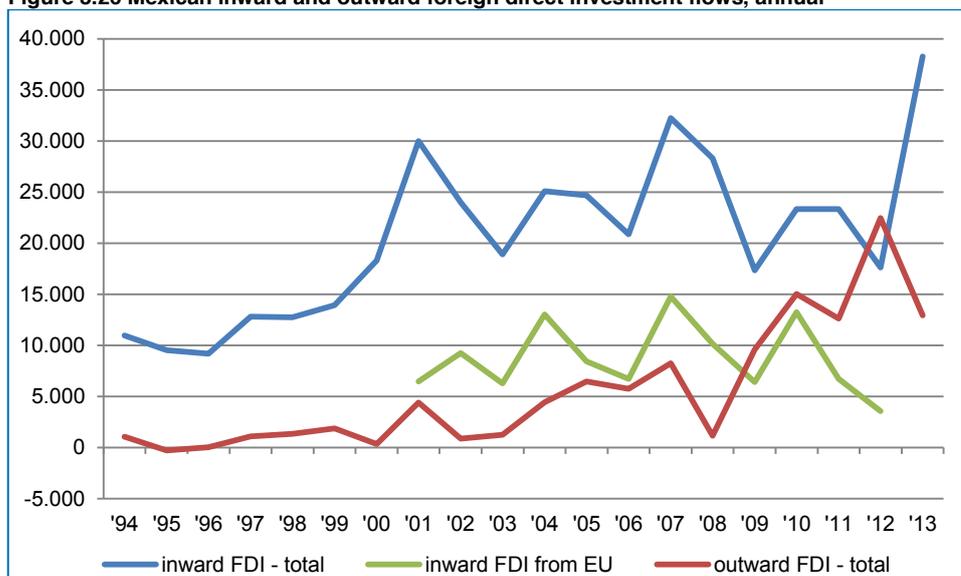
Source: OECD TIVA database.

Except for Luxembourg, we see that the share is higher in 2008 than in 1995, so the share of value in the final products or services consumed in Mexico that is added in the EU countries has increased.

### FDI flows between Mexico and the EU

The figure below presents the total inward and outward FDI flows for Mexico over time. Both total inward FDI flows as well as FDI flows from the EU are presented for the years for which data are available. Outward FDI flows have increased significantly recently.

**Figure 3.26 Mexican inward and outward foreign direct investment flows, annual**

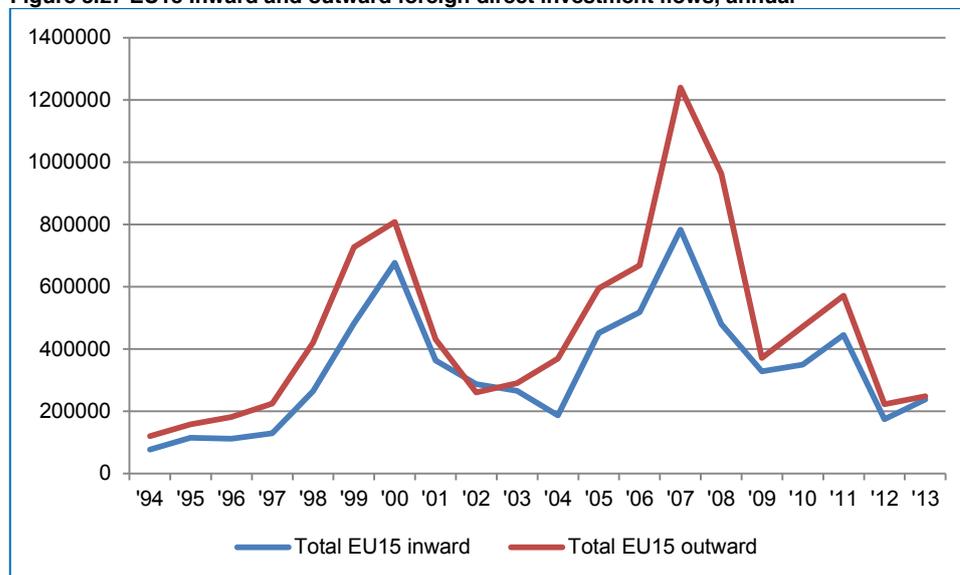


N.B. data are in US Dollars at current prices and current exchange rates in millions.

Source: UNCTADStat.

**Figure 3.27** below shows data on FDI flows from and to the EU. We see that outward FDI flows are generally higher than inward FDI flows. The share of EU FDI outflows that are destined for Mexico represented 1.5 percent in 2001 and 1.6 percent in 2012.

**Figure 3.27 EU15 Inward and outward foreign direct investment flows, annual**



N.B. data are in US Dollars at current prices and current exchange rates in millions.  
Source: UNCTADStat.

**Table 3.7** below presents some figures on outward FDI from Mexico to some EU15 countries. Also, information on investment flows to the United States is added as a comparison.

**Table 3.7 Outward FDI from Mexico to some EU15 countries and the United States, in mln USD**

Country	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12
Austria	-	-	-	-	-21	-5	-1	-16	-	-	-	-
Belgium	-	3	..	-	-	-	-	-	-89	-107	33	-22
Czech Rep.	-	-2	5	-	-	-16	-126	-116	267	-31	3	-
Denmark	-	-	-	-	-4	2	15	1	19	36	112	17
Finland	9	-1	1	-	-	-	-	-	2	-	1	-
France	44	-2	109	-24	265	411	-123	495	346	-191	336	166
Germany	-	-27	-28	5	-14	11	242	-7	14	-60	49	104
Ireland	-	-	..	535	1476	-	-	-	-	-	-	-
Italy	-	-1	1	1	6	-	-	21	-231	236	-4	14
Luxembourg	-	117	68	61	39	144	352	248	224	139	-738	-71
Portugal	-	-1	-1	-	-	-	-	-	1	2	-	-
Spain	345	85	470	27	-485	218	-	250	653	1591	-	865
Sweden	-33	..	..	..	-67	..	..	..	..	..	..	..
USA	-716	2349	2173	-629	-19	2265	291	731	2469	190	2491	2801

Source: UNCTADStat.

In the above table, we observe a lot of negative numbers, indicating that these are reverse FDI flows. This has to do with the composition of FDI flows. For associates and subsidiaries in Mexico with the parent company in the EU (or US), FDI flows consist of the net sales of shares and loans to the parent company, *plus* the parent firm's share of the affiliate's reinvested earnings, *plus* total net

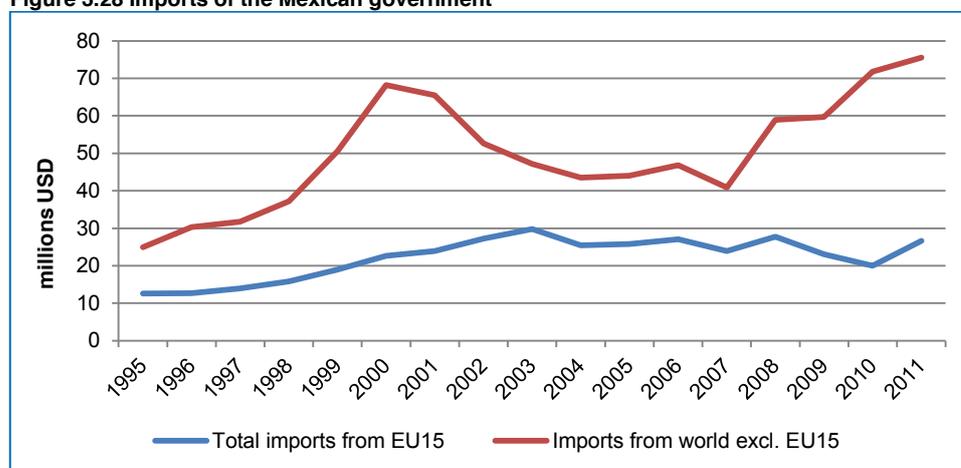
intra-company loans provided by the parent company. For branches in Mexico, FDI flows consist of the increase in reinvested earnings, *plus* the net increase in funds received from the foreign direct investor from the EU (or US). FDI flows with a negative sign indicate that at least one of the components in the above definition is negative, which is not offset by positive amounts of the remaining components.

### Changes in public procurement

We analyse changes in public procurement with the help of WIOD, which contains input-output tables (WIOTs) from 1995 to 2011. It enables us to see which goods and services have been imported from the EU by the Mexican government and vice versa.

The figure below shows the imports of the Mexican government from the EU15 and from all other countries except the EU15. The data presented in this figure concern final consumption expenditures by the Mexican government.

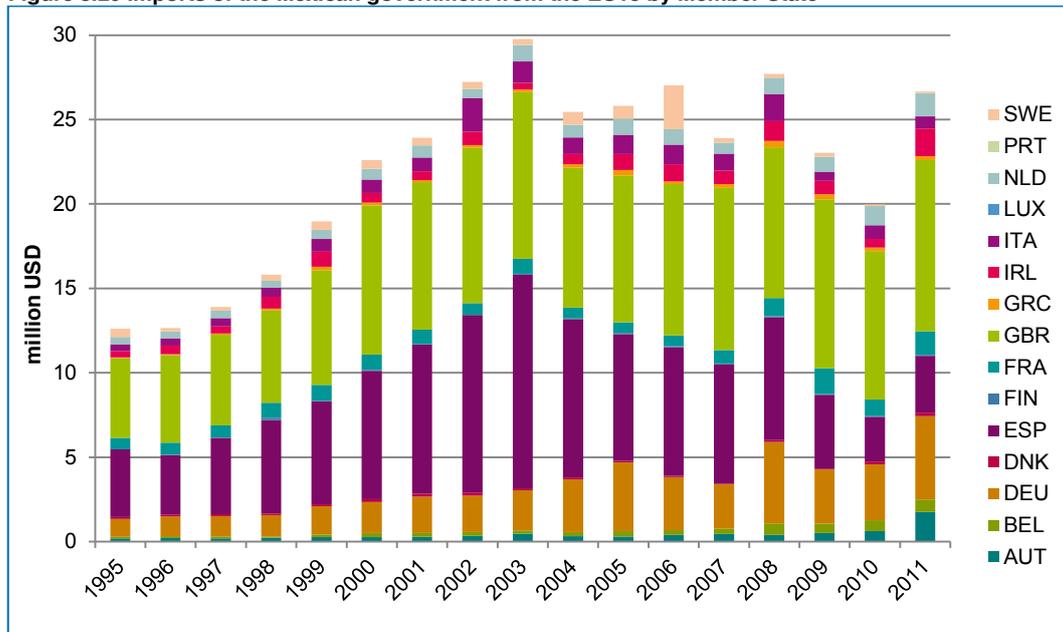
**Figure 3.28 Imports of the Mexican government**



Source: WIOD, Ecorys calculations.

We will now look which particular EU Member States have been important trading partners for the Mexican government in the past. **Figure 3.29** below again shows the Mexican government consumption expenditures. We see that Germany, Spain and the United Kingdom are by far the main clients for the Mexican government.

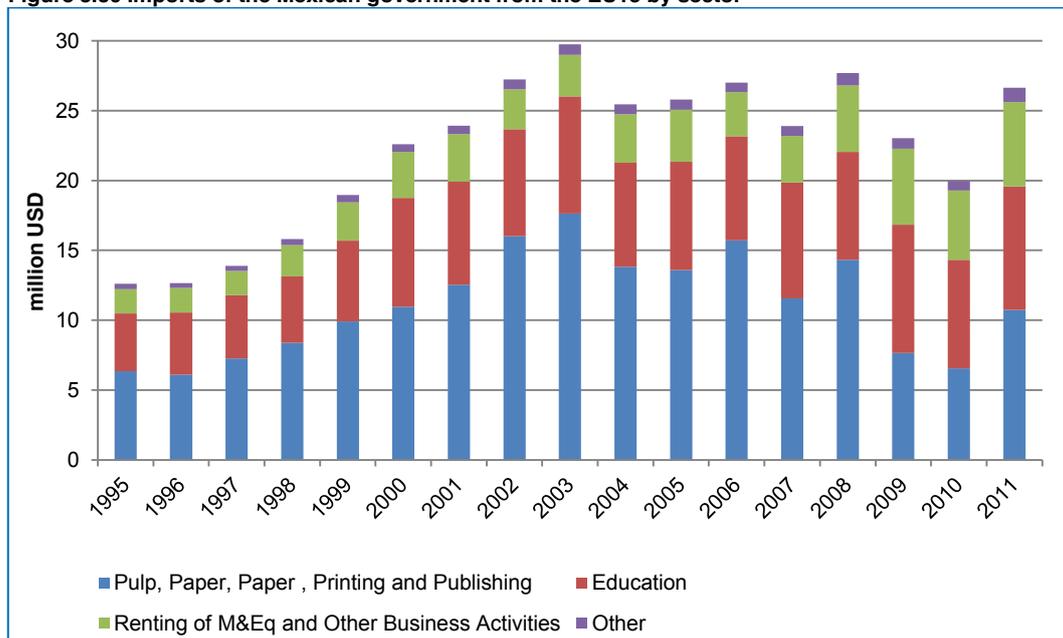
**Figure 3.29 Imports of the Mexican government from the EU15 by Member State**



Source: WIOD, Ecorys calculations.

**Figure 3.30** below presents the imports of the Mexican government from the EU15 per sector. From the 35 sectors in the WIOD database, three sectors stand out: (1) pulp, paper, printing and publishing, (2) education, and (3) renting of machinery and equipment and other business activities.

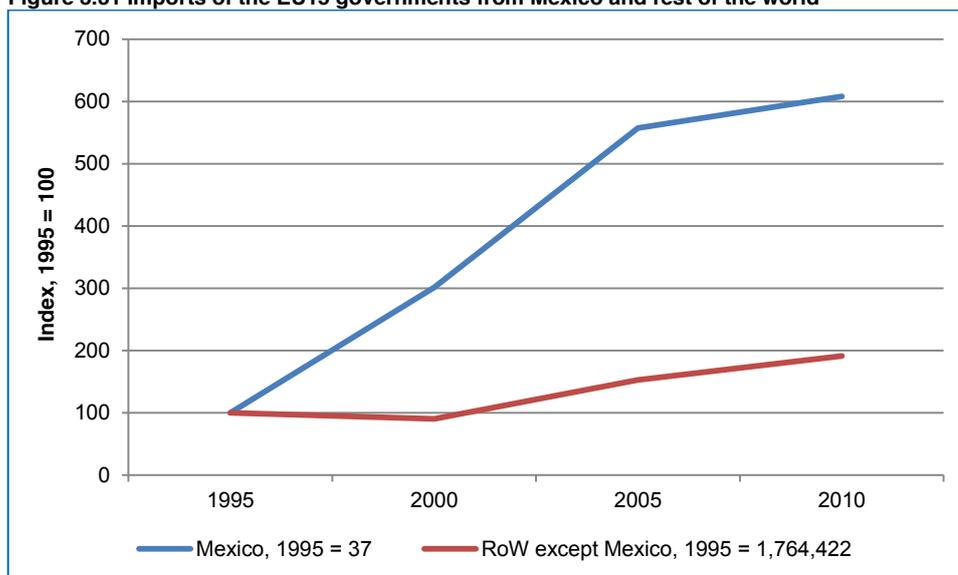
**Figure 3.30 Imports of the Mexican government from the EU15 by sector**



Source: WIOD, Ecorys calculations.

**Figure 3.31** below shows the total imports of the EU15 governments from Mexico and from the rest of the world. The information is presented as indices (1995 = 100) as the values of both groups differ widely. Imports from Mexico represented only 0.002 percent of total imports in 1995, in 2010 this percentage was 0.007.

**Figure 3.31 Imports of the EU15 governments from Mexico and rest of the world**



Source: WIOD, Ecorys calculations.

The five biggest import products, which are together responsible for 91 percent of imports in 2010, are the following:

1. Chemicals and chemical products;
2. Inland transport;
3. Electrical and optical equipment;
4. Wholesale trade and commission trade, except of motor vehicles and motorcycles;
5. Retail trade, except of motor vehicles and motorcycles; repair of household goods.

Based on the above observations, we see that Mexico and the EU have become more important for each other in terms of international trade. However, from the descriptive analyses it does not become clear whether the FTA has enforced this trend. Therefore, we will now turn to the economic impact assessment to explore the role of the FTA.

## 3.2 Economic impact analysis

Our ex-post evaluation of the impacts of the FTA on Mexico in particular is based initially on two quantitative methods: gravity analysis and Computable General Equilibrium (CGE) modelling. Subsequent analysis of specific issues are based on the results from these quantitative exercises and complemented with qualitative analysis. In this section we first discuss the gravity analysis results and subsequently present the CGE results. The latter are presented at macro level, at sector level and for a number of environmental indicators. We conclude with a short consideration of the impact of the FTA on Mexican TFP, since this was identified as a major obstacle to economic growth in Mexico.

### 3.2.1 Gravity analysis

The current EU-Mexico agreement was negotiated in the 1990s, signed in 1997, and came into force in 2000. Although it was considered comprehensive at the time, it is not as comprehensive as more recent agreements, especially in addressing new issues linked to NTMs.<sup>164</sup> Although many non-tariff issues are addressed in the agreement, they often do not entail further liberalisation as

<sup>164</sup> Indeed, following the 2013 EU-CELAC Summit in Santiago, Mexico and the EU set up a Working Group to explore options for a comprehensive and ambitious modernisation of the trade pillar of the UE-Mexico Agreement.

shown in chapter 2; its focus is primarily on reduction in tariff barriers (with the exception of primary and processed food products). However, flanking the trade agreement is the Global Agreement and frameworks meant to provide technical assistance.<sup>165</sup> In this section we discuss the use of an econometric framework known as a gravity model to identify the impact of the current agreement on EU-Mexico trade beyond tariffs. While the computation model (the CGE model) that follows is used to actually estimated changes in trade volumes due to tariff and possibly NTM reductions, the econometric modelling discussed here identifies other trade volume effects, above tariffs. These other trade volume effects would give an indication of the extent to which trade costs have been reduced which could then be included in the CGE model-based analysis that follows.

The gravity model is a standard and well-known empirical workhorse in international trade.<sup>166</sup> An econometrically estimated gravity model provides estimates of how much physical and socio-economic distance between partners, as well as policy, determines bilateral trade flows. In this framework, we essentially control for factors that determine general supply and demand conditions, as well as natural sources of trade costs. All these factors – distance, supply capacity, or common language for example – impact on trade between individual partners (like the EU and Mexico). Once we control for these, we are able to isolate additional trade volumes that follow, for example, from having a specific trade agreement. Essentially, controlling for country-specific structural features of the gravity model, estimates of pairwise coefficients provide measures of the impact that distance between two trading partners has in terms of *trade costs* between the two countries.

Our gravity analysis is based on trade, policy, and trade cost data for 2011, and provides a basis for estimating the impact of the current agreement. Technical details on the econometric estimates are discussed in the appendix B. Here we focus on the primary findings. On the basis of the gravity modelling, we find that the current agreement does not generate additional trade beyond what is expected based on tariff elimination alone. In technical terms, with two exceptions discussed in a moment, there is no statistical support for the case of trade creation effects beyond those due to tariffs alone. As such, while the agreement does generate trade, this has followed from tariff reductions. These trade effects are therefore the primary focus of the CGE assessment that follows this section. The two exceptions are other transport equipment (aircraft), and petro-chemicals, where we identify additional trade – meaning more than predicted by in the gravity model by tariff elimination alone –between the EU and Mexico. For other transport equipment, we estimate trade cost reductions, expressed as a tariff equivalent, of 17.73 percent for EU exports to Mexico and 19.96 percent for Mexican exports to the EU. For petrochemicals we estimates trade cost reductions, expressed as a tariff equivalent, equal to 13.98 percent in the case of EU exports to Mexico, and 12.01 percent in the case of Mexican exports to the EU. It should be stressed that the core FTA agreement itself is focused on tariffs, and so these are the basis for our primary ex-post analysis of the impact on trade volumes, GDP, and other macro and sector indicators. However, we also include the contribution of our estimated non-tariff trade cost reductions in the analysis as well.

### 3.2.2 CGE modelling results

In order to empirically estimate the impact of the Agreement and to estimate the contribution of the Agreement to the overall evolution of the Mexican and EU economies we define a 'negative' experiment. In this counterfactual, we assume the EU and Mexico to apply respectively the most-favoured-nation (MFN) level of tariffs vis-à-vis each other. This is based on the results of the gravity analysis in the previous section, which show no significant effects beyond tariff reductions. Although

<sup>165</sup> An example is the Mexico-European Union Program for Competitiveness and Innovation (PROCEI), which has targeted integration of SMEs into supply chains, especially in the aerospace sector.

<sup>166</sup> See for example Head, Keith and Thierry Mayer (2014). "Gravity Equations: Workhorse, Toolkit, and Cookbook," in K. R. Elhanan Helpman and G. Gita eds, *Handbook of International Economics*. Elsevier, 131-95.

trade cost reductions were identified in two sectors, we can not immediately link them to text in the agreement. There could be a link with provision in the Global Agreement and related technical assistance programmes. Therefore, while in this section we focus on the tariff-only counterfactual scenario, in Annex E we also present the results of a counterfactual scenario that includes trade cost reductions in the sectors petrochemicals and other transport equipment.

The CGE analysis provides us with estimates on how the two economies would have fared in case the Agreement would not have taken place, or turning it around, how the Agreement impacted the two economies.

### Macro-economic impact of the Agreement

The estimated aggregate impact of the Agreement is marginal for the EU, although somewhat larger for Mexico. Table 1 shows the estimated percentage change in GDP in all regions due to the FTA as estimated by the model. As can be seen from **Table 3.8**, Mexico's GDP would have been 0.34% lower if the Agreement would not have been implemented. On the other hand, the difference for the EU is rather marginal; the Agreement is estimated to have lead to a 0.01% increase in GDP. This asymmetrical effect is due to the difference in importance of the two country for each other as trading partners.

**Table 3.8 GDP, percent impact**

Country	value, million euros (2011)	% change
European Union	13,217,925.95	0.01
Mexico	875,224.00	0.34
Turkey	579,516.11	-0.01
Canada	1,330,416.77	0.00
United States	11,619,282.40	0.00
MERCOSUR	2,143,452.16	0.00
Andean Pact	459,179.87	0.01
Central America	127,578.12	0.00
Chile	187,743.53	0.01
ACP countries	1,134,822.26	0.00
China	5,471,059.09	0.01
Japan	4,410,803.31	0.00
Rest of World	11,547,862.61	0.00

**Table 3.9** shows what these GDP changes imply in terms of annual real income changes compared to the scenario with no EU-Mexico FTA in place. The gains for Mexico from the FTA are estimated at 2,876 million EUR in real income. Although in percentage terms the gains for the EU are marginal, given that the size of the EU GDP is significantly larger than that of Mexico, the gains in relative income in Euros are almost half of Mexico's gains, amounting to an estimated 1,559 million euros annually.

**Table 3.9 Real income (annual)**

Country	value, million euros	Change in mln EUR
European Union	13,217,925.95	1.559
Mexico	875,224.00	2.876
Turkey	579,516.11	-65

Country	value, million euros	Change in mln EUR
Canada	1,330,416.77	-80
United States	11,619,282.40	141
MERCOSUR	2,143,452.16	-84
Andean Pact	459,179.87	27
Central America	127,578.12	-4
Chile	187,743.53	12
ACP countries	1,134,822.26	-25
China	5,471,059.09	286
Japan	4,410,803.31	-23
Rest of World	11,547,862.61	-232

Tariff liberalization triggered increases in trade, amounting to about 1.5-1.7 percent increase in Mexico's aggregate exports and imports, and a 0.05 percent increase in the EU's aggregate trade flows, coming from bilateral trade changes according to the modelling results. Again, the asymmetry in numbers is due to Mexico having a much smaller share in total EU trade than vice versa. As can be seen from **Table 3.10**, Canada's exports and imports are also estimated to be marginally affected, with a 0.12 percent decrease taking place due to tariff liberalization in the Agreements both in imports and exports. This is due to a small trade diversion effect. As tariffs in goods were liberalized on EU-Mexico trade flows, some of the products which were relatively cheaper to import from Canada for Mexico in the counterfactual scenario are now replaced by EU providers. Similarly, some of the exports destined for Canadian markets in the counterfactual scenario, due to trade costs reductions, become more competitive when exported to EU markets hence an increased demand for these products from European markets and a shift in exports towards the EU. Nevertheless, the change in Canadian exports is rather small.

**Table 3.10 Value of exports and imports, percent impact**

Country	Value of exports, million euros f.o.b.	% change	Value of imports, euros dollars c.i.f.	% change	Terms of trade
European Union	4,826,440.08	0.1	4,956,292.13	0.1	0.0
Mexico	275,325.27	1.6	236,942.70	1.7	0.1
Turkey	125,349.14	0.0	172,127.74	0.0	0.0
Canada	349,070.40	-0.1	342,966.48	-0.1	0.0
United States	1,443,984.36	0.0	1,845,500.01	0.0	0.0
MERCOSUR	268,188.60	0.0	243,406.70	0.0	0.0
Andean Pact	89,527.79	0.0	92,280.74	0.0	0.0
Central America	56,466.27	0.0	69,256.21	0.0	0.0
Chile	79,224.42	0.0	56,690.67	0.0	0.0
ACP countries	352,470.69	0.0	390,997.30	0.0	0.0
China	1,433,269.73	0.0	1,133,544.36	0.0	0.0
Japan	663,563.99	0.0	646,359.24	0.0	0.0
Rest of World	3,991,057.60	0.0	3,767,574.27	0.0	0.0

The estimated changes in aggregate trade flows are driven by changes in bilateral flows, in particular, by increase in Mexico-EU bilateral trade flows. As can be seen in **Table 3.11**, EU exports

to Mexico increased slightly more, by 19 percent, than Mexican exports to the EU, which increased by 15 percent compared to the counterfactual scenario. Nevertheless, given the value of total trade flows being significantly higher in the EU, a much smaller change takes place in the aggregate changes in exports and imports for the EU than for Mexico, as discussed above.

**Table 3.11 Bilateral Exports (% quantities)**

	Value in million euros (2011)	% change
EU exports to Mexico	26,936.61	18.8
Mexico exports to EU	19,523.06	15.5

Reduction in tariffs between the trade partners are estimated to have resulted in minor losses in tariff revenues. For the EU the change is 235.9 million euros which in terms of percentage change in tariff revenues is insignificant at 0.01 percent. For Mexico, the loss is larger, about 625.3 million euros, and in percentage terms 0.14 percent.

**Table 3.12 Tariff revenues forgone**

Country	in million Euros	% change
Mexico	-625.34	-0.14
EU	-235.90	-0.01

In Mexico and the EU, the gains from the FTA were passed through to workers in the form of real wage increases according to the modelling results. Similarly to GDP changes, the increase in real wages was much larger in Mexico as can be seen from **Table 3.13**. Low skill workers in Mexico gained a bit less compared to the other skill groups, with medium skill gaining the most. The difference is due to a contraction of a sector, electrical machinery, which employs relatively more low skill workers, hence decreasing the demand for these workers relatively more than for other skill categories, resulting in lower wage increases compared to the other skill groups. The estimated increases in real wages were between 0.24 and 0.45 percent.

**Table 3.13 Real wages, percent impact**

Country	Low Skill	Medium Skill	High Skill
European Union	0.02	0.02	0.02
Mexico	0.24	0.45	0.36
Turkey	-0.01	-0.01	-0.01
Canada	0.00	-0.01	-0.01
United States	-0.02	0.01	0.00
MERCOSUR	0.00	-0.01	-0.01
Andean Pact	0.00	0.00	0.00
Central America	-0.02	-0.01	-0.01
Chile	0.01	0.01	0.01
ACP countries	0.00	0.00	0.00
China	0.00	0.00	0.00
Japan	0.00	0.00	0.00
Rest of World	-0.01	0.00	0.00

## Sector-level impact

In order to learn more about the underlying changes across the economies, we now move on to the disaggregate, sector specific changes in output and employment, as well as resulting effects on EU-Mexican bilateral trading patterns as compared to the counterfactual scenario.

**Table 3.14** below shows how removal of tariffs under the Agreement is estimated to have changed sectoral output, together with the sectors share in total value added both for the EU and Mexico.

**Table 3.14 Change in output by sector**

Sectors	Mexico		EU	
	% impact on output	% value added shares	% impact on output	% value added shares
Rice: GP 1, 23	-0.45	0.02	-0.05	0.02
Cereals & oilseeds, oils: GP 2, 3, 5, 21	-0.17	0.50	-0.02	0.49
Vegetables, fruit, nuts: GP 4	-0.14	1.41	-0.02	0.41
Sugar, cane, beet: GP 6, 24	-0.60	0.41	-0.06	0.12
Milk and dairy products: GP 11, 22	0.10	0.71	0.00	0.64
Beef: GP 19	-0.05	0.17	-0.01	0.12
Other meat: GP 20	-0.13	0.24	0.00	0.36
Other ag.: 7, 8, 9, 10, 12	-0.02	0.91	0.00	0.80
Food products nec: GP 25	0.10	2.85	0.00	1.41
Beverages and Tobacco Products: GP 26	0.01	0.84	0.00	0.75
Fisheries: GP 14	0.04	0.10	0.00	0.09
Energy: GP 15, 16, 17	-0.08	1.39	0.00	0.53
Other primary, non-ag: 13, 18	-0.43	1.41	-0.01	0.48
Textiles: GP 27	-0.30	0.25	0.14	0.50
Wearing Apparel: GP 28	-0.64	0.41	0.11	0.44
Leather Products: GP 29	-0.70	0.25	0.05	0.25
Petrochemicals: GP 32	-0.13	0.33	0.02	0.15
Chemicals: GP 33	-1.24	2.37	0.11	3.41
Electrical machinery: GP 40	-11.45	2.60	-0.19	0.71
Motor vehicles: GP 38	16.54	3.19	-0.14	1.61
Other transport equipment: GP 39	0.04	0.46	0.18	0.62
Other machinery: GP 41	-1.61	2.76	0.01	4.32
Metals and metal products: GP 35-38	-2.34	2.51	0.00	2.88
Wood and paper products: GP 30-31	-2.47	0.93	0.01	2.36
Other manufactures: GP 34,42	0.03	1.51	0.01	1.65
Electricity: GP 43	-0.36	0.50	0.01	1.55
Gas manufacture, distribution: GP 44	-0.52	0.09	0.00	0.13
Water: GP 45	-0.19	0.01	0.01	0.27
Water transport: GP 49	0.34	0.09	0.04	0.31
Air transport: GP 50	0.09	0.10	0.02	0.32
Land, other transport: GP 48	0.40	6.73	0.00	3.05
Finance: GP 52	0.26	2.10	0.00	3.30

Sectors	Mexico		EU	
	% impact on output	% value added shares	% impact on output	% value added shares
Insurance: GP 53	-0.09	0.53	0.01	0.91
Business services: GP 54	0.20	18.68	0.00	23.33
Communications: GP 51	0.16	2.17	0.00	2.45
Construction: GP 46	0.44	6.66	0.01	6.88
Distribution services: GP 47	0.92	14.32	0.01	7.07
Other services: GP 55, 56, 57	0.19	19.50	0.01	25.32

In the EU, in line with aggregate GDP changes, in most sectors the resulting change is estimated to be close to insignificant. At most, some sectors experience changes between 0.1 and 0.2 percent compared to the counterfactual scenario. While textiles, wearing apparel and other transport equipment's output increased by 0.14, 0.11 and 0.18 percent respectively, electrical machinery and motor vehicles contracted by 0.19-0.14 percent. This is primarily due to the underlying structure of the economy and the composition of the tariff liberalization. The most pronounced decrease in tariffs imposed by Mexico on EU's exports took place in wearing apparel, leather, and textiles products, followed by other transport, hence the increase in these sectors in the EU according to the modelling results. As these sectors expanded, resources were drawn from mainly two sectors, electrical machinery and also to some extent motor vehicles. Nevertheless, these changes are all estimated to be very small and marginal, all amounting to less than 0.2 percent.

In Mexico, larger changes took place as a result of the FTA, with two sectors dominating these changes, electrical machinery and motor vehicles. While electrical machinery contracted by 11.4 percent, the motor vehicles sector expanded by 16.5 percent according to the modelling results. The sectors where the most important reduction of tariffs on Mexican exports took place were textiles, clothing, leather products, and motor vehicles. As tariffs on clothing and textiles products were cut for imports arriving from the EU, it stimulated more imports and led to increased competition from the EU squeezing out some less competitive Mexican producers from the market, hence these sectors did not expand.

To better understand what caused the contraction in electrical machinery compared to the counterfactual scenario, marginally in the EU and to a greater extent in Mexico, we must remember the underlying liberalization undertaken in the FTA. The textiles, wearing apparel and leather products exhibited peak industrial tariffs in both the EU and Mexico. Mexican tariffs against EU exports in clothing products were initially 24 percent, which was much higher than the average industrial tariff, but was also more than the double the tariffs the EU imposed on Mexican exports in the same sector. Mexican and EU exporters, apart from exporters of clothing and textiles products, faced the highest tariffs before liberalization in motor vehicles (and other transport in case of EU exporters), amounting to about 9 percent ad valorem tariffs. On the other hand, in the case of electrical machinery, tariffs were among the lowest. Nevertheless, the tariff changes were the primary driver of changes in all these sectors in the model. Clearly, therefore, it was changes in tariffs in other sectors that drove the change in electric machinery observed in the modelling results, as there was very little to liberalize in this sector itself in terms of tariffs. Thus based on the preliminary tariff structure, sectors with the highest initial tariffs; namely clothing, textiles, and motor vehicles in Mexico and in addition other transport in the EU, could have been expected to expand based on the tariff structure. The clothing and textiles sectors did not expand in Mexico as there were significantly larger trade cost cuts for EU exporters gaining in competitiveness against Mexican producers and pushing some of them out of production. On the other hand, the motor

vehicles sector significantly expanded in Mexico, drawing resources away from electric machinery, resulting in contraction in this sector. Given the large expansion of motor vehicles sector in Mexico resulting in increased competition in the EU markets, together with expanding textiles and clothing sectors (and other transport sector) in the EU, the motor vehicle sector in the EU contracted slightly. In addition, similarly to Mexico, electric machinery also contracted.

The Mexican motor vehicles sector is substantially larger than electrical machinery or textiles and clothing sectors as a share of total value added. With the estimated expansion of the motor vehicles sector, an important part of the reallocation of value added in motor vehicles had to come from the rest of manufacturing. What we therefore see in the model is that the expansion of the motor vehicles sector, which benefits from elimination of a 9 percent tariff in the EU, requires that resources be shifted out of other sectors. A similar mechanism took place in the EU with the expansion of the textiles, clothing and other transport sector which absorbed resources from other sectors.

One might ask why in particular resources were drawn from electrical machinery and not from other sectors and why electrical machinery was disproportionately impacted by this reallocation of resources, compared to the rest of manufacturing. Part of the reason for this is shown by the cost share data in **Table 3.15**. It can be seen from the table that electrical machinery is a sector where, compared to the rest of manufacturing, a relatively large share of total costs comes from imported inputs both in the EU and in Mexico. In electrical machinery, imported inputs are 26 percent of total costs, compared to a cost share of 21 percent in the rest of manufacturing in Mexico, and 31 in the EU compared to 25 percent for the rest of the manufacturing. This means that a greater share of production costs in these sectors depends on global rather than local cost conditions. In other words, compared to other manufacturing, electrical machinery is particularly “foot loose,” meaning firms will find it easier to relocate elsewhere because less of their costs depend on local conditions. The “foot loose” nature of the electric machinery sector compared to the other sectors can also be seen from the higher share capital in value added in this sector compared to other manufacturing (see also in **Table 3.15**).

**Table 3.15 Production Costs: Value Added and Input Shares in Manufacturing**

	Mexico		EU	
	Manufacturing excl. electric machinery	Electric machinery	Manufacturing excl. electric machinery	Electric machinery
Value Added	33.9	42.4	30.3	27.7
Imported Inputs	21.0	26.1	25.1	30.7
Domestic Inputs	45.1	31.5	44.7	41.7
Capital share in value added	0.65	0.77	0.34	0.42

As tariffs were liberalized between Mexico and the EU, the most pronounced direct impact are estimated to have taken place in bilateral trade flows. **Table 3.16** presents changes in bilateral exports, together with the value and the share of flows.

Mexican exports from the EU increased most in motor vehicles sector, by an estimated 68.8 percent, which is also the sector that expanded the most. This is followed by textiles, clothing, and apparel products, for which exports from the EU increased between 23 and 51 percent according to the modelling results. As explained before, tariffs in these sectors were substantially diminished hence the rather significant increase in exports. However, tariffs were reduced even more on EU exports to Mexico, resulting in higher increases in EU exports in these sectors, with estimates

ranging from 37 to 70.9 percent. Thus the increased competition from the EU squeezed some less competitive producers out and even if Mexican exports increased in these sectors, output did not increase as discussed above. The sector in which exports decreased the most was electrical machinery, with exports decreasing by 7.8 percent. This decrease is driven by the shrinking electronic machinery sector, which, as discussed above, contracted by an estimated 11.4 percent.

In EU's exports to Mexico, apart from clothing and textiles products, the biggest increase is estimated to have occurred in motor vehicles due to significant reductions in import tariffs in this sector by Mexico. Exports to Mexico in this sector increased by 62.8 percent. This nevertheless, as discussed above, did not lead to an increase in output in this sector compared to the counterfactual scenario, as imports in this same sector from Mexico increased much more, leading again to increased pressure on less competitive EU producers crowding out some of these from the market. Instead, the increased exports took place mainly by shifting exports destined to other markets towards Mexico. A similar trend happened in electric machinery, where although output marginally decreased in the EU, exports to Mexico nevertheless increased due to lower trade costs.

**Table 3.16 Bilateral exports**

	Mexico exports to the EU			EU exports to Mexico		
	value, mIn EUR	share of exports	% change	value, mIn EUR	share of exports	% change
Rice: GP 1, 23	0.0	0.0	-2.2	0.3	0.0	0.4
Cereals & oilseeds, oils: GP 2, 3, 5, 21	60.1	0.0	-0.5	54.3	0.0	0.2
Vegetables, fruit, nuts: GP 4	134.5	0.0	-0.5	4.4	0.0	0.1
Sugar, cane, beet: GP 6, 24	9.4	0.0	-3.3	5.7	0.0	2.8
Milk and dairy products: GP 11, 22	2.9	0.0	-0.9	107.1	0.0	1.0
Beef: GP 19	19.1	0.0	-1.0	3.1	0.0	0.0
Other meat: GP 20	1.7	0.0	-1.2	14.3	0.0	1.0
Other ag.: 7, 8, 9, 10, 12	183.2	0.0	-0.4	76.5	0.0	0.3
Food products nec: GP 25	267.0	0.0	0.0	321.0	0.0	0.3
Beverages and Tobacco Products: GP 26	210.0	0.0	-0.6	235.2	0.0	0.7
Fisheries: GP 14	1.2	0.0	-1.1	0.5	0.0	1.1
Energy: GP 15, 16, 17	2,127.1	0.1	0.0	0.0	0.0	-0.4
Other primary, non-ag: 13, 18	302.3	0.0	1.3	70.6	0.0	3.2
Textiles: GP 27	56.5	0.0	34.1	429.3	0.0	37.0
Wearing Apparel: GP 28	54.4	0.0	23.4	284.6	0.0	43.1
Leather Products: GP 29	78.1	0.0	51.2	170.1	0.0	70.9
Petrochemicals: GP 32	30.8	0.0	3.4	571.0	0.0	2.5
Chemicals: GP 33	1,602.5	0.1	22.3	5260.0	0.2	25.5
Electrical machinery: GP 40	2,038.1	0.1	-7.8	803.5	0.0	9.5
Motor vehicles: GP 38	3,834.5	0.2	68.8	2,767.4	0.1	62.8
Other transport equipment: GP 39	196.1	0.0	11.7	749.0	0.0	34.1
Other machinery: GP 41	2,595.1	0.1	1.8	6,685.6	0.2	6.5
Metals and metal products: GP 35-38	1,231.9	0.1	3.4	2,188.4	0.1	21.8
Wood and paper products: GP 30-	61.2	0.0	3.0	688.0	0.0	31.4

	Mexico exports to the EU			EU exports to Mexico		
	value, mIn EUR	share of exports	% change	value, mIn EUR	share of exports	% change
31						
Other manufactures: GP 34,42	201.5	0.0	8.2	623.7	0.0	17.5
Electricity: GP 43	9.8	0.0	-0.5	2.7	0.0	0.2
Gas manufacture, distribution: GP 44	18.1	0.0	-0.7	2.2	0.0	0.5
Water: GP 45	0.1	0.0	0.0	2.1	0.0	0.4
Water transport: GP 49	74.6	0.0	-0.6	9.7	0.0	0.4
Air transport: GP 50	281.8	0.0	-0.3	1,003.5	0.0	0.5
Land, other transport: GP 48	816.1	0.0	-0.7	180.7	0.0	0.4
Finance: GP 52	604.7	0.0	-0.6	50.2	0.0	0.8
Insurance: GP 53	841.0	0.0	-0.9	2,459.8	0.1	0.8
Business services: GP 54	603.0	0.0	-0.5	156.5	0.0	0.5
Communications: GP 51	185.5	0.0	-0.7	67.3	0.0	0.8
Construction: GP 46	204.8	0.0	-0.7	8.6	0.0	1.1
Distribution services: GP 47	120.2	0.0	-0.8	415.2	0.0	1.2
Other services: GP 55, 56, 57	463.8	0.0	-1.2	464.3	0.0	1.2

### Social effects

The CGE results also provide some indicators on social effects, notably in terms of wage changes and labour displacement. Here we present the main modelling results which will be further elaborated in the next chapter.

Changes in wages are available for different skill levels. Estimated percentage changes for Mexican worker's wages are presented in **Table 3.17**. Changes in wages were driven by changes in demand for workers. As electrical machinery contracted in Mexico according to the modelling results, demand for workers in this sector dropped and hence wages of workers in this sector also decreased. The decrease in wages is estimated to be roughly the same across all skill groups in this sector. However, as can be seen from the table, the share of low skill workers employed in the sector is much higher than the share of medium or high skill workers, thus the contraction in this sector hurt the low skill relatively more. At the same time, the motor vehicles sector expanded resulting in about 14 percent increase in wages across all skill groups. This sector again employs a relatively higher share of low skill workers of all low skill workers compensating the losses for low skill workers at the aggregate level. Nevertheless, in the short-run more burden and adjustments were required from low skill workers, with more than two times higher labour displacement rates than for high skill workers. The model estimates that labour displacement is 3.4 percent for the low skill group, while it is 1.9 percent for medium skill workers and 1.44 for high skill workers.

**Table 3.17 Percent impact on Mexican workers**

	Low skill		Medium skill		High skill	
	share	% change	share	% change	share	% change
Rice: GP 1, 23	0.00	-0.5	0.00	-0.6	0.00	-0.6
Cereals & oilseeds, oils: GP 2, 3, 5, 21	0.01	-0.3	0.00	-0.3	0.00	-0.3
Vegetables, fruit, nuts: GP 4	0.04	-0.2	0.00	-0.3	0.00	-0.2
Sugar, cane, beet: GP 6, 24	0.01	-0.7	0.00	-0.8	0.00	-0.8

	Low skill		Medium skill		High skill	
	share	% change	share	% change	share	% change
Milk and dairy products: GP 11, 22	0.01	0.0	0.00	-0.1	0.00	-0.1
Beef: GP 19	0.00	-0.2	0.00	-0.4	0.00	-0.3
Other meat: GP 20	0.00	-0.3	0.00	-0.5	0.00	-0.4
Other ag.: 7, 8, 9, 10, 12	0.03	-0.1	0.00	-0.1	0.00	-0.1
Food products nec: GP 25	0.04	0.0	0.01	-0.3	0.01	-0.2
Beverages and Tobacco Products: GP 26	0.01	-0.1	0.00	-0.3	0.00	-0.2
Fisheries: GP 14	0.00	0.0	0.00	0.0	0.00	0.0
Energy: GP 15, 16, 17	0.00	-0.1	0.00	-0.2	0.00	-0.2
Other primary, non-ag: 13, 18	0.02	-0.5	0.00	-0.5	0.01	-0.5
Textiles: GP 27	0.01	-0.4	0.00	-0.6	0.00	-0.5
Wearing Apparel: GP 28	0.01	-0.7	0.00	-1.0	0.00	-0.9
Leather Products: GP 29	0.01	-0.8	0.00	-1.0	0.00	-0.9
Petrochemicals: GP 32	0.01	-0.3	0.00	-0.5	0.00	-0.4
Chemicals: GP 33	0.05	-1.3	0.01	-1.5	0.01	-1.4
Electrical machinery: GP 40	0.03	-10.2	0.01	-10.4	0.01	-10.3
Motor vehicles: GP 38	0.04	14.6	0.01	14.4	0.01	14.4
Other transport equipment: GP 39	0.01	-0.1	0.00	-0.4	0.00	-0.3
Other machinery: GP 41	0.08	-1.6	0.02	-1.8	0.01	-1.7
Metals and metal products: GP 35-38	0.04	-2.2	0.01	-2.4	0.01	-2.3
Wood and paper products: GP 30-31	0.02	-2.3	0.01	-2.6	0.00	-2.5
Other manufactures: GP 34,42	0.02	-0.1	0.01	-0.3	0.00	-0.2
Electricity: GP 43	0.01	-0.4	0.01	-0.7	0.00	-0.6
Gas manufacture, distribution: GP 44	0.00	-0.6	0.00	-0.8	0.00	-0.7
Water: GP 45	0.00	-0.3	0.00	-0.5	0.00	-0.4
Water transport: GP 49	0.00	0.2	0.00	-0.1	0.00	0.0
Air transport: GP 50	0.00	0.0	0.00	-0.3	0.00	-0.1
Land, other transport: GP 48	0.10	0.2	0.04	-0.1	0.04	0.0
Finance: GP 52	0.00	0.2	0.02	-0.1	0.04	0.0
Insurance: GP 53	0.00	-0.2	0.00	-0.4	0.01	-0.3
Business services: GP 54	0.02	0.0	0.08	-0.2	0.15	-0.1
Communications: GP 51	0.03	0.0	0.01	-0.2	0.01	-0.1
Construction: GP 46	0.16	0.3	0.01	0.0	0.02	0.1
Distribution services: GP 47	0.09	0.6	0.32	0.4	0.04	0.5
Other services: GP 55, 56, 57	0.10	0.2	0.38	0.0	0.62	0.0
<b>% labour displacement</b>		<b>3.4</b>		<b>1.9</b>		<b>1.4</b>

In the case of the EU, given that the resulting output changes were estimated to be very small, changes in both wages and labour displacement were also very small as can be seen in **Table 3.18**. While wages decreased somewhat, by 0.14-0.19 percent in motor vehicles and electrical machinery sectors, wages increased by about 0.16 percent in other transport and 0.13 percent in textiles, in line with output changes. Due to a relatively higher share of low skill workers employed in total low skill workers in the contracting sectors compared to other skill levels, the displacement ratio is

estimated to be a bit higher than for medium and high skill workers, about 0.05 percent for low skill workers.

**Table 3.18 Percent impact on EU workers**

	Low skill		Medium skill		High skill	
	share	% change	share	% change	share	% change
Rice: GP 1, 23	0.00	-0.1	0.00	-0.1	0.00	-0.1
Cereals & oilseeds, oils: GP 2, 3, 5, 21	0.02	0.0	0.00	0.0	0.00	0.0
Vegetables, fruit, nuts: GP 4	0.02	0.0	0.00	0.0	0.00	0.0
Sugar, cane, beet: GP 6, 24	0.00	-0.1	0.00	-0.1	0.00	-0.1
Milk and dairy products: GP 11, 22	0.02	0.0	0.00	0.0	0.00	0.0
Beef: GP 19	0.00	0.0	0.00	0.0	0.00	0.0
Other meat: GP 20	0.00	0.0	0.00	0.0	0.00	0.0
Other ag.: 7, 8, 9, 10, 12	0.03	0.0	0.00	0.0	0.00	0.0
Food products nec: GP 25	0.02	0.0	0.01	0.0	0.01	0.0
Beverages and Tobacco Products: GP 26	0.01	0.0	0.00	0.0	0.01	0.0
Fisheries: GP 14	0.00	0.0	0.00	0.0	0.00	0.0
Energy: GP 15, 16, 17	0.00	0.0	0.00	0.0	0.00	0.0
Other primary, non-ag: 13, 18	0.01	0.0	0.00	0.0	0.00	0.0
Textiles: GP 27	0.01	0.1	0.00	0.1	0.01	0.1
Wearing Apparel: GP 28	0.01	0.1	0.00	0.1	0.00	0.1
Leather Products: GP 29	0.01	0.0	0.00	0.0	0.00	0.0
Petrochemicals: GP 32	0.00	0.0	0.00	0.0	0.00	0.0
Chemicals: GP 33	0.06	0.1	0.02	0.1	0.03	0.1
Electrical machinery: GP 40	0.01	-0.2	0.00	-0.2	0.01	-0.2
Motor vehicles: GP 38	0.03	-0.1	0.01	-0.1	0.02	-0.1
Other transport equipment: GP 39	0.01	0.2	0.01	0.2	0.01	0.2
Other machinery: GP 41	0.09	0.0	0.04	0.0	0.05	0.0
Metals and metal products: GP 35-38	0.06	0.0	0.02	0.0	0.03	0.0
Wood and paper products: GP 30-31	0.04	0.0	0.02	0.0	0.02	0.0
Other manufactures: GP 34,42	0.03	0.0	0.01	0.0	0.02	0.0
Electricity: GP 43	0.01	0.0	0.01	0.0	0.01	0.0
Gas manufacture, distribution: GP 44	0.00	0.0	0.00	0.0	0.00	0.0
Water: GP 45	0.00	0.0	0.00	0.0	0.00	0.0
Water transport: GP 49	0.00	0.0	0.00	0.0	0.00	0.0
Air transport: GP 50	0.00	0.0	0.00	0.0	0.00	0.0
Land, other transport: GP 48	0.02	0.0	0.04	0.0	0.03	0.0
Finance: GP 52	0.00	0.0	0.05	0.0	0.04	0.0
Insurance: GP 53	0.00	0.0	0.02	0.0	0.01	0.0
Business services: GP 54	0.04	0.0	0.10	0.0	0.18	0.0
Communications: GP 51	0.01	0.0	0.03	0.0	0.02	0.0
Construction: GP 46	0.23	0.0	0.02	0.0	0.03	0.0
Distribution services: GP 47	0.05	0.0	0.13	0.0	0.06	0.0
Other services: GP 55, 56, 57	0.10	0.0	0.43	0.0	0.38	0.0

	Low skill		Medium skill		High skill	
	share	% change	share	% change	share	% change
% labour displacement		0.05		0.03		0.03

### Environmental effects

In this section we discuss the impact of the FTA on natural resource intensity, change in global shipment, and CO<sub>2</sub> emission changes in the different regions, which come from the CGE model. In chapter 5 these are elaborated on in more detail.

**Table 3.19** shows percentage changes in natural resource intensity uses in both Mexico and the EU. The resulting changes after tariff liberalization were rather small, the highest change is estimated to have occurred in land use in Mexico with a marginal increase of 0.13 percent.

**Table 3.19 Natural resource intensity percent**

Resource	Mexico	EU
Land	0.13	0.01
Fisheries	0.02	0.00

Global transports also changed only marginally as can be seen in **Table 3.20** below. Given the geographical location of the EU with respect to Mexico, the increased trade led to an increase in air and water transport according to the modelling results, by 0.17 and 0.06 percent respectively. On the other hand, land and other transport declined marginally.

**Table 3.20 Global Transport, percent**

Transport	% change
global shipping	0.04
water	0.06
air	0.17
land/other	-0.04

CO<sub>2</sub> emissions decreased in Mexico compared to the counterfactual scenario without an EU-Mexico FTA, with a decline of 0.41 million tons corresponding to 0.1 percent decrease in Mexican CO<sub>2</sub> emissions. This is due to change in sectoral output, and primarily driven by, on the one hand electronic machinery contracting, while motor vehicle expanding, since electric machinery is associated with relatively more CO<sub>2</sub> emissions. At the same time, the model estimates that a small increase took place in the EU, with the change being only one-tenth in percentage changes, nevertheless in million tons slightly higher, about 0.56 million tons. This slight increase is driven by the increasing clothing sector, which had slightly higher CO<sub>2</sub> emissions than the contracting sectors.

**Table 3.21 CO<sub>2</sub> emissions**

Country	value, MT	change in MT	change in %
European Union	4,031.99	0.56	0.01
Mexico	405.13	-0.41	-0.10
Turkey	264.26	-0.01	0.00
Canada	555.62	0.18	0.03
United States	5,629.62	-0.10	0.00
MERCOSUR	473.36	0.00	0.00

Country	value, MT	change in MT	change in %
Andean Pact	122.90	0.03	0.03
Central America	55.76	0.01	0.02
Chile	73.43	0.01	0.01
ACP countries	623.53	-0.06	-0.01
China	5,343.41	0.33	0.01
Japan	1,073.59	0.06	0.01
Rest of World	7,969.68	0.00	0.00

### 3.2.3 Mexico's total factor productivity

Given the importance of TFP as an explanation of Mexico's lagging economic growth (relatively speaking), we undertake a short review of the existing literature related to the impact of the FTA on total factor productivity in Mexico, to assess whether the agreement has possibly had any effect on Mexico's TFP. We first summarize the theory on this relation between trade liberalisation and TFP, and then present some findings from Mexico-specific studies.

#### TFP theory

Total factor productivity can be affected by trade liberalisation through different channels. The firm heterogeneity theory<sup>167</sup> says that the impact depends on productivity levels of individual companies. Only the more productive companies benefit from trade liberalisation, less productive companies could be driven from the market due to increased product and factor market competition. Large companies tend to be more productive than SMEs, so have a higher chance of surviving. Therefore, average productivity increases. Furthermore, regardless of their productivity levels, individual companies could benefit from trade liberalisation through better access to (cheaper) inputs and economies of scale as the size of the market increases. The effect of trade liberalisation also depends on the sector (export-oriented, import-competing, non-traded). Logically, companies in export-oriented sectors in general benefit more from trade liberalisation.

#### Evidence on the effect of trade and trade barriers on Mexico's TFP development

Empirical evidence shows that until the late 1980's, the Mexican TFP level was higher than that of the US. However, from 1990 onwards, productivity levels in Mexico started to decline relatively. In 2007, Mexican TFP was only 61 percent of US TFP (Ferreira, Pessôa and Veloso, 2011, p.6).

Since the year 1988, the Mexican economy has increasingly moved from an inward-oriented to an outward-looking economy. Several trade liberalisation initiatives, especially the conclusion of the NAFTA agreement in 1994, have led to significant increases in trade and FDI flows. Several studies indicate that this development has increased the productivity of manufacturing sectors, and in particular that of medium-sized and large companies. However, a clear positive effect of NAFTA on aggregate TFP can not be demonstrated (UNIDO 2005, p.xii).<sup>168</sup>

Calderon-Madrid and Voicu (2004, p.18) find that enhanced access to imported inputs as a result of NAFTA had the most significant positive effect on productivity in Mexico. Firms with larger shares of imported inputs show stronger productivity growth. Firms that face stronger import competition do not become more productive.

<sup>167</sup> Melitz, (2003); Melitz & Ottaviana (2008).

<sup>168</sup> Hernández Laos, E. (2005), Productivity performance in developing countries – Country case study Mexico. UNIDO Productivity Performance Project. <http://www.unido.org/data1/wpd/Index.cfm>.

Already in Section 3.1.1 we described the development in Mexico's aggregate productivity, where labour resources tend to reallocate to less productive sectors. McKinsey (2014, p.13) mentions that less productive companies that attract local labour are still protected from foreign competition by remaining trade barriers due to concerns regarding imports from lower-cost regions like China. These remaining tariffs, antidumping rules and costly custom procedures may protect jobs in the less productive parts of the economy, but they also limit aggregate productivity growth.

Overall, evidence on the effect of the EU-Mexico FTA on Total Factor Productivity is very limited and the direction of the effect is not entirely clear as TFP could have been affected through different channels (competition forces, improved access to inputs, etc.). However, based on the above, we do not expect that the FTA has had any significant impacts on aggregate productivity levels and has not been able to break the trend of low productivity growth in Mexico, which makes its economic growth fall behind compared to similar countries.

#### 3.2.4 *Impact on Mexico's informal economy*

As section 3.1.1 already briefly indicated, Mexico's economy is characterised by a relatively large informal sector, which limits TFP growth. The impact of trade liberalisation on informality is complex, and region-, sector- and context-specific. The formalisation effect of the EU-Mexico FTA on tradable goods is likely to be higher than the impact on non-tradable goods, in sectors such as services, hotels and restaurants and construction. Mexico's informal economy and the different effects of trade liberalisation are analysed in more detail in the next chapter, in particular in sections 4.1.2 (description) and 4.2.2 (impact of the FTA). This analysis shows that the overall impact of the FTA on Mexico's informal economy is not clear.

### 3.3 Conclusions of the economic analysis

Mexico is an upper middle income country. Its economy has grown in the past decades, although less strong compared to other developing countries. This difference can be explained by a lower growth in total factor productivity, due to a growing share of Mexican workers in the traditional sector.

In the past two decades, Mexican trade policy has shifted from import substitution to an outward, export-oriented focus. In this period, trade openness has doubled. The EU-Mexico Free Trade Agreement of 2000 was part of this trade liberalisation process. Bilateral trade has intensified between the two trade partners, although they are still not very important trade partners relatively speaking.

The CGE model has estimated that the FTA has led to an increase in GDP of 0.34 percent for Mexico and 0.01 percent for the EU, compared to a situation where there would not have been an FTA. The FTA triggered increases in trade, amounting to about 1.5-1.7 percent increase in Mexico's aggregate exports and imports, and a 0.05 percent increase in the EU's aggregate trade flows according to the modelling results. Looking at results for bilateral trade flows, EU exports to Mexico increased by 19 percent, and Mexican exports to the EU increased by 15 percent.

Reduction in tariffs between the trade partners resulted in minor losses in tariff revenues. For the EU the estimated change is EUR 235.9 million, which is insignificant at 0.01 percent in terms of percentage change in tariff revenues. For Mexico, the estimated loss is about EUR 625.3 million, which is also small in percentage terms with 0.14 percent.

In the EU, the changes in output at sector level are estimated to have been small, varying between 0 and 0.2 percent. In Mexico, the estimated output effects are somewhat more pronounced, with the largest changes taking place in two sectors: motor vehicles (+16.5 percent) and electrical machinery (-11.5 percent) according to the modelling results. The motor vehicle sector witnessed a large reduction in import tariffs in the EU, thereby increasing export opportunities and related output increases. The expansion of this sector led to a contraction of the electrical machinery sector. Although tariffs for textiles and clothing on Mexican exports to the EU were also high, these sectors did not expand in Mexico as there were significantly larger tariff reductions for EU exporters, whom thus gained competitiveness against Mexican producers and pushed some of them out of production. The large reduction in tariffs in motor vehicles, textiles and clothing is also visible in the effect on bilateral trade, as these are the sectors with the largest changes in bilateral trade flows compared to the counterfactual without an FTA in place.

## 4 Social and human rights analysis

This section looks at the social effects of the FTA, notably focusing on the four ILO decent work pillars (job creation, guaranteeing rights at work, extending social protection and promoting social dialogue), the informal economy, poverty and inequality. It starts with an overview of main trends and developments in the evaluation period (from mid 1990s to the present situation), followed by an analysis of the impact of the FTA in these areas. Section 4.4 specifically focuses on human rights and how these are impacted by the FTA. Apart from some general results derived from the CGE model which are available for both the EU and Mexico,<sup>169</sup> the assessment focuses on impacts in Mexico.

### 4.1 Social trends and developments

#### 4.1.1 Identification and description of current state of play of the four ILO decent work pillars

##### Job creation

##### Employment

Since 1991 Mexico's employment-to-population ratio<sup>170</sup> has been quite stable and relatively high for the overall population, hovering between a low of 55.3% in 1995 and a high of 58.8% in 2007 (see table 4.1 below). For the whole region of Latin America and the Caribbean the employment-to-population ratio increased from 56.2% in 1990 to 60.9% in 2007 and 61.9% in 2011. Thus, while Mexico started off slightly above the region's average ratio it has been lagging behind in more recent years. While official Mexican unemployment rates might be low, according to the ILO, not enough formal, decent jobs are available for Mexico's labour force. As for the overall region of Latin America and the Caribbean, ILO sees a need for Mexico to not only increase economic growth and productivity, but also to improve inclusive and employment-led growth and create more formal and decent jobs.<sup>171</sup> Reducing the size of the informal sector plays an important part in this (further discussed later in this chapter).

**Table 4.1 Employment-to-population ratio, by gender and age groups (%)**

	1991	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011	2012
<b>Total 15+</b>	56.8	57.8	55.3	58.3	58.3	57.5	56.8	57.7	58.8	57.0	57.2	58.6
<b>15-24</b>	50.3	52.1	48.6	50.2	51.3	48.5	44.9	44.7	45.2	41.8	42.2	43.3
<b>25+</b>	60.4	60.8	58.6	62.1	61.4	61.3	61.6	62.7	63.9	62.6	62.4	63.9
<b>Female 15+</b>	32.6	34.6	34.6	37.5	37.4	37.1	37.2	39.7	41.3	40.7	41.0	42.8
<b>15-24</b>	32.9	34.1	32.0	33.2	34.6	32.7	29.9	31.2	31.8	29.2	29.7	30.9
<b>25+</b>	32.5	34.9	35.9	39.4	38.6	38.9	40.0	42.7	44.6	44.6	44.7	46.7
<b>Male 15+</b>	82.3	82.8	77.9	81.3	81.5	80.1	78.8	78.0	78.6	75.4	75.2	76.1
<b>15-24</b>	68.1	70.5	65.6	67.5	68.1	64.5	60.3	58.7	59.1	54.7	54.9	55.8
<b>25+</b>	90.2	89.6	84.5	88.3	87.8	87.2	86.6	85.8	86.2	83.3	82.9	83.8

Source: ILO KILM.

<sup>169</sup> Namely: wages, prices and welfare effects.

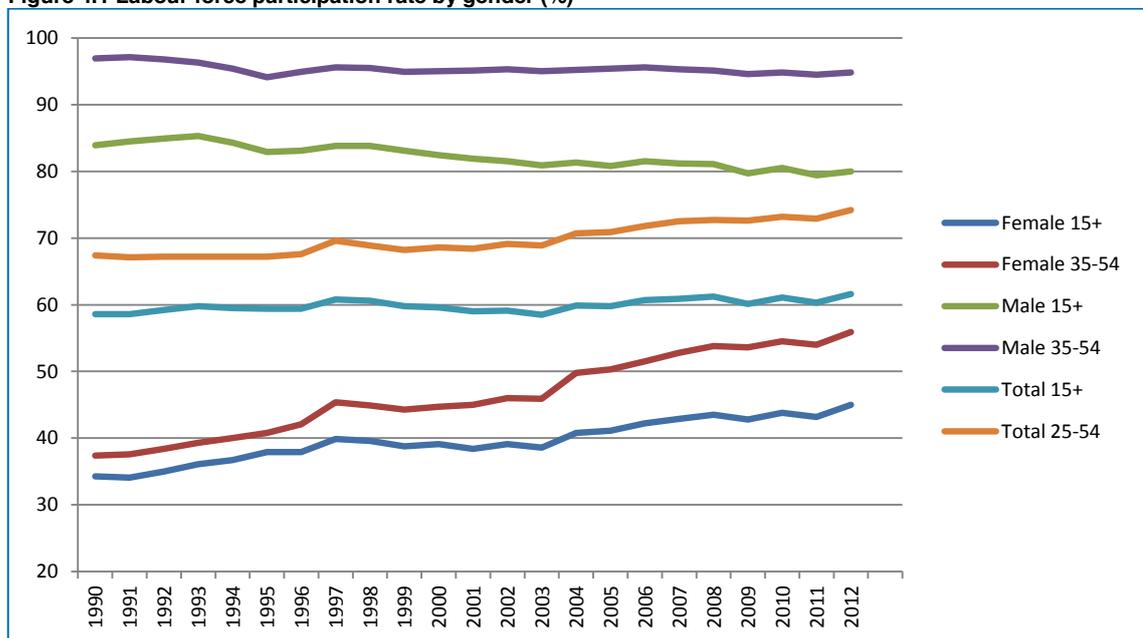
<sup>170</sup> The employment-to-population ratio is defined as the proportion of a country's working-age population that is employed. For most countries, the working-age population is defined as persons aged 15 years and older, although this may vary from country to country.

<sup>171</sup> ILO 2014, Global employment trends, p. 50.

Furthermore, there are major differences in the development of the employment ratio between men and women. Thus, while the male ratio, which was more than twice as high as the female ratio in 1990, has been declining, the female ratio has seen a substantial increase by 10.2 percentage points to 42.8% in 2012. Despite this increase it is still only slightly above half of the male ratio.

A similar trend is visible in the participation rate, as presented in the figure below. The total female participation rate has increased from 39.1% in 2000 to 45% in 2012. For the age cohort of 35 to 54 the increase was from 44.7% to 55.9%. Both rates are substantially below the male participation rates, even though these have seen a minor decrease over time. The decrease in participation rates of men is mostly because of declining rates of unskilled males. It is unclear what the reasons for this decline are; they could include international migration, an income effect or perhaps increasing participation in illegal activities.

**Figure 4.1 Labour force participation rate by gender (%)**



Source: ILO KILM.

It seems clear that social norms play an important role in the lower employment rate of women; men are considered the breadwinners and women are responsible for domestic tasks. This is especially the case for married men and women. Opposition to these gendered roles, because of economic necessity to support household incomes, a decline in the reproductive rate or changing ideas, is likely to be a factor in the increasing female participation rate.<sup>172</sup> The processes of urbanisation and industrialisation also contributed to increased female labour participation.

Developments in employment also differ by sector. Through trade liberalisation, including notably NAFTA, Mexico experienced an export surge in manufacturing production and employment during the second half of the 1990s, mainly due to the booming maquiladora sector. This was especially important for the textile industry, and this sector mainly hired women, contributing to an increase in their employment rate. The maquiladora industry has however not developed significant linkages with the rest of the economy, and has declined from 2000 onwards, drastically reducing formal job creation in Mexico.<sup>173</sup>

<sup>172</sup> Covarrubias, 2013, Social norms and women's participation in salaried employment.

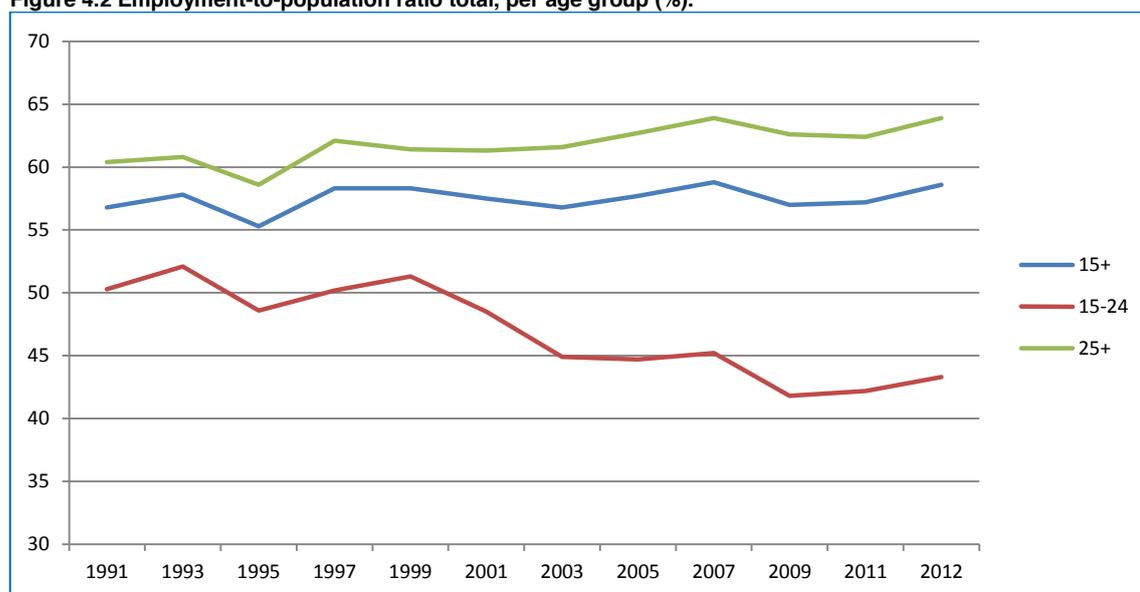
<sup>173</sup> CEPAL 2007, Employment Challenges and Policy Responses, in Argentina, Brazil and Mexico, p. 101.

While jobs growth in the manufacturing sector, employment in the agricultural sector declined, largely due to the imports from the USA. As NAFTA removed tariffs on agricultural goods, US production, which is subsidised and has higher average productivity levels than that of Mexico, displaced millions of Mexican farmers. Although vegetable and fruit production did expand considerably (from 17.3 million tons in 1994 to 28.2 million in 2012) and provided for around 3 million seasonal jobs, it was not enough to replace the lost employment.<sup>174</sup> However, it is also argued that Mexican agriculture was already providing less employment, due to efficiency increases.<sup>175</sup> During the 1990s job losses were greatest for men, but in the 2000s the decline for women in agriculture was greater.<sup>176</sup>

In fact Mexican women are mostly employed in the services sector, and this sector has expanded in Mexico. Of all employed women 70% worked in services in 2000, this number even increased to almost 80% in 2011. In particular in rural areas it employs mainly women, mostly in petty trade and personal services. For males the services sector is also the biggest sector, employing 47% and 51% of all employed men in 2000 and 2011 respectively.<sup>177</sup>

The differences between the age groups are not as substantial as the gender difference. However, there has been an interesting development over time, as shown in Figure 4.2.

**Figure 4.2 Employment-to-population ratio total, per age group (%).**



Source: ILO KILM.

The ratio for the 15-24 years old is the lowest, and is declining, whereas for the other age groups the employment-to-population ratio has mostly been rising over the last two decades. This decline for the 15-24 age cohort reflects the lack of jobs in general combined with the growing number of young people entering the labour force.<sup>178</sup> Changed expectations of youth, due to education and urban lifestyles, also impact their activity rates. Few quality jobs are available, the precarious, informal jobs that are available are not particularly attractive.

<sup>174</sup> Center for Economic Policy and Research 2014, Did NAFTA help Mexico? An assessment after 20 years, p. 14.

<sup>175</sup> Angeles Villarreal 2010, NAFTA and the Mexican economy, p. 12.

<sup>176</sup> FAO 2010, Gender dimensions of agricultural and rural employment, p. 128.

<sup>177</sup> ILO KILM Indicator 4a.

<sup>178</sup> Mejia-Palles, 2012, A Life Course Perspective on Social and Family Formation Transitions to Adulthood of Young Men and Women in Mexico, p. 49.

It is not the case that this cohort postpones employment because of education; there is in fact a high incidence of youth not engaged in education, employment or training (NEETs): approximately 22% of the total age cohort over the past decade<sup>179</sup>. One likely factor is the temporary decrease of female labour force participation between the age of 20 and 25, which is related to child-bearing. After the age of 25 female labour force participation grows again.<sup>180</sup>

### Unemployment

The unemployment rates<sup>181</sup> in Mexico have been consistently lower than those for the overall region of Latin America and the Caribbean. However there have been strong increases in unemployment, especially around 1995 and again around 2009, as can be seen in Table 4.2. In both instances the increase can be related to wider economic developments; the 'peso crisis' of December 1994 and the introduction of NAFTA, also in 1994<sup>182</sup>, and the recent global financial crisis for the latter years. The 1994 spike of unemployment can be explained by a combination of the 'peso crisis' and the implementation of trade liberalisation and privatisation, as the Mexican government had failed to provide the proper institutional and regulatory framework for this.<sup>183</sup>

**Table 4.2 Total unemployment rate (%)**

		1991	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011	2012
<b>Mexico</b>	Total	3.0	3.2	6.9	4.1	2.5	2.5	3.0	3.5	3.4	5.2	5.3	4.9
	Female	4.2	4.0	8.6	6.1	3.5	3.3	3.6	3.6	3.7	4.8	5.2	4.9
	Male	2.6	2.9	6.0	3.0	2.0	2.2	2.6	3.4	3.2	5.4	5.3	4.8
<b>Latin America and the Caribbean</b>	Total	7.5	8.3	9.4	9.5	11.2	10.2	11.2	9	7.9	8.1	6.7	6.4

Source: ILO KILM for Mexico, CEPALstat for regional.

Though the unemployment rate might be low, it is an indicator that does not cover important aspects of the Mexican employment situation. First of all, unemployment is under-reported because of the lack of a nation-wide unemployment insurance scheme.<sup>184</sup> Furthermore, the substantial informal economy, for which estimates range between 20 to 60% of total urban employment,<sup>185</sup> acts as a buffer to the growth of reported unemployment. Another buffer is the migration to the United States, which strongly increased after the signing of NAFTA in 1994. By 2005 between 11 to 14% of the adult working-age population resided in the USA.<sup>186</sup>

The difference between male and female unemployment in Mexico has been quite small and it appears that the unemployment rates have been converging over the last decade and in particular over the last few years, see figure 4.3.

<sup>179</sup> UCW, 2013, The NEET trap: A dynamic analysis for Mexico, p. 6.

<sup>180</sup> Duval-Hernández and Romano, 2009, A cohort analysis of labor participation in Mexico, p. 17.

<sup>181</sup> The unemployment rate is defined mathematically as the ratio resulting from dividing the total number of unemployed (for a country or a specific group of workers) by the corresponding labour force, which itself is the sum of the total persons employed and unemployed in the group.

<sup>182</sup> Martin, 2000 Employment and unemployment in Mexico in the 1990s, p. 3.

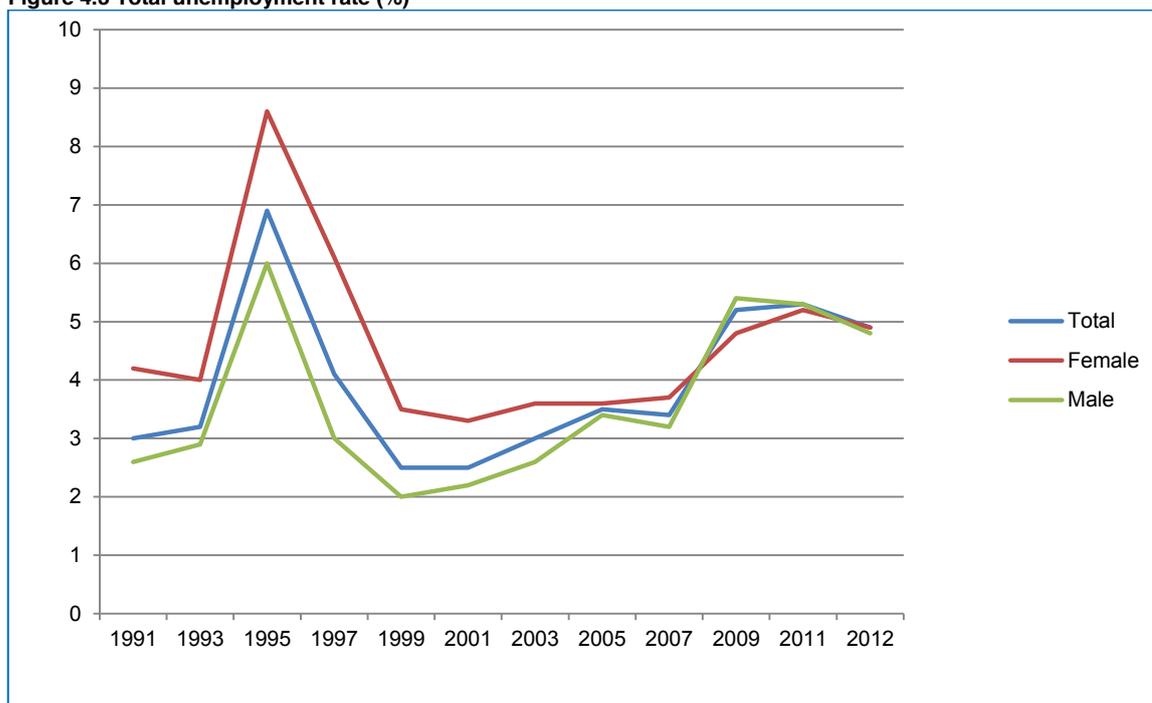
<sup>183</sup> Angeles Villarreal 2010, NAFTA and the Mexican economy, p. 8.

<sup>184</sup> ILO Social Protection.

<sup>185</sup> Martin, 2000, Employment and unemployment in Mexico in the 1990s, OECD 2013 Employment Outlook – How does Mexico compare?

<sup>186</sup> Jonakin, 2009, Labour and Its Discontents: The Consequences of Orthodox Reform in Venezuela and Mexico.

Figure 4.3 Total unemployment rate (%)



Source: ILO KILM.

One of the most pressing issues is the lack of employment opportunities for youth, as indicated earlier. Low levels of education and vocational training, a lack of prior work experience, a skills disconnect between higher education and formal labour markets and inflexible labour laws are the main barriers to youth employment. According to survey data, companies often view young applicants as underprepared for formal jobs not only in terms of their hard skills, but also “soft skills” such as emotional intelligence and communication abilities. Young workers’ lack of accreditation and certifiable skills is one of the biggest barriers they face in entering formal job markets. Unemployment or underemployment is the reality for 60% of youth with less than 10 years of education.<sup>187</sup>

In the period of 2000 to 2010 the share of NEET youth (Not in Education, Employment, or Training) was about 22% of the youth population. In absolute terms the NEET youth increased from 3 to 4.5 million. In 2000 the share of NEETs among female youth was 35%, whereas it was only around 8% among male youth. An important explanation for this gender divide is the fact that household chores are excluded from NEET status. The gender divide has narrowed slightly over the 2000 to 2010 period, but remained substantial: in 2010 the share of female youth in the NEET category was about 3 times that of male youth.<sup>188</sup>

Mexico’s First Job Law is a programme launched in 2007 to encourage formal youth employment and extend social security coverage. After a young person has been employed by an enterprise for 10 months the government reimburses the enterprise their contributions to social security. Thus at the tenth month, the first month is reimbursed, at the eleventh month, the second one and so on.

When it comes to the duration of unemployment, table 4.3 below shows that the majority of the unemployed are unemployed for a relatively short amount of time, up to 6 months. Even with improvements in data, seen in the diminishing percentage of the ‘undefined’ group, long-term unemployment does not increase. A long job search is a ‘luxury’, which most people cannot afford,

<sup>187</sup> AS 2013, Bringing Youth into Labor Markets: Public-Private Efforts in Mexico, p. 2.

<sup>188</sup> UCW 2013, The NEET trap: a dynamic analysis for Mexico, p. 9.

and thus instead of being unemployed for long, individuals lower their reservation wages and take any job to regain an income source, whether in the formal or informal economy. This is especially the case for the lowest educated and least skilled.<sup>189</sup>

**Table 4.3 Unemployment by duration in months, as a share of total unemployment (%)**

	1995	1997	1999	2001	2003	2005	2007	2009	2011	2012
<b>&lt;1</b>	24.5	25.1	29.0	27.9	27.6	32.8	33.6	30.2	30.2	27.2
<b>1- 3</b>	30.7	30.9	34.3	35.5	36.0	34.5	36.5	35.7	37.6	39.5
<b>3-6</b>	21.3	13.8	14.8	12.8	15.7	17.3	14.6	18.2	17.1	18.3
<b>6-12</b>	5.4	3.5	4.5	2.4	3.2	4.0	2.4	4.1	3.5	3.2
<b>&gt;12</b>	1.2	1.4	1.3	0.8	0.7	2.1	2.4	1.7	1.8	1.7
<b>Undefined</b>	16.9	25.4	16.2	20.7	16.8	9.3	10.6	10.2	9.8	10.1

Source: ILO KILM.

#### *Unemployment by education level*

In 1995 the unemployment rate was highest for those with primary level or less educational attainment; however, it has declined strongly since and is lowest from 2005 onwards. On all three levels the unemployment rates fluctuated in the period shown.

**Table 4.4 Unemployment by level of education (%)**

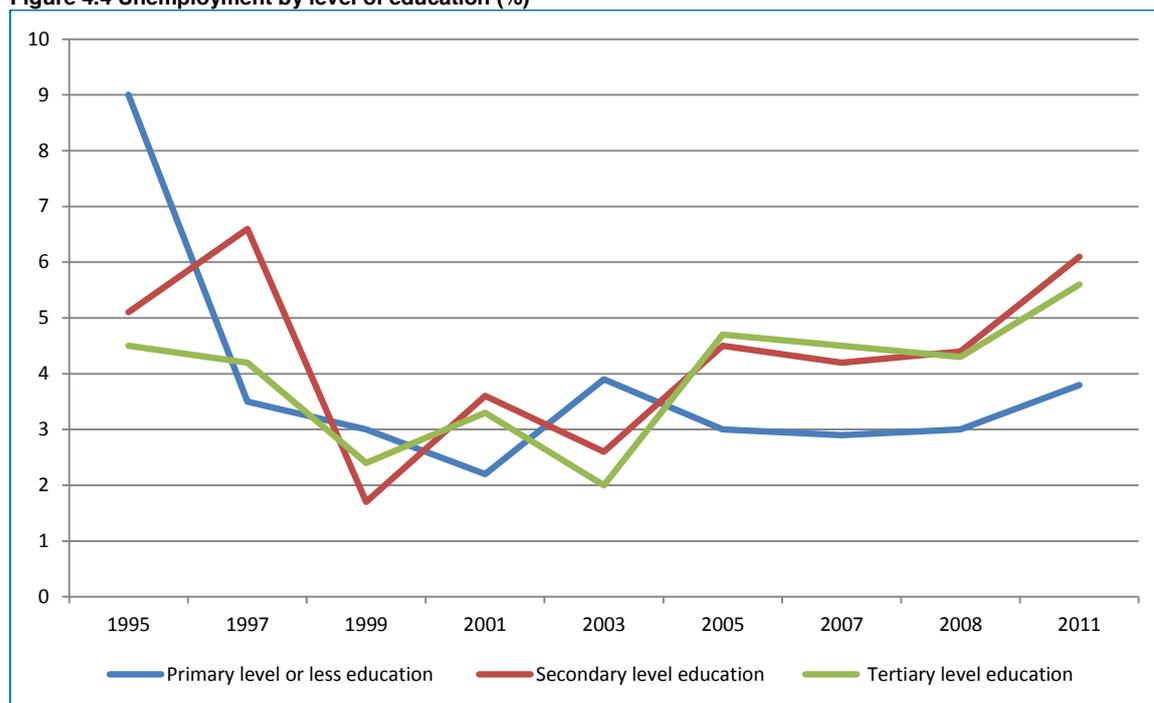
Year	1995	1997	1999	2001	2003	2005	2007	2008	2011
<b>Primary or less</b>	9.0	3.5	3.0	2.2	3.9	3.0	2.9	3.0	3.8
<b>Secondary</b>	5.1	6.6	1.7	3.6	2.6	4.5	4.2	4.4	6.1
<b>Tertiary</b>	4.5	4.2	2.4	3.3	2.0	4.7	4.5	4.3	5.6

Source: ILO KILM.

Between 2003-2004 there was a remarkable growth in unemployment among those with tertiary level educational attainment, by 3 percentage points. The main development over time has been the rise of unemployment for those with secondary and tertiary level educational attainment. However, this rise is limited to 2 or 3 percentage points.

<sup>189</sup> Duval-Hernández and Romano, 2009, A cohort analysis of labor participation in Mexico.

Figure 4.4 Unemployment by level of education (%)



Source: ILO KILM.

### Inactivity

The low rates of unemployment are overshadowed by the high rates of inactivity<sup>190</sup>, presented in table 4.5. For this indicator there is a substantial difference between male and female Mexicans, for all age groups.

Table 4.5 Inactivity rate, per gender and age group

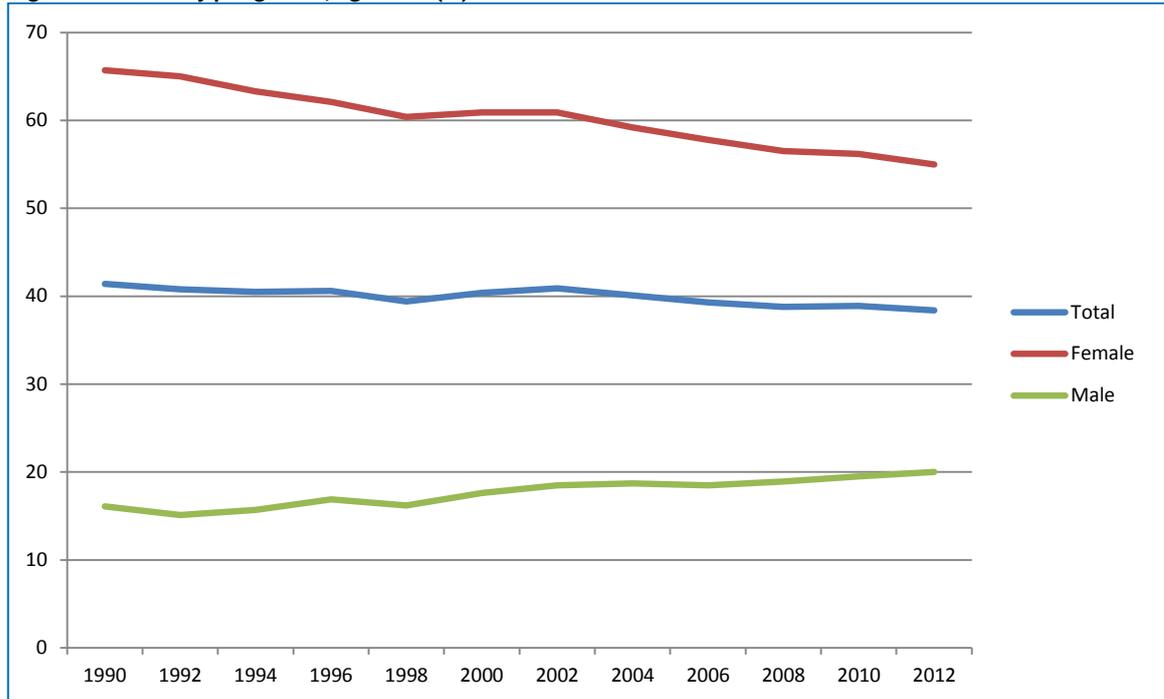
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
<b>Total 15+</b>	41.4	40.8	40.5	40.6	39.4	40.4	40.9	40.1	39.3	38.8	38.9	38.4
<b>15-24</b>	47.4	45.9	45.4	46.1	45.3	47.4	50.6	51.4	51.2	51.4	52.1	52.2
<b>15-64</b>	39.5	38.9	38.5	38.4	37.2	37.9	38.4	37.5	36.5	35.9	35.8	35.1
<b>25-54</b>	32.6	32.8	32.8	32.4	31.1	31.4	30.9	29.3	28.2	27.3	26.8	25.8
<b>65+</b>	67.6	67.0	66.8	69.7	68.1	70.6	70.7	71.6	71.5	71.1	72.0	72.6
<b>Female 15+</b>	65.7	65.0	63.3	62.1	60.4	60.9	60.9	59.2	57.8	56.5	56.2	55.0
<b>15-24</b>	65.2	64.4	63.7	63.6	62.3	63.5	65.9	66.6	65.4	65.2	66.3	65.7
<b>15-64</b>	64.0	63.2	61.5	60.2	58.3	58.8	58.7	56.8	55.2	53.8	53.3	51.9
<b>25-54</b>	61.2	60.6	58.4	56.5	54.3	54.6	53.5	50.5	48.7	46.8	45.7	44.1
<b>65+</b>	86.2	86.4	85.0	86.0	84.7	85.8	85.9	85.7	85.3	85.0	84.9	84.6
<b>Male 15+</b>	16.1	15.1	15.7	16.9	16.2	17.6	18.5	18.7	18.5	18.9	19.5	20.0
<b>15-24</b>	29.4	27.1	26.8	28.2	28.2	31.1	35.0	35.6	36.4	37.1	37.6	38.6
<b>15-64</b>	14.3	13.3	13.7	14.6	14.0	15.0	16.0	15.9	15.6	16.1	16.4	16.7
<b>25-54</b>	3.4	3.4	4.3	4.8	4.5	4.9	4.8	4.8	4.5	4.9	5.2	5.2
<b>65+</b>	43.8	42.5	43.8	49.2	47.3	51.5	51.7	53.8	54.2	53.3	55.5	57.3

Source: ILO KILM.

There has been a development of convergence from 2000 to 2012, mostly through the decrease of female inactivity, however also because of a rise in inactivity for men, especially for the age groups of 15-24 and 65+.

<sup>190</sup> The inactivity rate is the proportion of the working-age population that is not in the labour force.

Figure 4.5 Inactivity per gender, aged 15+ (%)



Source: ILO KILM.

### Guaranteeing rights at work

Mexico has been a member of the International Labour Organisation since 1931 and has ratified 6 of the 8 fundamental ILO conventions. The two conventions Mexico has not ratified are the Right to Organise and Collective Bargaining Convention (No. 98) and the Minimum Age Convention (No. 138). Furthermore, there are some other conventions which are regarded as 'priority' which Mexico has not ratified, namely the Labour Inspection Convention (No. 81), Employment Policy Convention (No. 122) and Labour Inspection (Agriculture) (No. 129).<sup>191</sup>

The ILO's Committee of Experts on the Application of Conventions and Recommendations (CEACR) have made many comments since the 1990s, in the form of direct requests and observations, with regards to the application of International Labour standards. The comments adopted by the Committee cover a wide range of conventions, including the fundamental conventions on Forced Labour (No.29), Freedom of Association and Protection of the Right to Organise Convention (No.87), Equal Remuneration (No.100), Discrimination (No.111) and Worst Forms of Child Labour (No.182)<sup>192</sup>.

### Freedom of Association and Protection of the Right to Organise Convention

In the period under review, the 1990s up to 2012, there have been regular comments on the Freedom of Association and Protection of the Right to Organise Convention (No.87). The comments mostly concern the severe restrictions on the right to strike, in general and in particular for public administration workers, as well as the legal limitations on trade union pluralism in certain sectors (banking, state agencies) and the ban on re-election in trade unions.<sup>193</sup> Over time the

<sup>191</sup> ILO NORMLEX Ratifications for Mexico  
[http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200\\_COUNTRY\\_ID:102764](http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102764).

<sup>192</sup> ILO NORMLEX Comments adopted by the CEACR: Mexico  
[http://www.ilo.org/dyn/normlex/en/f?p=1000:13201:0::NO:13201:P13201\\_COUNTRY\\_ID:102764](http://www.ilo.org/dyn/normlex/en/f?p=1000:13201:0::NO:13201:P13201_COUNTRY_ID:102764).

<sup>193</sup> ILO NORMLEX Observation  
[http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100\\_COMMENT\\_ID:2326537:NO](http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID:2326537:NO).

comments and requests remain very similar; which is an indication that improvements have been limited.

### *Wages and Equal remuneration*

The exposure of protected Mexican firms to international competition since the 1980s has led to cost saving adjustments in the composition of the labour force and remuneration. As such there was a fall in real wages of 21.2% from 1994-1996, associated with the peso crisis and recession. Wages did not recover to their pre-crisis level until 2005, 11 years later. By 2012, they were only 2.3% above the 1994 level, and barely above their level of 1980.<sup>194</sup> According to ECLAC, Mexico is the region's only country where the minimum wage is lower (0.66 times) than the poverty threshold. In addition, it is estimated that almost 14 % of Mexican workers earn even less than the minimum wage.<sup>195</sup>

Regarding the Convention on Equal Remuneration (No.100), the CEACR recognised the government's activities and programmes to minimise the gender pay gap. The committee has been commenting on the lack of clarity in the phrasing of Mexico's legal act on Equality at Work for Women and Men since 2001 and asking the Mexican government to undertake further measures and report on them to reduce the gender pay gap. Whereas the international convention uses the phrasing "the principle of equal remuneration for men and women for work of equal value", in the national law "equal wages for work of comparable value" is used. The lack in clarity of the latter phrasing makes the Committee request the Mexican government to take measures to give full legislative expression to the principle of the convention. Furthermore, the government is requested to improve the compilation, analysis and dissemination of statistical data on the gender pay gap, as this is fundamental in order to take appropriate measures to reduce the gap. This request was first made in 1992.<sup>196</sup> A similar request, also first made in 1992, regards the establishment of a system for objective job evaluation. In particular in order to establish a broad scope of comparisons for the principle of "equal wages for work of equal value" to be applied.<sup>197</sup>

The worldwide average gender wage gap in the second half of the 2000s was around 18.4%. In table 4.6 below the gender wage gap in Mexico over time is presented. As can be seen Mexico performs a little better in terms of gender wage equality compared to the world average, however, not in comparison to Costa Rica.

**Table 4.6 Overall gender wage gap (%)**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Mexico</b>	11.1	17.0	15.0	17.3	17.0	17.7	17.2	15.7	16.0	16.5	15.5	-	17.4	17.4
<b>Brazil</b>	24.3	21.8	18.9	19.7	17.7	18.8	17.7	-	21.6	-	-	21.8	-	-
<b>Costa Rica</b>	-	-	-	-	-	8.8	2.1	8.0	3.5	2.4	2.2	-	14.7	-

Source: ITUC 2012, p.54.

Mexico's trade liberalisation process has had a complex effect on the gender wage gap. Based on research covering the period of 1987 to 1993 the gender wage gap increase over that period is explained by higher premiums for skilled work, as men are on average more skilled. It is concluded that in the long run trade can be beneficial to women through decreasing discrimination, as

<sup>194</sup> Center for Economic Policy and Research 2014, Did NAFTA help Mexico? An assessment after 20 years, p. 1.

<sup>195</sup> <http://www.cepal.org/en/comunicados/mejora-del-salario-minimo-contribuye-reducir-la-desigualdad-dice-la-cepal>

<sup>196</sup> ILO NORMLEX Observation

[http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100\\_COMMENT\\_ID:3146205:NO](http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID:3146205:NO).

<sup>197</sup> ILO NORMLEX Direct request

[http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100\\_COMMENT\\_ID:3146201:NO](http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID:3146201:NO).

industries are required to abandon unequal practices. However, any improvement depends upon factors such as improvements in women's education and skills.<sup>198</sup>

The gender wage gap differs widely per sector, as can be seen for 2008 in table 4.7 below. In agriculture, mining, utilities, construction, transport and finance the gender wage gap is lower than the average, which might reflect the low incidence of female employment in these sectors, and the females that are employed tend to be higher skilled. For manufacturing, hotels and restaurants, health and social work, other services and employment in households the gender wage gap is markedly higher than the average for this year (17.4%).

**Table 4.7 Gender wage gap per sector in 2008 (%)**

Sector	M/F gap
<b>Agriculture</b>	6.1
<b>Fishing</b>	17.7
<b>Mining</b>	0.5
<b>Manufacturing</b>	28.2
<b>Utilities (gas, water, electricity)</b>	6.8
<b>Construction</b>	-40.8
<b>Wholesale, retail</b>	18.6
<b>Hotels, restaurants</b>	26.8
<b>Transport, storage, communication</b>	-1.5
<b>Finance</b>	16.1
<b>Real estate, renting, business</b>	19.9
<b>Public administration, defence</b>	13.0
<b>Education</b>	16.9
<b>Health, social work</b>	29.8
<b>Other community and personal services</b>	23.3
<b>Employed in households</b>	35.8

Source: ITUC 2012.

#### *Occupational safety*

A Convention that has been commented upon regularly up to 2012 is the Occupational Health and Safety convention (No.155). Issues include the raising of awareness among employees of their right to remove themselves from a work situation which presents imminent and serious danger to their life or health without having to fear undue consequences. Another recurring comment by the CEACR regards the article on requirement for employers to collaborate on occupational health and safety whenever two or more companies engage in activities simultaneously at one workplace, where the Mexican government is urged to take the necessary measures in order to enforce this article of the convention.<sup>199</sup>

Looking at some statistics on occupational accidents, we observe that fatal occupational accidents occurred less in 2012 in comparison to 2000, however there has not been a steady decline. The non-fatal accidents have increased over the timeframe (see table 4.8). The lowest number of non-fatal accidents was in 2003, with 359.000, it has been increasing again since, in particular from 2007 to 2008.

**Table 4.8 Cases of occupational injury**

<sup>198</sup> Artecona & Cunningham 2002, Effects of Trade Liberalization on the Gender Wage Gap in Mexico.

<sup>199</sup> ILO NORMLEX Direct request  
[http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100\\_COMMENT\\_ID:3087357](http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID:3087357).

	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010*	2011*	2012*
<b>Fatal</b>	1,212	1,434	3,002	1,315	1,459	1,740	1,361	1,364	1,328	1,412	1,433	1,578	1,534
<b>Non-fatal (x1.000)**</b>	518	519	1,112	400	407	450	388	361	388	509	507	536	557

Source: ILOSTAT.

\* Includes cases of occupational disease and cases of injury due to commuting accidents.

\*\* With lost workdays.

### Child labour

Since 1990 Mexico has ratified several international conventions regarding child labour. In 1990 the United Nations Convention on the Rights of the Child, and in 2002 the optional protocol to this Convention prohibiting the sale of children, child prostitution and child pornography. The Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children, supplementing the United Nations Convention against Transnational Organised Crime was ratified in 2003.<sup>200</sup>

Also in 1990, Mexico ratified the Convention on the Worst Forms of Child Labour (No.182). However, importantly, up to date it has not defined these worst forms of child labour in order to take steps to eliminate them. Furthermore, no National Commission on Child Labour has been established, nor a tripartite commission responsible for the definition of a list of worst forms of child labour and the formulation of a national plan to eliminate them.<sup>201</sup>

Mexico has yet to ratify the ILO Minimum Age Convention (No.138), it is the only Latin American country which has not yet done so. According to Mexican law, the minimum working age is 14, which is one year younger than that recommended by Convention, which is 15 years or the age equivalent to the completion of basic education.<sup>202</sup> However, there is an exception for developing countries which may reduce the minimum age to 14 years. The employment of children aged 14 to 16 is regulated, work in locations serving alcoholic drinks is prohibited for example, as is hazardous or unhealthy work, work requires excessive exertion, and work in non-industrial establishments after ten at night. Work for persons under 18 years, night shifts in industry, and night work in bars, taverns and brothels as well as work involving exposure to ionising radiation is also prohibited.<sup>203</sup>

There has been a sharp increase in the reported cases of children under 14 involved in plantation work over the period of 2010 to 2012. With regards to child labour there are several comments made by the CEACR, such as the Direct request on the Plantations convention. The committee notes that the employment of children on plantations remains widespread across the country, and therefore requests the Mexican Government to provide further information on the impact of initiatives relating to child labour on plantations and to indicate any additional measures contemplated in this regard.<sup>204</sup>

As can be seen in figure 4.6 below, child labour has been decreasing from 2000 to 2010, although it remains an important phenomenon; in 2007 3.6 million children aged between 5 and 17 were engaged in child labour, that is 12.5% of this age cohort. These 3.6 million children included 1.1 million children under the age of 14, which is the legal minimum age of employment. Nearly 42% of

<sup>200</sup> UCW 2012, The Mexican experience in reducing child labour.

<sup>201</sup> Unicef 2011 The rights of children and adolescents in Mexico: A present day agenda.

<sup>202</sup> Unicef 2011 The rights of children and adolescents in Mexico: A present day agenda.

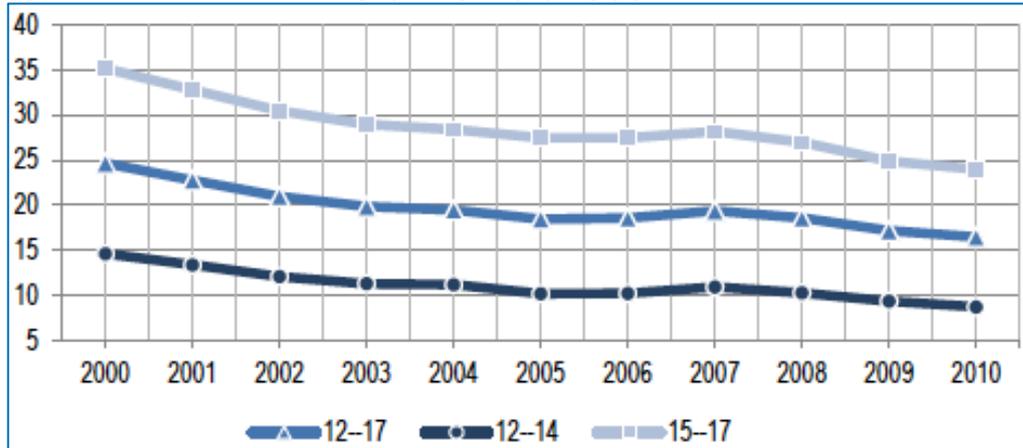
<sup>203</sup> UCW 2012, The Mexican experience in reducing child labour.

<sup>204</sup> ILO NORMLEX Direct request

[http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100\\_COMMENT\\_ID:3146342:NO](http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID:3146342:NO).

these working children did not attend school at all,<sup>205</sup> while the majority of working children attend school next to working.

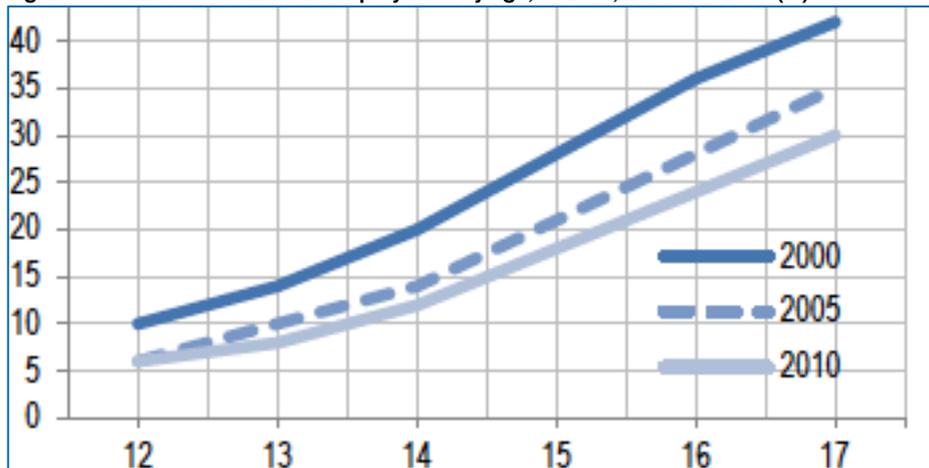
**Figure 4.6 Child involvement in employment per age group (%)**



Source: UCW 2012 The Mexican experience in reducing child labour.

The reduction of child labour has occurred for all ages, although the incidence of child involvement in employment still increases strongly with age.

**Figure 4.7 Child involvement in employment by age, in 2000, 2005 and 2010 (%)**



Source: UCW 2012 The Mexican experience in reducing child labour.

While children's involvement in employment decreased, school attendance has risen over the period from 2000 to 2010: from 89 to 93% for the 12 to 14 year olds and 64 to 71% for the 15 to 17 year olds. Thus, Mexican young people are beginning to stay in school longer before entering the labour market.<sup>206</sup>

The main reasons for the reduction in children's employment appear to be the improvement in level of education of heads of households, the reduction of number of children per household, the improvement in living standards and to a smaller extent the improvement in secondary school quality and access. Some of these developments can partly be attributed to the *Oportunidades* program, further discussed below. The program in itself has also had a direct effect in reducing children's employment.<sup>207</sup>

<sup>205</sup> Unicef 2009 Child rights in Mexico.

<sup>206</sup> UCW 2012, The Mexican experience in reducing child labour.

<sup>207</sup> UCW 2012, The Mexican experience in reducing child labour.

Most of children's employment takes place in rural areas, accounting for 7 out of 10 children involved in employment, whereas it is 3 out of 10 in cities. This reflects the kind of activities the children are involved in; the most common is in farming and livestock sectors, followed by commerce, services, manufacturing and construction.<sup>208</sup> Mexico is one of the countries in which child labour outside of the agriculture sector, namely in the services sector, has gained in relative importance over the last few years.<sup>209</sup> In terms of gender differences, in 2007 boys' involvement in employment was around double that of girls, however this leaves out household chores.

#### *Forced labour*

The convention on Forced Labour (No.29) was not commented upon in the 1990s. Following comments made by the International Confederation of Free Trade Unions (ICFTU) in 2002 the CEACR requested the Mexican government to provide information on measures taken to prevent, suppress and punish the trafficking of persons for the purpose of exploitation. In 2007 a national act was introduced to prevent and punish human trafficking. In the latest comments of 2012 the Committee expresses its particular concern about the rehabilitation of victims of human trafficking.<sup>210</sup>

#### **Extending social protection**

The Mexican social security system is rated in the World Social Security Report (2014/2015) as "semi-comprehensive". The system in Mexico includes (at least one) statutory programme(s) on:

- Sickness;
- Maternity;
- Old age;
- Employment injury;
- Invalidity;
- Survivors;
- Family allowances;
- And limited provisions for unemployment.

In the 1990s the Mexican government passed reforms concerning social security. These included the introduction of individual capitalization accounts in the pension system. With regards to the health system, Social Insurance (*Seguro Popular*) was implemented. Since 2000 the country introduced specific legislation on the social rights of children, persons with disability and the elderly. Between 2001 and 2008 only about one third of the economically active population had formal employment, with access to work-related social security for healthcare.<sup>211</sup>

The *Progresa* programme up to 2002 and the *Oportunidades* programme since combine cash transfers and free health services with improvements in the supply of those health services. The main goal of the program is to develop human capital in the form of health and education, so as to break the intergenerational cycle of poverty. The program reaches 25% of the population. The cash transfers are estimated to average US\$69 per month per family, with a family maximum of US\$220 per month. Besides the cash transfers, families receive a basic health package and nutritional supplements, as well as school supplies and scholarships for children. Since 2000 more additional services and transfers have been added, such as savings accounts for students who finish their schooling, cash support for elderly in the family and energy subsidies.<sup>212</sup>

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<sup>208</sup> Unicef 2010, The rights of children and adolescents in Mexico: A present day agenda.

<sup>209</sup> ILO 2013, Marking progress against child labour - Global estimates and trends 2000-2012.

<sup>210</sup> ILO NORMLEX Observation

[http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0:NO:13100:P13100\\_COMMENT\\_ID:3065545](http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0:NO:13100:P13100_COMMENT_ID:3065545).

<sup>211</sup> ECLAC 2012, Social protection systems in Latin America and the Caribbean: Mexico.

<sup>212</sup> ILO 2013, Cash transfer programmes, poverty reduction and empowerment of women: A comparative analysis.

Conditions apply to these transfers; these include school registration and regular attendance by all children, participation in workshops on education of parents and teenage children and attendance by all family members at scheduled appointments for health care. There is a large role for women in *Oportunidades*, as the woman responsible for the household management is the one who receives the cash transfers.<sup>213</sup>

The program has shown direct effects, in school attainment and performance. Between 1990 and 2012 there has been a significant reduction (26.6%) in the educational backwardness of young people in the ages between 6 and 15. Furthermore, there are effects later on as well. Young people aged between 15 and 25 who benefitted from *Oportunidades* have higher employment levels and higher income from work, compared to non-beneficiaries. Those who participated in the programme for at least 6 years and completed at least a primary level of education experienced an increase of 12% in their wages. For those who completed secondary education this is even 14%.<sup>214</sup>

### *Unemployment insurance*

There is no unemployment insurance in Mexico, but there are specific programmes to support unemployed people, such as the *Programa de Apoyo al Empleo (PAE)*, which consists of active labour market policies, and the *Programa de Empleo Temporal Ampliado (PETA)*.<sup>215</sup> PETA funds projects that employ local workers, aged 16 and older, in areas such as health promotion, preserving cultural heritage sites, building local infrastructure, alleviating natural disasters, conserving nature and promoting local development. The scheme covers the salaries of the workers (set at 99% of the local minimum wage) for a maximum of 132 days a year, as well as the necessary materials for the project.<sup>216</sup> The beneficiaries of the PETA represented 11.1% of jobseekers in 2008 and 16.7% in 2009.<sup>217</sup>

In Mexico City an unemployment benefit programme, *Programa seguro de desempleo del distrito federal*, was established in 2007. It consists of unemployment benefits being paid to persons aged 18 and older and living in Mexico City who lose their job. The monthly benefit amounts to 30 days of minimum wage and its maximum duration is up to 6 months. Beneficiaries need to have worked for at least 6 months prior to becoming unemployed. They are not allowed to receive any other income transfers and are expected to actively search for new employment. The programme aims to promote the incorporation of workers into the formal economy, partly by promoting training in order to increase the skills of Mexico City's workforce.<sup>218</sup>

Social protection levels are low in Mexico, which is mainly due to the high rates of informal sector employment, which leaves this share of the population without social protection. There is no unemployment benefit insurance at present.<sup>219</sup> Legally employers are obliged to give severance payments to workers who are laid off, but in practice such payments are scarce and heavily concentrated within the higher income deciles of the formal sector.<sup>220</sup> However, over the last decades there have been improvements in social services, most notably through the conditional cash transfer programs aimed at reducing poverty, the *Progresá* program introduced in 1997 and *Oportunidades* since 2002 – these are further discussed in section 2.3.

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<sup>213</sup> ILO 2013, Cash transfer programmes, poverty reduction and empowerment of women: A comparative analysis.

<sup>214</sup> ILO 2014, World of Work Report.

<sup>215</sup> ILO 2014, World Social Protection Report 2014/2015.

<sup>216</sup> ILO Social Protection Platform <http://www.social-protection.org/gimi/qess/ShowTheme.do?tid=2667>.

<sup>217</sup> ILO 2014, World Social Protection Report 2014/2015.

<sup>218</sup> ILO Social Protection Platform <http://www.social-protection.org/gimi/qess/ShowTheme.do?tid=2667>.

<sup>219</sup> OECD 2014, Society at a glance highlights: Mexico.

<sup>220</sup> ECLAC 2012, Social protection systems in Latin America and the Caribbean: Mexico.

### Proportion of elderly above statutory pensionable age receiving an old age pension

In 1997, Mexico began a transition from a public system of pensions to one administered by private managers and based on individual capitalisation accounts. There is extensive segmentation of pension provision in Mexico; there are more than 100 different pension schemes for workers in different sectors. Besides the contributory schemes there are also non-contributory schemes, separate from the private pension system, such as the Food Pension and the 70 and over programme.<sup>221</sup>

The proportion of people over the pensionable age who are receiving an old age pension was very low in 2000; pensions covered only 4% of the old age population. However, since 2002 it has been increasing, particularly in 2011 and 2012 (see table 4.9).

**Table 4.9 Old age pension recipient ratio above retirement age of 65(%)**

2000	2002	2004	2006	2008	2010	2011	2012
4	4.1	8.2	12.6	9.7	-	29	36.8

Source: ILO social security inquiry database.

Over the last decade the considerable increase reflected 17.8 million people covered in 2000 to 41.2 million in 2010. Nevertheless, only 37% of these workers made regular contributions to the system. The density of contributions, that is the percentage of working time registered in AFORES (*the Retirement Funds Administrators: Administradoras de Fondos para el Retiro*), is only 56%. This means that they actively contribute only a small part of the time they are supposed to contribute, so they are not fully eligible to receive a pension (based on full time work). In this regard, the real coverage of the contributive pension system is weak. Moreover, it excludes nearly half of the economically active population<sup>222</sup>

### Total social protection expenditure

The percentage of GDP that Mexico spends on social protection has doubled since 1990. Despite this growth, it remains well below the regional average of Latin America and the Caribbean, as can be seen in table 4.10 below.

**Table 4.10 Public social protection expenditure (as % of GDP)**

	1990	1995	2000	2005	2007	2009	2011	2012
<b>Mexico Total</b>	3.26	4.33	5.3	6.92	6.9	8.22	7.72	7.41
<b>Excluding health care</b>	-	-	2.94	4.28	4.27	5.1	4.97	-
<b>Regional average - Total</b>	8	9,6	10,2	11,4	12	13,6	13,2	-

Source: ILO social security inquiry database.

### Promoting social dialogue

With the opening of the economy in the 1980s and 1990s and the economic restructuring, the lack of a strong and autonomous labour movement meant that workers' interests did not receive due attention. Moreover, neoliberal restructuring led to widespread job losses in the highly unionised sectors of manufacturing and the public sector and unions found themselves severely weakened. Falling unionisation rates coupled with the initial acceptance of the reforms by labour have led to a certain de-legitimisation of the unions.<sup>223</sup>

<sup>221</sup> ECLAC 2012, Social protection systems in Latin America and the Caribbean: Mexico.

<sup>222</sup> ECLAC 2012, Social protection systems in Latin America and the Caribbean: Mexico, p18.

<sup>223</sup> Cardoso, A. 2004, Industrial relations, social dialogue and employment in Argentina, Brazil and Mexico.

In Mexico there is a wide diversity in unions in terms of size and scope. The Congreso del Trabajo, CT, is the prevailing organisation, because of its large membership (67% of the private sector and nearly 100% of the public sector in 2004), close relationship with the state and institutional resources. The trade unions affiliated to the CT have precedence in collective bargaining and are favoured in exclusivity clauses, in line with the corporatist history of Mexico's industrial relations. Since around 2000 there has been an increase in independent unions especially representing new employees of new firms at the northern border.<sup>224</sup>

Despite these developments and Mexico's labour law, which establishes a broad range of worker rights, there is a dominance of pro-management unions, which obstructs legitimate labour organising. A reform in the labour law in 2012 has failed to address the lack of transparency and democracy and to protect the right to form independent unions and bargain collectively.<sup>225</sup>

The ITUC Survey of violations of Trade Union Rights classifies Mexico as a country in which there is systematic violation of trade union rights. Legal constraints include barriers to the establishment of organisations, through the requirement of being registered. The Register of Associations can however decline a request when they believe the union does not meet the requirements. Furthermore, there is a trade union monopoly for state employees, and they are not allowed to leave their union. The ITUC lists numerous violations over the last few years including unfair dismissals and assaults of working who attempt to organise, union busting by certain companies, blacklisting of trade union affiliated workers and collective bargaining by corrupt organisations to prevent bargaining in good faith.<sup>226</sup>

The ICTWSS database<sup>227</sup> provides data on government intervention in wage bargaining and the predominant level at which wage bargaining takes place since 1990 up to 2010. With regards to government intervention; the government participates directly in wage bargaining. Bargaining predominantly takes place at the local or company level, not (so much) at higher levels such as sector, industry, cross-industry or central level.<sup>228</sup>

There is little reliable information available on trade union density and collective bargaining coverage. However, the OECD data below shows a decline of union density<sup>229</sup> since the 1990s.

**Table 4.11 Trade union density (%)**

1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012
22.4	18.4	14.5	15.4	15.6	15.9	17.5	16.3	15.7	14.4	14.6	13.6

Source: OECD stat.

With respect to dialogue between government, employers and employees, the convention on tripartite consultations (No.144) was commented upon first by the CEACR in 1990, in the form of a request to provide information on consultations held. This request was repeated several times, up to 2006, as it appears the government provided only brief reports, without providing information on the frequency of the consultations or on the nature of any reports or recommendations made as a result of the consultations. In 2012 the Committee did receive a detailed report. In 2013 the main

<sup>224</sup> Cardoso, A. 2004, Industrial relations, social dialogue and employment in Argentina, Brazil and Mexico.

<sup>225</sup> Human Rights Watch 2014, World Report 2014, Mexico.

<sup>226</sup> ITUC 2010, 2014 Survey of violations of Trade Union Rights, Mexico.

<sup>227</sup> Database on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts

<sup>228</sup> Data Base on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts, 1960-2011 (ICTWSS).

<sup>229</sup> Trade union density corresponds to the ratio of wage and salary earners that are trade union members, divided by the total number of wage and salary earners (OECD Labour Force Statistics). Density is calculated using survey data, wherever possible, and administrative data adjusted for non-active and self-employed members otherwise.

[http://stats.oecd.org/Index.aspx?DataSetCode=UN\\_DEN](http://stats.oecd.org/Index.aspx?DataSetCode=UN_DEN)

concerns was whether the government was consulting with all representative, instead of merely the largest organisations of employers and workers.<sup>230</sup>

#### 4.1.2 Informal economy

##### Description of the state of play of the Mexican informal economy

According to the ILO, the term informal economy refers to ‘all economic activities by workers and economic units that are – in law or in practice – not covered or insufficiently covered by formal arrangements.’ These activities are not included in the law, which means the workers are either operating outside the formal reach of the law, or they are not covered in practice, which means that the law is not applied or not enforced.<sup>231</sup> Within the informal economy there can be no decent work, as the labour law does not cover the informal workers, nor are they covered in the social protection system.

There are different ways to measure informal employment. The ILO KILM database provides the following table, which leaves out agricultural employment.

**Table 4.12 Share of persons employed in the informal sector in total non-agricultural employment (%)**

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2005	2006	2007	2009	2011
<b>Total</b>	30.9	30.7	30.1	29.7	34.8	33.9	33.2	32.3	31.9	29.0	28.1	27.3	34.1	35.0
<b>Female</b>	33.1	27.7	27.5	28.2	32.4	30.9	30.3	30.8	30.7	26.1	26.3	25.9	31.8	33.0
<b>Male</b>	29.5	32.6	31.8	30.7	36.3	35.8	35.0	33.3	32.7	30.8	29.3	28.5	35.7	36.4

Source: ILO KILM.

Another indicator that is often used to measure informal employment is by social security coverage. According to this method, informality in Mexico was relatively stable during the 1990s, but has risen since 2000. However, the share of employees without a written employment contract, another indicator of informal employment, in total employment has stayed relatively stable at around 30% since 1992, up to 2008.<sup>232</sup> The crisis periods of the peso crisis in 1994-95 and in the first half of the 2000s have increased both informality and unemployment.<sup>233</sup>

It is generally agreed that informal employment in Mexico represents more than half of total employment.<sup>234</sup> However, there is a wide variety across different states, ranging between 45 and 80% of total employment.<sup>235</sup> The probability of informality is higher in regions close to Mexico City and lower for regions close to the US-Mexico border. Also, in states with higher exposure to globalisation the probability of informality is lower than in states with low exposure to globalisation.<sup>236</sup>

##### Identification of national (historical) issues related to the functioning of the informal economy

The Mexican economy, like other countries in Latin America, has always been characterized by a parallel economy; think of street vendors and their micro-businesses. Many of them are well organised, with representatives negotiating with the government. Mexico’s population has had to

<sup>230</sup> ILO NORMLEX Direct request

[http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100\\_COMMENT\\_ID:3139118](http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID:3139118).

<sup>231</sup> <http://www.ilo.int/global/topics/employment-promotion/informal-economy/lang-en/index.htm>.

<sup>232</sup> OECD 2008, Declaring work or staying underground.

<sup>233</sup> Rodriguez-Oreggia 2007, The informal sector in Mexico: Characteristics and Dynamics.

<sup>234</sup> Martin, 2000 Employment and unemployment in Mexico in the 1990s, Rodriguez-Oreggia 2007, The informal sector in Mexico: Characteristics and Dynamics, ILO 2013, Green jobs in Mexico.

<sup>235</sup> OECD 2013 The determinants of informality in Mexico's states.

<sup>236</sup> Aleman Castilla, 2006, The effect of trade liberalization on informality and wages: Evidence from Mexico.

react to various economic shocks, through adopting new survival strategies, including the establishment of micro-businesses. Employment in the informal economy appears to be a natural alternative to cope with increases of unemployment and decreases of (household) income.<sup>237</sup>

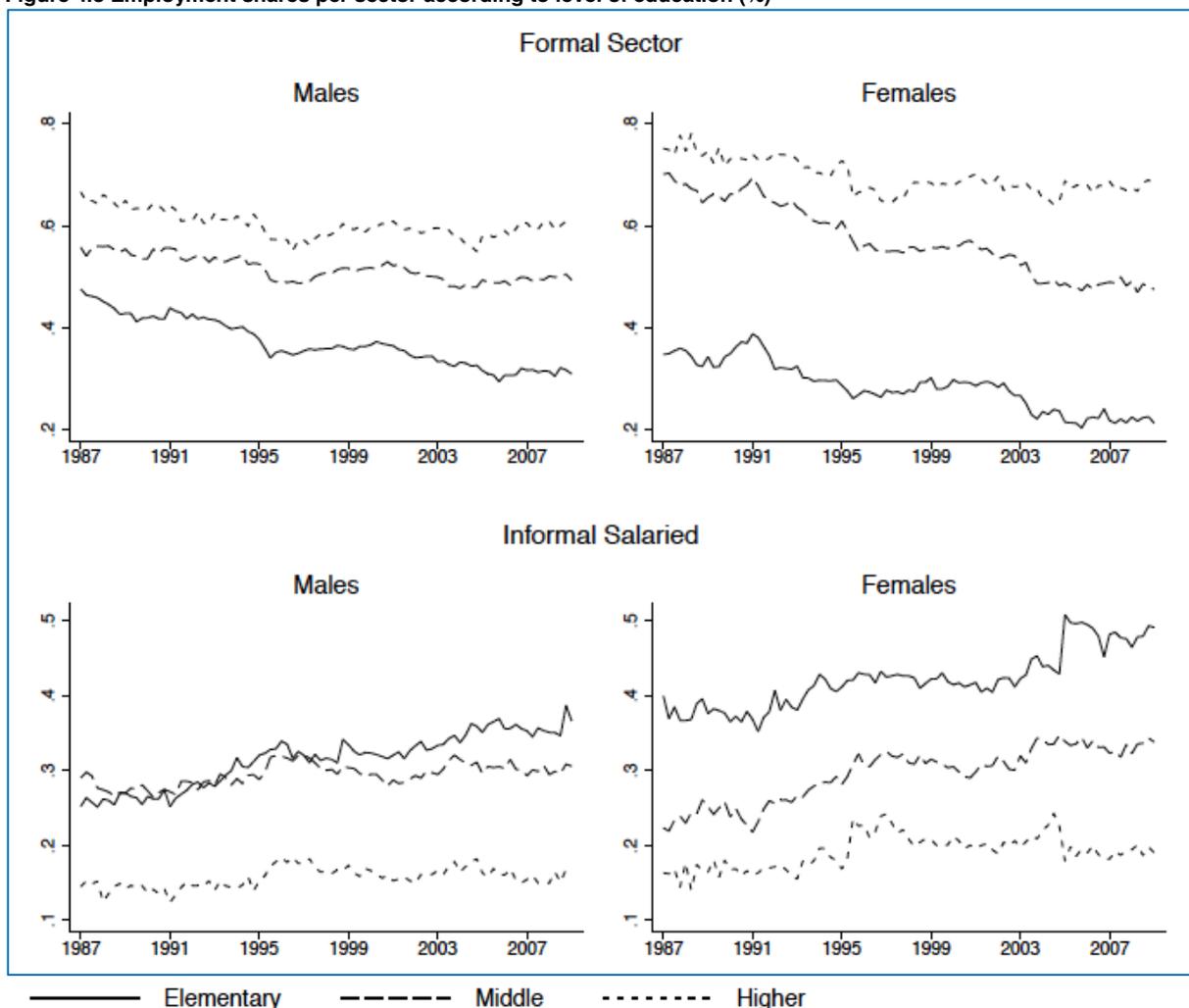
Individuals accept an informal job when a formal job is not available. Some workers may even prefer an informal job to avoid taxes and regulations. Individuals accept an informal job if the benefits of informality outweigh the costs of informality.<sup>238</sup>

The biggest issue related to the informal economy is that, in 2007, it leaves 22 out of 40 million people in the working population uncovered by social security.<sup>239</sup>

#### Education and formal employment

As can be seen in **Figure 4.8** below, formal sector participation clearly increases with education. Over the 1990s and 2000s the formal sector represents above 60% of the employed skilled population, while this sector only represents about 30% for employed unskilled individuals. Women with middle and high education levels have higher participation rates in the formal sector than men. For unskilled workers there is an opposite gender distribution.<sup>240</sup>

**Figure 4.8 Employment shares per sector according to level of education (%)**



Source: Duval-Hernández and Romano, 2009, A cohort analysis of labor participation in Mexico.

<sup>237</sup> Brambila Macias and Cazzavillan 2009, The dynamics of parallel economies. Measuring the informal, Research in Economics.

<sup>238</sup> OECD 2013 The determinants of informality in Mexico's states.

<sup>239</sup> Duval-Hernández and Romano, 2009, A cohort analysis of labor participation in Mexico.

<sup>240</sup> Duval-Hernández and Romano, 2009, A cohort analysis of labor participation in Mexico, p. 10.

Over time, the participation rates of workers with elementary education have increased in the informal sector.

#### Gender patterns

For males, there is higher participation in the informal sector among youths but this stabilises over time. Participation in the informal sector increases again after the age of 60, especially among workers with low educational attainment. This suggests that many individuals who cannot afford to retire continue to work in the informal salaried sector.

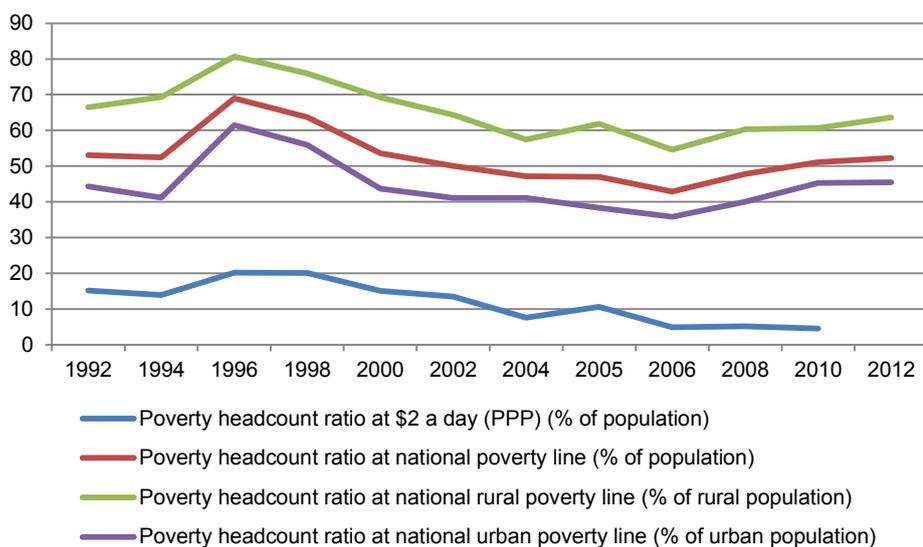
For females the situation is more complex. The highest shares in the informal sector occur for teenagers. After the age of 20 there is arising trend of participation among women with low educational attainment; the informal sector thus provides important employment opportunities for these women as they age. Women with higher educational attainment are more likely to work in the informal sector when they are young, as they age their participation rate stabilises at a low level.<sup>241</sup>

#### 4.1.3 Poverty and inequality

Based on the internationally accepted definition of poverty, i.e. people with an income of USD 2 per day at purchasing power parity, in 2010 about 4.5 percent of the Mexican population lived below the poverty line. This percentage has significantly decreased from 20.1 percent in 1996, as can be seen in Figure 4.9.

However, based on the national definition of poverty<sup>242</sup> (as defined by Mexico's National Council for the Evaluation of Social Development Policy), the ratios are significantly higher and seem to have increased recently. Furthermore, the national poverty indicators show that urban poverty is lower than rural poverty (18 percentage points in 2012).

**Figure 4.9** Poverty headcount ratios for Mexico



Source: World Bank – World Development Indicators

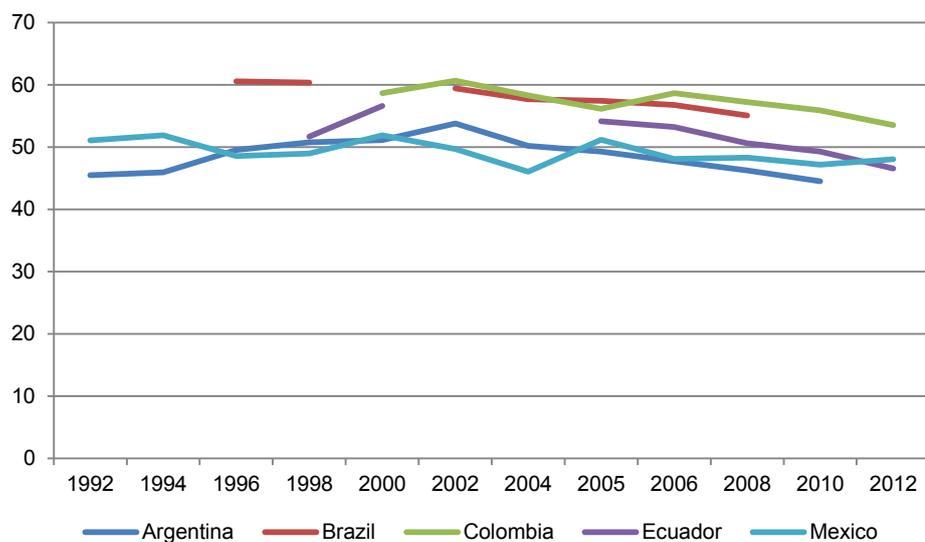
<sup>241</sup> Duval-Hernández and Romano, 2009, A cohort analysis of labor participation in Mexico.

<sup>242</sup> CONEVAL employs a multidimensional approach to measure poverty levels, taking into account current per capita income, level of education, access to health services, access to social security, quality and the size of one's home, access to basic services in the dwelling, access to food, and the degree of social cohesion.

A commonly used indicator of Inequality is the Gini index. This index measures the extent to which the distribution of income among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality. As a general rule, a Gini coefficient of 0.5-0.7 is considered high, i.e. indicates high inequality. Mexico's Gini coefficient was just below this level in 2012. However, on occasion it has been more than 0.5, which indicates inequality is an issue in Mexico.

Below we present the Gini index for the past 20 years for Mexico and several other Latin American countries. While inequality increased in certain years, there is a general, albeit very gradual downward trend observable. The inequality level for Mexico is similar to that of Argentina, and lower than that of Brazil and Colombia, but the trend seems to be more or less in line with the trend in other parts of Latin America.

**Figure 4.10 The Gini index for Mexico**



Source: World Bank – World Development Indicators

## 4.2 Social impact of the FTA on decent work and informality

### 4.2.1 Impact of the FTA on decent work pillars

#### Creating jobs

The CGE model is not able to assess changes in overall employment. The model assumes a fixed level of employment, consequently allowing only wages to change, whereas a significant shock in the labour market in reality is likely to result partly in a change in employment and partly in a change in wages. This combined effect is thus only captured with wage changes in the model. The changes in employment need to be deduced from this, e.g. based on available information on unemployment and inactivity.

According to the modelling results, wage changes have been very small but positive for all skill levels in Mexico, with medium skilled workers benefitting most (+0.45 percent) and low skilled workers the least (+0.24 percent). Wages of high skilled workers are estimated to have increased with 0.36 percent. It is likely that these expected wage increases have in reality been slightly lower and part of the positive effect has resulted in an increase in employment (i.e. job creation). In other words, these wage increases represent a higher demand for labour at all skill levels. While official unemployment is not extremely high in Mexico (4.9 percent in 2012), there are high levels of

inactivity, informal employment and so called NEET<sup>243</sup>, and generally there are not enough *formal* decent jobs available to Mexico's labour force. Given this spare capacity in labour supply, it can be assumed that the wage increases as observed by the model have in reality translated into job creation, albeit very small.

For the EU, the impact of the FTA on wages has been insignificant, with percentage changes of +0.02 for all three skill sets. This shows that demand for labour has only increased marginally and therefore effects on employment are negligible.

At sectoral level, the employment effect is taken into account in the CGE model using the concept of labour displacement. This concept refers to the inter-sectoral labour movement, assuming a fixed employment at national level. These results are discussed in Chapter 3. Whereas we know that NAFTA has displaced millions of Mexican farmers, the labour displacement resulting from the FTA with the EU has been more limited. Moreover, the changes between sectors for each of the three skill level rest on the assumption of free labour mobility, whereas in reality there might be obstacles to moving from one sector to another, due to a gap in type of skills of the employees and the skills required.

### Guaranteeing rights at work

The analysis of guaranteeing rights at work does not seem to have significantly improved during the evaluation period. In addition, the EU-Mexico FTA does not contain clauses promoting labour standards, although in the exception clauses it is mentioned that the trade measures cannot interfere with state obligations on the working conditions. Direct effects of the FTA are therefore assumed to be limited, but there may be some indirect effects stemming from the agreement, due to shifts in trade and production brought about by the agreement. For certain sectors for which exports to the EU have significantly increased (i.e. Motor vehicles, Leather products, Textiles), the FTA could have pushed the Mexican producers to comply with the EU product and production regulations in order to enable entrance to the EU market. While some of these standards relate to the quality of products, others also directly affect working conditions (e.g. restrictions on use of dangerous chemical substances). In addition, some pressure to improve labour standards may have arisen from EU-based companies that intended to do business with Mexican companies. This needs to be further investigated in the next phase of the study.

When looking at the rights of women, it is clear that Mexican women are mostly employed in the services sector (80 percent of all employed women in 2011). Most of the Mexican service sectors have experienced a small positive effect on output as a result of the FTA, so it is highly unlikely that the rights at work for women have come under more pressure due to the FTA.

### Extending social protection

In the area of social protection, despite the fact that some improvements have taken place in the evaluation period, the impacts from the FTA are likely to have been very limited. In theory, the coverage of social protection schemes could be expanded through trade liberalisation because of an increase in incomes and a corresponding change in societal preferences. The higher average living standards may then lead to increased demand for more social security provided by a more efficient and broader social security system. However, in this case, the estimated impact of the FTA on Mexican GDP has only been 0.34 percent. Therefore, a positive impact on social protection through this channel is likely to have been insignificant.

The FTA impact on social protection may also be linked with potential impacts that the agreement may have had on the size of the informal economy and either its increase or decrease. However, as

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<sup>243</sup> Not in Education, Employment or Training.

will be explained in section 4.2.2, the exact direction of the effect is not clear and dependent on many factors. The links from the FTA to the informal economy to social protection are therefore also not completely clear.

### Promoting social dialogue

When looking at the social dialogue, in theory it may be the case that societal interest in issues related to social dialogue<sup>244</sup> gradually increases as a result of higher economic growth and higher average living standards that would be brought about by the FTA. However, given the very modest contributions of the FTA to GDP and income growth, the strength of these impacts has probably been very small and social dialogue continues to be influenced by factors not related to the FTA.

#### 4.2.2 Impact on informality

The link between trade liberalisation and the informal economy has been studied quite extensively, however without a conclusive outcome. As shares of informal employment have been quite persistent across countries, while trade has increased intensively during recent decades, it appears that trade alone will not lead to a decrease in informal employment. The relation between trade liberalization and the informal economy is in fact complex and context-specific. Country-specific characteristics such as labour market institutions, labour market rigidity, capital mobility, level of economic development, heterogeneity of the informal workforce and trade composition all seem to matter. Different methodologies and measures of informality used across studies also account for some of the diverging outcomes of the research on the link between trade and the informal economy.<sup>245</sup>

A first category of studies find trade liberalisation can lead to an *increase* in the size of the informal economy, mostly ascribed to trade pushing formal firms to cut production costs and outsource to the informal economy. A second category emphasizes the positive aspects that trade liberalisation can lead to, such as capital mobility, the formalisation of credit as well as the upgrading of skills, which can make the informal economy benefit from trade and increase formalisation. Labour markets that can facilitate the adjustment processes, low administrative barriers and forms of regional trade integration can support this formalisation of the informal economy.<sup>246</sup> A further category of studies finds no, or a negligible, relation between trade and the informal economy at all.<sup>247</sup> And finally, some studies find an increase in overall employment, including an increase in informal employment. It is argued that this latter increase is due to the entrance of formerly inactive individuals. As formalisation is associated with high costs, entry into the formal sector would be too costly for inactive persons. The shift from informal to formal employment within the same industry is associated with lower costs, which points towards the possibility of informal employment as a stepping stone to formal employment. Active measures should be taken to ensure the informal economy decreases; informal workers should be enabled to take up jobs in the formal sector and firms in the informal sector should get access to capital, to encourage the formalization of informal activities.<sup>248</sup>

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<sup>244</sup> Like stronger engagement of the social partners in the design of employment and social policies, societal reform processes, legislative proposals, assessing impacts resulting from trade policy and dialogue about restructuring and flanking measures.

<sup>245</sup> OECD 2013 A Literature Review on Trade and Informal Labour Markets in Developing Countries.

<sup>246</sup> Sinha 2011 Trade and the Informal economy in Jansen, M., Peters, R., Salazar-Xirinachs, J. (2011). "Trade and Employment: From Myths to Facts", EC and ILO.

<sup>247</sup> Koujianou Goldberg, P., & Pavcnik, N. (2003). "The response of the informal sector to trade liberalization", *Journal of Development Economics*, 72(2), 463-496.

<sup>248</sup> Arias, J., Artuc, E., Lederman, D., Rojas, D. (2013): "Trade, Informal Employment and Labour Adjustment Costs". World Bank Policy Research Working Paper 6614.

An increase and liberalisation of trade could have a formalising effect and as such lead to an improvement and increase in decent work. However, as described above, the impact of trade on the informal economy is complex and depends on several country-specific characteristics. The labour market in Mexico is characterized not only by substantial informal employment but also a high percentage of inactivity among the female working age population. Trade might lead to the activation of these inactive individuals, leading to an initial rise of informal employment. However, with the prospect of increasing formal activities the long-term perspective could be an increase in formal employment and a decrease of the informal economy. Another perspective is that informal employment is only a stepping stone for specific workers; highly educated males, and in fact a dead end for female and uneducated workers. This implies that measures need to be in place to ensure the transition to formal employment.

Furthermore, it seems that informal employment is mostly concentrated in non-tradable goods, in sectors such as services, hotels and restaurants and construction.<sup>249</sup> This could mean that by increasing employment in tradable sectors, formal employment would also increase. Based on research over the period of 1989 to 2002 it is confirmed that trade liberalisation reduced the incidence of informality in tradable industries. However, the benefits of trade liberalisation have not spread to the labour force in non-tradable sectors.<sup>250</sup>

### 4.3 Social impact of the FTA on poverty and inequality

#### 4.3.1 Introduction

The quantitative social analysis is based on household survey data and on the results of the CGE model. It should be noted that the latter model only looks at the incremental effect of the FTA, leaving other developments and policies as fixed and thus assuming that no flanking or accompanying measures have been taken by the governments. This method thus isolates the effects of the FTA.

The CGE modelling results include an overall welfare impact indicator, the equivalent variation. This indicator allows us to measure the monetary welfare impact of a macroeconomic shock. The average welfare for Mexico is estimated to have increased with 0.35 percent as a result of the FTA, while for the EU this effect is much smaller at 0.01 percent..

Important drivers for changes in welfare are changes in income and changes in expenditures. A higher income increases welfare through the increase of spending capacity, in turn improving purchasing power; lower prices increase welfare because of lower costs of consumption, in turn also improving purchasing power. The table below shows an overview of the effects for Mexico on equivalent variation, income and expenditures.

**Table 4.13 Estimated welfare effects for Mexico**

Indicator	Effect of the FTA for Mexico	Effect of the FTA for theEU
Equivalent variation	+ 0.35%	+0.01%
Income – Average wage change	+ 0.33%	+0.02%
Expenditures – average consumer price change	+ 0.11%	0.00%

<sup>249</sup> Bosch&Maloney 2006, Gross Worker Flows in the Presence of Informal Labor Markets. The Mexican Experience 1987-2002.

<sup>250</sup> Aleman Castilla, 2006, The effect of trade liberalization on informality and wages: Evidence from Mexico.

We observe that the average wages and average consumer prices have slightly increased as a result of the FTA; the former is positive for welfare and the latter decreases welfare as the costs of consumption increase. However, the positive change in income is much larger than the price effect.

Despite the overall gains in welfare, the CGE model cannot estimate whether the impact differs across various income groups and what the impact is on the incidence and depth of poverty. Price and wage changes predicted by the CGE model affect households differently because of differences in consumption baskets and sources of income across households. To analyse the social effects for Mexico in more detail, we supplement the CGE results with information on expenditure levels and distribution across product groups at individual or household level. These data stem from household survey data.

#### 4.3.2 Approach and assumptions

In line with the abovementioned welfare impacts, we identify the following channels through which the FTA affects individual and household welfare levels:

1. Changes in purchasing power as a result of changed consumption prices. This reflects the household as a consumption unit;
2. Changes in cash income as a result of changes in wages. This reflects household supply on the labour market.

The way we incorporate these two channels in the impact on welfare is determined by the information available from the household survey data:

1. Analysis of the welfare impact of the price effect on consumption: We have matched the sectors of the CGE model analysis to the 15 aggregated sectors in the household survey to assess price changes and their impacts on welfare;
2. Analysis of the welfare impact of the wage effect on consumption: The wage income of each household is linked to the average wage changes within the country. A distinction of wage changes using skill levels has not been carried out, because the household data lists wage income for the household, which does not allow for wage income from different household members with a job with different skill levels. Households without data on wage income are treated as having no wage income effect.

The welfare measure that we use is based on a translation of price and wage effects into a monetary value. The overall effect on welfare can thus be interpreted as an equivalent variation in income levels, but now at a more detailed level. This allows us to analyse the impact of the FTA in terms of changes in disposable income of households.<sup>251</sup> The outcome of the analysis is a change in disposable income as a result of the income and expenditure effect. The new disposable incomes in the hypothetical situation before the introduction of a FTA are then used to recalculate the number of people living below the poverty line as well as some inequality measures. The social indicators used in the analysis include:

- Poverty headcounts, to measure the incidence of poverty both in absolute and relative terms;
- Dispersion of poverty, to address the incidence of the population being just below or above the poverty line;
- Poverty gap, to reflect the depth of poverty for those that are below the poverty line;
- The GINI coefficient that provides a measure of income inequality;
- The decile dispersion ratio to reflect the impact on income inequality between the 10 percent richest and 10 percent poorest households.

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<sup>251</sup> It should be noted that when looking at disposable income, we only take into account wage changes, no changes in other types of income (e.g. return on capital).

Poverty headcounts are provided separately for specific groups of the population in terms of sex, age, education level and geographical region. In our calculations, we use expenditure and income data presented at the household level. We have extrapolated these data to individual person expenditures and income in such a way that we can analyse poverty indicators according to the person-level breakdown characteristics. To take into account scale economy effects within the households, the OECD equivalence scale has been used in this extrapolation.

#### *4.3.3 Quantitative analysis of social effects of the DCFTA*

##### **Impact on poverty**

Table 4.14 provides an overview of the overall impact of the FTA for the selection of poverty and inequality indicators. The impact is presented for the current situation, with the FTA in place (first column) and for the counterfactual, i.e. the situation today if there would not be an FTA (second column). The third and fourth column show the counterfactual but looking only at price effects (third column) and only at wage effects (fourth column) as far as we could explicitly analyse these on the basis of the available household survey data. The table furthermore includes the social indicators when only incorporating the expenditure effect or the wage income effect on disposable incomes. As such, we generate a range of effects to address potential sensitivity of the outcomes to the assumptions that we need to make. This ensures careful interpretation of the findings given the limitations to our analysis, which relies on assumptions regarding, for example, wage effects.

#### *Absolute poverty line*

Poverty incidence can be expressed in terms of the absolute and relative poverty rate. The absolute poverty rate used is the percentage of population with income or expenditure levels below the poverty line of USD 2,329 per month per household for urban areas and USD 1,490 per month per household for rural areas. For Mexico, the number of people living below the absolute poverty line is around 58.3 million people. As the total population consists of 117.4 million people according the household survey, 49.7 percent of the total population is living below the poverty line according to this definition of poverty. This is in line with what we observed in **Figure 4.9** above. As a result of the FTA, the number is estimated to have marginally reduced, as compared to the counterfactual scenario, from 58.43 to 58.34 million (a reduction of 0,2 %), mostly because of the wage effect.

The sensitivity of these findings to the definition of the poverty line used can be checked using the dispersion of poverty incidence between 80 – 120 percent (see table 4.14) of the poverty line. With the FTA, currently 13.5 percent of the population is living with a disposable income between 80 and 100 percent of the (absolute) poverty line<sup>252</sup>. Without the FTA, this percentage would not change. Another 9.9 percent of the population lives between 100 and 120 percent of the absolute poverty line<sup>253</sup>. and also here in a situation without the FTA this share would not change (change lower than 0.02 percentage points) For both the lower and higher poverty line, poverty follows a similar trend as observed with the used absolute poverty line. Results are thus robust in terms of the level of the poverty line.

#### *Extreme absolute poverty line*

Currently some estimated 18.87 million people in Mexico live in extreme poverty. This is around 16 percent of the total population. Extreme poverty is only very marginally affected by the FTA: compared to the counterfactual the FTA has reduced the share of people living in extreme poverty by 0.05 percentage points.

#### *Depth of poverty*

Next to the incidence of poverty (i.e. the number of people living in poverty), the depth of poverty (i.e. the severity of the poverty) is an important indicator, measured by the poverty gap. The poverty gap tells how far the income or expenditures of the poor falls below the poverty line on average. The results show that the disposable income level of the average poor person is 14 percent below the poverty line, and that the FTA did not change the depth of poverty based on our calculations.

<sup>252</sup> 58,34 million people live below the (100 percent) poverty line, while 42,49 million people live below 80 percent of the absolute poverty line. This means that 15,85 million people (around 14 percent of the total population) lives between 80-100 percent of the absolute poverty line, in the counterfactual this changes to 15.84 million people. .

<sup>253</sup> 69,91 million people live below 120 percent of the absolute poverty line, while 58,34 million people live below 100 percent of the line. This means that 11,57 million people (around 10 percent of the total population) live between 100-120 percent of the absolute poverty line.

### *Relative poverty line*

The relative poverty line shows poverty dependent on social context, taking income inequality into consideration. Therefore, this indicator reflects differences in income distribution and poverty at the same time. A person or household is considered to be relatively poor when his/her income is below 75 percent of the median income. The relative poverty is estimated to have marginally increased as a result of the FTA (an increase of 0.05 percentage points).

### *Conclusion impact on poverty*

The measures for poverty show very small (extreme poverty line and poverty line) to no (relative poverty, poverty gap) effect of the implementation of FTA. Also in the breakdown of poverty by different sub groups of the population in Table 4.15, all changes that can be attributed to the FTA are smaller than 0.1 percentage point. Given the necessary assumptions in the CGE modelling and in the further analysis of household survey data, the estimated changes are so small that they can be considered negligible.

### **Impact on inequality**

Regarding inequality between income groups, two indicators are used: the GINI index or coefficient as a general inequality measurement and the decile dispersion ratio.

### *Gini coefficient*

The Gini coefficient measures the inequality among levels of income. A Gini coefficient of zero means perfect equality (every household has the same income). A Gini coefficient of one means total inequality (a few households receive all the income in the country, all others have nothing). The Gini coefficient in Mexico equals 0,58. We observe no effects of the FTA.

### *Decile dispersion ratio*

The decile dispersion ratio measures the relative difference between the income of the upper 10 percent and the lower 10 percent of the population. In Mexico, the difference between the two most opposite income groups in terms of average income is a multiplication factor of more than nine. after the effect of the FTA is estimated to be negligible (a decrease of 0.01 percentage points).

### *Conclusion impact on equality*

With both the decile dispersion ratio and the GINI coefficient remaining at similar levels, there is a clear indication the FTA did not have a strong effect (either negative or positive) on inequality. In combination with the slightly declining number of poor and a constant poverty gap, this in turn indicates that most income groups are subject to a slight increase in average disposable income.

**Table 4.14 Social indicators: baseline and DCFTA effects (numbers are in millions of people)**

	Situation with FTA	Counterfa ctual	Counterfa ctual, only changes in prices	Counterfa ctual, only changes in wages
<i>Poverty rate (headcount)</i>				
Absolute poverty line	58.34	58.43	58.28	58.55
Relative poverty line	47.76	47.71	47.75	47.74
Extreme absolute poverty line	18.87	18.82	18.82	18.90
<i>Poverty gap (per cent)</i>				
Absolute poverty line	14	14	14	14
<i>Inequality indicators</i>				
Decile dispersion ratio	9.25	9.26	9.25	9.27
Gini coefficient	0.585	0.585	0.585	0.585
<i>Dispersion of poverty headcount around poverty line</i>				
80% of the absolute line	42.49	42.59	42.45	42.62
120% of the absolute line	69.91	70.02	69.90	70.08
80% of the relative line	34.01	34.16	33.97	34.08
120% of the relative line	60.70	60.72	60.66	60.77
<i>Poverty headcount by sex (absolute poverty)</i>				
Male	28.17	28.22	28.14	28.27
Female	30.17	30.21	30.14	30.28
<i>Poverty headcount by age (absolute poverty)</i>				
0-5	7.68	7.70	7.68	7.72
6-12	9.81	9.81	9.81	9.81
13-18	7.71	7.73	7.70	7.75
19-65	29.69	29.74	29.66	29.81
66+	3.44	3.44	3.44	3.45
<i>Poverty headcount by education (absolute poverty)</i>				
Illiterate	7.31	7.29	7.29	7.37
Preschool	0	0	0	0
Incomplete primary school	13.99	14.01	13.99	14.01
Primary school	12.79	12.79	12.76	12.80
Incomplete secondary school	2.79	2.81	2.79	2.81
Secondary school	14.26	14.25	14.25	14.28
Incomplete prep school	1.36	1.40	1.36	1.40
Prep school	3.77	3.77	3.77	3.78
Incomplete professional school	0.78	0.79	0.78	0.79
Professional school	1.24	1.24	1.22	1.24

	Situation with FTA	Counterfactual	Counterfactual, only changes in prices	Counterfactual, only changes in wages
Graduate	0.07	0.07	0.07	0.07
<i>Poverty headcount by place of residence (absolute poverty)</i>				
Urban	42.45	42.53	42.42	42.63
Rural	15.89	15.90	15.87	15.92
<i>Poverty headcount by geographical region (absolute poverty)</i>				
North	7.71	7.74	7.69	7.74
North center	12.07	12.09	12.07	12.09
Center	22.58	22.62	22.57	22.72
South	15.98	15.98	15.96	16.00

## 4.4 Human rights

### 4.4.1 Introduction

The human rights situations in Mexico and the EU, like elsewhere, have complex natures that are influenced by numerous factors that are intertwined, interdependent, and interrelated. It is challenging to differentiate the specific impact on the human rights from the EU-Mexico FTA. We approach this task by using various sources. First we use the ex-post analysis results of the economic modelling exercise that has calculated the isolated ex-post effect of the FTA on the economic and social indicators. We will interpret these results from a human rights point of view. Second, we investigate – by means of a literature review – what effects of the EU-Mexico FTA on human rights have been reported over the past years. Third, we take into account the inputs obtained through the consultations with the local human rights organisations and experts who give information about ‘on the ground’ estimations of the effects experienced. While for this ITR, the first two sources were mainly used for the analysis, in the next phase of the study there will be more focus on stakeholder consultations.

In this ex-post human rights analysis, we follow three steps:

- *Step 1:* Analysis of the legal text of the Agreement to define which human rights were intended to be covered/taken into account (and how) in the course of trade relations between the European Union and Mexico;
- *Step 2:* Analysis on how the FTA has affected the human rights landscape in Mexico (in line with the Human Rights Impact Assessment methodology developed by Walker<sup>254</sup>), and based on the EU Charter of the Fundamental Rights, the Bill of Rights, the core international human rights Conventions, and discussions with key stakeholders;
- *Step 3:* Formulation of conclusions and policy recommendations on how to incorporate human rights provisions and elements in a future FTA.

The third step will be addressed in the final report.

<sup>254</sup> Walker, S. (2009). The Future of Human Rights Impact Assessments of Trade Agreements, Intersentia.

#### 4.4.2 Step 1 - Analysis of the legal text of the Global Agreement

The EU- Mexico Free Trade Agreement consists of two Decisions of the EU-Mexico Joint Council – Decision No 2/2000 of 23 March 2000 and Decision No 2/2001 of 27 February 2001,<sup>255</sup> referring to the implementation of the articles from the Economic Partnership, Political Coordination and Cooperation Agreement between the European Community and its Members, of the one part, and the United States of Mexico of the other part (Global Agreement)<sup>256</sup> and the Interim Agreement on trade and trade-related matters between the European Community, of the one part, and the United Mexican States, of the part.<sup>257</sup>

Although both Decisions refer to specific articles in these agreements, the Article 1 of the Global Agreement (“Democratic Clause”<sup>258</sup>), as well as the Article 1 of the Interim Agreement, mention human rights as the basis of the agreement:

*Respect for democratic principles and fundamental human rights, proclaimed by the Universal Declaration of Human Rights, underpins the domestic and external policies of both Parties and constitutes an essential element of this Agreement’.*<sup>259</sup>

Even though respect for human rights is not specifically provided for in the EU-Mexico FTA as such, the articles that it bases itself on are written in the spirit of the agreements they stem from, and, therefore, they are in line with the essential element of the agreements cited above.<sup>260</sup>

While Global Agreement also refers to cooperation,<sup>261</sup> and provides for the suspension of the trade agreement in case of human rights violations by either of the parties in its Article 58, setting a precedent by legally providing for protection of human rights in third country EU agreements,<sup>262</sup> Decisions of the EU-Mexico FTA do not provide for cooperation in the fields related to human rights but mention some human rights in their Exceptions Articles.

Decision No 2/2001, makes reference to such specific human rights as the human right to health, human right to life, human right to liberty and security, protection of personal data, the right to work, right to fair and just working conditions (Article 27 on Exceptions). While Decision No 2/2000 makes a reference to the same rights as well as right to clean environment in Article 22 on General

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<sup>255</sup> 2000/415/EC and 2001/153/EC, available at: [http://eur-lex.europa.eu/resource.html?uri=cellar:a024c280-a801-4dcd-bc46-a3afdd86c3ba.0005.02/DOC\\_1&format=PDF](http://eur-lex.europa.eu/resource.html?uri=cellar:a024c280-a801-4dcd-bc46-a3afdd86c3ba.0005.02/DOC_1&format=PDF) and <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22001D0153&from=FR> [accessed 18 November 2014].

<sup>256</sup> Economic Partnership, Political Coordination and Cooperation Agreement between the European Community and Its Members, of the one part, and the United Mexican States, of the other part, 8 December 1997, available at: <http://ec.europa.eu/world/agreements/prepareCreateTreatiesWorkspace/treatiesGeneralData.do?step=0&redirect=true&atvld=431> [accessed 15 July 2014].

<sup>257</sup> Interim Agreement on trade and trade-related matters between the European Community, of the one part, and the United Mexican States, of the other part, 8 December 1997, available at: [http://www.sice.oas.org/TPD/MEX\\_EU/Negotiations/Interim\\_e.pdf](http://www.sice.oas.org/TPD/MEX_EU/Negotiations/Interim_e.pdf) [accessed 18 November 2014].

<sup>258</sup> Szymanski, M. & Smith M.E., Coherence and Conditionality in European Trade Strategy: Negotiating the EU-Mexico Free Trade Agreement, available at: [http://aei.pitt.edu/2190/1/002257\\_1.PDF](http://aei.pitt.edu/2190/1/002257_1.PDF) [accessed 18 November 2014].

<sup>259</sup> Economic Partnership, Political Coordination and Cooperation Agreement between the European Community and Its Members, of the one part, and the United Mexican States, of the other part, 8 December 1997, available at: <http://ec.europa.eu/world/agreements/prepareCreateTreatiesWorkspace/treatiesGeneralData.do?step=0&redirect=true&atvld=431>.

<sup>260</sup> This effect is further intensified through the fact that the Global Agreement makes a direct reference to the Universal Declaration of Human Rights already in its Preamble.

<sup>261</sup> Global Agreement provides for cooperation in training and education of the most disadvantaged social groups (Article 30), cooperation in the field of social affairs and poverty (Article 36), regional cooperation (Article 37), cooperation on refugees (Article 38, cooperation on human rights and democracy (Article 39), cooperation improvement of health conditions and social welfare (Article 40).

<sup>262</sup> Szymanski, M. & Smith M.E., Coherence and Conditionality in European Trade Strategy: Negotiating the EU-Mexico Free Trade Agreement, available at: [http://aei.pitt.edu/2190/1/002257\\_1.PDF](http://aei.pitt.edu/2190/1/002257_1.PDF) [accessed 18 November 2014].

exceptions to the Title on Free movement of goods and in Article 34 on Exceptions to the Title on Government procurement.

Based on this analysis we conclude that human rights are partially provided for in the Exception Articles of the Decisions but a broad perspective on human rights (human rights are universal and indivisible and are the key aspects of the rule of law) is also justified due to the fact that both decisions are based on the articles from the Agreements that rely on human rights as their basis.

This is not an impact assessment of the Global Agreement, but the ex-post impact of the FTA is influenced by what was agreed in the Global Agreement. As such we cover the human rights intentions of the Global Agreement insofar they support the impact evaluation of the FTA ex post.

#### 4.4.3 Step 2 - Overview of the human rights affected by the EU-Mexico FTA

In this step we will evaluate whether specific human rights in Mexico are affected by the FTA and to what degree they have been affected. This step adds to the legal text analysis (which is an indication of the intentions). The overview of human rights is based on the European Charter of Fundamental Freedoms and the core UN human rights treaties.<sup>263</sup>

Since the quantitative ex-post results, supplemented by qualitative evidence, suggest that the EU-Mexico FTA has had only a very marginal (economic) impact on the EU (implying an even less pronounced effect on human rights), the human rights analysis will mainly focus on Mexico.

#### Part A: Identification of human rights potentially affected by the EU-Mexico FTA

In this section we look at whether certain human rights are affected by the EU-Mexico FTA.

##### *Information on human rights derived from quantitative econometric analysis*

The econometric model focuses on the following quantitative economic and social indicators:

- Wages (real, for different skill categories);
- Employment changes (at sector level);
- Labour displacement (moving of jobs across sectors)
- GDP / National income growth;
- Welfare effects; and
- Trade effects.

The human rights that have been affected through these variables are ticked in the Table below.

##### *Information on human rights derived from literature review and additional social and environmental analyses*

The literature review is based on research articles, books, UN documents and case law on the violations of human rights that involve European companies operating in Mexico. At this moment part of the literature review (in Spanish) is still ongoing. In the final report, the review will be completed.

##### *Information on human rights derived from qualitative research among stakeholders and the survey*

Based on the consultations with the civil society and such stakeholders as international human rights organisations and local human rights organisations, as well as results of the survey, we want to add a more field-based approach to the analysis and enrich the previous two information sources

<sup>263</sup> SEC (2011) 567 final, available at: [http://ec.europa.eu/governance/impact/key\\_docs/docs/sec\\_2011\\_0567\\_en.pdf](http://ec.europa.eu/governance/impact/key_docs/docs/sec_2011_0567_en.pdf) [accessed 3 February 2014].

with (anecdotal) evidence. The consultation with the stakeholders has been initiated and will be included in the final report.

Table 4.15 below shows the various human rights that are mentioned in the European Charter of Fundamental Freedoms and the core UN Human Rights treaties in the first two columns, and whether they have been affected by the FTA according to three sources mentioned above: the econometric model, a literature review, and stakeholders.

**Table 4.15 Overview of human rights affected by EU-Mexico FTA**

Human Right	Reference to human rights treaty	Affected according to		
		Economic model + added analysis	Literature review	Stakeholders
Human dignity	Art. 1 (CFR), Art. 1 (UDHR)			
Right to life	Art. 2 (CFR), Art. 3 (UDHR), Art. 6 (ICCPR), Art. 10 (CRPD)			
Right to the integrity of the person	Art. 3 (CFR), Art. 17 (CRPD)			
Prohibition of torture and inhuman or degrading treatment or punishment	Art. 4 (CFR), Art. 5 (UDHR), Art. 7 (ICCPR), CAT			
Prohibition of slavery and forced labour	Art. 5 (CFR), Art. 4 (UDHR), Art. 8 (ICCPR)			
Right to liberty and security	Art. 6 (CFR), Art. 3 (UDHR), Art. 9 (ICCPR), Art. 14 (CRPD), Art. 5 (CERD)			
Respect for private and family life	Art. 7 (CFR), Art. 12 (UDHR), Art. 17 (ICCPR), Art. 16 (CRC), Art. 22, 23 (CRPD), Art. 14 (ICMW), Art. 17 (ICCPR)			
Protection of personal data	Art. 8 (CFR)		√	
Right to marry and right to found a family	Art. 9 (CFR), Art. 10 (ICESCR), Art. 23 (ICCPR), Art. 16 (UDHR), Art. 23 (ICCPR), Art. 5 (CERD)			
Freedom of thought, conscience and religion	Art. 10 (CFR), Art. 18 (ICCPR), Art. 12 (UDHR), Art. 14 (CRC), Art. 12 (ICMW), Art. 18 (ICCPR), Art. 5 (CERD)			
Freedom of expression and information	Art. 11 (CFR), Art. 19 (ICCPR), Art. 19 (UDHR), Art. 21 (CRPD), Art. 13 (ICMW), Art. 19 (ICCPR), Art. 5 (CERD)			
Freedom of assembly and of association	Art. 12 (CFR), Art. 21, 22 (ICCPR), Art. 20 (UDHR), Art. 21, 22 (ICCPR), Art. 5 (CERD)			
Freedom of the arts and sciences	Art. 13 (CFR), Art. 15 (ICESCR), Art. 27 (UDHR), Art. 30 (CRC), Art. 13 (CEDAW), Art. 30 (CRPD), Art. 5 (CERD)			

Human Right	Reference to human rights treaty	Affected according to		
		Economic model + added analysis	Literature review	Stakeholders
Right to education	Art. 14 (CFR), Art. 13 (ICESCR), Art. 26 (UDHR), Art. 28 (CRC), Art. 10 (CEDAW), Art.24 (CRPD), Art. 30 (ICMW), Art. 5 (CERD)	√		
Freedom to choose an occupation and right to engage in work	Art. 15 (CFR), Art. 6 (ICESCR), Art. 23 (UDHR), Art. 11 (CEDAW), Art. 27 (CRPD), Art. 5 (CERD)	√	√	
Freedom to conduct business	Art. 16 (CFR), Art. 11 (CEDAW)			
Right to property	Art. 17 (CFR), Art. 17 (UDHR), Art. 14 (ICMW), Art. 5 (CERD)			
Right to asylum, rights of refugees	Art. 18 (CFR), Art. 14 (UDHR), Art. 22 (CRC),	√		
Rights of the migrants		√		
Rights of the indigenous peoples	ILO Convention No.169, UN declaration of the rights of indigenous peoples, Art. 27 (ICCPR), Art. 30 CRC		√	
Protection in the event of removal, expulsion or extradition	Art. 19 (CFR), Art. 13 (ICCPR)			
Equality before the law	Art. 20 (CFR), Art. 15 (CEDAW), Art. 6,7 (UDHR), Art. 14 (ICCPR), Art. 12 (CRPD), Art. 5 (CERD)			
Non-discrimination	Art. 21 (CFR), Art. 26 (ICCPR), Art. 2 (UDHR), Art. 2 (ICESCR), Art. 2 (ICCPR), Art. 5 (CRPD)			
Cultural, religious and linguistic diversity	Art. 22 (CFR), Art. 26 (ICCPR), Art. 31 (ICMW) Art. 29 (UDHR), Art. 27 (ICCPR)			
Equality between women and men	Art. 23 (CFR), Art. 26 (ICCPR), CEDAW, Art. 3 (ICESCR), Art. 3 (ICCPR)			
The rights of the child	Art. 24 (CFR), Art. 23, 24 (ICCPR), Art. 24 (ICCPR), CRC	√		
The rights of the elderly	Art. 25 (CFR)	√		
Integration of persons with disabilities	Art. 26 (CFR), Art. 23 (CRC), CRPD	√		
Workers' right to information and consultation within the undertaking	Art. 27 (CFR) Art. 23 (UDHR), Art. 27 (CRPD), Art. 25 (ICMW)		√	
Right to collective bargaining and action	Art. 28 (CFR), Art. 23 (UDHR), Art.8 (ICESCR), Art. 27 (CRPD), Art. 5 (CERD)		√	
Right of access to placement services	Art. 29 (CFR), Art. 27 (CRPD)		√	

Human Right	Reference to human rights treaty	Affected according to		
		Economic model + added analysis	Literature review	Stakeholders
Protection in the event of unjustified dismissal	Art. 30 (CFR), Art. 23 (UDHR), Art. 11 (CEDAW), Art. 27 (CRPD)		√	
Fair and just working conditions	Art. 31 (CFR), Art. 7 (ICESCR), Art. 23 (UDHR), Art. 11 (CEDAW), Art. 27 (CRPD), Art. 25 (ICMW)		√	
Prohibition of child labour and protection of young people at work	Art. 32 (CFR), Art. 10 (ICESCR), Art. 16 (CRPD), Art. 30 (CRC)		√	
Family and professional life	Art. 33 (CFR), Art. 7 (ICESCR), Art. 11 (CEDAW), Art. 27 (CRPD)			
Social security and social assistance	Art. 34 (CFR), Art. 9 (ICESCR), Art. 22 (UDHR), Art. 26 (CRC), Art. 11 (CEDAW), Art. 27 (ICMW), Art. 5 (CERD)	√	√	
Right to health, Health care	Art. 35 (CFR), Art. 12 ICESCR, Art. 25 (UDHR), Art. 24 (CRC), Art. 12 (CEDAW), Art. 25 (CRPD) Art. 28 (ICMW), Art. 5 (CERD)	√	√	
Right to an adequate standard of living	Art. 11 (ICESCR), Art. 27 (CRC), Art. 28 (CRPD), Art. 25 (UDHR)	√	√	
Access to services of general economic interest	Art. 36 (CFR), Art. 13 (CEDAW)			
Environmental protection	Art. 37 (CFR), Art. 14 (CEDAW), Art. 24 (CRC), Art. 25 (UDHR), Art. 12 (ICESCR)		√	
Consumer protection	Art. 38 (CFR)			
Right to take part in the conduct of public affairs	Art. 39 (CFR), Art. 25 (ICCPR), Art. 7 (CEDAW), Art. 29 (CRPD), Art. 21 (UDHR), Art. 25 (ICCPR), Art. 5 (CERD)			
Right to vote and be elected at genuine periodic elections	Art. 39, 40 (CFR), Art. 25 (ICCPR), Art. 7 (CEDAW), Art. 29 (CRPD), Art. 21 (UDHR), Art. 25 (ICCPR), Art. 5 (CERD)			
Right to good administration	Art. 41 (CFR)			
Right of access to documents	Art. 42 (CFR)			
Right to petition	Art. 44 (CFR)			
Freedom of movement and of residence	Art. 45 (CFR), Art. 13 (UDHR), Art. 5 (CERD)			
Diplomatic and consular protection	Art. 46 (CFR)			
Right to an effective remedy and to a fair trial	Art. 47 (CFR), Art. 7,8, 10 (UDHR)			
Presumption of innocence and right to defence	Art. 48 (CFR), Art. 11 (UDHR), Art. 14 (ICCPR)			

Human Right	Reference to human rights treaty	Affected according to		
		Economic model + added analysis	Literature review	Stakeholders
Principles of legality and proportionality of criminal offences and penalties	Art. 49 (CFR), Art. 14 (ICCPR)			
Right not to be tried or punished twice in criminal proceeding or the same criminal offence	Art. 50 (CFR), Art. 14 (ICCPR)			

### Part B: Indication to which degree human rights are affected

Making use of the abovementioned information sources, in this section we analyse the degree to which human rights in Mexico have been affected by the EU-Mexico FTA.

We know that not all human rights are affected by the FTA in the same way. Since the FTA may lead to general changes in the country and since human rights are interconnected and intertwined with many spheres of life, the impact might be very broad and cover some human rights that may not be directly related to the FTA. But this broad effect is expected to be minimal. We do not look at this broad factor in our analysis because, except for the FTA, there may also be various other reasons for this effect and it is not possible to distil the pure EU-Mexico FTA effect from these other factors.

From the economic modelling ex-post results we have identified the trade measures in the FTA that have affected the human rights situation in Mexico most, as well as the sectors in the economy that have been involved. From the increases/decreases in output of certain sectors, we can deduce in part what groups have been most affected with respect to their human rights environments. It is useful that the econometric results have differentiated the impact of the FTA by different skill groups of the population (low skilled, medium skilled and high skilled workers), because this helps us to look at the way the FTA has affected the different strata of the population (e.g. the poor) differently.

Table 4.16 below presents the economic, social and environmental effects of the FTA and how they affected the different aspects of the human rights landscape in Mexico. The basis of the assessment is the Human Rights Impact Assessment methodology as developed by Walker,<sup>264</sup> particularly, the ten categories of impact of trade agreements (in our case, FTA) on human rights. However, because we are looking at the ex-post effects because the FTA has been in place for 14 years, we adapt the ten categories for an ex-post analysis:

- Trade law has complemented human rights law;
- EU-Mexico FTA has promoted the growth and resources necessary for the progressive realisation of human rights;
- EU-Mexico FTA has breached human rights in practice;
- EU-Mexico FTA has limited government capacity to promote human rights;
- EU-Mexico FTA has led to a 'race-to-the-bottom' in human rights protection as the involved countries have tried to compete on global markets;
- EU-Mexico FTA has limited the use of trade measures to improve the enjoyment of human rights abroad;
- Trade law has conflicted with human rights law;

<sup>264</sup> Walker, S. (2009). The Future of Human Rights Impact Assessments of Trade Agreements, Intersentia, p.61.

- Enforcement of the EU-Mexico FTA has been stronger than human rights enforcement which has led to a prioritisation of trade law over human rights law;
- EU-Mexico FTA and trade institutions have failed to respect the right to take part in the conduct of public affairs;
- Trade 'values' (values of the FTA) have threatened human rights 'values'.

In each part of the table, we concentrate the analysis on identifying the specific human rights that have been affected by the measures included /caused by the FTA. In the last column, we analyse the extent to which these measures have enhanced or impaired the enjoyment of the relevant rights.

**Table 4.16 Human rights impacts from the EU-Mexico FTA**

Categories of impact of FTA on human rights	Human rights effects	Significance: human rights stress; direction of change compared to baseline; nature, magnitude, geographical extent, duration and reversibility of observed changes
<p><i>Trade law has complemented human rights law</i></p>	<p>The legal text of the FTA did not complement the human rights as such because human rights issues were not widely mentioned in the agreement itself - in the exception clauses it was mentioned that the trade measures cannot interfere with the human health (<b>right to health</b>), state obligations on the working conditions (<b>the right to fair and just working conditions</b>) limited to trade in services, conservation of natural resources (narrow look at the <b>right to clean environment</b>), <b>protection of personal data</b>. A broader Global Agreement, however, addressed the determination to conduct trade relationship based on respect for democracy and human rights have been included in the so-called democratic clause and is supported by the conditionality clause that provides for suspension of trade relations in case of human rights violations. In this sense, it has been characterised as marking a shift in the scope of trade.<sup>265</sup> The effect of the Global Agreement on protection and promotion of human rights in Mexico as a third state to the European Union has complemented trade law presented in the rest of the FTA.</p> <p>In practical implementation, the ambitions laid down in the Global Agreement, which is in the literature review on human rights impact to the EU-Mexico FTA, have not been addressed fully.<sup>266</sup> The current human rights situation in Mexico is marred by a number of serious human rights violations.<sup>267 268 269</sup> Cooperation in the framework of the Global Agreement between Mexico and the EU has not been characterised as intense on both sides.<sup>270</sup> However, a number of various projects have been carried out in the framework of</p>	<p>Based on the literature review and the legal analysis of the text of the agreement, complementarity of the EU-Mexico FTA to human rights law and to human rights situation in Mexico has not been significant.</p> <p>The innovation of the Global Agreement to include human rights in a trade agreement has marked the start of more focus on human rights but the fact that it has not been put into practice has not been complimented.</p>

<sup>265</sup> Szymanski, M. & Smith M.E., Coherence and Conditionality in European Trade Strategy: Negotiating the EU-Mexico Free Trade Agreement, available at: [http://aei.pitt.edu/2190/1/002257\\_1.PDF](http://aei.pitt.edu/2190/1/002257_1.PDF) [accessed 18 November 2014].

<sup>266</sup> See Reveles, R.A. & Rocha, M.P.L., The EU-Mexico Free Trade Agreement Seven Years On. A warning to the global South, available at: <http://www.tni.org/files/download/eumexicofta.pdf> [accessed 17 November 2014] and Szymanski, M. & Smith M.E., Coherence and Conditionality in European Trade Strategy: Negotiating the EU-Mexico Free Trade Agreement, available at: [http://aei.pitt.edu/2190/1/002257\\_1.PDF](http://aei.pitt.edu/2190/1/002257_1.PDF) [accessed 18 November 2014] for the discussion on the fact that Article 58 has not been invoked since the effectuation of the FTA despite human rights violations in Mexico, and on the fact that cooperation has not been characterised as particularly intense.

<sup>267</sup> Human Rights Watch, *World Report 2014 - Mexico*, 21 January 2014, available at: <http://www.refworld.org/docid/52dfdc812.html> [accessed 17 November 2014].

<sup>268</sup> Amnesty International, *Amnesty International Annual Report 2013 - Mexico*, 23 May 2013, available at: <http://www.refworld.org/docid/519f518718.html> [accessed 17 November 2014].

<sup>269</sup> United Nations, *A/HRC/26/36/Add.1*.

<sup>270</sup> Reveles, R.A. & Rocha, M.P.L., The EU-Mexico Free Trade Agreement Seven Years On. A warning to the global South, available at: <http://www.tni.org/files/download/eumexicofta.pdf> [accessed 17 November 2014].

Categories of impact of FTA on human rights	Human rights effects	Significance: human rights stress; direction of change compared to baseline; nature, magnitude, geographical extent, duration and reversibility of observed changes
	<p>cooperation between the EU and Mexico: meetings of the EU-Mexico Joint Council,<sup>271</sup> bilateral Human Rights Dialogues,<sup>272</sup> and a number of programmes in the fields of human rights, gender, environmental and tropical forest cooperation, fight against drugs, reproductive and sexual health and rights, poverty diseases, and EU-LAC Summits on strengthening links between civil society and institutions/ organisations.<sup>273</sup> Practical implementation of the exception clauses in the FTA itself, based on the evidence available, has not been marked as complementing human rights law.</p>	
<p><i>EU-Mexico FTA has promoted growth and resources for the realisation of human rights</i></p>	<p>Increase in international trade activity with the EU has created conditions for growth in national income of Mexico as a state. The model has calculated that growth in national income for Mexico increased by 3.8 billion euros because of the FTA (0.35 per cent). Tariff reductions have caused a loss in government tariff revenue of 0.14 per cent of GDP which is equivalent to 625 million euros. Total estimated increases in domestic tax receipts amounted, however, to 1.5 billion euros because of higher economic growth of Mexico (see Figure 4.11.A on 'Tax revenues' below). This means that the total amount of potential resources for realisation of human rights since the FTA came into force has first gone down (loss in tariff revenue initially was far bigger than the gains in tax receipts) but then (estimated since 2008) gone up (because domestic tax receipts started to outweigh the loss in tariff revenues that have levelled off). In other words, after 2008, the Mexican government has had more funds available that could have been allocated to healthcare, education, social programmes for vulnerable population groups like the persons with disabilities, children, women, and refugees (this affects several groups of human rights simultaneously, <b>the right to health, right to education, rights of disabled, rights of women, children rights, rights of refugees, rights of migrants</b>). This was not the case for the transition period before 2008. This is shown in Figure 4.11.B on 'Revenue effects</p>	<p>The impact of economic growth on human rights in Mexico is manifold. The predicted loss in government tariff revenue has indeed taken place, but tax receipt increases have offset this decline – leading Mexico to have a permanently larger budget – in the long run – also for addressing HR issues. We find that the total expenditures on education<sup>275</sup> and health have increased.<sup>276</sup> However, due to the existence of corruption, this effect is probably lower than calculated. Though we can say that the FTA has – post-2008 – resulted in a higher budget available for the central government, there is not enough evidence to say that the higher spending levels are the direct effect from the FTA. We count on receiving more information on this from the local stakeholders in the next phase of the report.</p>

<sup>271</sup> Council of the European Union, VII Joint Council European Union – Mexico, Mexico City, 9 February 2012, Joint Communiqué, UE-MX 2052/12 Presse 42, available at: [http://www.consilium.europa.eu/uedocs/cms\\_Data/docs/pressdata/EN/foraffi/127939.pdf](http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/EN/foraffi/127939.pdf) [accessed 18 November 2014].

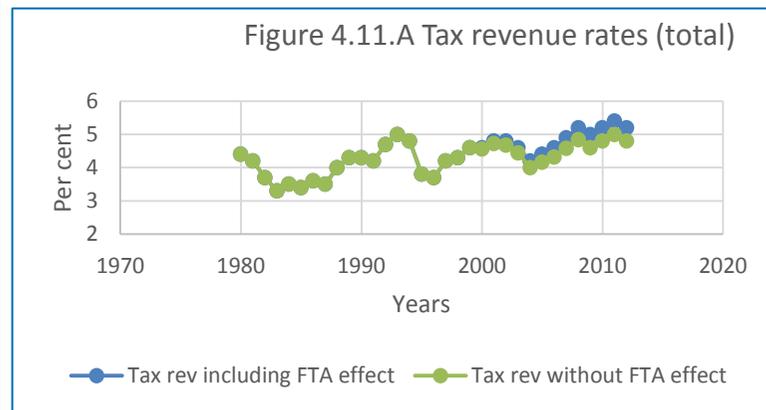
<sup>272</sup> EU Press Release, The European Union and Mexico hold bilateral Human Rights dialogue, 140320/02, 20 March 2014, available at: [http://eeas.europa.eu/statements/docs/2014/140320\\_02\\_en.pdf](http://eeas.europa.eu/statements/docs/2014/140320_02_en.pdf) [accessed 18 November 2014].

<sup>273</sup> European Commission, Mexico Country Strategy Paper 2007-2013, E/2007/1063, available at: [http://eeas.europa.eu/mexico/csp/07\\_13\\_en.pdf](http://eeas.europa.eu/mexico/csp/07_13_en.pdf) See Annex 9 [accessed 18 November 2014]

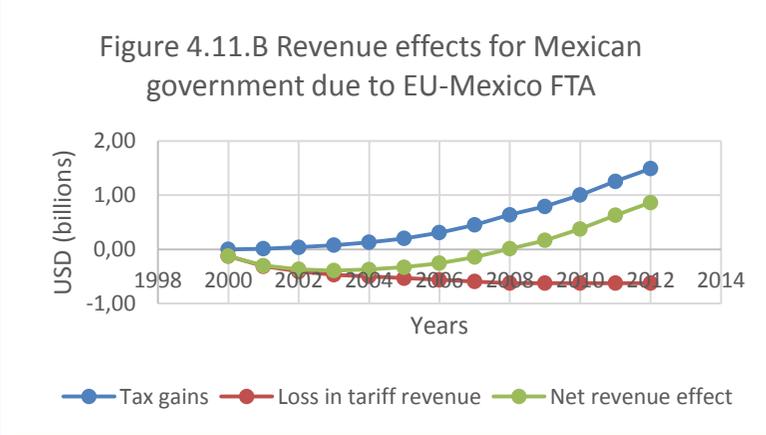
<sup>275</sup> Total expenditure on education in 1999 was 16.3 Per cent of GDP and in 2011 19.6 per cent.

<sup>276</sup> World Bank data, Health Expenditure total (% to GDP), available at: <http://data.worldbank.org/indicator/SH.XPD.TOTL.ZS> [accessed 18 November 2014]

for Mexican government due to EU-Mexico FTA' below.



Source: own calculations, CGE results, IMF tax revenue statistics.



Source: own calculations, CGE results, IMF tax revenue statistics.

We need to keep in mind, however, that having the funds available, does not necessarily mean that the political choices are made to spend it on those elements that affect human

Categories of impact of FTA on human rights	Human rights effects	Significance: human rights stress; direction of change compared to baseline; nature, magnitude, geographical extent, duration and reversibility of observed changes
	<p>rights in Mexico. Another factor that is of influence on spending is the level of corruption, which stayed relatively the same over the last decade.<sup>274</sup> We indicate these human rights as potentially having been affected because the data show that this is possible but it still remains the internal matter of the state government of Mexico.</p>	
<p><i>EU-Mexico FTA has breached human rights in practice</i></p>	<p>Based on the economic modelling results, we see that wages due to the FTA have increased for the low-skilled workers (by 0.2 per cent), for the medium skilled group (by 0.5 per cent), and for the high-skilled workers (by 0.4 per cent). At the same time, average consumer prices went up by 0.12 per cent. This suggests that the effect of the FTA has resulted in increase of disposable income on average for all groups of the population. This has an indirect impact on such human rights as the <b>right to adequate standard of living</b>, the <b>right to health</b> (people can access better health care), <b>right to education</b>. In addition, we see that some sectors have grown while others have declined due to the FTA. The model results point in the direction of a pull effect away from declining sectors. That is: workers and invested capital are drawn out of declining sectors to growing ones where returns to capital and labour (i.e. interest earned and wages) are higher.</p> <p>At the same time, there is evidence that some European companies have violated <b>labour rights</b> of Mexican workers – which is to say that the FTA has – in practice – not been able to prevent all human rights violations. For example, in the case of Aguas de Barcelona, employee salaries and benefits did not comply with company statutes (<b>right to fair and just working conditions</b>).<sup>277</sup> The EU being involved in the infrastructure projects as part of Plan Puebla Panama has been criticised for implicitly allowing possible <b>human rights violations of indigenous peoples</b>.<sup>278</sup> The Euzkadi tire factory owned by Continental, a German consortium, has committed a number of workers' rights violations, like a 12-hour</p>	<p>The geographical extent of this measure is broad. The competition, price and wage effects touch upon all the sectors in society and affect both internationally oriented and domestic ones. We have seen that the pull-effect (pulling labour out of certain sectors into growing ones) on average has dominated for all skill-levels as is shown by the increases in wages. This is despite the fact that the limited levels of education of the least skilled in Mexico is thought to have hampered their mobility to move to other sectors where they could have benefited more from the FTA by earning higher wages.</p> <p>Labour mobility and absence of the informal economy are two assumptions in the model, however, potentially resulting in human rights violations in practice being larger than our analysis predicts. At the same time, as addressed in the section on social analysis, the informal economy tends to be present in non-trading sector of the economy mainly. We are still engaging with key stakeholders at this moment to gather evidence on issues regarding labour</p>

<sup>274</sup> See Transparency international, Corruption Perceptions Index Report on Mexico. From the CPI it becomes clear that the level of corruption in Mexico has remained rather constant (with a value of around 34), but that relatively, this performance has caused Mexico to lag more and more, dropping from place 58 in 1999 to 106 in 2013 out of a total of 177 countries and territories.

<sup>277</sup> Reveles, R.A. & Rocha, M.P.L., The EU-Mexico Free Trade Agreement Seven Years On. A warning to the global South, available at: <http://www.tni.org/files/download/eumexicofta.pdf> [accessed 17 November 2014].

<sup>278</sup> Reveles, R.A. & Rocha, M.P.L., The EU-Mexico Free Trade Agreement Seven Years On. A warning to the global South, available at: <http://www.tni.org/files/download/eumexicofta.pdf> [accessed 17 November 2014].

Categories of impact of FTA on human rights	Human rights effects	Significance: human rights stress; direction of change compared to baseline; nature, magnitude, geographical extent, duration and reversibility of observed changes
	<p>work day, increased output without pay, working on Sunday (<b>right to fair and just working conditions</b>).<sup>279</sup> Several ICSID cases were criticised for neglecting human rights in favour of the interests of the companies, in particular discussion on the case <i>Técnicas Medioambientales Tecmed SA v United Mexican States</i><sup>280</sup> (<b>right to health, right to clean environment</b>).<sup>281</sup> On the other hand, it must also be said that exactly due to the Global Agreement and human rights provisions therein, attention to look at and monitor the impact of business operations on human rights has received more attention. This is a positive effect we have seen.</p> <p><b>The right to food</b> was affected by the FTA. The sector has become more open, which has led to more trade in food products. This has increased interdependence between Mexico and other food producers in the EU, something that needs to be kept into account when looking at food safety and security of food supply.<sup>282</sup> <b>Also we have witnessed a small decline in employment in the food processing sector in Mexico.</b> Also the model suggests a <b>decline in Mexican employment in food-related sectors because of the FTA</b>, and for a number of food sectors a decrease in domestic food production as a results of the FTA. The claim of reduction in food production is also made put forward in other publications.<sup>283</sup></p> <p>In terms of employment, labour displacement of low-skilled workers has accounted to 3.6 per cent of the total labour force, middle-skilled and high-skilled workers 2 and 1.5 per cent respectively. This shows that, people with lower skill levels have been relatively most incentivised to change jobs. For example, we see a decline in employment in the electrical machinery and other machinery sectors, but a significant increase in employment in the (better-paying) motor vehicles sector. Also employment in distribution services,</p>	<p>mobility and the effect of the informal economy – more information will be added at the next stage of the project.</p> <p><b>Based on the literature review, we can conclude that there have been human rights violations by EU multinational companies in Mexico. Though we could not ascertain the breadth of these violations beyond the anecdotal evidence provided, these cases have had a negative impact on the human rights obligations of Mexico.</b></p>

<sup>279</sup> Reveles, R.A. & Rocha, M.P.L., The EU-Mexico Free Trade Agreement Seven Years On. A warning to the global South, available at: <http://www.tni.org/files/download/eumexicofta.pdf> [accessed 17 November 2014].

<sup>280</sup> *Técnicas Medioambientales Tecmed SA v United Mexican States*, ICSID Case No. ARB(AF)/00/2, available at: <https://icsid.worldbank.org/ICSID/FrontServlet>, similar case is *Abengoa S.A. and COFIDES, S.A. v. United Mexican States*, ICSID Case No. ARB(AF)/09/2.

<sup>281</sup> Suda, R., (2006) Effect of Bilateral Investment Treaties on Human Rights Enforcement and Realisation, pp.73-160. In *Transnational Corporations and Human Rights*, ed. by Olivier de Schutter.

<sup>282</sup> A/HRC/19/59/Add.2

<sup>283</sup> Oxfam, The Right to Adequate Food: Progress, Challenges and Opportunities, Oxfam discussion papers, October 2014, available at: [http://www.oxfam.org/sites/www.oxfam.org/files/file\\_attachments/oxfam-dp-the-right-to-adequate-food-20141014.pdf](http://www.oxfam.org/sites/www.oxfam.org/files/file_attachments/oxfam-dp-the-right-to-adequate-food-20141014.pdf) [accessed 19 November 2014].

Categories of impact of FTA on human rights	Human rights effects	Significance: human rights stress; direction of change compared to baseline; nature, magnitude, geographical extent, duration and reversibility of observed changes
	<p>construction and transport services increased for low-skilled workers. Combined with the found increases in salary, this has been a move to sectors with higher salaries. The agricultural sectors declined to some extent because of the FTA (isolated effect). The sectors 'motor vehicles' and 'distribution services' have grown by 0.6 and 0.1 per cent respectively and created more jobs – as the sector skill-composition indicates – mostly for medium skilled workers. These results suggests that, while positive in the long run because workers move to better-paying sectors, in the immediate short run, labour displacement would have had (at least temporary) negative impact on the right to work for the low-skilled workers. We are going to investigate if there is further evidence to support this.</p>	
<p><i>EU-Mexico FTA has limited government capacity to promote human rights</i></p>	<p>As mentioned above, the government has – since 2008 – more funds to promote human rights. This means there have been funds for more social programmes to facilitate promotion of human rights.</p> <p>Another element where the FTA may impact on the governments' capacity to promote human rights is through the treatment of international businesses and investors. The entry of multinational companies into the market has caused a number of human rights violations described above. Moreover, the entry of foreign firms with economic muscle has led to discussions in Mexico over tax breaks and other incentives to attract them to certain locations. This has meant that – especially local – government has clearly had to balance interests. One of the main recorded human rights violations, the case involving the Euzkadi tire company, has demonstrated that the government was afraid to scare off investors and was initially reluctant to protect the interests of the workers whose rights were violated and to take action on the company involved to be accountable for the violations.<sup>284</sup> Such revealed hesitation poses risk of violations of workers' rights occurring in the future.</p>	<p>The financial impact of the FTA on the government to invest in the protection and promotion of the human rights is calculated by comparing the outcomes of the ex-post economic results with IMF data on domestic tax receipts. They show that there has been a stress on government revenues in the short run due to a decrease in government tariff revenue but also that over time more funds have become available for the Mexican government after the economic growth effects had materialised. However, there is not enough evidence to prove what the money that became available due to FTA was spent on – i.e. whether it was spent on the promotion of human rights. Although we do observe a positive correlation between increased budget revenues of the FTA since 2008 and an increased social expenditure (when the net effect on budget revenues become positive from 2008, we observe an acceleration in the growth in social expenditure), the overall contribution of the FTA is likely to be only small, given that even after the</p>

<sup>284</sup> Reveles, R.A. & Rocha, M.P.L., The EU-Mexico Free Trade Agreement Seven Years On. A warning to the global South, available at: <http://www.tni.org/files/download/eumexicofta.pdf> [accessed 17 November 2014].

Categories of impact of FTA on human rights	Human rights effects	Significance: human rights stress; direction of change compared to baseline; nature, magnitude, geographical extent, duration and reversibility of observed changes
		<p>budget effects become positive since 2008, the additional budget revenues are much smaller (about 10 percent) than the increase in social expenditure.</p> <p>The impact of the presence of foreign investors on the government, notably whether there is a policy chill or hesitation to quickly address any human rights violations is not statistically shown, though anecdotal evidence has been found. We intend to receive more evidence as a result of consultations with the local human rights stakeholders.</p>
<p><i>EU-Mexico FTA has led to a 'race-to-the-bottom' in human rights protection to remain competitive</i></p>	<p>The Transnational Institute (TNI) report mentions that European companies registered in Mexico increased working hours and working in the weekend.<sup>285</sup> This is an indication that the EU-Mexico FTA and/or other drivers that increase competitiveness could have put pressure on human rights.</p> <p>In the next stage of the report, we will request more information on the evidence of a 'race-to-the-bottom' from the local stakeholders.</p> <p>It is useful to look at specific sectors, when we want to move beyond (insignificant) total averages. For example, for low-skilled workers in the motor vehicle sector, employment has grown significantly, pulling in workers from the electrical machinery, wood &amp; paper products and metals &amp; metal products sectors. Looking at the vulnerable groups like migrant workers and refugees, women, children and persons with disabilities, we see that sectors where they work a lot traditionally, like basic agriculture, textiles, and forestry, have not been majorly affected.</p>	<p>Incidents on lowering labour standards by the European companies operating in Mexico as reported by NGOs show that the risk of race-to-the bottom effect is present. However, we have not identified any evidence for this race-to-the-bottom beyond anecdotal evidence so far. To provide a more detailed analysis on this matter, we intend to address this issue in the consultations with the stakeholders at the next stage of the project.</p>
<p><i>EU-Mexico FTA has limited the use of trade measures to improve</i></p>	<p>The FTA does not include such provisions, the scope of exception clauses is very limited. Global Agreement provides for freedom for the parties to use trade measures to improve the enjoyment of the human rights abroad in its Article 58. The EU with the use of its 'trade</p>	<p>The Free Trade Agreement itself has not limited the use of trade measures to improve the enjoyment of human rights abroad. The possibility to use the trade measures to</p>

<sup>285</sup> Reveles, R.A. & Rocha, M.P.L., The EU-Mexico Free Trade Agreement Seven Years On. A warning to the global South, p.22-23, available at: <http://www.tni.org/files/download/eumexicofta.pdf> [accessed 17 November 2014].

Categories of impact of FTA on human rights	Human rights effects	Significance: human rights stress; direction of change compared to baseline; nature, magnitude, geographical extent, duration and reversibility of observed changes
<i>enjoyment of human rights abroad</i>	incentives' could potentially affect the human rights situation in Mexico and it has been often criticized for not doing so sufficiently. <sup>286</sup> However, this is a complex process complicated by multiple factors that depend on the involvement of third parties, political will of all the states involved.	improve the enjoyment of human rights has not been used fully (for example, cooperation is reported to be not very intensive and Article 28 has not been invoked as explained above).
<i>Trade law has conflicted with human rights law</i>	We know that the EU-Mexico FTA and human rights treaties have regulated overlapping subject matter which could have raised the possibility of the different bodies of law regulating the same subject differently which in turn could have led to a legal dispute. We have found only the anecdotal evidence pertaining to the hesitation of the Mexican government to address a large investor that violated worker's rights because of fears investors would leave. <i>Stricto sensu</i> , this means the enforcement of human rights law was delayed for commercial reasons. While anecdotal, it must be further followed up to see if other examples of such practice can be found.	The (legal) position of human rights in the EU-Mexico FTA is a positive sign for the importance of human rights recognition in trade agreements and has not led to a major conflict between trade and HR law. However, in light of the evidence from the Euzkadi case, we will investigate this further in consultation with stakeholders.
<i>Enforcement of EU-Mexico FTA has been stronger than enforcement of human rights law</i>	Potentially, trade agreements are considered to have stronger enforcement mechanisms than human rights law. That is also seen to be the case for the EU-Mexico FTA. Although human rights have been integrated in the Global Agreement and Article 58 of the Agreement provides for suspension of the Agreement in case of human rights violations – this Article has not been invoked. Cases of serious violations of human rights in Mexico have not been used as a reason to stop trade activities to motivate the Mexican government to address these violations. This experience has also demonstrated, however, that including human rights in trade agreements is very important and an important step – because it includes the possibility (i.e. threat) to halt / terminate the FTA in case of human rights violations. Including human rights clauses in trade agreements is in line with the external policy of the EU but it also poses difficulties to agree to and to further implement.	Due to choices made by parties to the Agreement, the enforcement of trade part of the agreement has been stronger than the human rights part. From the positive point of view, awareness and strengthened attention to the issue of human rights have the potential to put pressure on the companies and the state parties to the Agreement to keep human rights into account when making policy changes or carrying out company strategy.
<i>EU-Mexico FTA has failed to respect right to take part in conduct of public affairs</i>	During the negotiations, parties to the FTA negotiations typically find it challenging to engage civil society in the process. This has improved, however, through the use of social media in the last years in Mexico. Facebook, twitter, and the set-up of specific platforms are highly facilitative in this respect. Current restrictions in the freedom of expression, freedom of association and freedom of assembly are limited in Mexico. Mexico has a	Based on our analysis, we think the FTA has had a small positive influence on the right to take part in the conduct of public affairs. Mexico's engagement with stakeholders has slightly improved due to the explicit mentioning of this element in the FTA text. We also need to state that clearly

<sup>286</sup> Reveles, R.A. & Rocha, M.P.L., The EU-Mexico Free Trade Agreement Seven Years On. A warning to the global South, available at: <http://www.tni.org/files/download/eumexicofta.pdf> [accessed 17 November 2014].

Categories of impact of FTA on human rights	Human rights effects	Significance: human rights stress; direction of change compared to baseline; nature, magnitude, geographical extent, duration and reversibility of observed changes
	<p>tradition of engaging in various FTAs and has gained significant experience in how to engage with civil society. Nonetheless, pluriformity and valuing different (opposing) opinions, and incorporating them has also proved challenging in the case of Mexico. One example to illustrate this point is the work on the infrastructure projects 'Plan Puebla Panama' which has faced critique from indigenous peoples but has not been altered significantly to take this critique into account.<sup>287</sup></p>	<p>exogenous development of social media that allows stakeholders to be more linked and close to information has played a role. It is difficult to set these factors apart. We will check with stakeholders in Mexico in the next phase whether they corroborate our findings on this issue.</p>
<p><i>Trade 'values' threaten human rights 'values'</i></p>	<p>As calculated in the model, this FTA is beneficial for the country overall. However, as shown from the literature review, certain practices have not been acted out of the human rights values. And in some sectors we have seen employment decline. We observed that these declines are mostly because workers have moved to other sectors and not because they have been made redundant. On the other hand, it is important to look further into this issue, because changes in family values, family firms and SMEs have not yet been investigated and these could have been impacted by the FTA.</p>	<p>There has been no sufficient evidence in our analysis to conclude that there has been a regular pattern of trade values threatening human rights values. We have some examples of this, but also we see that increased growth and jobs in certain sectors have contributed to various human rights. Nonetheless, examples of human rights violations that happened due to trade values being treated superior to human rights values remains a concern. The consultation with the stakeholders will be taken into account to further substantiate this conclusion.</p>

<sup>287</sup> Reveles, R.A. & Rocha, M.P.L., The EU-Mexico Free Trade Agreement Seven Years On. A warning to the global South, available at: <http://www.tni.org/files/download/eumexicofta.pdf> [accessed 17 November 2014].



## 5 Environmental analysis

The environmental analysis consists of a combination of quantitative and qualitative approaches, using outcomes from the CGE model, environmental data, and further information on the environmental status, developments, main issues, and policies. Apart from some general results derived from the CGE model which are available for both the EU and Mexico,<sup>288</sup> the assessment focuses on impacts in Mexico.

Following a descriptive analysis – outlining the relevant environmental issues from before the FTA went into force, and today – the impacts on these issues by the FTA are analysed (ex-post).

### 5.1 Environmental trends and developments

With a surface area of 1,972,550 square kilometres, Mexico covers 1.3% of the world's land area, and is home to 10-12% of the world's terrestrial biodiversity. The country's climate and terrain vary widely, and thus ecosystems range from high mountains to deep sea, deserts, coral reefs, cloud forests and coastal lagoons.<sup>289</sup> Of the known plant species worldwide, around 10 percent are found in Mexico, and 40 percent of those are endemic, i.e. only exist in Mexico. The genetic diversity of the known plants has only been marginally researched. Mexico also shows a great variety in cultivated plants, especially maize, and belongs to the group of countries with the greatest number of animals worldwide (amphibians, reptiles and mammals).<sup>290</sup>

Mexico is also abundant in mineral resources, such as silver, zinc, lead, gold, mercury, coal and copper, as well as oil and natural gas. The exploitation for these resources contributes substantially to GDP (8% of value added was contributed by oil in 2008, when oil prices were relatively low<sup>291</sup>) and at the same time puts pressure on the environment, by moving and potentially polluting soil. The oil and gas industries indirectly contribute to climate change. The use of non-renewable resources can thus also be seen as a cost; in 2010, the costs of environmental degradation and natural resource depletion together were estimated at 7 percent of Mexican GDP (down from 10 percent in 2000).<sup>292</sup>

Mexico's main environmental issues include deforestation and desertification as well as water scarcity – with low water use efficiency – and water pollution, all of which pose problems for ecosystems and biodiversity, and often for human health. Despite some progress, air pollution is still a major issue in urban areas.<sup>293</sup> Mexico is the world's 13<sup>th</sup> largest greenhouse gas emitter (down from the 9<sup>th</sup> in 2003). With high vulnerability to climate change impacts, Mexico shows international and national engagement in climate action.<sup>294</sup> However, through its recent opening of private investment / FDI possibilities in fossil fuel extraction, it seems to continue to rely on

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<sup>288</sup> Namely: CO<sub>2</sub> emissions, land use, trade in fossil fuels, trade and output in forestry and fisheries sectors.

<sup>289</sup> See Stratos Inc. (2004): Mexico Case Study. Analysis of National Strategies for Sustainable Development; and OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

<sup>290</sup> Brand et al. (2008): Conflicts in Environmental Regulation and the Internationalization of the State: Contested terrains.

<sup>291</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

<sup>292</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

<sup>293</sup> Stratos Inc. (2004): Mexico Case Study. Analysis of National Strategies for Sustainable Development; and OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

<sup>294</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013. For 2003, see Stratos Inc. (2004): Mexico Case Study. Analysis of National Strategies for Sustainable Development.

revenues from these sources, and the share of renewables in electricity production has declined in the last decade.<sup>295</sup>

### 5.1.1 *Development of policies and institutional framework*

Even before having a dedicated ministry for environmental issues, Mexico passed environmental legislation starting in the 1970s. The first comprehensive environmental law was passed in 1971, closely modelled on US legislation, and regulated air and water pollution as well as waste and sanitation issues. Its introduction was triggered both by societal pressure and by increasing international environmental activities, such as the UN Conference on Human Environment in Stockholm.<sup>296</sup>

In the following decade, Mexico stayed in line with these international developments and ratified a number of multilateral environmental agreements (MEAs), such as the World Heritage Convention (which includes protection of natural heritage) in 1984,<sup>297</sup> the Cartagena Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region and its Oil Spills Protocol in 1985,<sup>298</sup> the Ramsar Convention on Wetlands in 1986,<sup>299</sup> the Vienna Convention for the Protection of the Ozone Layer in 1987, and the subsidiary Montreal Protocol in 1988.<sup>300</sup> In that same year, the General Law of Ecological Balance and Environmental Protection (LGEEPA) was introduced.<sup>301</sup> During these years, responsibility for environmental issues was spread over different ministries, such as the Ministry of Health and the Ministry of Urban Development and Ecology.<sup>302</sup>

Notably, the 1980s also were the years of the international opening and liberalization of the Mexican economy, which from an environmental perspective is especially relevant in the context of the agricultural sector. In preparation for NAFTA, import controls and guaranteed prices were abolished.<sup>303</sup> The agricultural sector is the biggest land and water user in Mexico and the increased trade in agricultural products within NAFTA led to a change in specializations and production volumes and processes, as well as increased imports of genetically modified agricultural products (see also details further below).

In the 1990s, both international and national environmental engagement developed further. In 1991, Mexico ratified the CITES agreement on trade in endangered species, as well as the Basel Convention on transboundary movements of hazardous wastes and their disposal.<sup>304</sup> In 1992-1994, the MARPOL convention,<sup>305</sup> the Convention on Biological Diversity (CBD) and the United Nations Framework Convention on Climate Change (UNFCCC) followed.<sup>306</sup> By 1992, the norm-setting National Institute of Ecology (Instituto Nacional de Ecología, INE) and the research- and awareness-

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<sup>295</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013, Will Grant (2014): Mexico energy reform divides opinion.

<sup>296</sup> Brand et al. (2008): Conflicts in Environmental Regulation and the Internationalization of the State: Contested terrains.  
<sup>297</sup> <http://www.informea.org/countries/MEX/membership/>.

<sup>298</sup> <http://www.cep.unep.org/cartagena-convention>.

<sup>299</sup> [http://www.ramsar.org/cda/en/ramsar-about-parties-parties/main/ramsar/1-36-123%5E23808\\_4000\\_0\\_](http://www.ramsar.org/cda/en/ramsar-about-parties-parties/main/ramsar/1-36-123%5E23808_4000_0_).

<sup>300</sup> <http://www.informea.org/countries/MEX/membership/>.

<sup>301</sup> OECD (1998): OECD Environmental Performance Reviews: Mexico.

<sup>302</sup> N.N. (n.d.): Reference frameworks and Environmental Statistics in Mexico. Also: Brand et al. (2008): Conflicts in Environmental Regulation and the Internationalization of the State: Contested terrains.

<sup>303</sup> Brand et al. (2008): Conflicts in Environmental Regulation and the Internationalization of the State: Contested terrains.

<sup>304</sup> <http://www.informea.org/countries/MEX/membership/>.

<sup>305</sup> With the exception of Annexes III, IV and V of the Convention, relating to harmful substances carried by sea in packaged form, pollution by sewage from ships, and pollution by garbage from ships, see  
<https://imo.amsa.gov.au/public/parties/marpol78.html>,  
[http://www.imo.org/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-\(MARPOL\).aspx](http://www.imo.org/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx).

<sup>306</sup> <http://www.informea.org/countries/MEX/membership/>.

oriented National Commission for the Knowledge and Use of Biodiversity (Comisión Nacional para el Conocimiento y el Uso de la Biodiversidad, CONABIO) were established. In 1994, NAFTA entered into force; its relationship with environmental policy and performance in Mexico is discussed further in the impact assessment section.

In 1995 – the same year that Mexico ratified the United Nations Convention to Combat Desertification<sup>307</sup> – the Ministry of Environment (SEMARNAP, Ministry of Environment, Natural Resources and Fisheries) was created.<sup>308</sup> A year later, sustainable development was adopted as a policy goal in an amendment to the LGEEPA.<sup>309</sup> The revision of the LGEEPA also included the integration of utilization aspects of biodiversity, thereby implementing the CBD. Another CBD-related policy was the law on plant varieties (under the Ministry of Agriculture) which regulates the rights of plant breeders, implying that plants existing in nature cannot be held as property.<sup>310</sup> Around the same time, the Mexican statistical office (Instituto Nacional de Estadística, Geografía e Informática – INEGI) started working on environmental statistics, and has been a frontrunner in environmental accounting – particularly among Latin American or developing countries – ever since.<sup>311</sup>

Already in 1997, environmental licensing was introduced in an integrated system: in order to obtain an operating permit, industrial facilities need to obtain permits for water extraction, wastewater discharge, and land use change as well as environmental licenses, all of which are granted based on environmental impact and risk assessments. Registration requirements for pollutant emissions followed later.<sup>312</sup>

Since 1993, the Official Mexican Norms (NOMs) are the main regulatory instruments - which are also relevant and applicable to the field of environment - setting compulsory product, process and services standards. They are complemented by the so-called Mexican Norms (NMXs), voluntary standards.<sup>313</sup>

By 2000, when the Global Agreement with the EU (and the agreement on trade in goods) entered into force, as regards the environment, “Mexico had a well-developed legal framework”<sup>314</sup> according to the OECD (although several challenges remained, which will be discussed further below), which was further detailed in the 2000s. The 2001-2006 National Development Plan already stressed environmental issues more than those of the 1990s.

The year 2000 brought the ratification of the Kyoto Protocol and the adoption of the General Law on Wildlife. At the same time fishery management was transferred from the Ministry of Environment (now called SEMARNAT, Ministry of Environment and Natural Resources) to the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA).<sup>315</sup> This reportedly (further) weakened the position of SEMARNAT and meant that fisheries policy would be based on a more market-friendly perspective that is supposed to prevail at SAGARPA. On the other hand, SEMARNAT itself has been criticized for being too industry-friendly and too weak to implement and

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<sup>307</sup> <http://www.informea.org/countries/MEX/membership/>.

<sup>308</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

<sup>309</sup> OECD (1998): OECD Environmental Performance Reviews: Mexico; Carlos Murillo Rodríguez (2008): La cooperación ambiental en los tratados de libre comercio (Environmental cooperation and free trade agreements).

<sup>310</sup> Brand et al. (2008): Conflicts in Environmental Regulation and the Internationalization of the State: Contested terrains.

<sup>311</sup> See N.N. (n.d.): Reference frameworks and Environmental Statistics in Mexico, available at:

[http://unstats.un.org/unsd/environment/FDES/Mexico\\_Paper.pdf](http://unstats.un.org/unsd/environment/FDES/Mexico_Paper.pdf); and OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

<sup>312</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013; Brand et al. (2008): Conflicts in Environmental Regulation and the Internationalization of the State: Contested terrains.

<sup>313</sup> OECD (2013).

<sup>314</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

<sup>315</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

enforce environmental laws and regulations, at least until the mid-2000s.<sup>316</sup> Other sources point out, however, that SEMARNAT has been increasingly represented in inter-ministerial commissions (e.g. on Human and Social Development or Growth with Quality), reflecting a certain “mainstreaming” of environmental issues in other policy fields in the 2000s.<sup>317</sup> In 2001, the Law on Sustainable Rural Development was adopted,<sup>318</sup> which led to the creation of the Inter-Ministerial Commission for Sustainable Rural Development (CIDRS). “This commission is meant as a cross-sector horizontal co-ordination organ at federal level, which unites the heads of the different Ministries having a scope of influence in the rural context.”<sup>319</sup>

In 2002, the Environmental Performance Index (EPI) ranked Mexico 71<sup>st</sup> out of 178 countries with a score of 50.98 (out of 100).<sup>320</sup> Mexico performed relatively well in fisheries, water resources, and climate and energy issues, but ranked 144<sup>th</sup> in the “agriculture” section (mainly due to high agricultural subsidies, but also related to insufficient pesticide regulation). The same year, Mexico signed the Cartagena Protocol on Biosafety (under the Convention on Biodiversity), which entered national legislation through the General Law on Biosafety of Genetically Modified Organisms in 2005. It was complemented by the setup of an Inter-Ministerial Commission on Biosafety of GMOs (CIBIOGEM) in 2006. These commissions are high-level bodies set up to strengthen horizontal coordination at the federal level. However, the relationship of CIBIOGEM with the National Commission for the Knowledge and Use of Biodiversity (CONABIO – which is an inter-departmental Commission dedicated to research and awareness-raising) is not without problems given their diverging focus on market development vs. environmental issues.<sup>321</sup>

Apart from biosafety legislation, the 2000s were characterized by progress in the field of pollution and hazardous substances: In 2003, the General Law on Waste Prevention and Integrated Waste Management was adopted. That same year, Mexico ratified the Stockholm Convention on Persistent Organic Pollutants. In 2004, regulations on pollutant emissions and transfer were introduced. Ratification of the Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides on International Trade followed in 2005.<sup>322</sup> In addition, the Inter-Ministerial Commission on Climate Change was established in 2005.

The 2007-2012 National Development Plan “made environmental sustainability one of the five axes used to organize the action of the federal government”<sup>323</sup>, specifying 12 environmental sustainability goals. Climate change really entered national legislation with the adoption of the National Climate Change Strategy (NCCS) in 2007. In 2008, the bilateral EC-Mexico high-level policy dialogue on environment and climate change was launched, accompanied by a 50 million credit line through the European Investment Bank.<sup>324</sup> The same year, Mexico ratified the International Tropical Timber Agreement (ITTA)<sup>325</sup> and created the Inter-ministerial Commission on Sustainable Management of Coastlines and Oceans (CIMARES).<sup>326</sup> It also adopted the Mexican Strategy on Plant Conservation (revised in 2012), complementing the 2000 National Biodiversity Strategy.<sup>327</sup> Note that to date, no

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<sup>316</sup> Brand et al. (2008): Conflicts in Environmental Regulation and the Internationalization of the State: Contested terrains. Also OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

<sup>317</sup> Stratos Inc. (2004): Mexico Case Study. Analysis of National Strategies for Sustainable Development.

<sup>318</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

<sup>319</sup> OECD (2007): OECD Rural Policy Reviews: Mexico 2007.

<sup>320</sup> <http://epi.yale.edu/epi/country-profile/mexico> (see results for “Backcasted 2002”).

<sup>321</sup> There were e.g. issues at a biotechnology conference organised by CIBIOGEM, at which CONABIO was not even invited to contribute. See Brand et al. (2008): Conflicts in Environmental Regulation and the Internationalization of the State: Contested terrains, p. 190. See also [http://www.conabio.gob.mx/web/conocenos/quienes\\_somos\\_ingles.html](http://www.conabio.gob.mx/web/conocenos/quienes_somos_ingles.html).

<sup>322</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

<sup>323</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

<sup>324</sup> European Commission (2010), EC/Mexico Cooperation 2007-2013: Country Strategy Paper – Mid-Term Review, Annex.

<sup>325</sup> [http://www.ito.int/direct/topics/topics\\_pdf\\_download/topics\\_id=1952&no=0&file\\_ext=.pdf](http://www.ito.int/direct/topics/topics_pdf_download/topics_id=1952&no=0&file_ext=.pdf).

<sup>326</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

<sup>327</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

Inter-Ministerial Commission covering Ecosystems (in addition to biodiversity) is in place (OECD 2013).

In 2010, the EU-Mexico Strategic Partnership was launched, which had as an important goal to cooperate on issues negotiated internationally.<sup>328</sup> Next to climate change, one example of similar positions of Mexico and the EU in the environmental field is the Convention on Biological Diversity (CBD), under which Mexico adopted both the Cartagena Protocol on Biosafety and the most recent Nagoya Protocol on Access and Benefit-Sharing in 2012.<sup>329</sup>

Mexico's increasing attention for the environment is reflected in rising financial resources for SEMARNAT, which increased by 123% (in constant prices) between 2002 and 2011. The major share of these resources go to CONAGUA, the water commission (36,399 million pesos in 2011). Together with CONAFOR, the forestry commission (receiving 6,463 million pesos in 2011). These two policy fields received more than 80 percent of the Ministry's budget – "due to the investment-heavy nature of the water and forestry programmes and the high priority given to those subsectors"<sup>330</sup>. CONAGUA is running programmes to increase efficiency in irrigation as well as making efforts to improve the administration and enforcement of water legislation. The "Water Agenda 2030", a long-term framework for a consolidated, sustainable water policy, was issued by the Federal Government in 2011.<sup>331</sup>

In 2014, the Environmental Performance Index ranked Mexico 65<sup>th</sup> out of 178 countries with a score of 55.03 (out of 100) and an improvement by 7.9% within the last 10 years. Compared to GDP and regional peer sets, Mexico performs well in water resources as well as climate and energy, but is below the peer average in agriculture (mainly due to high subsidies) and forests (reduction in forest cover).<sup>332</sup> Despite the improvement in the last 10 years, the main issues have stayed the same.

It is also worth noting that Mexico is the only OECD country with a track record of negative revenues from environmental taxes in the last years (see figure below). This is due to the structure of the motor fuel tax, which becomes a subsidy if oil prices increase above a certain level.<sup>333</sup>

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<sup>328</sup> European Commission (2010), EC/Mexico Cooperation 2007-2013: Country Strategy Paper – Mid-Term Review, Annex.

<sup>329</sup> Note that the USA is not a party to the Convention (nor, logically, to its Protocols). Some authors describe especially the Cartagena Protocol on Biosafety as a typical example of the EU's strategy to introduce its own precautionary approach in environmental (and especially GM) questions in the multilateral arena (thus protecting their own producers with low investment in GMOs), whereas the US opposed such a multilateral regime because of their competitive advantage in GMO production and research. Mexico, despite being part of NAFTA (or because of its experience with GM maize threatening the country's biodiversity), took "the EU's side" in this matter; however, Mexico's progress in meeting the obligations of the treaty has been criticized. Also, Mexico's interest in the topic seems less triggered by EU collaboration than by its membership in the "Group of Like-Minded Megadiverse Countries". See Muriel Lightbome (2009): Food Security, Biological Diversity and Intellectual Property Rights, p. 131; R. Daniel Kelemen and David Vogel (2009), Trading Places: The Role of the United States and the European Union in International Environmental Politics, in: Comparative Political Studies XX(X), pp. 1-30; and N.N. (La Jornada) (2014): Revés a Monsanto (Setback for Monsanto).

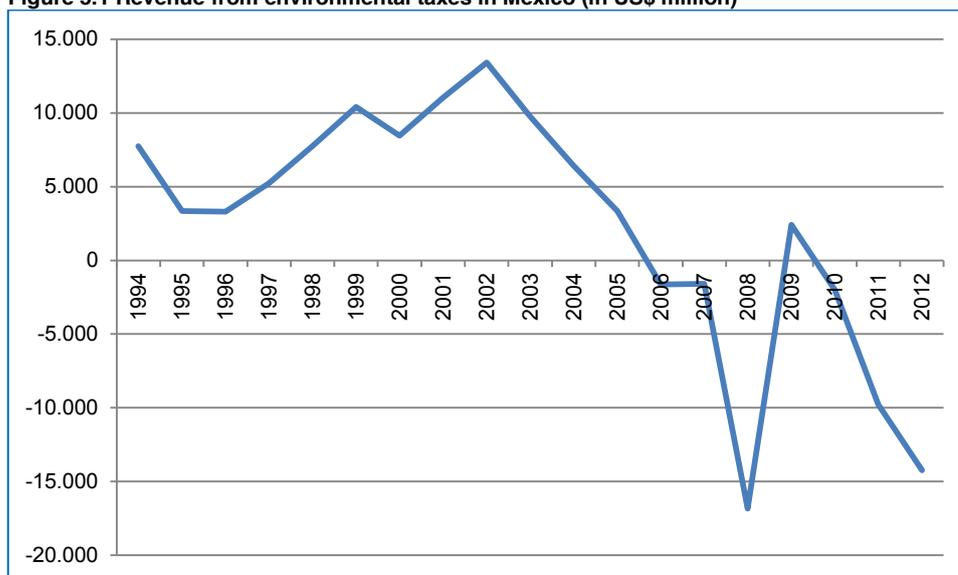
<sup>330</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013, (p. 43).

<sup>331</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013. (p. 41).

<sup>332</sup> <http://epi.yale.edu/epi/country-profile/mexico>.

<sup>333</sup> OECD (2013), OECD Environmental Performance Reviews: Mexico 2013; IMF / Philippe Karam (2013): Energy Subsidy Reform. Lessons and Implications.

**Figure 5.1 Revenue from environmental taxes in Mexico (in US\$ million)**



Source: OECD Database on instruments used for environmental policy: Taxes/fees/charges (constant 2005 prices), available at <http://www2.oecd.org/econinst/queries/Default.aspx#>.

In general, one of the main issues in Mexican environmental performance are the policies in subsidy structures in sectors affecting the environment, such as energy, agriculture, and fisheries.<sup>334</sup> SEMARNAT so far does not appear strong enough to critically influence these policy areas; although the Ministry is involved in several inter-ministerial commissions which address issues other than environmental ones, it is noteworthy that no environment units have been created in other ministries, i.e. proper mainstreaming of environmental concerns has not been achieved. Moreover, the responsibilities of policy-making, regulating and implementing are (unclearly) distributed within SEMARNAT itself – which acts both as a policy-making ministry and a regulating and implementing agency - and between other environment sector agencies. The fact that the rules for environment programmes often prohibit synergies among them, and the general inflexibility of earmarked budgets, further reduce the ability to cooperate and implement policies efficiently and flexibly.

In addition to these national-level obstacles to environment-related policy coordination, there are also cooperation difficulties and responsibility overlaps between the national and state level, due to “multiple representations of federal agencies at state level”<sup>335</sup>, large environmental performance differences between states, and limited incentives for municipalities to develop long-term sustainability strategies (due to the constitutionally specified term for mayors, which is three years without possibility of re-election).

The unclear division of responsibilities between all governmental layers also contributes to difficulties in policy enforcement, as does insufficient fund allocation for SEMARNAT’s enforcement agencies. While PROFEPA, the main enforcement agency, performs reasonably with 650 inspectors and 57 percent of the administrative enforcement cases in 2010 resolved, its backlog is growing and its budget has increased sub-proportionally to that of other agencies – from 944 million pesos (4.1 percent of the SEMARNAT budget) in 2002 to 1,013 million pesos (2 percent) in 2011. The water commission CONAGUA, responsible for enforcing water regulations, has only 150 inspectors controlling almost half a million registered users – and many more illegal actors. CONAGUA’s budget has increased in the last ten years, but of course consists of much more than

<sup>334</sup> See for the following three paragraphs, unless otherwise noted: OECD (2013), OECD Environmental Performance Reviews: Mexico 2013.

<sup>335</sup> OECD (2013), OECD Environmental Performance Reviews: Mexico 2013, p. 38.

enforcement activities. The efficiency of enforcement programmes could be improved by more effective targeting of programmes on activities with the largest risk.

Monitoring, reporting and evaluation of environmental programmes is increasingly carried out in Mexico. Specific evaluations in the environmental field reveal mixed ratings for the environmental regulations (NOMs) introduced in 2008 and 2009 (see table below). The four dimensions of M&E activities are:

- Impact;
- Quality of the norm;
- Effectiveness (compliance and enforcement);
- Efficiency.

The overall question is whether a regulation has achieved the expected changes in behaviour and environmental conditions. Possible ratings range from 0 (none) to 4 (very high).

**Table 5.1 Evaluation of environmental regulatory instruments**

	Topic	Regulation	Rating
2008	Concentrations of pollutants in wastewater discharges	NOM-001-SEMARNAT-1996	0.75
2009	Concentrations of pollutants in reused wastewater	NOM-003-SEMARNAT-1997	2.25
2008	Use, transport and storage of forest soil	NOM-027-SEMARNAT-1996	1.50
2008	Emission of air pollutants from concrete production	NOM-040-SEMARNAT-2002	3.25
2008	Emission of exhaust gases from gasoline-powered vehicles	NOM-041-SEMARNAT-2006	2.50
2009	Emission of exhaust gases from diesel-powered vehicles	NOM-045-SEMARNAT-2006	0.75
2008	Measurement equipment and methodology for verifying exhaust gases	NOM-047-SEMARNAT-1999	2.50
2009	Storage of hazardous waste	NOM-055-SEMARNAT-2003	0.75
2009	Mitigation of biodiversity impacts of land use change from forestry to agricultural use	NOM-062-SEMARNAT-1994	0
2009	Municipal waste disposal	NOM-083-SEMARNAT-2003	1.50
2009	Waste incineration	NOM-098-SEMARNAT-2002	3.25
2009	Oil drilling	NOM-115-SEMARNAT-2003	3.50
2009	Mining in dry and temperate climate	NOM-120-SEMARNAT-1997	0
2008	Use of equipment and materials containing polychlorinated biphenyls	NOM-133-SEMARNAT-2000	1.25
2008	Sulphur emissions from desulphurising plants	NOM-137-SEMARNAT-2003	3.25
2008	Water intakes and related dams	NOM-141-SEMARNAT-2003	2.50

Source: OECD (2013).

“On average, the NOMs’ performance is ‘regular’ as regards quality and efficiency, but between ‘regular’ and ‘poor’ for effectiveness (compliance and enforcement) and impact.”<sup>336</sup> This outcome confirms that Mexico has made progress in environmental policymaking, but the policies do not always have the desired impact due to lack of enforcement; this is partly due to the described deficiencies in enforcement capacity with the environmental agencies, and partly to the large size of the informal economy in Mexico.<sup>337</sup>

Below, the relevant Multilateral Environmental Agreements which Mexico is a party to are summarized.<sup>338</sup>

#### MEAs related to nature conservation / biodiversity:

- Ramsar Convention on Wetlands (1986)<sup>339</sup>;

<sup>336</sup> OECD (2013), p. 53.

<sup>337</sup> McKinsey Global Institute (2014) estimates that 54% of Mexico’s non-agricultural workers are employed in the informal sector; OECD (2013): According estimates in recent OECD reports, 60% of total employment is in the informal sector. See McKinsey Global Institute (2014): A tale of two Mexicos: Growth and prosperity in a two-speed economy; OECD (2014): Society at a Glance 2014. Highlights: Mexico. OECD Social Indicators, available at <http://www.oecd.org/mexico/OECD-SocietyAtaGlance2014-Highlights-Mexico.pdf>; and OECD (2013).

<sup>338</sup> All information from <http://www.informea.org/countries/MEX/membership/>, unless otherwise noted.

<sup>339</sup> [http://www.ramsar.org/cda/en/ramsar-about-parties-parties/main/ramsar/1-36-123%5E23808\\_4000\\_0\\_\\_](http://www.ramsar.org/cda/en/ramsar-about-parties-parties/main/ramsar/1-36-123%5E23808_4000_0__).

- Convention on International Trade in Endangered Species (CITES) (1991);
- Convention on Biological Diversity (CBD) (1993):
  - Cartagena Protocol on Biosafety (2002);
  - Nagoya Protocol on Access and Benefit-Sharing (2012).
- International Tropical Timber Agreement (ITTA) (2008)<sup>340</sup>;
- Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention) (1984);
- International Plant Protection Convention (1997)<sup>341</sup>;
- United Nations Convention to Combat Desertification (1995).

Mexico is not a party to the International Treaty on Plant Genetic Resources for Food and Agriculture (while the US has signed, but not ratified it)<sup>342</sup>, even though it is considered to have significant biological diversity e.g. in maize<sup>343</sup> and is part of the group of mega-diverse countries. Mexico is a member of the FAO's Commission on Genetic Resources for Food and Agriculture (CGRFA), which served as a forum for discussion and preparation of the Plant Treaty.<sup>344</sup> Its failure to sign the ITPGRFA has been criticized against that background,<sup>345</sup> although it might be attributed to the limited coverage of crops in the ITPGRFA.

Mexico is also not a party to the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention), despite its importance as a range state through which many species migrate.

#### MEAs related to climate change and atmosphere:

- Vienna Convention for the Protection of the Ozone Layer (1987):
  - Montreal Protocol on Substances that Deplete the Ozone Layer (1988).
- United Nations Framework Convention on Climate Change (UNFCCC) (1993):
  - Kyoto Protocol to the UNFCCC (2000).

#### MEAs related to hazardous materials / waste and chemicals:

- Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention) (1991);
- Convention on Persistent Organic Pollutants / POPs (Stockholm Convention) (2003);
- Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides on International Trade (Rotterdam Convention) (2005);
- Protocol on Biosafety to the Convention on Biological Diversity (Cartagena Protocol) (2002, see also above);
- Minamata Convention on Mercury (signed 2013).

#### MEAs related to oceans and seas:

- International Convention for the Prevention of Pollution from Ships (MARPOL) (1992, with the exception of Annexes III, IV and V of the Convention, relating to harmful substances carried by sea in packaged form, pollution by sewage from ships, and pollution by garbage from ships)<sup>346</sup>;
- Cartagena Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region:

<sup>340</sup> [http://www.itto.int/direct/topics/topics\\_pdf\\_download/topics\\_id=1952&no=0&file\\_ext=.pdf](http://www.itto.int/direct/topics/topics_pdf_download/topics_id=1952&no=0&file_ext=.pdf).

<sup>341</sup> <http://ec.europa.eu/world/agreements/searchByCountryAndContinent.do?countryId=6064&countryName=Mexico>.

<sup>342</sup> <http://www.planttreaty.org/map/index.html>.

<sup>343</sup> [http://www.planttreaty.org/sites/default/files/edm1\\_full\\_en.pdf](http://www.planttreaty.org/sites/default/files/edm1_full_en.pdf).

<sup>344</sup> <http://www.fao.org/nr/cgrfa/cgrfa-about/cgrfa-members/en/>.

<sup>345</sup> Timothy A. Wise (2007): Policy Space for Mexican Maize: Protecting Agro-biodiversity by Promoting Rural Livelihoods.

<sup>346</sup> <https://imo.amsa.gov.au/public/parties/marpol78.html>,

[http://www.imo.org/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-\(MARPOL\).aspx](http://www.imo.org/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx).

- Oil Spills Protocol.<sup>347</sup>

Mexico has signed, but not ratified, the *Specially Protected Areas and Wildlife Protocol* under the Cartagena Convention; it has not signed the Land-Based Sources of Marine Pollution Control Protocol,<sup>348</sup> showing its reluctance to act against marine pollution already visible in its exceptions to MARPOL.

Mexico is also not a party to the *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (United Nations Fish Stocks Agreement)*.<sup>349</sup> The objective of this Agreement is to ensure the long-term conservation and sustainable use of straddling fish stocks and highly migratory fish stocks. It sets out principles for the conservation and management of these fish stocks and provides a framework for cooperation in the conservation and management of these resources.

### 5.1.2 Natural resources, ecosystems and biodiversity

#### Overview of natural resources

Mexico is rich in both renewable and non-renewable natural resources. Among the renewable natural resources are ecosystems and species / biodiversity (which will be discussed in more detail further below) as well as air, water, and soil (of which air and water are covered in separate sections). Mexico's main non-renewable resources are fossil fuels and minerals.

Mexico is the world's largest silver producer providing 22 percent of the world's supply, and is also abundant in zinc, lead, gold, mercury and copper.<sup>350</sup> The depletion of abiotic resources is less of a concern than their extraction, since mining operations involve heavy interference in soil and landscapes and, as it often involves the use of chemicals, can have disastrous environmental consequences, especially for water resources. A recent spill of 40 million litres of sulphuric acid from a copper mine endangered the water supply of 24,000 people in one of Northwest Mexico's driest states and was coined "the worst natural disaster provoked by the mining industry in the modern history of Mexico" by the Minister of Environment, Juan José Guerra Abud.<sup>351</sup> The mining of minerals thus has effects on the country's renewable resources, in particular water.

The Mexican Environmental Accounts provide calculations on the cost of natural resource depletion and degradation. When calculating the cost of depletion of natural resources, the Accounts include both renewable resources (water, forest) and non-renewable resources (fossil fuels). For these, precise numbers for extraction / loss can be calculated and transferred into a societal cost. In a separate category, the cost of environmental degradation is calculated, which relates not to the loss in resources, but to the loss in their quality. Issues included here are air emissions, soil degradation, municipal solid waste and waste water, relating to the quality of air, soil, and water.<sup>352</sup>

<sup>347</sup> <http://www.cep.unep.org/cartagena-convention>.

<sup>348</sup> <http://www.cep.unep.org/cartagena-convention>.

<sup>349</sup> [http://www.un.org/depts/los/reference\\_files/chronological\\_lists\\_of\\_ratifications.htm](http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm).

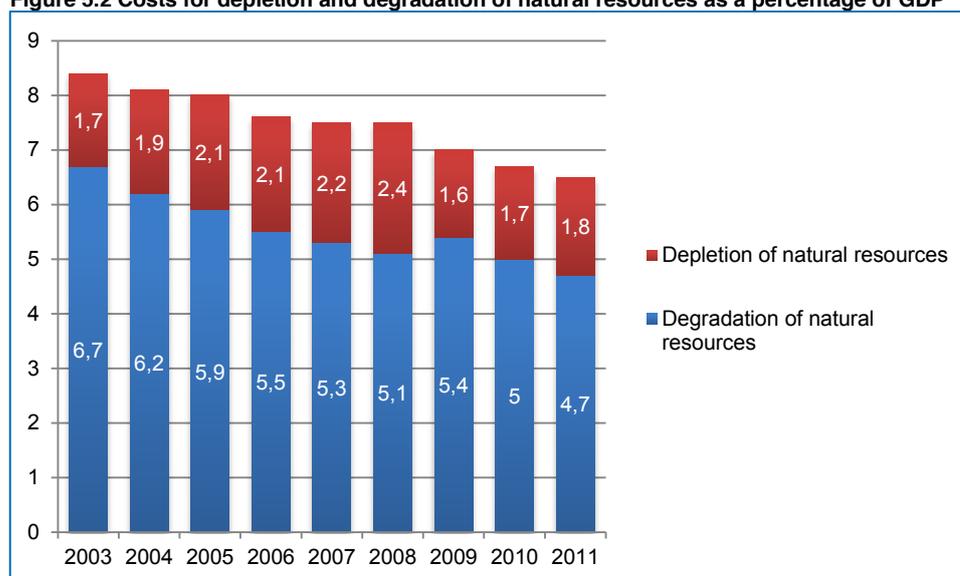
<sup>350</sup> USGS (2014): Mineral commodities yearbook 2014; Stratos Inc. (2004): Mexico Case Study. Analysis of National Strategies for Sustainable Development.

<sup>351</sup> <http://www.forbes.com/sites/doliaestevez/2014/09/02/no-apology-from-mining-tycoon-german-larrea-for-worst-ecological-disaster-in-mexicos-history/>, <http://www.resourcegovernance.org/ar/news/blog/mining-environmental-disaster-mexico-sparks-national-debate>.

<sup>352</sup> On the methodology of calculating the environmental accounts: in general, the "net price method" is used to estimate mineral and forest value; the "damage cost avoided" method is used to estimate environmental degradation value. See for example: World Bank-Italian Trust Fund Project (2006): International Experiences with environmental and Economic accounting. Available at

Environmental degradation is the larger cost at 4.7 percent of GDP in 2011, with air emissions contributing 3.6 percent of GDP alone. The costs of natural resource depletion were calculated to be 1.8 percent of GDP in 2011; the largest contributing factor here is the depletion of fossil fuel resources, which cost 1.5 percent of GDP. It is noteworthy in this context that Mexico managed to reduce the costs of environmental degradation steadily in the last decade, while the costs of natural resource depletion stayed roughly the same with some small variations. It is also relevant to mention that revenues from oil contributed 8 percent to GDP in 2008,<sup>353</sup> thus exceeding the environmental cost according to the methodology applied in Mexico's environmental accounts.

**Figure 5.2 Costs for depletion and degradation of natural resources as a percentage of GDP**



Source: own representation based on INEGI (Instituto Nacional de Estadística y Geografía) (2013): Sistema de Cuentas Nacionales de México. Cuentas económicas y ecológicas de México, 2003-2011. Cambio de año base 2008.

Fossil fuel extraction is discussed in the section on climate change; in the following, ecosystems and biodiversity as major Mexican natural resources are described in more detail, going beyond the issues captured in the statistical measures.

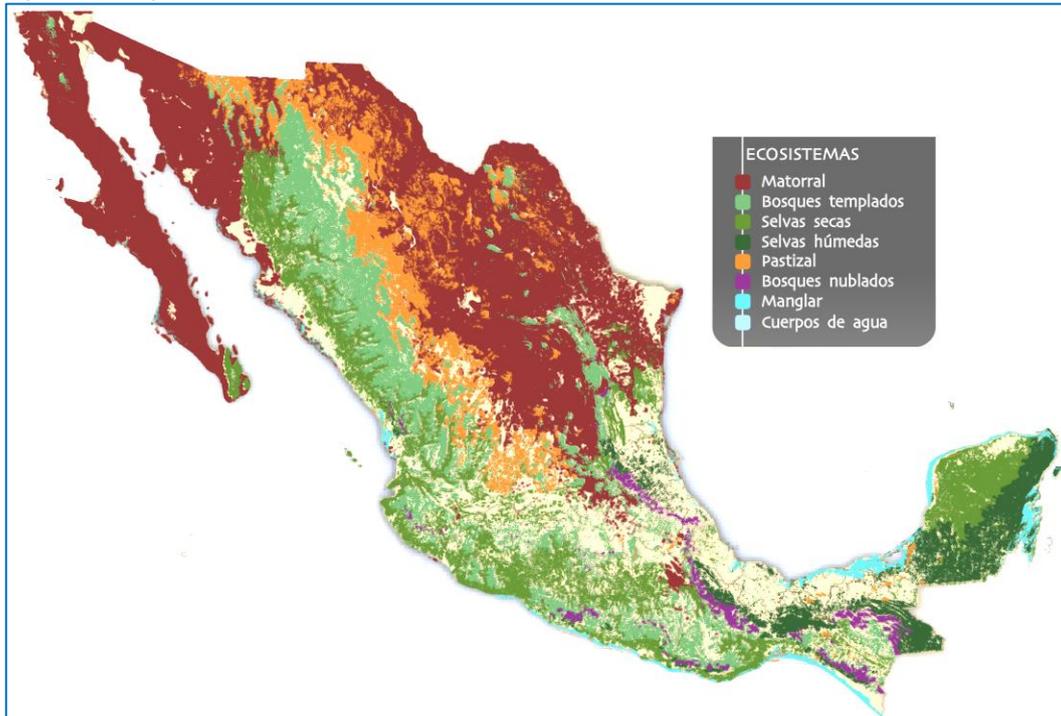
### Ecosystems

As outlined above, the country's diverse topography means a wide variety of ecosystems contribute to Mexico's biodiversity. The map below shows their respective location and extension.

<http://siteresources.worldbank.org/INTEAPREGTOPENVIRONMENT/Resources/GreenaccountinginternationalexperienceFinalEN.pdf>

<sup>353</sup> OECD (2013)

Figure 5.3 Ecosystems of Mexico



Matorral: bush, Selvas secas: dry forest, Selvas húmedas: rainforest, Pastizal: pasture, Bosques nublados: cloud forest, Manglar: mangrove swamp, Cuerpo de agua: water body.

Source: <http://www.biodiversidad.gob.mx/ecosistemas/mapas/mapa.html>.

As one can see, over one third of the land area is covered by forests (but two-thirds of forest are fragmented, reducing the quantity and quality of habitat); tropical forest area has declined by 10 percent between 1976 and 2007, but the rate of deforestation has been reduced significantly in the last decade, especially for primary forest.

The seas and coastal waters around Mexico are also important to mention – Mexico is one of the major fishing countries in the OECD accounting for almost 2 percent of worldwide fish catches (mostly from the Pacific); overexploited fish stocks accounted for almost 4 percent of the catches in 2010.<sup>354</sup> Wild shrimp fisheries account for the largest revenues. As most fisheries catch several species besides their targeted one, by-catch and discards are an issue, although precise data are lacking. Illegal fishing adds to the problem, fostered by insufficient enforcement capacity and the poverty of the population, where fishermen do not see economic alternatives.<sup>355</sup>

The Yucatan peninsula of the Mexican Atlantic coast forms part of the Mesoamerican Reef, the second largest coral reef in the world. Mexico's coastal ecosystems, particularly around Cancún, are affected by urban expansion and infrastructure development. The Gulf of Mexico Large Marine Ecosystem "shows signs of ecosystem stress, in bays, estuaries, and coastal regions [...] There is shoreline alteration, pollutant discharge, oil and gas development, and nutrient loading."<sup>356</sup>

According to UNEP estimates, more than 65 percent of Mexican mangrove swamps have disappeared.<sup>357</sup> As these are highly productive ecosystems which are relevant for surrounding ecosystems and species (e.g. marine ecosystems, migratory birds) as well as coastal protection,

<sup>354</sup> OECD (2013).

<sup>355</sup> Integrated Assessment and Management of the Gulf of Mexico Large Marine Ecosystem Project (2011): Transboundary Diagnostic Analysis.

<sup>356</sup> <http://www.eoearth.org/view/article/153198/>.

<sup>357</sup> UNEP (2006).

this is a worrying development.<sup>358</sup> On a positive note, there are now 138 Mexican wetlands registered under the Ramsar Convention (an increase from 123 in 2009), with a total area of 9 million hectares.<sup>359</sup>

Major threats to ecosystems in Mexico are:<sup>360</sup>

- Conversion of forest to crop and livestock production;
- Support programs for farmers – agricultural subsidies have been reduced, but half of the agricultural support programs are still production-related measures and thus particularly environmentally damaging;
- Soil degradation is a major threat to ecosystems and is largely caused by agriculture (overgrazing, excess irrigation, etc.);
- Eutrophication, pollution, habitat loss, invasive species, and unsustainable fishing practices in coastal and marine ecosystems;
- In general, development of economic activities which put pressure on ecosystems, such as agriculture, tourism, fisheries, and energy; overall, the rapid population growth and urbanization increase activities in all these sectors and drive the loss of ecosystems, further stressing the need for policy and regulation in areas outside the strict environmental domain.

Clearly, agriculture is one of the key sectors to address when considering ecosystem protection measures. While agriculture only contributed 3.6 percent to Mexican GDP in 2010, but employed 13 percent of the population; agricultural issues are therefore inextricably linked to social issues in Mexico. The volume of agricultural production has increased by 21 percent between 2000 and 2010.<sup>361</sup> Note that land ownership is predominantly organized in a “communal” fashion, either as “comunidades” (Indian communal landholdings) or “ejidos” (where “land is distributed to a group of individual peasants but land ownership resides with the ejido community rather than the individual”<sup>362</sup>). In 2010, around 70 percent of Mexican forest area was ejido land.<sup>363</sup> This affects all policies aimed at ecosystem and biodiversity protection.

Looking at WIOD data on land use by the agriculture and forestry sectors, the most significant development is that pastures area declined visibly and steadily between 1996 and 2009. Mexico’s productive forest area increased slightly; its arable land area stayed quite constant, and its permanent crops area increased slightly. Together, total land use by agriculture has shown a small decrease during the 15 years up to 2009 (see **Figure 5.4** below).

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<sup>358</sup> Integrated Assessment and Management of the Gulf of Mexico Large Marine Ecosystem Project (2011): Transboundary Diagnostic Analysis.

<sup>359</sup> CONAGUA (2013): Estadísticas del Agua en México, Edición 2013, and CONAGUA (2010): Statistics on Water in Mexico, 2010 edition.

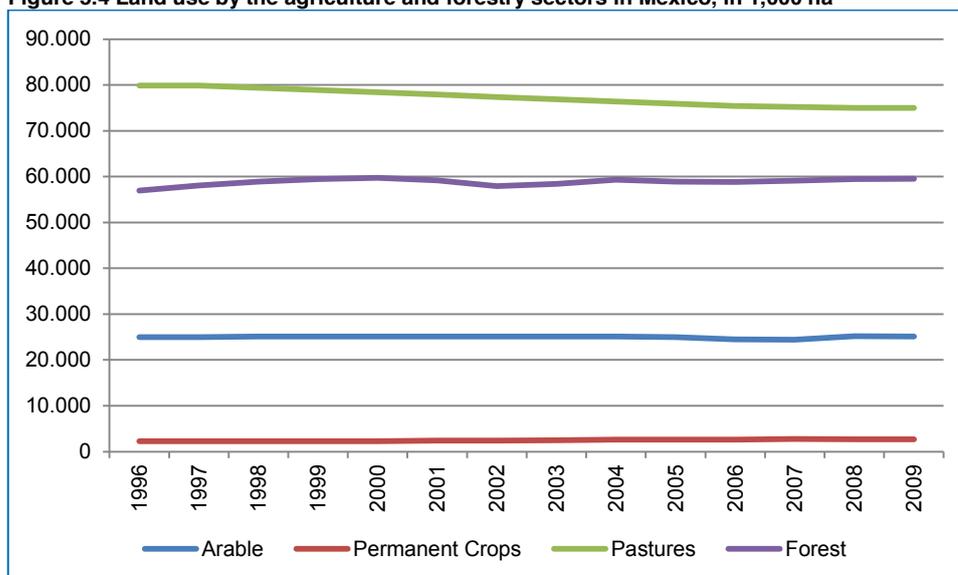
<sup>360</sup> See for terrestrial ecosystems: OECD (2013); for marine ecosystems: Integrated Assessment and Management of the Gulf of Mexico Large Marine Ecosystem Project (2011): Transboundary Diagnostic Analysis.

<sup>361</sup> OECD (2013).

<sup>362</sup> Valdez, Raul et al. (2006), Wildlife Conservation and Management in Mexico.

<sup>363</sup> OECD (2013).

**Figure 5.4 Land use by the agriculture and forestry sectors in Mexico, in 1,000 ha**



Source: WIOD Environmental Accounts.<sup>364</sup>

### Biodiversity

Mexico is a “mega-diverse” country; it is home to 10-12 percent of the world’s terrestrial biodiversity; more than 2,600 Mexican species are listed in the IUCN Red List as under some kind of threat. Also the share of species under threat in Mexico is high compared to other OECD countries, especially among mammals and birds.<sup>365</sup> Three of the 34 worldwide “biodiversity hotspots” (regions with at least 1500 endemic species of vascular flowering plants which have lost at least 70% of the original extent of their habitat) can be found in Mexico. These include: the Pine-Oak Forests of the Sierra Madre (including the Sierra Madre del Sur and the Neo-volcanic axis); Mesoamerica (including Southeast Mexico, the Atlantic and Pacific coasts and the Balsas river basin); and the southern portion of the California Floristic Province.<sup>366</sup>

Another interesting feature – also against the background of the relevance of agriculture affecting ecosystems – is that the rich biodiversity in Mexico is both natural and cultural. The natural, varied ecosystems – including cloud forests, coral reefs, and mangrove swamps – are home to large numbers of species, and whatever threatens them endangers biodiversity. Apart from that, Mexico has a high level of cultivated plant biodiversity, especially in maize with 41 types and several thousand varieties.<sup>367</sup>

In recent years, Mexico has been very active in developing policies to improve ecosystems and biodiversity. A number of strategies and programmes have been developed in the last 15 years:

<sup>364</sup> The definitions of the areas shown are as follows:

- Arable land: is the land under temporary agricultural crops (multiple-cropped areas are counted only once), temporary meadows for mowing or pasture, land under market and kitchen gardens and land temporarily fallow (less than five years). The abandoned land resulting from shifting cultivation is not included in this category. Data for Arable land are not meant to indicate the amount of land that is potentially cultivable;
- Permanent crops land: is the land cultivated with long-term crops which do not have to be replanted for several years (such as cocoa and coffee); land under trees and shrubs producing flowers, such as roses and jasmine; and nurseries (except those for forest trees, which should be classified under “forest”). Permanent meadows and pastures are excluded from land under permanent crops;
- Permanent meadows and pastures: is the land used permanently (five years or more) to grow herbaceous forage crops, either cultivated or growing wild (wild prairie or grazing land);
- Productive forest area: is the forest area actually used for productive purposes.

The database does not include land use from infrastructure and buildings. See Aurélien Genty et al. (2012): Final Database of Environmental Satellite Accounts: Technical Report on their Compilation. WIOD Deliverable 4.6.

<sup>365</sup> OECD (2013); see also <http://www.biodiversidad.gob.mx/pais/quees.html>.

<sup>366</sup> <http://www.biodiversidad.gob.mx/pais/riquezanat.html>.

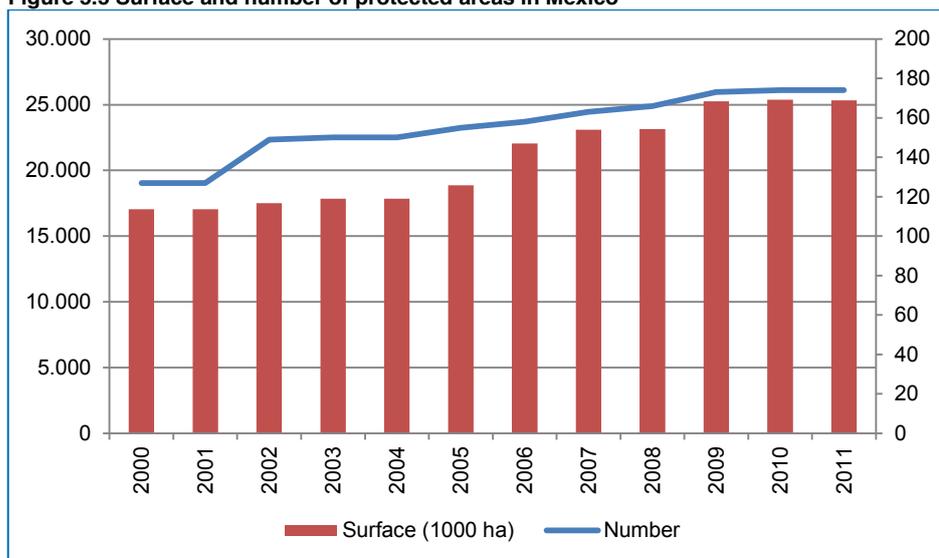
<sup>367</sup> Brand et al. (2008).

- The environmental axis of the 2007-2012 Development Plan has several objectives related to biodiversity and forests;
- The 2000 National Strategy on Biodiversity includes a 50 year vision;
- The Strategic Forest Programme for 2001-2025 aims at capacity building for forest conservation and sustainable management. It is carried out through shorter term forest programmes such as “ProÁrbol”, which provides resources and training for reforestation to landowners;
- The National Ecological Land Use Plan was adopted in 2012.

Overall, institutions have been strengthened and budget allocations increased (the budget of National Forestry Commission has nearly tripled in real terms since 2002), and, as in other environmental policy fields, monitoring and reporting frameworks were developed and improved. A National Ecological Land Use Plan (ELUP) was adopted in 2012, although apparently its implementation lacks coordination between the federal and the local level, and between ecological and social development goals.<sup>368</sup> Also, while there is a research-oriented national Commission on Biodiversity (CONABIO) and an inter-ministerial commission on biosafety (CIBIOGEM), no dedicated inter-ministerial commission on biodiversity policy issues exists. Moreover, there is still no action plan for implementation of the 2000 National Strategy on Biodiversity. The Inter-secretarial Commission for the Integrated Management of Oceans and Coasts (CIMARES), created in 2010, was an important step in developing a multi-level governance framework for marine policy, while before the policymaking and regulating environment was rather fragmented.<sup>369</sup>

Between 2000 and 2011, Mexico has increased the size and number of federal protected areas, which have increased to 12.9 percent of the territory by 2010. However, to reach the goal of 16 percent in 2020, further efforts are needed. The revenue generated from charging for access to the protected areas was equivalent to 7 percent of the federal budget allocated to these areas in 2010, and is invested in protection measures.<sup>370</sup> In the figure below, the red bars, measured on the left axis, show the surface of protected areas (both terrestrial and marine) in Mexico. The blue line, plotted on the right axis, shows the number of protected areas (national parks, biosphere reservations, areas for protection of natural resources, areas of flora and fauna protection, and natural monuments).

**Figure 5.5 Surface and number of protected areas in Mexico**



Source: INEGI, Anuario estadístico de los Estados Unidos Mexicanos, 2012.

<sup>368</sup> OECD (2013).

<sup>369</sup> Integrated Assessment and Management of the Gulf of Mexico Large Marine Ecosystem Project (2011): Transboundary Diagnostic Analysis.

<sup>370</sup> OECD (2013).

When full protection of areas is not possible, Mexico relies on a number of economic instruments in the context of ecosystems and biodiversity policy. Some of these are in the form of subsidies to improve the conditions of local / indigenous communities living in forests. On top of that, Mexico has established one of the largest programmes for payment for ecosystem services (PES) in the world. The Hydrological Ecosystem Services Programme (PSAH) was launched through CONAFOR in 2003, and the Programme to Develop Ecosystem Service Markets for Carbon Sequestration and Biodiversity and to Establish an Improve Agro-Forestry Systems (CABSA) in 2004. Both schemes involve annual payments to landowners, predominantly ejidos, for ensuring that ecosystem services are provided, i.e. that no deforestation or other activities endangering existing ecosystems take place (subject to control via satellite images or ground visits. While PSAH is financed through a fee on water use, CABSA does not have stable funding, as its budget is re-negotiated each year. In 2011, both programmes were integrated into one with two modalities (hydrological / biodiversity). The assessment of the programmes is mixed; the actual conservation impact was relatively low due to the weight that was given in plot selection to factors other than environmental ones<sup>371</sup> (due to the close relationship between social and environmental issues described above).

Another economic instrument applied in Mexico for forest conservation is the Forest Land Use Change Compensation mechanism. It functions as a biodiversity offset system, requiring project developers to apply for land-use change. They either need to re-forest an area equivalent in biodiversity, or pay indemnity charges to the Biodiversity Restoration and Preservation Fund. It appears that so far, monitoring, reporting and verification of the offset activities are insufficient, while they would help for the instrument to function more cost-effectively.

Mexico also uses economic instruments in fisheries, paying subsidies to fishers who agree to stop fishing or switch to fishing methods which are not harmful to the endangered vaquita (a small porpoise species endemic to the Gulf of California, probably the most endangered cetacean in the world). There is some evidence that this programme has been successful in reducing fishing activities, reducing threats to vaquitas as well as other species.<sup>372</sup>

Voluntary approaches have picked up in recent years as well: 10 percent of coffee producers use green certification, and progress has been made in timber certification.

Regarding Mexico's cultural biodiversity, both the insufficient implementation of access and benefit regimes for genetic resources, as well as genetically modified crops are seen as a danger to biodiversity, or at least do not sufficiently enable the Mexican population to profit from its biodiversity. In contrast to the US, Mexico has signed and ratified the Convention on Biological Diversity, the Cartagena Protocol on Biosafety of GMOs, and the Nagoya Protocol on Access and Benefit-Sharing, but reportedly fails to comply with its obligations under these.<sup>373</sup>

Regarding the collection and valorisation of genetic resources, it "requires prior informed consent by the landowner with the implication of benefit sharing, but access permits are not centralized into a single ministry or other government agency."<sup>374</sup> Bio-prospecting projects – i.e. projects to search, discover and commercially use biological resources - have been initiated, but their implementation was laden with issues - particularly over the prior informed consent procedure - and execution was

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<sup>371</sup> OECD (2013); for PSAH see also: I. Calder, T. Hofer, S. Vermont and P. Warren (2007): Towards a new understanding of forests and water. In: *Unasylva* 229, Vol 58, pp. 3-10, available at <ftp://ftp.fao.org/docrep/fao/010/a1598e/a1598e00.pdf>.

<sup>372</sup> OECD (2013).

<sup>373</sup> N.N. (La Jornada) (2014): Revés a Monsanto (Setback for Monsanto); Ulrich Brand et al. (2008): Conflicts in Environmental Regulation and the Internationalization of the State: Contested terrains, p. 189ff.

<sup>374</sup> Stephen B. Brush (2005): Farmer's Rights and Protection of Traditional Agricultural Knowledge.

impossible in two out of three assessed cases.<sup>375</sup> For example, in the case of the international consortium ICBG trying to prospect the biodiversity and the knowledge of the local Maya community in the south-eastern state of Chiapas, the issue of ownership of genetic resources – which CONABIO advocates should lead to international technology transfer and should be seen from a perspective of the interest of the country as a whole – was linked with the rights of local, indigenous communities in relation to the federal state, and it created so much opposition that the project was abandoned.<sup>376</sup>

Mexico is not a party to the International Treaty on Plant Genetic Resources for Food and Agriculture (while the US has signed, but not ratified it)<sup>377</sup>, despite its biological diversity in cultural plants. Mexico is a member of the FAO's Commission on Genetic Resources for Food and Agriculture (CGRFA), which served as a forum for discussion and preparation of the Plant Treaty.<sup>378</sup> Its failure to sign the ITPGRFA has been criticized against that background,<sup>379</sup> although it might be attributed to the limited coverage of crops in the ITPGRFA. The experience of increased competition with US-produced maize after the entry into force of NAFTA has shown that "Mexico's low-yield, traditional maize farmers go uncompensated for their long-term stewardship of genetic diversity in this important world food crop"<sup>380</sup>.

In the context of genetically modified organisms, two issues are important: GMOs entering the country through trade, and the legal use of GMOs in Mexican agriculture. "Contamination of traditional fields by GM maize"<sup>381</sup> due to grain imports from the US was an issue of discussion in the mid-2000s. A study commissioned by the Commission for Environmental Cooperation (CEC) under NAFTA found that "there is no doubt that transgenes will spread in Mexican maize, and that they are present now. [...] The probable primary source of transgenes present in Mexican landraces is maize grain grown in the United States." However, the effects or threats to the local biodiversity are less clear, and the report concludes that they are not different from the effects of "other genes from similarly used modern cultivars."<sup>382</sup>

Looking at the planting of GMOs, Mexico was one of the first countries to do so starting in 1988. At first, a phytosanitary norm regulated the use of biotech, but reportedly "Mexico struggled with a government regulatory structure until its biosafety law was passed in 2005"<sup>383</sup>, which also meant that expansion of these activities only started after that date. The Biosafety Law on Genetically Modified Organisms, passed in 2005, specifies that biotech activities require a permit, for whose grant the applicants must submit certain information in a report on their experimental and pilot phases. The exact content and extent of this information is determined in a NOM (Official Mexican Norm). This NOM was changed in the beginning of 2014, increasing the requirements for permit applicants.<sup>384</sup>

In general there have been controversies between the proponents of biotech (within the Government of Mexico, Ministry of Economy, and Presidential Office) and the governmental agencies responsible for biodiversity protection (such as SEMARNAT). In 2012, as required by the

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<sup>375</sup> Stephen B. Brush (2005): Farmer's Rights and Protection of Traditional Agricultural Knowledge.

<sup>376</sup> Brand et al. (2008).

<sup>377</sup> <http://www.planttreaty.org/map/index.html>.

<sup>378</sup> <http://www.fao.org/nr/cgrfa/cgrfa-about/cgrfa-members/en/>.

<sup>379</sup> Timothy A. Wise (2007): Policy Space for Mexican Maize: Protecting Agro-biodiversity by Promoting Rural Livelihoods.

<sup>380</sup> Nadal & Wise, p. 26.

<sup>381</sup> Nadal & Wise, p. 20.

<sup>382</sup> Commission for Environmental Cooperation (2004): Maize and Biodiversity. The Effects of Transgenic Maize in Mexico, pp. 15-16.

<sup>383</sup> USDA Foreign Agricultural Service (2012): Mexico Cautiously Moves Forward with Biotechnology, Mexico Agricultural Biotechnology Annual, Global Agricultural Information (GAIN) Report No. MX2051.

<sup>384</sup> [USDA Foreign Agricultural Service \(2014\). Mexico Publishes NOM to Establish Report Requirements for GE Crops. Global Agricultural Information \(GAIN\) Report No. MX4002.](#)

Biosafety Law, SEMARNAT and SEGARPA jointly issued an Agreement to Determine the Centers of Origin and Centers of Genetic Diversity of Corn in Mexico; it “includes a map delineating the areas in seven northern states of Mexico where the use of GM corn seeds will be forbidden. In addition, the law requires very strict requirements with storage and movement of GM corn grains through the areas delineated as centres of origin.”<sup>385</sup>

Note that this discussion, and the Centers of Origin legislation, is only about maize, which has a special status in Mexico due to its genetic origins there. The case of cotton – the crop with most field testing permitted between 2005 and 2010 – is more of a GM success story, as it doesn’t directly threaten native biodiversity and the use of GM cotton has contributed to significant reductions in pesticide use and increased yields.<sup>386</sup> This means that no area restriction for GM cotton or soybean exists. The commercial planting of each crop still requires approval from the National Health, Food Safety and Food Quality Service (SENASICA). Commercial planting of soybeans, for example, has only quite recently been approved (in 2012).<sup>387</sup>

### 5.1.3 Air pollution

Mexico, and in particular Mexico city, is well-known for its air quality problems. “The pollution in Mexico City has been so intense because such a large industrialized population lives within a bowl-shaped valley with frequent meteorological conditions that limit the circulation of clean air from outside airsheds.”<sup>388</sup> According to a survey amongst Mexicans, air pollution ranks second among the most pressing environmental issues (after water issues).<sup>389</sup> Air pollution is responsible for the largest part of environmental costs in Mexico (3.6 percent of GDP in 2011, whereas the rest of environmental degradation cost 1.1 percent of GDP),<sup>390</sup> but significant achievements have been made to bring it down from around 8 percent of GDP in 2000.<sup>391</sup> These are related both to reducing total emissions and to increased city-level monitoring and air quality management plans.<sup>392</sup>

#### Emissions and exposure

The analysis concentrates on a number of substances which have acidifying properties, and / or lead to respiratory problems in humans (either directly or in interaction with other substances). Sulphur oxides (SO<sub>x</sub>) and nitrogen oxides (NO<sub>x</sub>), often in reaction with each other and other substances, can cause lung problems and contribute to water quality issues due to acid rain formation. Nitrous oxide (N<sub>2</sub>O) is also a greenhouse gas (GHG). Methane (CH<sub>4</sub>) also is an important ozone precursor, and a GHG, sometimes counted among the short-lived climate forcers. Non-methane volatile organic compounds (NMVOCs) lead to the formation of ozone as well. Ozone (O<sub>3</sub>) can cause breathing problems, trigger asthma, reduce lung function and cause lung diseases. Exposure to particulate matter (PM) contributes to the risk of developing cardiovascular and respiratory diseases, as well as of lung cancer.<sup>393</sup>

It is important to note that apart from man-made (anthropogenic) emissions, Mexico also experiences high biogenic and geogenic emissions, especially sulphur dioxide and particulate

<sup>385</sup> USDA Foreign Agricultural Service (2012): Centers of Origin for Corn Published in Federal Register, [Global Agricultural Information \(GAIN\) Report No. MX2082](#).

<sup>386</sup> USDA Foreign Agricultural Service (2012): Mexico Cautiously Moves Forward with Biotechnology, Mexico Agricultural Biotechnology Annual, Global Agricultural Information (GAIN) Report No. MX2051.

<sup>387</sup> USDA Foreign Agricultural Service (2012): Mexico Cautiously Moves Forward with Biotechnology, Mexico Agricultural Biotechnology Annual, Global Agricultural Information (GAIN) Report No. MX2051.

<sup>388</sup> Adrián Fernández-Bremauntz (2008): Air Quality Management in Mexico, p. 56.

<sup>389</sup> OECD (2013), p. 33.

<sup>390</sup> INEGI (Instituto Nacional de Estadística y Geografía) (2013): Sistema de Cuentas Nacionales de México. Cuentas económicas y ecológicas de México, 2003-2011. Cambio de año base 2008.

<sup>391</sup> OECD (2013).

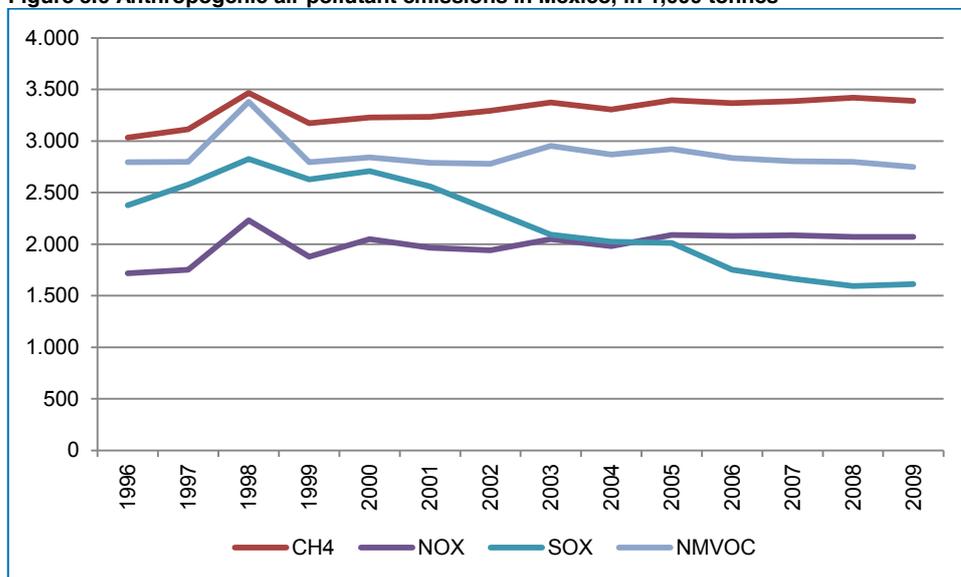
<sup>392</sup> Adrián Fernández-Bremauntz (2008): Air Quality Management in Mexico.

<sup>393</sup> See <http://www.epa.gov/airquality/urbanair/> and <http://www.who.int/mediacentre/factsheets/fs313/en/>.

matter from volcanoes. In some cases, the distinction between biogenic and anthropogenic emissions is not a sharp one, for example in the case of NO<sub>x</sub> emissions from soil, which come from the biosphere but their release is caused by human activities in agriculture.

Looking at total anthropogenic emissions, it can be observed that emissions of methane (CH<sub>4</sub>) and nitrous oxides (NO<sub>x</sub>) increased significantly between 1996 and 2009 (by 12 and 21 percent, respectively). Most of the increase in NX occurred before 2000, and also for CH<sub>4</sub> almost half the total increase between 1997 and 2009 took place before 2000. Emissions of non-methane volatile organic compounds (NMVOCs) have been relatively stable (2% decrease since 1996),<sup>394</sup> whereas emissions of sulphur oxides (SO<sub>x</sub>) have shown a remarkable reduction from 2.4 million tonnes to 1.6 million tonnes, or 32 percent. The high 1999 anthropogenic air pollutant emissions in Mexico are probably caused by the eruption of the Colima volcano in 1998-1999. This Volcano is the most dangerous and active volcano in the sierra Nevada range and is taken up in the list of 16 most dangerous volcano's globally (IAVCEI<sup>395</sup>).

**Figure 5.6 Anthropogenic air pollutant emissions in Mexico, in 1,000 tonnes**



Source: WIOD Environmental accounts.

The largest contributor to NO<sub>x</sub> emissions is the agricultural sector (apart from vehicle emissions in this sector, these are most likely sources from soil, often caused by fertilizer use), followed by inland transport and private consumption (which is also related to private mobility). The electricity sector is another large NO<sub>x</sub> emitter in Mexico. The highest emitting states, Coahuila, Veracruz and Jalisco, emit mostly from their power plants and oil and gas fields; in the case of Jalisco, agriculture may play a role as well. For methane, the largest emitter is also the agricultural sector, followed by emissions from waste (under the sector of “Community and social services”).

According to WIOD, sulphur oxides are released in high quantities by the agriculture and forestry sector too; this can probably be attributed to the fact that the agricultural sector uses a lot of diesel (light fuel oil).<sup>396</sup> The main industrial sectors emitting SO<sub>x</sub> are electricity and coke / refineries.

<sup>394</sup> Note that data from the National Emissions Inventory gives a completely different picture on NMVOCs, reporting an increase of 99% between 1999 and 2005. See OECD (2013), p. 31. We will further investigate this to explain the difference between the observations in national emissions inventory and the WIOD database.

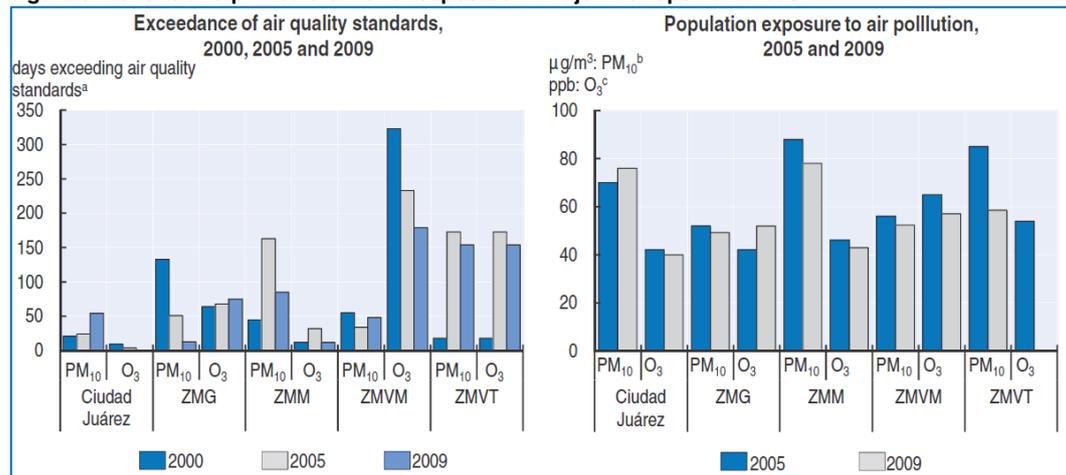
<sup>395</sup> <http://www.iavcei.org/>

<sup>396</sup> WIOD calculates SO<sub>x</sub> emissions from energy use, then scaling them to emission totals from other data sources. The category “light fuel oil” in the WIOD statistics for energy use per sector refers to all diesel used for non-road transport. See Aurélien Genty et al. (2012): Final Database of Environmental Satellite Accounts: Technical Report on their Compilation. WIOD Deliverable 4.6, p. 67. It is unclear which sulphur content of diesel is assumed in WIOD, but judging from the reduction in emissions, it seems to take policy developments lowering the sulphur content into account.

NMVOCs, often used in printing, cleaning or paint and also released by motor vehicles, are mostly emitted by private households and by the construction sector. Biogenic sources are much more sizable though (as in most countries), constituting 87 percent of the total VOC emissions in 2006. It is due to these emissions from vegetation that the states of Oaxaca, Chihuahua and Chiapas show the highest VOC emissions in the National Emissions Inventory. Looking at anthropogenic emissions – which have larger exposure impacts for humans due to their location of emission – the major emitting states are Mexico, Distrito Federal, and Jalisco. Note that the state of Jalisco, which combines a large volcano (Colima), agricultural production, and heavy industry, is among the largest emitters in almost any polluter type.

Looking at exposure to particulate matter and ozone pollution, air quality standards are exceeded particularly in the Valley of Mexico (Mexico City) and Valley of Toluca, even by 47% in 2005<sup>397</sup>, (just west of the Valley of Mexico) areas almost every second day. The main drivers for this type of pollution in the VoT are the rapid pace of urbanisation and the use of not very environmentally friendly transportation, both public and private (cars, buses, trucks)<sup>398</sup>. The situation has improved slightly for Mexico City and Guadalajara, but since 2000 has become worse in the Valley of Toluca. Note that Mexican air quality standards for ozone were already less stringent than those in the US in 2000, and were further lowered in 2006.<sup>399</sup> In terms of mean exposure, the situation is worst in the Monterrey area, but has improved almost everywhere between 2005 and 2009 except for Juárez.

**Figure 5.7 Ozone and particulate matter exposure in major metropolitan areas**



Abbreviations: ZMG: Guadalajara Metropolitan Area; ZMM: Monterrey Metropolitan Area; ZMVM: Valley of Mexico Metropolitan Area; ZMVT: Valley of Toluca Metropolitan Area.

Source: OECD (2013), p. 33.

The most important source of particulate matter emissions is geogenic / volcanic, e.g. in the Guadalajara Area caused by the Colima volcano. Human fuel combustion adds to this and has a higher impact due to proximity.<sup>400</sup> In the case of ozone, its precursors are mainly emitted through fuel combustion in electricity and transport.<sup>401</sup> Between 2005 and 2010, Mexico witnessed an increase of deaths due to ambient air pollution (PM and ozone) from 17,954 to 21,594. The number

<sup>397</sup> [http://app1.semarnat.gob.mx/dgeia/informe\\_2008\\_ing/05\\_atmosfera/cap5\\_1.html](http://app1.semarnat.gob.mx/dgeia/informe_2008_ing/05_atmosfera/cap5_1.html)

<sup>398</sup> Mario Molina Center: Public policies for improving air quality, case study: Metropolitan area of valee of Toluca, 2014 ([http://centromariomolina.org/english/wp-content/uploads/2014/11/Resumen-Ejecutivo\\_ZMVT\\_2014\\_EN.pdf](http://centromariomolina.org/english/wp-content/uploads/2014/11/Resumen-Ejecutivo_ZMVT_2014_EN.pdf))

<sup>399</sup> Adrián Fernández-Bremauntz (2008): Air Quality Management in Mexico.

<sup>400</sup> Environmental Protection Agency / SEMARNAT (2006): 1999 Mexico National Emissions Inventory. Executive Summary.

<sup>401</sup> WIOD Environmental accounts and Environmental Protection Agency / SEMARNAT (2006): 1999 Mexico National Emissions Inventory. Executive Summary.

of deaths per capita is average or low compared to other OECD countries,<sup>402</sup> but this may change given the negative trend.

### Policy development

Recognizing its need to address the air pollution issue, Mexico developed ProAires (Air Quality Improvement Programmes). The Valley of Mexico Metropolitan Area started in 1990, and in the following years the idea expanded to other big cities. Measures include the integration of land-use planning, transport and air quality management policies; support of air quality monitoring systems; and promoting less polluting transport systems (e.g. financial incentives to replace old taxis and buses, improved public transport systems, and vehicle verification systems with a “no driving day” programme). For example, Mexico City has adopted the bus rapid transit system, having low-emission buses drive in dedicated road lanes.<sup>403</sup> In the Valley of Mexico, the implementation of ProAire has yielded significant results; “it is estimated that between 1997 and 2005, 1,928 deaths were averted due to the reduction in PM10 concentrations and 794 due to the reduction in ozone concentrations.”<sup>404</sup>

The development of the National Emissions Inventory (published in 2006, with 1999 as base year) was another important step to provide input for policies,<sup>405</sup> although by now other emissions data are available providing more recent data and time series.

The observed reduction of sulphur dioxide emissions in **Figure 5.6** can partly be attributed to tightening standards for sulphur content in diesel. “For on-road fuels, NOM-086 set in place a timeline for sulfur reduction for gasoline and diesel fuel sold in Mexico. The national oil company Petróleos Mexicanos (PEMEX), the exclusive distributor of motor vehicle fuels in Mexico, has not achieved the sulfur levels required by NOM-086 and continues to be in violation of the standard”<sup>406</sup>, despite the goal to achieve the standard in 2009.<sup>407</sup>

In 1994, Mexico also adopted vehicle emission standards for hydrocarbons, carbon monoxide, and nitrous oxides, which were planned to be tightened in 1999 (and then to be equivalent to US EPA 1994 standards). Due to strong opposition from vehicle manufacturers, only a voluntary scheme was introduced. This, however proved to be effective: “100% of passenger cars sold in Mexico in 1999 and 2000 met the new standard”<sup>408</sup>. In 2006, mandatory standards were introduced for total hydrocarbons, non-methane hydrocarbons, carbon monoxide, nitrogen oxides, particles, and opacity for new heavy-duty diesel engines. For gasoline engines, the standard was introduced in 2012. All these standards are designed to be compliant with both US and EU standards, but their effective entry into force has sometimes been delayed.<sup>409</sup> In the case of light-duty vehicles, “a mix of US Tier 1/2 and Euro 3/4 standards has been in effect since 2004.”<sup>410</sup>

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<sup>402</sup> OECD (2014): The Cost of Air Pollution. Health Impacts of Road Transport, OECD Publishing. <http://dx.doi.org/10.1787/9789264210448-en>.

<sup>403</sup> Luisa T. Molina et al. (2009): Air quality, weather and climate in Mexico City.

<sup>404</sup> OECD (2013), p. 46.

<sup>405</sup> Adrián Fernández-Bremauntz (2008): Air Quality Management in Mexico.

<sup>406</sup> [http://transportpolicy.net/index.php?title=Mexico: Fuels: Diesel\\_and\\_Gasoline#Gasoline](http://transportpolicy.net/index.php?title=Mexico: Fuels: Diesel_and_Gasoline#Gasoline).

<sup>407</sup> <http://automotivemexico.com/?p=351>.

<sup>408</sup> Adrián Fernández-Bremauntz (2008): Air Quality Management in Mexico, p. 61. On the delays see also:

<http://transportpolicy.net/index.php?title=Mexico: Light-duty: Emissions>.

<sup>409</sup> <http://transportpolicy.net/index.php?title=Mexico: Heavy-duty: Emissions>.

<sup>410</sup> <http://transportpolicy.net/index.php?title=Mexico: Light-duty: Emissions>.

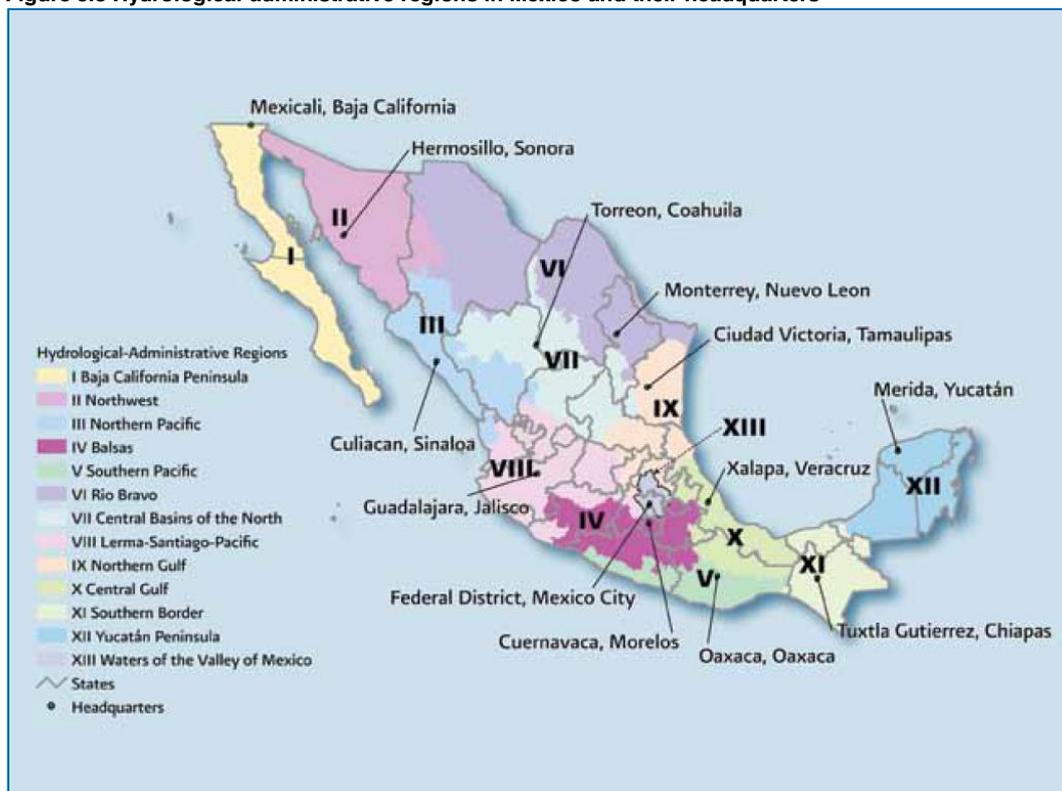
### 5.1.4 Water

According to a recent survey, water is considered the most pressing environmental issue in Mexico: 20 percent of the respondents in 2011 indicated that water pollution is the major environmental problem in their area, while 19 percent said that water shortages are their main concern.<sup>411</sup>

#### Water scarcity and use

Water scarcity is an issue for particular regions and their water basins; the regions of Rio Bravo, Lerma-Santiago-Pacifico, the Valley of Mexico, and Yucatán, where 53 percent of the population lives and which contribute 64 percent of GDP, only possess 17.2 percent of the country's renewable water resources.<sup>412</sup> The map below shows the hydrological-administrative regions which are the scope of competence of the River Basin Organizations under the water authority, CONAGUA.

**Figure 5.8 Hydrological-administrative regions in Mexico and their headquarters**



Source: CONAGUA (2010): Statistics on Water in Mexico, 2010 edition.

Consequently, water availability per capita varies greatly between regions, between 153 m<sup>3</sup>/person/year in the Valley of Mexico and 22,185 m<sup>3</sup>/person/year in the Southern Border (Frontera Sur) region. Apart from the Valley of Mexico region, four further regions can be considered as under water stress (with renewable water resources of less than 1,700 m<sup>3</sup>/person/year).<sup>413</sup> Overall, Mexico's water stress can thus be considered moderate.<sup>414</sup>

When relating water stress and GDP contribution of regions, it is also important to consider that agricultural activities typically happen in areas with suitable renewable water availability (enough rainfall), while they do not make a large contribution to GDP. From the WIOD database, a timeline of blue, green and grey water use in Mexico can be sourced, covering the years 2000 until 2009. In

<sup>411</sup> Reported in OECD (2013), p. 33.

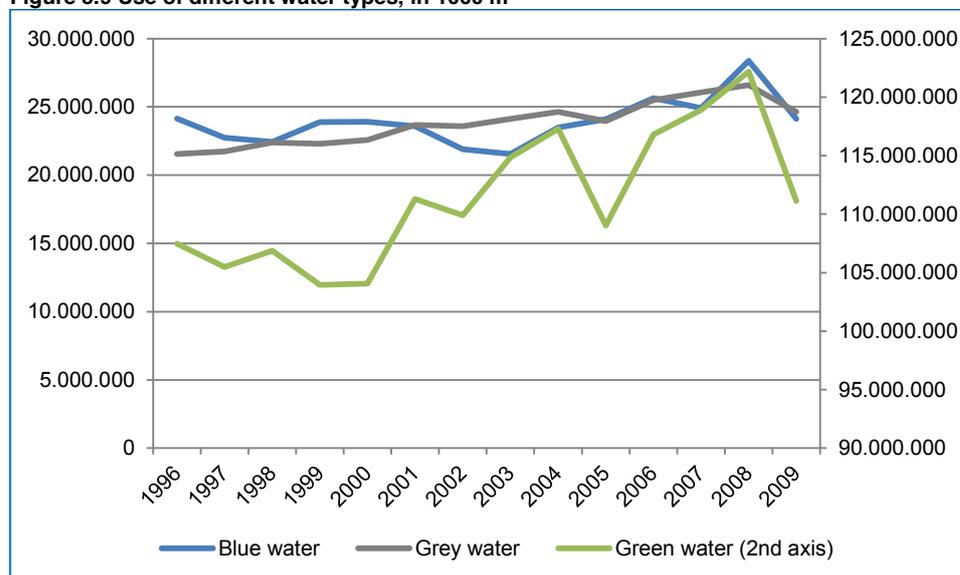
<sup>412</sup> CONAGUA (2013): Estadísticas del Agua en México, Edición 2013.

<sup>413</sup> CONAGUA (2013): Estadísticas del Agua en México, Edición 2013. For the definition see CONAGUA (2010): Statistics on Water in Mexico, 2010 edition.

<sup>414</sup> OECD (2013).

this categorization, blue water stands for consumption of surface and ground water; green water is the volume of rainwater consumed, mainly in crop production; and grey water is the volume of freshwater that is required to assimilate the load of pollutants based on existing ambient water quality standards.<sup>415</sup> The three indicators together thus give a good picture of both freshwater use and water pollution issues.

**Figure 5.9 Use of different water types, in 1000 m<sup>3</sup>**



Source: WIOD Environmental Accounts.

Greenwater use (i.e. rainwater use in agriculture) is around five times higher than blue water use. This shows the importance of rainfall in agriculture. Precipitation is much higher in the southern regions, where agriculture concentrates on different products such as crops, fruit and vegetables, whereas “pastoral use of land is widespread [...] particularly in arid and semiarid northern Mexico.”<sup>416</sup> In fact, the highly arid conditions in many parts of the country “set clear limits to the agricultural use of land”<sup>417</sup> (see also the map in **Figure 5.10**). Based on 2007 data (the latest available), 30.22 million hectares are used for agricultural production in Mexico, or 15 percent of the land area. Only 18 percent of this agricultural land is irrigated, the rest is rainfed. It has to be noted that the yield of irrigation agriculture is around 3 times as high as that of rainfed agriculture.<sup>418</sup>

As one can see, green water use has increased over the years (corresponding to increased conversion of other land to agriculture). Although blue water use has increased only slightly since 1996, the importance of irrigation in water use is relevant; Mexico has the sixth largest irrigation infrastructure area worldwide, and is in 8<sup>th</sup> place worldwide in renewable water extraction (compared to rank 88 in renewable water availability)<sup>419</sup> with agricultural use accounting for 76.6 percent of the water withdrawal. Public water supply represents another 14.5 percent, whereas self-supplying industry and thermoelectric power plants share the remaining 9 percent.<sup>420</sup> In the WIOD database, the share of agriculture is lower (66 percent) and that of the electricity sector is higher (27 percent), because in the blue water methodology, water losses in hydroelectric power plants

<sup>415</sup> See Aurélien Genty et al. (2012): Final Database of Environmental Satellite Accounts: Technical Report on their Compilation. WIOD Deliverable 4.6.

<sup>416</sup> Ricardo Améndola, Epigmenio Castillo & Pedro A. Martínez (2006): Country Pasture/Forage Resource Profiles: Mexico.

<sup>417</sup> Ricardo Améndola, Epigmenio Castillo & Pedro A. Martínez (2006): Country Pasture/Forage Resource Profiles: Mexico.

<sup>418</sup> CONAGUA (2013): Estadísticas del Agua en México, Edición 2013.

<sup>419</sup> CONAGUA (2010): Statistics on Water in Mexico, 2010 edition, sourced from FAO; data for 2008.

<sup>420</sup> Own calculations based on CONAGUA (2013): Estadísticas del Agua en México, Edición 2013. Values for 2012.

are included. Note that Mexico has around 5,000 dams and water retention berms, which both form part of the water infrastructure and are often used for electricity generation.<sup>421</sup>

**Figure 5.10 Agro-ecological regions of Mexico**

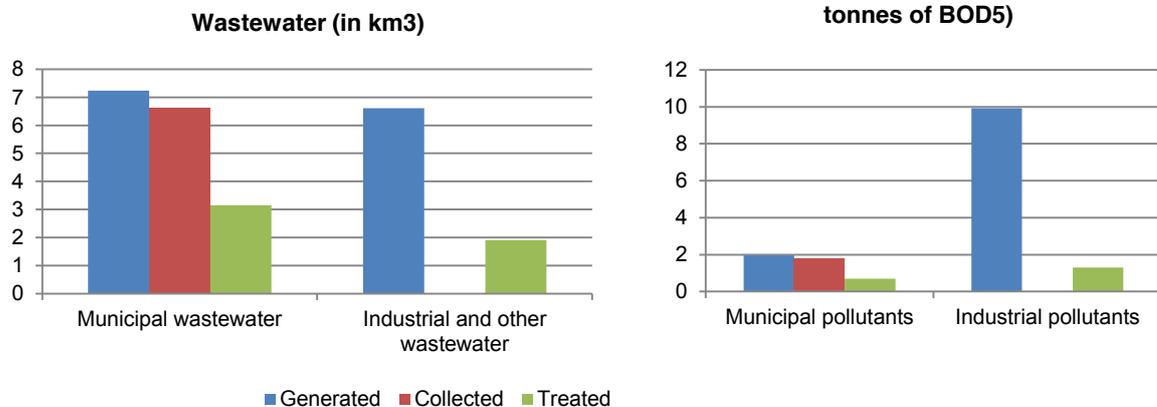


Source: FAO, available at <http://www.fao.org/ag/agp/AGPC/doc/Counprof/Mexico/figure2.htm>.

### Wastewater

The use of grey water and the topic of water infrastructure lead us to wastewater issues. Grey water use has slowly, but steadily risen since 1996, indicating that increasing amounts of wastewater are produced which need to be treated or prepared for appropriate reuse. In 2012, 92 percent of urban wastewater were collected, and 43.5 percent treated. This corresponded to a treatment of 35 percent of municipal pollutants (measured as the 5-day Biochemical Oxygen Demand, BOD<sub>5</sub>).<sup>422</sup> Industrial wastewater has higher amounts of pollutants, but is treated less, as the graphs below show.

**Figure 5.11 Wastewater statistics, 2012**



Source: own representation based on CONAGUA (2013): Estadísticas del Agua en México, Edición 2013.

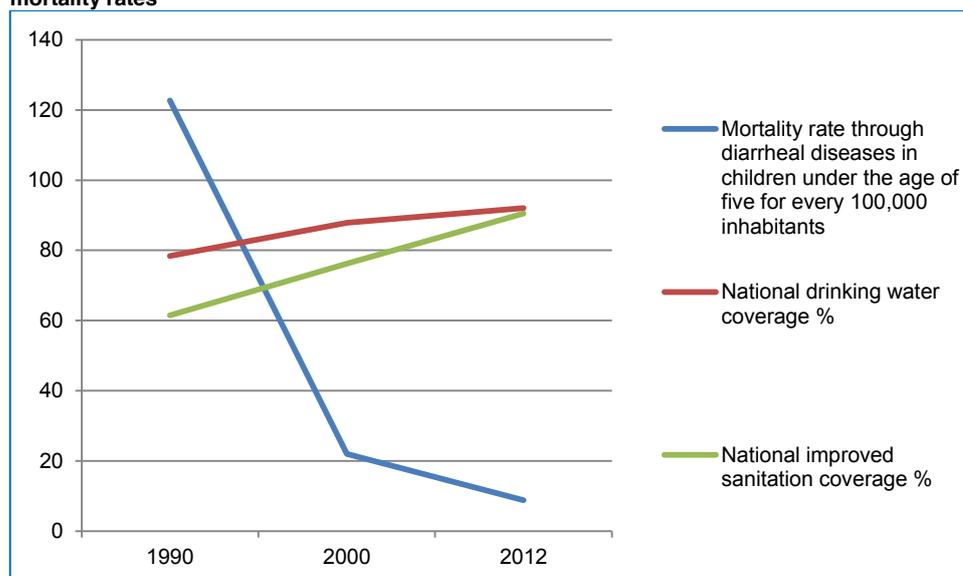
<sup>421</sup> CONAGUA (2013): Estadísticas del Agua en México, Edición 2013.

<sup>422</sup> CONAGUA (2013): Estadísticas del Agua en México, Edición 2013.

The current treatment rates are however a remarkable achievement when looking at the situation in the 1990s. Treatment of municipal wastewater increased from 1.06 km<sup>3</sup> in 1999 to 3.15 km<sup>3</sup> in 2012. In the case of industrial wastewater treatment, it started at 0.69 km<sup>3</sup> in 1999 and showed a rapid improvement after 2009, when it jumped from 1.16 km<sup>3</sup> to 1.91 km<sup>3</sup> in 2012. There are now 2,342 treatment plants for municipal wastewater, and 2,530 for industrial wastewater (numbers for 2012). Only 3 percent of the industrial wastewater undergoes tertiary treatment (i.e. biological treatment to remove dissolved materials); 31 percent receives only primary treatment.<sup>423</sup> A substantial part of Mexican wastewater is reused, particularly in agriculture, but also in industry and partly in thermoelectric power plants.<sup>424</sup> Reuse is helpful from the perspective of water scarcity, but poses environmental and health risks due to the potential contamination of soil and agricultural products, and even the eventual reduction in quality of underlying aquifers. However, at least planned reuse occurs only after secondary treatment.<sup>425</sup>

The improvements in treatment rates are also reflected in the substantial increase in access to improved sanitation, from 61.5 percent of the population in 1990 to 76.2 percent in 2000 and 90.5 percent in 2012. Access to drinking water also improved, from 78.4 percent in 1990 to 87.9 percent in 2000 and 92 percent in 2012. During the same time frame, the mortality rate through diarrheal diseases in children under the age of five dropped from 122.7 for every 100,000 inhabitants in 1990 to 22.0 in 2000, and further to 8.8 in 2012,<sup>426</sup> as can be seen in **Figure 5.12** below.

**Figure 5.12 Development of Mexican water and sanitation access and corresponding declining child mortality rates**



Source: own representation based on CONAGUA (2013): Estadísticas del Agua en México, Edición 2013.

However, the picture is not altogether positive yet. Especially in connection with tourism, Mexican water infrastructure is still sometimes not sufficient. In 2003 for example, several Mexican tourist centres had problems with delivering safe drinking water, overstretched sewer systems, and also were not able to systematically collect garbage (see also section on waste).<sup>427</sup>

<sup>423</sup> CONAGUA (2013): Estadísticas del Agua en México, Edición 2013.

<sup>424</sup> Data for 2008 in: CONAGUA (2010): Statistics on Water in Mexico, 2010 edition.

<sup>425</sup> Blanca Jiménez-Cisneros (2012): The Planned and Unplanned Reuse of Mexico City's Wastewater, available at <http://www.reclaimedwater.net/data/files/238.pdf>.

<sup>426</sup> CONAGUA (2013): Estadísticas del Agua en México, Edición 2013.

<sup>427</sup> Kirkwood, Burton (2010): The History of Mexico, 2nd ed.

Moreover, the still substantial amounts of untreated wastewater are an environmental concern, again particularly in tourism areas. “The wastewater is often discharged directly into lagoons and bays such as Chetumal Bay and Nitchupé Lagoon in Cancun, Mexico.”<sup>428</sup> Especially grease, oil, total suspended solids, BOD and faecal coliforms have been measured above permitted levels. Also metals, pesticides, pharmaceutical and personal care products are released into the Gulf of Mexico; sometimes the wastewater treatment plants are insufficiently designed to remove these pollutants. Mercury is the main cause for fish and shellfish consumption alerts in the Gulf of Mexico.<sup>429</sup> For the impacts of pollution of the sea, please also refer to the section on ecosystems.

### Policies and management

CONAGUA is the national water agency under the Ministry of Environment (SEMARNAT). It works together with entities at several governance levels: Water supply and sanitation fall, by constitution, under the responsibility of municipalities; and river basin / aquifer management is performed in 12 River Basin Organizations (corresponding to hydrological-administrative regions, see **Figure 5.8**).

Nevertheless, the federal government has recently become more actively involved in water issues, providing more financial resources to municipalities and developing framework programmes.<sup>430</sup> The 2007-2012 National Water Programme set out eight overall objectives ranging from sanitation access to climate change impacts and payment systems:<sup>431</sup>

1. Improve water productivity in the agricultural sector;
2. Increase access to and quality of drinking water, sewerage, and sanitation services;
3. Promote integrated, sustainable water management in river basins and aquifers;
4. Enhance the technical, administrative, and financial development of the water sector;
5. Consolidate the participation of users and organized society in water management and promote a culture for the proper use of this resource;
6. Prevent risks related to meteorological and hydro-meteorological events and attend to their effects;
7. assess the effects of climate change on the hydrological cycle;
8. Create a culture for paying duties and complying with the Law on National Waters in its administrative aspects.

Implementation followed through a set of programmes through which the federal government provided additional resources to municipalities:<sup>432</sup>

- PROMAGUA: modernise water service providers;
- PRODDER: improve efficiency and develop infrastructure;
- APAZU: build new water supply, wastewater collection and wastewater treatment infrastructure in urban areas;
- PROSSAPYS: enhance sustainability of rural water and sanitation services;
- Agua Limpia: improve drinking water quality;
- Water Sustainability of the Mexico Valley Basin.

There are also further programmes in the field of water resource management, especially aimed at improved irrigation infrastructure and practices.

<sup>428</sup> UNEP (2006). Caribbean Sea/Colombia & Venezuela, Caribbean Sea/Central America & Mexico, GIWA Regional assessment 3b, 3c; p. 38.

<sup>429</sup> Integrated Assessment and Management of the Gulf of Mexico Large Marine Ecosystem Project (2011): Transboundary Diagnostic Analysis.

<sup>430</sup> OECD (2013).

<sup>431</sup> See CONAGUA (2008): National Water Program 2007-2012.

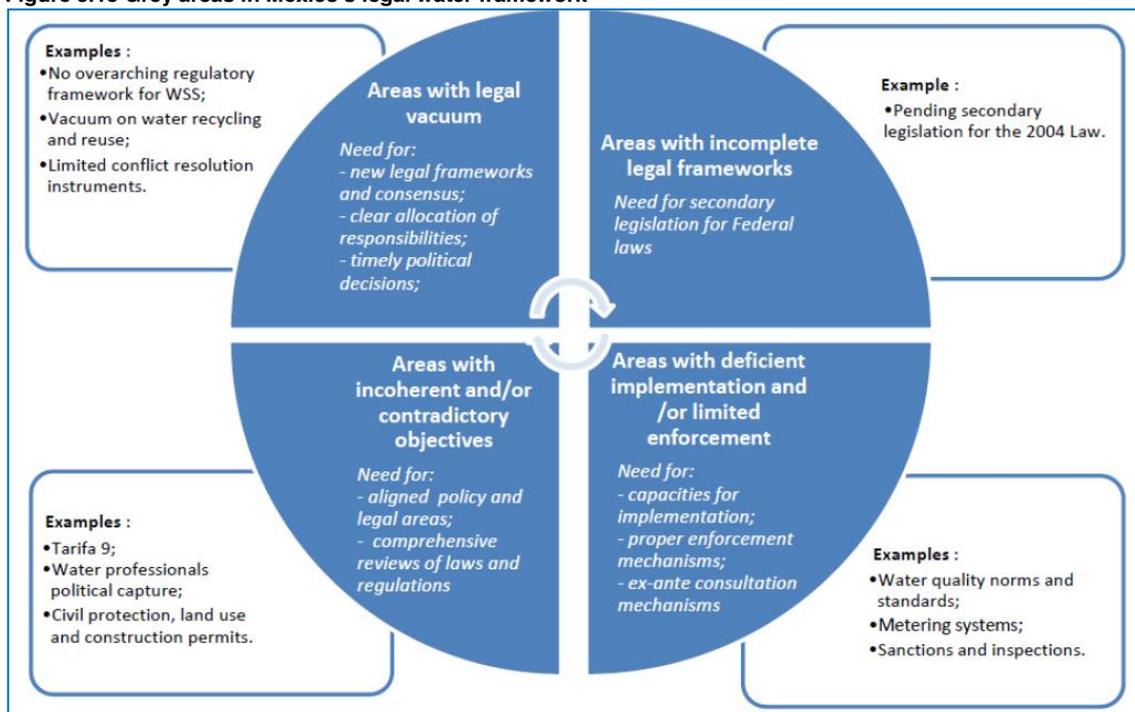
<sup>432</sup> OECD (2013).

The federal government's increased engagement meant a tripling of its investments in the water sector over the last decade, and is also reflected in the rising CONAGUA budget: it went from 14,711 million pesos in 2002 (or 64 percent of SEMARNAT's budget) to 36,399 million pesos in 2011 (71.1 percent).<sup>433</sup> In 2011, the Water Agenda 2030 was issued by CONAGUA after a one-year consultation process with key stakeholders at local, state and national level. It identifies 38 initiatives around the themes of basins in balance, clean rivers, coverage of water and sanitation services, and safe settlements. While it does not commit future presidential administrations, it provides a framework for policy development, particularly through the built-in annual stakeholder involvement<sup>434</sup>, given the multi-level governance gaps and the fragmented institutional setting.

Apart from addressing layered responsibilities and lack of coordination, the reforms would also need to address the economic fundamentals underlying water issues. Mexico does not charge reasonable water tariffs and pays substantial subsidies to electricity for irrigation pumping. Apart from that, some legislative and enforcement gaps still need to be closed, and financing gaps in the Water Agenda need to be addressed as quickly as possible to avoid bottlenecks.<sup>435</sup>

A figure by OECD (2012) highlights the remaining problems in Mexico's legal framework.

**Figure 5.13 Grey areas in Mexico's legal water framework**



Source: OECD (2012): Making water reform happen in Mexico. Assessment and Recommendations.

In economic terms, the water sector is one of the most important environmental services sectors in Mexico, not unlike or even more so than in other countries. Water utilities contributed an estimated 25 percent of the Mexican market in environmental goods and services (EGS) in 1995, although this share has declined to 20 percent in 2006. Water treatment added a share of 17 and 19 percent in the respective years. The rising importance of water treatment is also reflected in the increasing importance of water equipment and chemicals, at a share of the Mexican EGS market of 7 and 10 percent, respectively. Notably, imports of environmental goods are high, contributing 80 percent of all water equipment and chemicals in 2001, and only slightly less (78 percent) in 2006. In the water

<sup>433</sup> OECD (2013). Budget figures are given in 2011 prices.

<sup>434</sup> OECD (2013).

<sup>435</sup> OECD (2012): Making water reform happen in Mexico. Assessment and Recommendations.

services sectors, import shares have increased; for water utilities from 33 to 44 percent, and for water treatment works from 33 to a remarkable 66 percent.

### 5.1.5 Waste

#### Municipal solid waste

Municipal waste generation in Mexico increased by 34 percent between 2000 and 2011, faster than economic growth and population growth. Still, reflecting lasting differences in income, per capita municipal solid waste (MSW) generation in Mexico is far below the OECD average, at 540 kg per year (an increase from 330 kg in 1995). Large variations exist between urban and rural areas, as well as between income groups.<sup>436</sup>

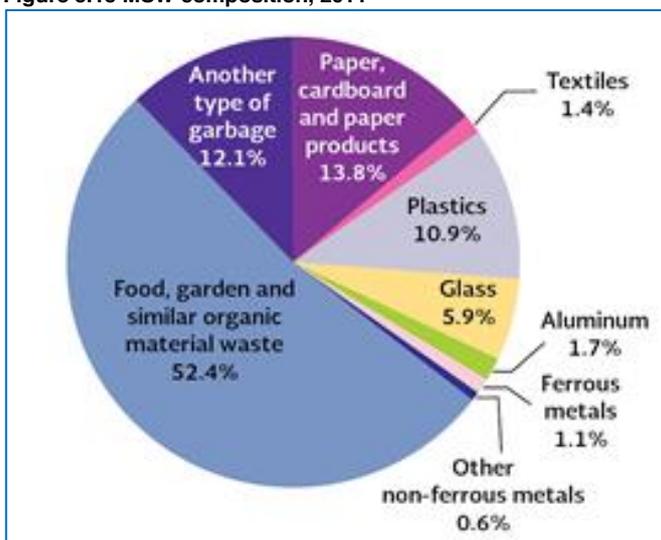
Figure 5.14 MSW generation by type of locality (2011), in percent, compared to population



Source: SEMARNAT (2012): Mexico's State of the Environment Report 2012.

Roughly half of MSW generated is organic; again, there are differences between regions and income groups, with low-income households having a higher share of organic waste. Of the other significant waste types, many have high recycling potential (e.g. paper, plastics, metals, and glass).

Figure 5.15 MSW composition, 2011



Source: SEMARNAT (2012): Mexico's State of the Environment Report 2012.

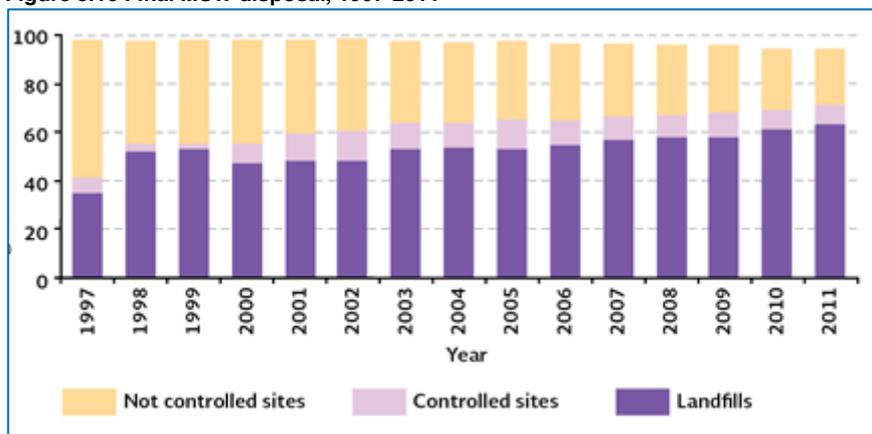
<sup>436</sup> OECD (2013); SEMARNAT (2008); OECD (2014).

At federal level, the General Law on Waste Management was adopted in 2003; detailed regulations followed in 2006.<sup>437</sup> The law regulates waste management and procedures for opening and closing waste dumps.<sup>438</sup> Actual responsibility for waste management, however, lies with the municipalities. “Between 2007 and 2011 most of the states and more than 250 municipalities issued their respective waste regulations.”<sup>439</sup> Waste collection and recycling activities are performed both by municipalities and private parties; the terms and responsibilities between them and between different private parties are often unclear, though. This is partly due to the fact that the General Law on Waste Management fails to clarify who owns the waste before it falls under the municipalities’ authority – the producer, the collector or the waste dump manager – which makes it difficult to engage in profitmaking garbage activities.<sup>440</sup>

These difficulties help to explain why, although MSW collection rates have increased from 70 percent in 1996 to 93 percent in 2011, recycling rates are still extremely low – they increased from less than 2.5 percent in 1997 to 5 percent in 2011. However, informal recycling activities may play a role alongside formal recycling. According to 2011 data of the officially documented recycling, paper and carton had the highest share in recycled MSW (42 percent), followed by glass (29 percent) and metals (28 percent).<sup>441</sup>

The remainder of the collected waste is disposed of in controlled and uncontrolled landfills. Mexico has the second-highest rate of landfilling within the OECD. In 1997, almost 60 percent of waste was dumped in uncontrolled sites; this number was reduced to 30 percent in 2007. In 2011, 72 percent of collected waste was disposed of in controlled or sanitary landfills.<sup>442</sup> The number of landfills increased from 30 to 196 between 1995 and 2011, including in total 20 controlled landfills. Again, large differences between regions prevail, with states such as Oaxaca and Veracruz lacking infrastructure.<sup>443</sup>

**Figure 5.16 Final MSW disposal, 1997-2011**



Source: SEMARNAT (2012): Mexico’s State of the Environment Report 2012. The difference between the shown bars and 100 percent is the amount recycled.

<sup>437</sup> The instruments included NOM-083-SEMARNAT-2003 for the location, design and operation of disposal sites and the closure of dumps, as well as several related to hazardous waste management (defining characteristics of hazards NOM-052-SEMARNAT-2005, waste management PROY-NOM-160-SEMARNAT-2011, disposal NOM-055-SEMARNAT-2003 and polychlorinated biphenyls NOM-133-SEMARNAT-2000). See OECD (2013).

<sup>438</sup> Emilio Godoy (2012): The waste mountain engulfing Mexico City.

<sup>439</sup> OECD (2013).

<sup>440</sup> Emilio Godoy (2012): The waste mountain engulfing Mexico City; Nathalie Jean Baptiste (2007): People, Nature & Waste. The Ecological Value of Waste in Urban Areas. Case of Jiutepec, Morelos, Mexico.

<sup>441</sup> SEMARNAT (2012), OECD (2013).

<sup>442</sup> SEMARNAT (2012), OECD (2013).

<sup>443</sup> SEMARNAT (2012), SEMARNAT (2008), OECD (2013).

Uncontrolled and underground sites have led to water and air pollution problems.<sup>444</sup> Moreover, the high amount of landfilling and the high share of organic waste leads to significant methane emissions from waste, which have increased faster than IEA estimates. Reducing these emissions would be a low-cost option for climate change mitigation, and was supposed to contribute 4.4 million tonnes of CO<sub>2</sub>eq to the 2012 mitigation goal set in the Special Programme on Climate Change (see also the section on climate change). A number of CDM projects recovering biogas from landfills have been implemented. However, by mid-2012, only 41 percent of this goal had been achieved. “To achieve the emission reductions required by the mitigation scenario (20% under a BAU scenario by 2020 and 61% by 2030), Mexico will need to strengthen municipal institutional capacity for waste management and expand the use of CDM waste-to-energy projects.”<sup>445</sup>

Opposition from local residents seems to be an issue and in 2009 led to the suspension of plans to build “Centros Integrales de Reciclado y Energía” (CIRE), which were intended to produce compost from organic waste, recycle inorganic materials, and generate electricity. One of the problems is that in order to generate electricity from waste gases, the dumpsites need to be closed. In the case of Mexico City, the closure of the Bordo Poniente landfill was not immediately accompanied by a clear plan to substitute for its capacity, leading to problems at the two other landfills in the state and creating conflicts between city and state level as well as with neighbouring municipalities who refused to accept the additional waste. Moreover, the closure of the site meant that informal waste pickers could not continue with their activities and thus lost their source of income.<sup>446</sup> However, by now the city’s plan to reduce waste and increase recycling appears to have borne some fruit – only 5,500 of the 12,500 tonnes of MSW generated daily now go to landfill, with the remainder being recycled by both private and public authorities (providing jobs to former waste pickers), being diverted into energy, and converted into compost. The biogas generation from the closed landfill will be performed by a Mexican-Spanish consortium, which has signed a contract for 25 years.<sup>447</sup>

### Hazardous waste

Turning to hazardous waste, the data on its generation are difficult to assess because different estimates arrive at different results and vary between 2.1 and 8 million tonnes per year.<sup>448</sup> The “Registry of Producers of Hazardous Waste” is not available in all states and does not include all hazardous waste producers, and therefore its reports are underestimating the actual volumes. The industrial sector operates its own management system in some places, which is not controlled by local authorities and therefore their waste generation may not appear in statistics.<sup>449</sup> What can be reported based on the Registry data, however, are the relative shares of different types of wastes (see figure below).

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<sup>444</sup> Emilio Godoy (2012): The waste mountain engulfing Mexico City.

<sup>445</sup> OECD (2013).

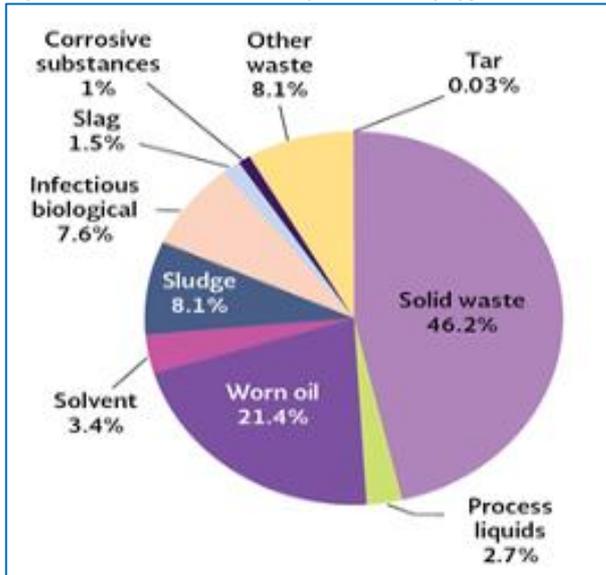
<sup>446</sup> Emilio Godoy (2012): The waste mountain engulfing Mexico City; Nick Michell (2013): How Mexico City has turned garbage into fuel.

<sup>447</sup> Nick Michell (2013): How Mexico City has turned garbage into fuel.

<sup>448</sup> It should be noted though that the data on MSW generation in Mexico has limitations as well, as it is also based on estimates rather than direct measurements; nevertheless, these estimates appear to be more consistent. See Nathalie Jean Baptiste (2007): People, Nature & Waste. The Ecological Value of Waste in Urban Areas. Case of Jiutepec, Morelos, Mexico.

<sup>449</sup> Nathalie Jean Baptiste (2007): People, Nature & Waste. The Ecological Value of Waste in Urban Areas. Case of Jiutepec, Morelos, Mexico.

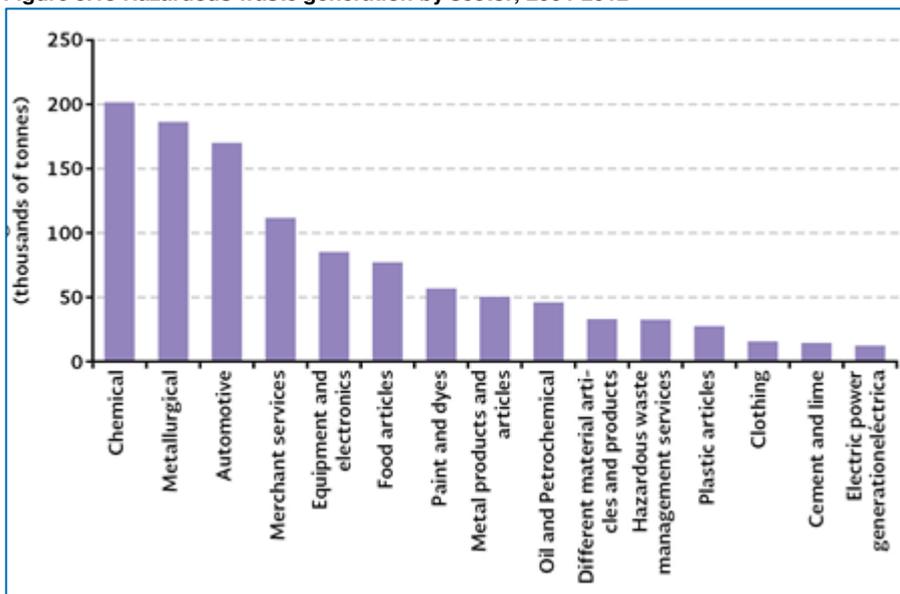
Figure 5.17 Hazardous waste generation by type of waste



As reported by companies in the List of Hazardous Waste Producers. Source: SEMARNAT (2012).

The major component is solid waste, which includes among other things waste of automotive maintenance, asbestos, fabrics, leather and heavy metals. The main sectors generating hazardous waste are chemicals, metallurgy, and automotives.

Figure 5.18 Hazardous waste generation by sector, 2004-2012



Source: SEMARNAT (2012): Mexico's State of the Environment Report 2012.

For the collection and treatment of hazardous waste, the numbers are also inconclusive. According to the OECD (2013), capacity more than tripled since 2000 to 17.6 million tonnes in 2011, thereby exceeding the target set for 2012 in the Programme for environment and natural resources.<sup>450</sup> Similarly, SEMARNAT's state of the environment report of 2008 shows a constant increase in hazardous waste treatment capacity between 1999 and 2008.<sup>451</sup> However, according to the more recent State of the Environment Report of 2012, approved installed capacity for hazardous waste

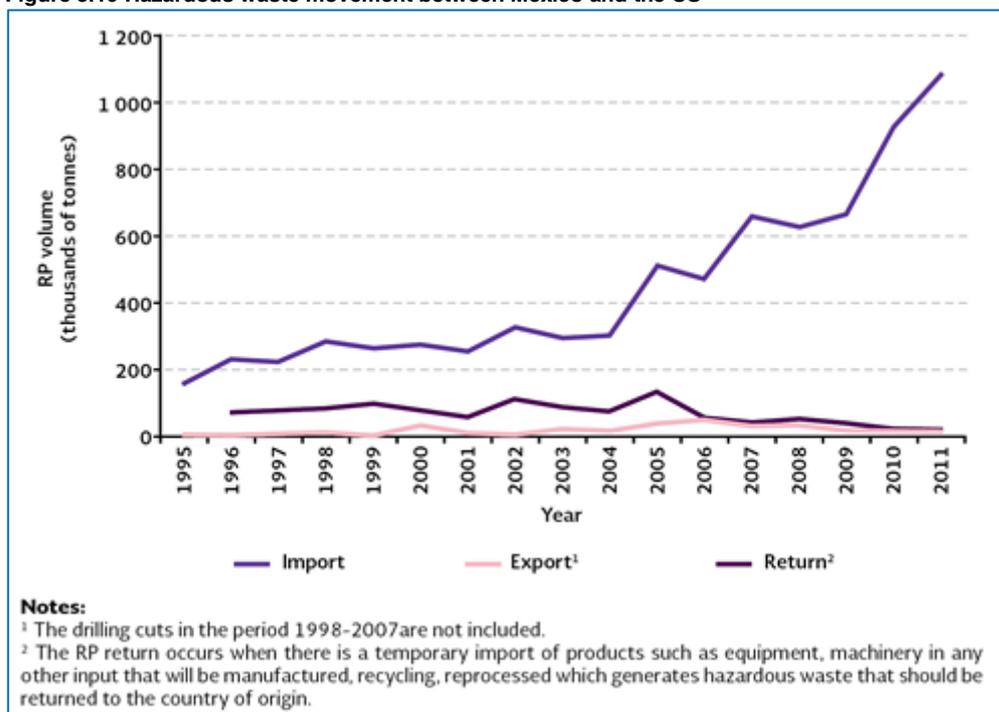
<sup>450</sup> OECD (2013).

<sup>451</sup> SEMARNAT (2008).

management appears to be quite volatile and no clear trend is visible.<sup>452</sup> Due to the uncertainty of the data, no figures on this are reported here.

Data coverage is better on the significant exchange of hazardous wastes between Mexico and the United States, with Mexico importing mainly solid wastes and automobile batteries from the US. A large share of Mexico's hazardous waste exports to the US between 1995 and 2006 involved drilling waste.<sup>453</sup> However since 2006 this no longer falls under the definition of hazardous waste<sup>454</sup> and is therefore not included in the graph below.

**Figure 5.19 Hazardous waste movement between Mexico and the US**



Source: SEMARNAT (2012): Mexico's State of the Environment Report 2012.

In this context, it is also important to look at waste management as an economic sector. Waste management provided 38,805 jobs in Mexico in 2009, followed by material recycling with 37,752 jobs. Especially the latter is a remarkable number given the low recycling share in Mexican municipal solid waste, but it seems to be driven by recycling activities in hazardous waste. Environmental markets have moderately increased in Mexico in the last decades. According to Ferrier (2010), progress was mainly driven by domestic policies, accompanied by increased presence of foreign firms with higher environmental standards which increased demand for environmental services.<sup>455</sup> A large share of these services is actually offered by foreign firms: 27 percent of the waste management market, and 44 percent of hazardous waste management in Mexico involve services imported from abroad.<sup>456</sup>

### 5.1.6 Climate change

Mexico is simultaneously a large emitter of greenhouse gases, a large supplier of fossil fuels, a vociferous actor on climate change at the international stage, and a country highly at risk from climate change effects.

<sup>452</sup> SEMARNAT (2012).

<sup>453</sup> SEMARNAT (2008).

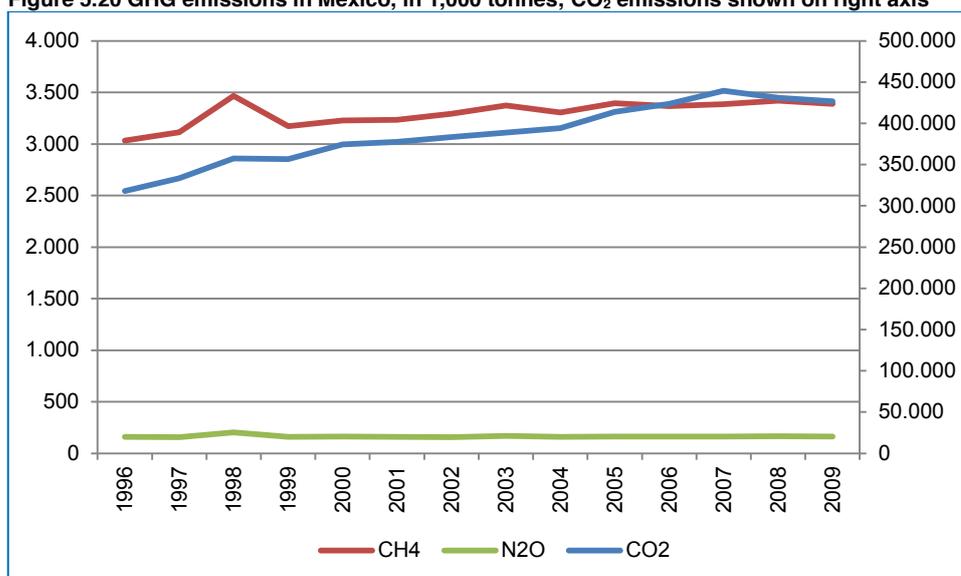
<sup>454</sup> [http://app1.semarnat.gob.mx/dgeia/informe\\_12eng/07\\_residuos/recuadro8\\_2008.html](http://app1.semarnat.gob.mx/dgeia/informe_12eng/07_residuos/recuadro8_2008.html).

<sup>455</sup> Ferrier (2010), The evolution of the environmental industry in the post-NAFTA era in Mexico.

<sup>456</sup> OECD (2013).

## Emissions and mitigation policies

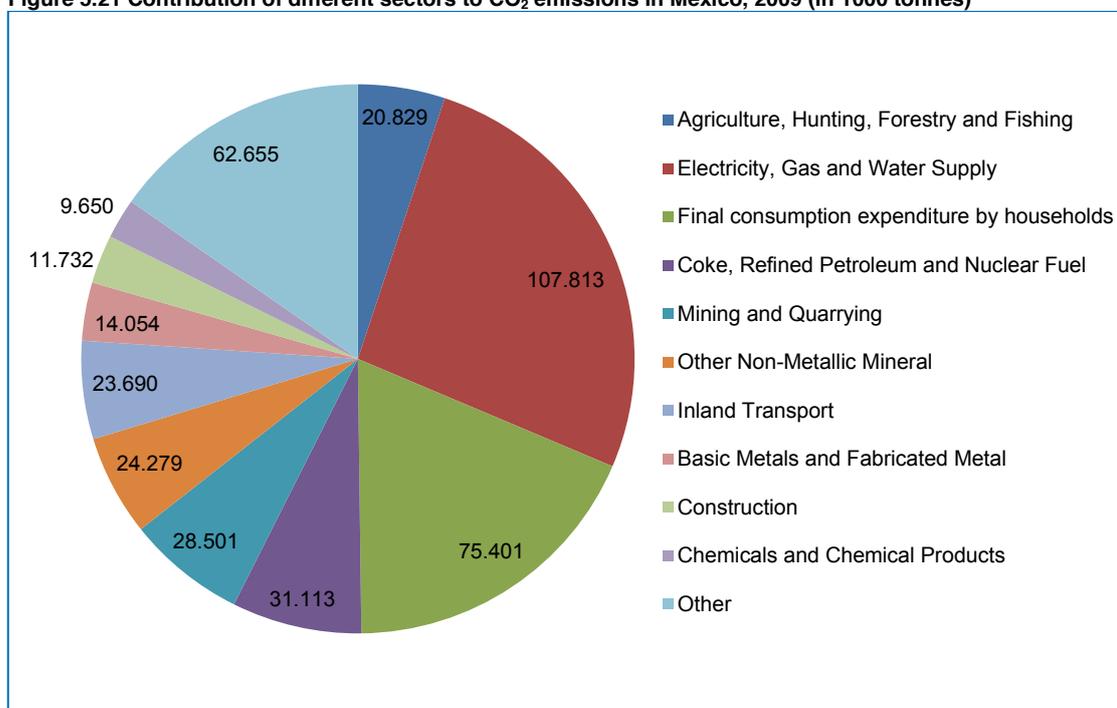
**Figure 5.20 GHG emissions in Mexico, in 1,000 tonnes; CO<sub>2</sub> emissions shown on right axis**



Source: WIOD.

The above data – including only emissions that can be attributed to economic or household activity – indicate that methane and nitrous dioxide have only shown a small increase in the depicted period (by 12 and 3 percent, respectively), while CO<sub>2</sub> emissions have risen significantly (by 34 percent). According to UNFCCC data, CO<sub>2</sub> emissions from Land Use, Land Use Change and Forestry (LULUCF, not included in the above data) amounted to 69,778 thousand tonnes in 2006, equivalent to an additional 17 percent of the CO<sub>2</sub> emissions of that year.<sup>457</sup>

**Figure 5.21 Contribution of different sectors to CO<sub>2</sub> emissions in Mexico, 2009 (in 1000 tonnes)**



Source: WIOD Environmental Accounts.

<sup>457</sup> See <http://unfccc.int/di/DetailedByParty.do>.

For the non-LULUCF CO<sub>2</sub> emissions, the major emitting sectors in Mexico are electricity, gas and water supply, followed by final consumption expenditure by households (which includes both private cars and residential fuel use). Other important CO<sub>2</sub> emitters are the refining industry, mining and quarrying, and further metal and mineral processing.

For methane, the largest emitter is agriculture and forestry (2.25 million tonnes of CH<sub>4</sub> in 2009), followed by “Other Community, Social and Personal Services” (789 thousand tonnes), which includes waste management and thus the significant emissions of methane from landfilled waste (see also the section on waste management).<sup>458</sup>

Greenhouse gas emissions in Mexico are thus predominantly linked to the energy sector as well as the country’s various natural resources and their processing, complemented by private fuel use (mainly transport) and some (methane) emissions from waste and agriculture. (Note that agricultural activities also play a large role in emissions from land use change, which are not included in this sectoral data.) The sector shares have not varied greatly over the years; compared to 1995, mining and quarrying as well as construction have gained in importance.

The transport sector is the fastest-growing consumer of energy in the country. The rate of private car ownership increased from 10 to 19 cars per 100 inhabitants in the last 10 years; half of this increase can be attributed to imports of used cars from the US, which are older than 10 years and thus lag behind more recent fuel efficiency developments.<sup>459</sup> As mentioned above, the structure of the Mexican fuel tax, which turns into a subsidy in case the oil price crosses a certain threshold, is a problem in this context. “According to an OECD estimate, this was equivalent to subsidizing CO<sub>2</sub> emissions from transport at a rate of USD 234 per tonne of CO<sub>2</sub>”<sup>460</sup> in 2008. Other energy subsidies, such as on electricity use, are in place as well; they are meant to ensure access to energy services for low-income households, but are inefficient as higher income groups profit more-than-proportionally from these subsidies and this drives up their costs. “In 2008, the energy subsidies cost more than twice the amount spent on anti-poverty programmes and 1.4 times the health budget”<sup>461</sup>.

Looking at dedicated climate action policies,<sup>462</sup> it is noteworthy in the international context that Mexico is a party to the United Nations Framework Convention on Climate Change and its Kyoto Protocol. It is the only non-Annex I country (i.e. without binding target) under the UNFCCC which has submitted four National Communications under the Convention; it also adopted voluntary emission reduction targets for 2012, 2020 and 2050. Mexico is the fourth-largest recipient of Clean Development Mechanism (CDM) projects, and is also involved in designing pilot project under the REDD+ initiative (Reducing Emissions from Deforestation and land Degradation). Apart from the use of market mechanisms under UNFCCC and Kyoto, Mexico hardly receives foreign funding for its climate action activities.<sup>463</sup>

Taking this to the national level, Mexico made real progress since establishing the Inter-Ministerial Commission on Climate Change (CICC) in 2005, charged with the formulation of national policies and strategies and chaired by SEMARNAT. The CICC has special working groups for sub-topics, such as adaptation policy, REDD+, or mitigation. In 2007, it developed the National Strategy on Climate Change; the Special Climate Change Programme (PECC) for 2009-2012 followed in 2009. The PECC set out a long-term vision including a decrease of emissions by 20 percent in 2020, and

<sup>458</sup> Data source: WIOD Environmental Accounts. See also OECD (2013).

<sup>459</sup> OECD (2013).

<sup>460</sup> OECD (2013), p. 63.

<sup>461</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013, p. 76.

<sup>462</sup> All information for the following paragraphs on Mexican climate policy comes from OECD (2013), unless otherwise noted.

<sup>463</sup> See OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

70 percent by 2050, compared to a business-as-usual (BAU) scenario, and identified measures and goals for mitigation and adaptation. “Overall, PECC committed federal agencies to 105 objectives and 294 targets for mitigation, adaptation and mainstreaming.”<sup>464</sup>

By adopting the General Law on Climate Change in June 2012, Mexico consolidated its achievements and targets in one law; the General Law also lays out a framework of institutions at federal and local levels. As stressed by the OECD (2013), its effectiveness will depend on its implementation. For example, the above-mentioned targets are formulated as relative to a BAU scenario, and conditional on international support; responsibilities for achieving the targets are not clearly specified. Moreover, in contrast to Mexico’s use of economic instruments in ecosystems protection, market-based approaches have hardly been used so far in Mexican climate policy (apart from those under the Kyoto Protocol). The General Law on Climate Change does authorize the CICC to set up an emission market and to establish a regulating entity, but their design is not clear at this stage.

In 2014, the successor to the 2009-2012 PECC was launched: the 2014-2018 Special Climate Change Program.<sup>465</sup> It mainly stated objectives and relevant action areas, and named “instruments to be designed for implementing the national climate change policy.”<sup>466</sup> For instance, the National Emissions Inventory and the National Emissions Registry, mandatory regulations to reduce GHG emissions, as well as economic, financial and market instruments such as a carbon tax, a voluntary emissions trading system, and a Climate Change Fund.<sup>467</sup>

### Energy policy

The achievements of Mexican climate policy are interlinked with the country’s energy policy. This is related to energy subsidies (as discussed above), renewable energy development, and own fossil fuel extraction. Especially the latter is very significant economically – revenues from oil contributed 8 percent of GDP in 2010, and 30 percent of the tax revenues is related to oil production.<sup>468</sup> The use of renewable energy in Mexico increased only marginally between 2000 and 2010; the share of renewables in electricity production even declined. Biomass is the main renewable fuel (48% of overall energy consumption covered by renewables); in electricity production, hydro has the largest share (78%), followed by geothermal energy (14%) – this makes Mexico a world leader in geothermal electricity production – and a very small share of wind energy (2.6 percent or electricity generation from renewables in 2010).<sup>469</sup> Relevant projects under the PECC include a wind power project and the promotion of self-supply projects for electrical energy generation with renewables.

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<sup>464</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013, p. 106.

<sup>465</sup> See SEMARNAT (2014): Programa Especial de Cambio Climático 2014-2018 (PECC). Índice general.

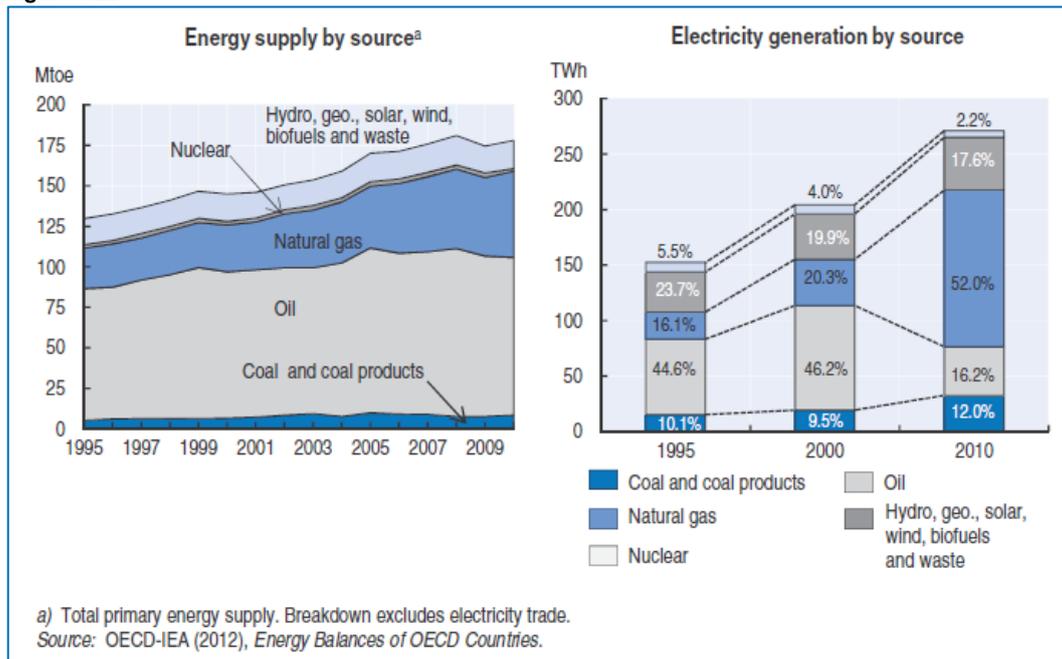
<sup>466</sup> SEMARNAT (2014): Special Climate Change Program 2014-2018. Executive Summary.

<sup>467</sup> SEMARNAT (2014): Special Climate Change Program 2014-2018. Executive Summary.

<sup>468</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

<sup>469</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

Figure 5.22



Fossil fuel extraction and electricity production / transmission / distribution in Mexico used to be state-owned and monopolized for decades. These sectors were also some of the notable exceptions for granting FDI access under NAFTA (no private company – domestic or international – was allowed to invest), although since 1992 there were some exceptions such as own electricity generation for industrial use, e.g. by the cement industry. Independent power producers (IPP) were also allowed, but they were obliged to sell all electricity to the Federal Electricity Commission (CFE), the state-owned electricity company (apart from electricity for own consumption, rural communities, or export). Between 1996 and 2011, the share of the private sector – mostly IPPs – in total electricity generation increased from 2 percent to 40 percent, although the CFE still was the main power producer. Most of the new capacity supplied by IPPs were gas-fired power plants; the development of renewables capacity was difficult because of the obligation to sell all electricity to the CFE at a fixed feed in tariff, leaving renewables uncompetitive.

In 2008, a set of laws reforming the energy sector were adopted, with implementing programmes starting in 2009. These included the Law for Sustainable Energy Use, the Law for Use of Renewables and Financing for Energy Transition, and the Law for Bioenergy Promotion and Development. Together with further programmes and activities, such as financing of demonstration projects and new regulatory instruments, this contributed to an increase of wind power capacity from 2 megawatt (MW) in 2006 to 1,012 MW in 2012<sup>470</sup>, corresponding to wind electricity production of 188 GWh in 2012. However, the share of wind energy in total produced electricity remained at 0.11 percent in 2012 and 2013.<sup>471</sup> Note that the deployment of wind farms is again a land use question and thus connected to social and indigenous issues, and some planned parks needed to be relocated after local protests.<sup>472</sup>

In fossil fuel extraction, the situation was similar to the electricity sector: a state monopoly (Petróleos Mexicanos, or Pemex) controlling all assets, and little incentive for efficiency gains. Private companies could only operate under contracts with Pemex. Mexico is a net exporter of oil and a net importer of natural gas. Oil production has decreased since 2004, while natural gas

<sup>470</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

<sup>471</sup> Own calculation based on INEGI (Instituto Nacional de Estadística y Geografía) (2014): Energía. Generación bruta de energía eléctrica por tipo.

<sup>472</sup> <http://www.renewableenergymexico.com/?p=1119>.

production increased until 2009, followed by a sharp decline after 2010 which meant that increasing volumes of natural gas needed to be imported.<sup>473</sup> “Mexico’s state ownership of its natural resources has been enshrined in the constitution since the 1930s” and has even been seen as contributing to national identity, making reforms in this area a social and cultural issue.<sup>474</sup>

In December 2013, the Mexican government announced – amongst other economic reforms – the most significant energy reform yet. It included the opening of the oil and gas and the electricity sector for private competition, which required an amendment to the constitution. The reform was enacted through the energy ministry and approved by Congress in the summer of 2014.<sup>475</sup>

Although significant oil assets (i.e. a large part of the proven reserves, less of the possible reserves<sup>476</sup>) will remain under Pemex control, the remainder will be open for private exploration, most likely by foreign investors. This can on the one hand mean a modernization of drilling and refining facilities, and thus less environmental impacts;<sup>477</sup> on the other hand, the reforms clearly had the aim to increase oil and gas extraction,<sup>478</sup> and will thus indirectly contribute to CO<sub>2</sub> emissions and climate change. This argument of course does not take into account short-term substitution effects in international oil markets; but from a global climate change perspective, where every tonne of hydrocarbons staying below the surface is good news for the climate, the Mexican activities to increase the extraction of hydrocarbons is not completely in line with the commitment on climate change mitigation.

The reform also affects the electricity sector. While the transmission and distribution networks will remain state-owned, generation and sales activities are opened to the private sector. CFE, the former state-owned monopoly, will evolve “from being an electricity company to a more encompassing energy company that provides services in both the electricity and natural gas segments.”<sup>479</sup> The Energy Regulation Commission will regulate and grant generation permits as well as transmission and distribution fees. Private investors can build and operate transmission and distribution networks through contracts with the CFE. Looking at the current high distribution network losses, it is expected that private companies will use the significant potential for efficiency improvements. The reform is also expected to improve generation efficiency. Moreover, generation from renewables is important in a climate change context; here, the reform assigns clean energy obligations to industry and requires the government to implement a transition strategy to promote the use of cleaner technologies and fuels. A special law for geothermal energy will be issued as well, in order to really leverage this important resource in Mexico.<sup>480</sup>

All the laws are now at the start of the implementation stage; for example, an independent system operator (ISO) is expected to be established by mid-November 2014. “The new reformed Mexican power sector will not begin to truly take shape until mid- to late-2015, and any private clean energy investment boom in such sector will likely occur thereafter.”<sup>481</sup>

### Climate change vulnerability and adaptation policies

Mexico has good reasons for being active on climate change, as its ecosystems and population are highly vulnerable to climate change effects. According to SEMARNAT’s report for its 2009-2012

<sup>473</sup> Deloitte Development LLC (2014), Mexican energy reform: Opportunity knocks.

<sup>474</sup> Will Grant (2014): Mexico energy reform divides opinion. BBC News.

<sup>475</sup> Deloitte Development LLC (2014), Mexican energy reform: Opportunity knocks; Will Grant (2014): Mexico energy reform divides opinion. BBC News; The Economist (2014), Mexico’s reforms: The power and the glory.

<sup>476</sup> <http://www.bbc.com/news/business-28776695>.

<sup>477</sup> Will Grant (2014): Mexico energy reform divides opinion. BBC News.

<sup>478</sup> Deloitte Development LLC (2014), Mexican energy reform: Opportunity knocks.

<sup>479</sup> Ana Givaudan (2014): Overhauling Mexico’s CFE and Electric Power Industry.

<sup>480</sup> Deloitte Development LLC (2014), Mexican energy reform: Opportunity knocks.

<sup>481</sup> Justin Miller (2014): Mexico’s New Power Industry Law: Implications for Clean Energy.

Special Climate Change Program, 15 percent of Mexico's territory, 68 percent of the population, and 71 percent of GDP are highly exposed to the risk of adverse climate change effects. Apart from increased temperatures, potential effects include changes in rainfall patterns (reduced rainfall in the north, heavy seasonal rainfall in the south) with drought and flood risks, and increased hurricane activity and intensity.<sup>482</sup> Sea level rise is expected to be “more dramatic than the global average”<sup>483</sup> along the Gulf of Mexico; it would inundate wetlands and lowlands, erode beaches, and increase the salinity of rivers and aquifers. The population would be directly affected by increased coastal flooding and by the threatened coastal structures.<sup>484</sup> Ecosystems would suffer from these changes, particularly forests in arid zones and marine ecosystems.<sup>485</sup> Ocean acidification (also caused by CO2 emissions) additionally endangers coral reefs.

The Special Climate Change Programs include adaptation policies in the areas of integrated risk management, water resources, agriculture, forestry and fisheries, ecosystems, energy, industry and services, transport and communication infrastructure, land-use planning and urban development, and public health. In phase 1 (2008-2012), activities concentrated on the gathering of information and collection of proposals for action; for example, a programme for modernizing the national meteorological services was launched. “Mexico has played a leading role in identifying approaches to water-related adaptation on the international agenda”<sup>486</sup>. Phase 2 of the adaptation approach, covering the years 2013-2030, will be crucial as it will be about the actual implementation of adaptation policies and measures, even including programmes to relocate settlements or infrastructure.<sup>487</sup> Most of the adaptation-related lines of action in the 2014-2018 PECC are related to land use planning, infrastructure and ecosystems, and attempt to integrate adaptation goals into these policy fields (e.g. with the goal to integrate climate change mitigation or adaptation criteria into Ecological Land Use Planning Programmes for 75 percent of the area by 2018).<sup>488</sup>

### 5.1.7 *Green growth and environmental goods and services*

This section looks at two special links between the economy and the environment: first, the relationship between economic growth and environmental performance is considered – in the context of “green growth”, the attempt to de-couple economic growth from the depletion and degradation of resources. However, there is also a clear positive link between the economy and the environment, namely in the so-called Environmental Goods and Services “sector”. The most important Environmental Services sectors in Mexico – as in most of the world – are water and waste management, together accounting for 59 percent of the “environment market” in Mexico (this market includes environmental goods production in addition to services, but services usually have the larger share)<sup>489</sup>.

The two concepts are related in that improved environmental goods and services provision lead to “greener” growth, i.e. improved resource efficiency and reduced environmental impacts while generating economic opportunities from EGS. In this sense, green growth indicators are a way to show how well the EGS sector is working. On the other hand, both issues are influenced by different kinds of policies which need to be taken into account as well.

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<sup>482</sup> SEMARNAT (2009): Programa Especial de Cambio Climático 2009-2012; SEMARNAT (2014): Special Climate Change Program 2014-2018.

<sup>483</sup> Integrated Assessment and Management of the Gulf of Mexico Large Marine Ecosystem Project (2011): Transboundary Diagnostic Analysis, p. 28.

<sup>484</sup> Integrated Assessment and Management of the Gulf of Mexico Large Marine Ecosystem Project (2011): Transboundary Diagnostic Analysis.

<sup>485</sup> SEMARNAT (2014): Programa Especial de Cambio Climático 2014-2018 (PECC). Índice general.

<sup>486</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013. p. 125.

<sup>487</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

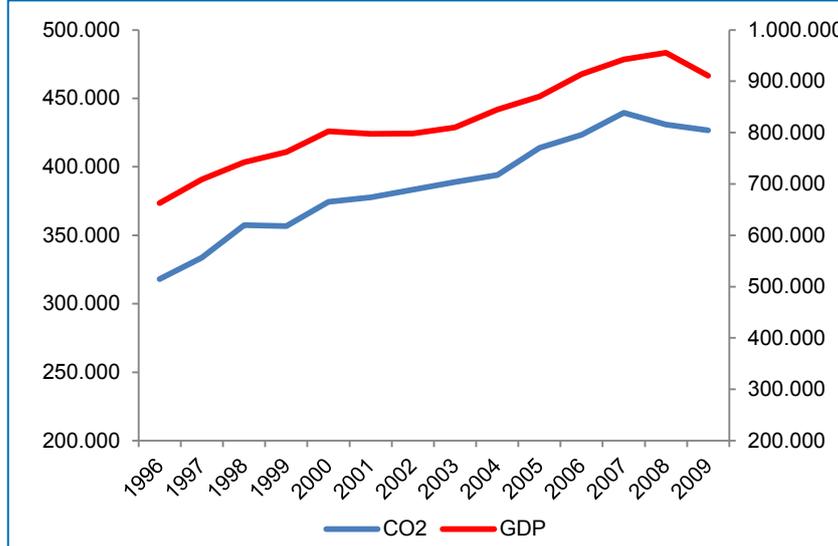
<sup>488</sup> SEMARNAT (2014): Special Climate Change Program 2014-2018.

<sup>489</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

### Green growth

Plotting CO<sub>2</sub> emissions against GDP for Mexico, it becomes clear that a decoupling of GHG emissions and economic growth has not been achieved until 2009: both are closely related. CO<sub>2</sub> intensity per unit of GDP actually increased slightly between 2000 and 2009.<sup>490</sup>

**Figure 5.23 CO<sub>2</sub> emissions and economic growth, 1996-2009; GDP on right axis**

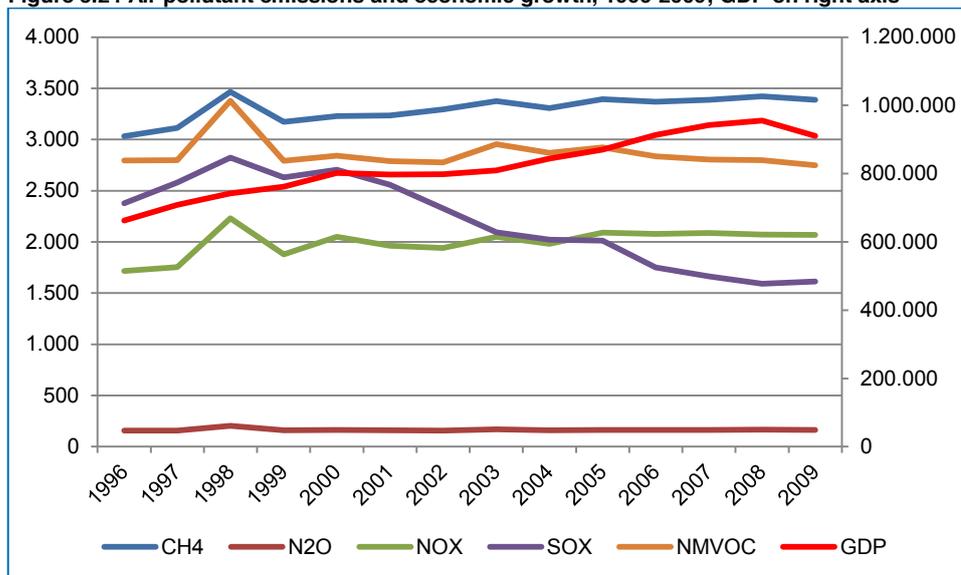


Emissions in 1,000 tonnes shown on left axis, GDP in millions of constant 2005 dollars shown on right axis. Sources: WIOD Environmental Accounts, World Bank WDI.

For most air pollutants, however, the picture is different: despite economic growth, they stayed roughly constant over the years. This can be attributed to two facts: first, to avoid most air pollutants, end-of-pipe technologies are available; this allows to mitigate them without changing economic structure and operations, as is the case for CO<sub>2</sub> emissions. Second, as outlined above, the agricultural sector is a large emitter of many of the pollutants shown, but does not contribute a large share of GDP – thus a limited relationship between the two indicators. By contrast, CO<sub>2</sub> emissions come to a much larger extent from industrial and household activities and are therefore more closely related to GDP and welfare. In order to tackle environmental issues which are related to economic activity, therefore, Mexico needs to use economic policies (taxes, charges, subsidy reductions) which will reduce the environmental impact of the activities.

<sup>490</sup> Own calculation based on WIOD and WDI data.

Figure 5.24 Air pollutant emissions and economic growth, 1996-2009; GDP on right axis



Emissions in 1,000 tonnes shown on left axis, GDP in millions of constant 2005 dollars shown on right axis. Sources: WIOD Environmental Accounts, World Bank WDI.

Notably, most “green growth” efforts in Mexico mentioned by OECD and UNEP are related to GHG emission reductions.<sup>491</sup> The Special Climate Change Programme (PECC, described in the section on climate change) is seen as the cornerstone of green growth, and the development of renewable energy – particularly wind – is presented as the main success story. (Interestingly, the 2014 PECC original draft included a reference to geothermal energy in particular, but this was replaced by more general wording in the final version mentioning renewables. There seem to be unresolved issues – most likely between ministries – as regards the types of renewable energy to focus on.<sup>492</sup>) In the Mexican context, the issue of “green economy” is understood as a twofold aim to combat both climate change and poverty, and President Felipe Calderón has made clear that he does not want to view this as a dilemma.<sup>493</sup>

However, in Mexico many environmental resources and services (in addition to the atmosphere also water, air and soil) are insufficiently or inadequately priced, often due to poverty concerns.<sup>494</sup> For instance, water abstraction for agriculture is “virtually free of charge”<sup>495</sup>, and in general water tariffs do not reflect the level of water stress in the area (i.e. externalities are not reflected in the price), and only few municipalities charge for waste services. Price signals which reflect the environmental cost of the use of water, and the environmental benefit of sound waste management, would provide incentives to act in a “greener” way in everyday economic activities.

Another issue already mentioned further above are the high subsidies for agriculture, both for production and for electricity use for water pumping. Again, this ultimately leads to unsustainable agricultural practices due to wrong price signals. Moreover, the goal of these measures – addressing social concerns – has not been reached, because “90% of agricultural price support and 80% of electricity subsidies for water pumping benefit the richest 10% of farmers”<sup>496</sup>. It would

<sup>491</sup> UNEP Green Economy Advisory Services, <http://www.unep.org/greeneconomy/AdvisoryServices/CountryProfiles/Mexico/tabid/104141/Default.aspx>; OECD green growth information, <http://www.oecd.org/greengrowth/greengrowthinactionmexico.htm>.

<sup>492</sup> [http://switchboard.nrdc.org/blogs/amaxwell/guest\\_blog\\_inspecting\\_mexicos.html](http://switchboard.nrdc.org/blogs/amaxwell/guest_blog_inspecting_mexicos.html).

<sup>493</sup> UNEP Green Economy Advisory Services, <http://www.unep.org/greeneconomy/AdvisoryServices/CountryProfiles/Mexico/tabid/104141/Default.aspx>.

<sup>494</sup> See for the following paragraphs, unless otherwise noted: OECD (2013).

<sup>495</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

<sup>496</sup> OECD (2013): OECD Environmental Performance Reviews: Mexico 2013.

therefore benefit environmental and social aims to abolish these subsidies and replace them with direct cash transfers (income subsidies).

The persistently negative revenues from environmental taxes in Mexico (see **Figure 5.1**) – due to a price-smoothing mechanism – confirm the picture that Mexico sacrifices policies conducive to green growth out of social concern, while addressing these social concerns in an inefficient way. Here too, replacing these taxes with direct cash transfers would benefit the poor and induce more sustainable consumer decisions. In the case of other fossil fuels, no special tax is levied at all. While this at least prevents a tax turning into a subsidy, it also means that societal costs of climate change (as well as air pollution) are not priced in.

So far, policy proposals to tax energy products while increasing social spending have not been successful due to strong political opposition. However, the goal to gradually move to energy price schemes reflecting the external effects of consumption is now included in the Energy Strategy. Moreover, a cash-transfer programme helping poor household to cover their energy needs has been implemented under the “Oportunidades” programme that supports family living in extreme poverty.

In other areas, Mexico is already quite advanced in using economic instruments for environmental goals. The payment for ecosystem services (PES) system described in the corresponding section is one example, the Environmental Accounts efforts of the statistical office are another. Unfortunately, while the Environmental Accounts do put a “cost tag” on depletion and degradation of environmental resources and relate this to GDP, they do not address (in terms of data) the economic incentive structure leading to these “virtual GDP losses”,<sup>497</sup> nor do their results seem to have successfully fed into policymaking as of yet.

### Environmental goods and services

The lack of a market for environmental services due to insufficient price signals leads us to the next topic, environmental goods and services (EGS). Liberalisation of trade in these goods and services has been subject of international trade talks for quite some time, and there have been several unilateral and plurilateral initiatives to define environmental goods and to reduce applied tariffs. The main classifications still used are those proposed by the OECD, APEC, and UNCTAD; the APEC list of environmental goods in particular was connected to a political initiative by APEC states to unilaterally reduce trade barriers in these products. In addition, several “climate-friendly goods” lists have been developed (by the World Bank and ICTSD, for instance), and different countries and country groups have submitted environmental goods for discussion in the WTO.<sup>498</sup>

Based on these developments, the more recent “Green Goods Initiative” for a “Trade in Environmental Goods Agreement” under the WTO brings together a group of industrialized and developing countries (both APEC and other)<sup>499</sup> and is currently negotiating on sectors to be covered.

Environmental services so far have hardly been covered in international trade talks; the Trade in Environmental Goods Agreement is foreseen to become a “living agreement” where services can later be included. This would also allow to take into account potential technology developments, i.e.

<sup>497</sup> Cpr. INEGI (Instituto Nacional de Estadística y Geografía) (2013): Sistema de Cuentas Nacionales de México. Cuentas económicas y ecológicas de México, 2003-2011. Cambio de año base 2008.

<sup>498</sup> See Enrique Lendo (2005): Defining Environmental Goods and Services: A Case Study of Mexico; or Mahesh Sugathan (2013): Lists of Environmental Goods: An Overview.

<sup>499</sup> Australia, Canada, China, Costa Rica, Chinese Taipei, the European Union, Hong Kong (China), Japan, Korea, New Zealand, Norway, Switzerland, Singapore, United States. See <http://trade.ec.europa.eu/doclib/press/index.cfm?id=1116>. Further WTO members have reportedly shown interest: Chile, Peru, and Turkey, see <http://www.ictsd.org/bridges-news/biores/news/environmental-goods-agreement-trade-talks-move-forward>.

new environmental goods. Both of these issues are examples of the problems with the classification of environmental goods in general; another one is “dual use” of goods, which may or may not serve an environmental purpose, or the related issue of a sub-product of a certain product- category being identified as an environmental good, while only the main category can reasonably be included in statistics and national tariff lines. Another particular issue with trade liberalization in environmental goods and services is the question of non-tariff measures; so far, talks and negotiations have only covered tariffs.<sup>500</sup>

In non-trade statistics, EGS classifications serve a broader purpose, namely to scope the size of the environmental industry in a particular country or worldwide. The above-mentioned OECD list of EGS was developed from that perspective based on joint work with Eurostat.<sup>501</sup> The difference in angle has implications for the definitions –national statistical classifications of EGS are much broader because they do not need to take into account the compatibility of a particular category with trade statistics, and they are not the results of negotiations connected with a direct political commitment to lower tariffs. Different from the APEC list and the current negotiations, such classifications thus also include services. Notably, under services trade negotiations, environmental services show up as well. Following similar categories as in environmental goods lists, environmental services are classified under air pollution services, water management services, etc.<sup>502</sup> Discussing environmental goods and services separately in different fora is indeed useful, since the trade barriers for goods and services are quite different and require different approaches to be addressed.

Both the trade and the environmental industry and services aspects are of interest in the context of this study. As already mentioned in the sections on waste and water, the management of these two environmental issues is the most important environmental (service) industry in Mexico (as in most of the world) and their size has increased. On the other hand, environmental goods (which have a smaller share of the EGS market) is where trade rules can have the most direct and measurable effect. It should be noted that environmental goods usually support the provision of environmental services, and there is thus a link between the two.<sup>503</sup>

Looking at the environmental market and industry in Mexico, it already increased between 1993 and 1998 (according to the OECD classification) in terms of added value, production, employment, and number of firms.<sup>504</sup> Between 1995 and 2006, the Mexican environmental market (i.e. revenues generated in Mexico) increased by 84 percent, from US\$ 2,570 million to US\$ 4,730 million. This growth is, however, only marginally higher than that of overall GDP in that period. Also, the growth in imports of EGS was much higher than the growth in the domestic environmental industry in that period. In 2006, roughly half of the Mexican environmental market was served by domestic industry, with the remainder almost equally shared between imports from the US and the rest of the world.<sup>505</sup>

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<sup>500</sup> See for example Jaime de Melo (2014): The Launch of an Environmental Goods Agreement: A Timid Agenda; Mahesh Sugathan (2014): The road ahead for the environmental goods agreement talks.

<sup>501</sup> See Steenblik, R. (2005): Environmental Goods: A Comparison of the APEC and OECD Lists, and Mahesh Sugathan (2014): The road ahead for the environmental goods agreement talks.

<sup>502</sup> See [http://www.wto.org/english/tratop\\_e/serv\\_e/environment\\_e/environment\\_e.htm](http://www.wto.org/english/tratop_e/serv_e/environment_e/environment_e.htm). See also Ron Bisset et al. (2003): Sustainability Impact Assessment of Proposed WTO Negotiations: Environmental Services with particular reference to water and waste management. Final Report, commissioned by DG TRADE.

<sup>503</sup> In a very strict sense, one could argue that environmental goods as such do not exist – only environmental services exist, which are supported or made possible by certain goods which can be called environmental.

<sup>504</sup> Enrique Lendo (2005): Defining Environmental Goods and Services: A Case Study of Mexico.

<sup>505</sup> Grant Ferrier (2010), The evolution of the environmental industry in the post-NAFTA era in Mexico.

**Table 5.2 EGS market in Mexico**

	Mexican market <sup>a</sup> (% of total)		Mexican industry <sup>b</sup> (% of market)	Number of Mexican companies <sup>c</sup>	Imports (% of market)	
	1995	2006	2006	2006	2001	2006
<b>Equipment</b>						
Water equipment and chemicals	7	10	22	200	80	78
Air pollution control	6	4	29	100	75	75
Instruments and information systems	1	2	11	30	90	90
Waste-management equipment	4	5	71	300	40	40
Process and prevention technology	-	1	80	30	20	20
<b>Services</b>						
Solid waste management	16	15	73	1 200	20	28
Hazardous waste management	1	2	56	350	40	40
Consulting and engineering	4	4	50	900	50	50
Remediation/industrial services	8	7	43	120	60	60
Analytical services	-	1	67	70	40	40
Water treatment works	17	19	34	2 340	33	66
<b>Resources</b>						
Water utilities	25	20	57	1 360	33	44
Resource recovery	6	6	21	1 200	70	80
Clean energy systems and power	5	5	17	100	80	86
<b>Total</b>	<b>100</b>	<b>100</b>	<b>45</b>	<b>8 300</b>	<b>46</b>	<b>56</b>
<b>Total (% GDP)</b>	<b>0.4</b>	<b>0.6</b>	<b>0.3</b>			

a) Revenue from Mexican customers of all companies worldwide;

b) Revenue generated by Mexican companies as a share of the Mexican environmental market;

c) Includes enterprises of the public sector, mostly in water, wastewater and waste management;

Source: Ferrier (2010), graphical presentation by OECD (2013).

Turning to EGS trade, it was fostered in Mexico even before the APEC initiative by a move to unilaterally put a zero tariff on imported anti-pollution equipment that was not competing with locally manufactured equipment.<sup>506</sup> Mexico is one of the world's largest importers, and an important exporter, of environmental goods: in 2012, Mexico exported US\$ 8.8 billion worth of EGs and imported US\$15.5 billion (based on APEC list goods), making it the 8<sup>th</sup> largest exporter and the 6<sup>th</sup> largest importer worldwide.<sup>507</sup> The downside of Mexico's trade deficit is that a "widespread preference for imported technology has hindered technology diffusion and transfer to Mexican firms, particularly small and medium-sized enterprises."<sup>508</sup> The main environmental goods exports from Mexico include fluorescent lamps and multi-layered insulating glass windows. Mexico is also internationally competitive in equipment for monitoring air quality and atmospheric emissions and in services to optimize energy use in industrial processes.<sup>509</sup>

Under the APEC EGS initiative, Mexico committed "to reduce by the end of 2015 our applied tariff rates to 5% or less, taking into account economies' economic circumstances, without prejudice to APEC economies' positions in the WTO. Economies will also eliminate non-tariff barriers, including local content requirements that distort environmental goods and services trade."<sup>510</sup> It is unclear whether this will lead to a significant change, since most national tariff lines for environmental goods are below 5 percent already: the simple average tariff on APEC-defined EG in Mexico is 2.3 percent, and only 4.3 percent of Mexican EG imports face tariffs higher than 5 percent. Among

<sup>506</sup> OECD (2013).

<sup>507</sup> Based on UN COMTRADE data, see Terence P. Stewart (2014): Environmental Goods Trade Talks – The Challenges and the Opportunities. Within APEC, Mexico is the 5th largest importer and the 7th largest exporter; see Rene Vossenar (2013), The APEC List of Environmental Goods: An Analysis of the Outcome & Expected Impact (based on COMTRADE / WITS data).

<sup>508</sup> OECD (2013).

<sup>509</sup> Enrique Lendo (2005): Defining Environmental Goods and Services: A Case Study of Mexico; and [Joachim Monkelbaan](#)

(2011): [Trade Preferences for Environmentally Friendly Goods and Services](#).

<sup>510</sup> <http://egs.apec.org/>.

those products are, notably, wind power electric generating sets as well as non-electric water heaters (which include solar water heaters).<sup>511</sup> Moreover, there is no clear path for a commitment on NTBs. In contrast to other APEC members, Mexico currently is not part of the Trade in Environmental Goods Agreement initiative, nor does the EU-Mexico agreement include any specific provisions on EGS.

Finally, there is another way to classify EGS in a trade context, namely by broadening the scope to include Environmentally Preferable Products – which in terms of their use are equivalent to their “non-environmental” counterparts, but they are produced in an environmentally friendly way. Such products can be differentiated from other goods by labelling schemes. They would notably include agricultural products, which have so far been absent from EGS talks due to the difficulty of differentiating organic and sustainable products from other products.

Organic farming has indeed been increasing in Mexico particularly between 1996 and 2001, mainly driven by foreign demand; more than 12 major sustainable agriculture certification schemes are used to export such products to the US, Canada, Japan, Western Europe, and Australia. Sustainable coffee is the most important agricultural product. Other Environmentally Preferable Products relevant for Mexico could include sustainable tourism as well as forestry and fisheries. For example, hotels can be granted environmental certificates (the first was granted in 2002). Fisheries have adopted certification / labelling schemes, e.g. indicating that tuna is “dolphin safe” (since 2001).

Several authors have argued that including such products in a liberalization scheme could additionally help Mexico achieve its sustainable development goals, environmental as well as social.<sup>512</sup> Clearly, “liberalizing” trade in these goods is not a straightforward issue. “However, as most organic and sustainable (...) produce require labelling and certification, streamlining certification procedures for these products, reducing labelling confusion, and assisting developing countries (...) could be ways of expanding opportunities and challenges for existing and potential exporters of these products from developing countries.”<sup>513</sup>

## 5.2 Assessing environmental impacts of the FTA

### 5.2.1 *Ex-post environmental analysis: attribution of trends to the existing FTA*

The actual environmental analysis of the FTA aims at singling out which of the developments described in the descriptive analysis can be attributed to the FTA. In general, the environmental impact assessment of the FTA takes three impact channels into account:

- First, the implications for environmental externalities and resource use associated with **economic activity** triggered by the FTA;
- Second, **regulatory effects**, as the harmonization of regulation and standards can mean an upgrade of environmental protection in Mexico (although it has to be noted that these can hardly be derived from the FTA as such, rather the FTA could strengthen or speed-up ongoing processes);
- Third, **increased trade** may also stimulate trade in environmentally friendly goods (such as green technology) and environmentally unfriendly goods (such as fossil fuels), or increase transport.

<sup>511</sup> All data for 2011. See Rene Vossenar (2013), The APEC List of Environmental Goods: An Analysis of the Outcome & Expected Impact.

<sup>512</sup> Enrique Lendo (2005): Defining Environmental Goods and Services: A Case Study of Mexico; [Joachim Monkelbaan \(2011\): Trade Preferences for Environmentally Friendly Goods and Services](#); Mahesh Sugathan (2013): Lists of Environmental Goods: An Overview.

<sup>513</sup> Mahesh Sugathan (2013): Lists of Environmental Goods: An Overview.

The assessment uses a combination of quantitative and qualitative analysis to attribute some of the trends described in the baseline for the FTA.

Overall, a couple of issues are worth noting when looking at the impacts of the EU-Mexico FTA on the environment.

### **Dominant influence of NAFTA**

As for all effects of the FTA, the environmental effects are small compared to the effects of NAFTA. In addition (and related to the first point) the literature on FTA effects on Mexico focuses largely on NAFTA effects. Even then – with an agreement that has profoundly affected Mexico’s economic and trade structure – the environmental effects are not fully clear. The evidence of Mexico becoming a “pollution haven” due to NAFTA is inconclusive: “the amount of dirty industry decreased more in Mexico than in the United States”<sup>514</sup>, but other accounts do report NAFTA-induced negative effects such as toxin leakages from maquiladora factories, and point out the more general issue of increasing wastewater and air pollution problems due to economic and trade growth.<sup>515</sup> It also has to be noted that in some particular areas, the effects of NAFTA were quite pronounced, such as in Mexico’s rapidly increasing maize imports from the US including genetically modified varieties.<sup>516</sup>

NAFTA did not induce the expected progress in the regulatory sphere to deal with these problems. Even though Mexico invested in environmental protection in the lead-up to NAFTA,<sup>517</sup> “shortly after NAFTA was signed and fiscal and financial woes set in, attention to the environment nose-dived”<sup>518</sup>. And while NAFTA included a significant side agreement on the environment, its effects are limited as well – the North American Commission for Environmental Cooperation (NACEC) “has been effective in carrying out its limited mandate, enabling citizen groups to monitor environmental progress and convening cross-national information sharing and research efforts in North America”<sup>519</sup>, but was not equipped to address the fundamental problem of managing Mexico’s economic growth in a sustainable manner.

When analysing the environmental impact of the EU-Mexico FTA, it is important to bear in mind that NAFTA had a much larger effect on trade, economy and environmental damage and regulation in Mexico; and even for NAFTA, the evidence is often inconclusive. While the CGE model analysis and all quantitative analyses based on it can take the NAFTA influence into account, all qualitative attributions of effects to the EU-Mexico FTA need to be seen against this background.

### **FTA vs. Global Agreement and other FTAs and BITs**

The task of this analysis is to look at the effects of the FTA on the environment. The FTA is however linked to the “Global Agreement” which is a much broader effort at cooperation, including on environmental issues.<sup>520</sup> On the other hand, it is the FTA that has binding provisions and its effects should be the core of the analysis. The analysis will thus focus on effects of the FTA, being aware that sometimes it is difficult to identify the real cause for some developments. Especially for regulatory changes, it is rather unlikely that their introduction is a response to the FTA – they might be connected to the Global Agreement, other international obligations, or domestic considerations. Of course, the indirect, “soft” linkages and the mutually reinforcing nature of the various agreements

<sup>514</sup> Kevin P. Gallagher (2004): Free Trade and the Environment: Mexico, NAFTA, and Beyond.

<sup>515</sup> Sierra Club (n.d.), NAFTA’s impact on Mexico.

<sup>516</sup> Timothy A. Wise (2007): Policy Space for Mexican Maize: Protecting Agro-biodiversity by Promoting Rural Livelihoods.

<sup>517</sup> See also Carlos Murillo Rodríguez (2008): La cooperación ambiental en los tratados de libre comercio (Environmental cooperation and free trade agreements).

<sup>518</sup> Kevin P. Gallagher (2004): Free Trade and the Environment: Mexico, NAFTA, and Beyond.

<sup>519</sup> Kevin P. Gallagher (2004): Free Trade and the Environment: Mexico, NAFTA, and Beyond.

<sup>520</sup> See e.g. the Joint Communiqué of 12th Joint Committee meeting under the Global Agreement, where parties note successful dialogues on environment and climate change, and discuss investments in wind power.

and collaboration initiatives under the Global Agreement are sometimes worth mentioning; but the precise influence of the Trade Agreement as such within this web of dialogues is impossible to single out.

It should also be noted that the EU-Mexico FTA and the Global Agreement are less ambitious in terms of binding environmental commitments than other comparable FTAs, e.g. they do not include an obligation to enforce domestic environmental law or a formal environmental dispute settlement mechanism (such as the US-Chile Free Trade Agreement, for example).<sup>521</sup> Moreover, investment provisions in the FTA “remain very weak in substance except for the detailed opening commitments in the financial services sector”<sup>522</sup>. This means that so far, outside of financial services, FDI of EU countries in Mexico was covered under 16 comprehensive Bilateral Investment Treaties (BITs) with EU member states, but was not related to the FTA.

### 5.2.2 *Natural resources, ecosystems and biodiversity*

#### **Natural resources**

According to the CGE model, the FTA has had a decreasing effect on fossil fuel extraction and other primary industries in Mexico (-0.08 percent in output in fossil fuel extraction, -0.43 percent in other primary sectors including mining and forestry) and thus on natural resource depletion. The agreement has had an effect on land use intensity in Mexico, increasing it by 0.13 percent.

Fisheries activities in Mexico have increased by 0.04 percent as a result of the agreement according to the modelling results. However, this is less than the calculated increase in GDP; consequently, the fisheries intensity indicator given by the model increased by only 0.02 percent. Although the agreement includes a review clause on agricultural and fisheries products for renegotiation after three years, not much has happened in this respect. Only the specific case of a preferential tariff rate quota for tuna loins has been implemented. However, the Mexican project for facilitation of the FTA (Proyecto de Facilitación del Tratado de Libre Comercio entre México y la Unión Europea, PROTLCUEM) did include a pilot tracking system in 2 chains of seafood products (wild shrimp and aquaculture).<sup>523</sup> In addition, a technical assistance project was implemented with courses on legal fishing certificates. These measures were implemented to ensure the marketability of the products in the EU. In addition, they may have had an effect on the sustainability of the fishery sector through a reduction in illegal fishing and an improvement of data on catches. They are thus typical examples of EU product standards affecting environmental performance in a country exporting to the EU. It has to be noted though that these measures are not a legally required part of the FTA, but were implemented as part of a facilitation project triggered by the FTA.

Environmental degradation is another issue related to natural resources and ecosystems and will largely be covered in the sections on water, waste and air pollution. It can be noted that the effects of a reduction in the forestry sector are ambiguous, since a functioning forestry sector may be able to prevent forest conversion or even contribute to forestation, and can affect forest quality both positively or negatively. Also, the main threat to forests in Mexico is the agricultural sector, which is much more important in terms of output than the forestry sector (see also the following section on ecosystems).

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<sup>521</sup> See e.g. <http://www.ustr.gov/about-us/press-office/fact-sheets/archives/2001/december/free-trade-chile-summary-us-chile-free-trade>.

<sup>522</sup> European Commission (2014), Restrictions on Foreign Direct Investment in Mexico.

<sup>523</sup> Proyecto de Facilitación del Tratado de Libre Comercio entre México y la Unión Europea, PROTLCUEM (Facilitation Project of the Free Trade Agreement between Mexico and the European Union) (n.d.): Resultados e impactos del PROTLCUEM (Results and impacts of PROTLCUEM).

## Ecosystems

Looking at ecosystems, as outlined in the descriptive part, they are mostly affected by the development of economic activities which put pressure on them, including agriculture, tourism, and energy; the forestry and fisheries sector, already mentioned above, are important to consider in an ecosystems context as well.

Notably, most agricultural activities are reported to have declined in Mexico as a result of the FTA; only milk and dairy products have increased, which may have contributed to forest conversion (for livestock production) and soil degradation (due to overgrazing). The reduction in extractive industries can be considered to have had a positive impact on ecosystems (all else equal). Tourism is not covered as such in the CGE model – only as part of a larger sector including also public services such as education, health and wastewater management, which as an aggregate contributes a large share of the Mexican economy, and has increased slightly further due to the FTA (+ 0.19 percent).

It is hard to draw a conclusion on the environmental impact of this sector, since increased wastewater management would be a positive effect, whereas increased tourism usually puts pressure on ecosystems (although the pressure may be less in the case of eco-tourism). Given these both positive and negative effects of the FTA on ecosystems, the net impact is unclear, but considering the size of the FTA-related changes in sector output estimated to be very small, . .

## Biodiversity

First of all, the FTA affects biodiversity through its effects on ecosystems, especially in the biodiversity hotspots; as outlined above, these impacts have been mostly ambiguous – fishing has increased due to the agreement, but may have become more sustainable; it is difficult to say anything about the forestry sector, as the sector aggregation with the model reports it together with mining – this combined sector has decreased its output, with unclear effects on ecosystems and biodiversity; and finally most agricultural activities have shown a decline due to the FTA, which reduced pressure on ecosystems and biodiversity. One could however also argue that if Mexico had exported more agricultural products to the EU (as opposed to elsewhere), adherence to EU requirements or voluntary standards common in the EU may have contributed to more sustainable production.

An example for Mexican producers trying to meet EU requirements, relevant in a biodiversity / GMO context, is honey. Honey is a relevant product in Mexico-EU trade – roughly 70 percent of Mexican honey exports (in value terms) go to EU countries<sup>524</sup> – and it is a product where it is hard for producers to influence the GM content. The EU-Mexico FTA includes provisions on Mexican honey exports: it reduced the tariff duty, at least for a quota of 30,000 tonnes, to 50 percent of the MFN/GSP rate. (Mexican honey exports to the EU have so far stayed below this quota, peaking at around 24,000 tonnes in 2013).<sup>525</sup>

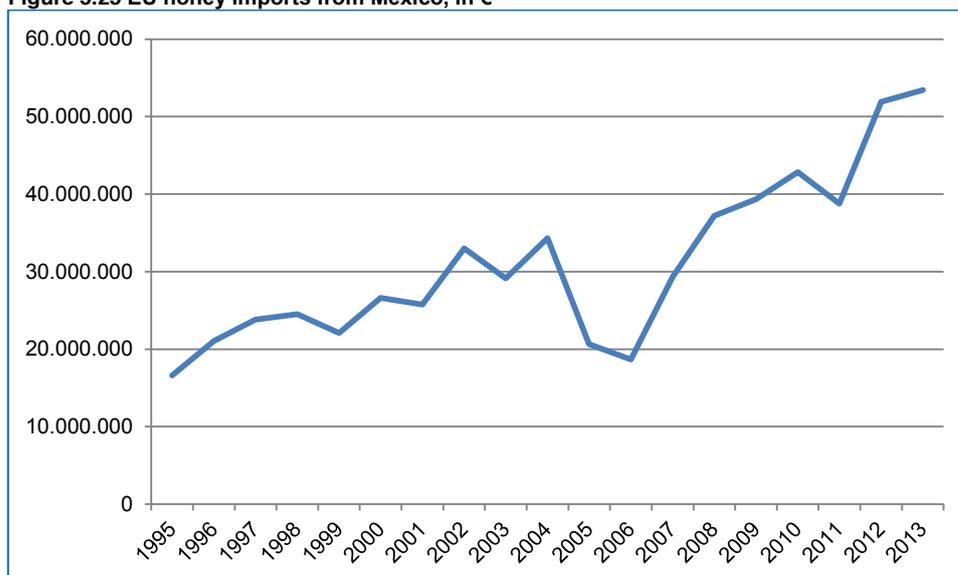
From the data, the influence of the agreement is not very clear. Exports already increased before the FTA, and there was a noticeable drop in 2005-2006 despite the agreement (although this seems to follow the general decrease in EU honey imports during those years).

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<sup>524</sup> Source: WITS / UN Comtrade.

<sup>525</sup> Source: WITS / UN Comtrade.

Figure 5.25 EU honey imports from Mexico, in €



Source: Eurostat, EU trade since 1988 by HS2-HS4 (DS-016894), HS code 0409, Natural honey. Data is for EU-15, but does not change if the countries of the different enlargement rounds are added (data appears to be dominated by Germany and the United Kingdom, with minor imports by Spain, France, Italy, and the Netherlands).

The European Court of Justice ruled that honey which contains trace amounts of pollen from GM crops authorized for human consumption in the EU must be labelled if the amount of GM pollen surpasses 0.9 percent. Because of this ruling, and since GM soybeans may now be planted commercially in Mexico without area restrictions, all honey shipments from Mexico must undergo laboratory testing to identify and quantify the type of GM presence. As a result, Mexican honey producers are faced with paying for the mandatory testing and, if found to have more than 0.9 percent GM pollen, new labelling before their products can be sold to European consumers.<sup>526</sup> This has led to the interesting case that an EU regulation has created a group of stakeholders in Mexico opposing the government's approval of GM cultivation. However, their opposition was more concerned with GM soybeans than GM corn, although the latter is the greater concern for biodiversity (but is only allowed in certain areas and therefore more manageable for honey producers).

The case of GM honey is thus an example of EU regulations influencing agricultural production processes or at least the debate about them. Again, it has to be noted that the major drivers behind GMO cultivation and other policies affecting biodiversity in Mexico are domestic and/or NAFTA-related.

Summarising, the sectors in Mexico affecting biodiversity are impacted by the agreement as follows based on the modelling (see chapter 3):

- The forestry and mining sector has decreased its output, but as we cannot establish to what extent this is the case for both subsectors, the effect on biodiversity (and ecosystems) is unclear.
- Agricultural activities have declined due to the FTA, therefore the impact of agriculture on ecosystems and biodiversity has reduced.
- The fishing sector has increased its output, but may have become more sustainable.

Given these both positive and negative effects of the FTA on biodiversity, the net impact is unclear, but considering the size of the FTA-related changes in sector output estimated to be very small,.

<sup>526</sup> USDA Foreign Agricultural Service (2012): Mexico Cautiously Moves Forward with Biotechnology, Mexico Agricultural Biotechnology Annual, Global Agricultural Information (GAIN) Report No. MX2051.

### 5.2.3 Air pollution

This section provides a quantitative assessment of the impact of the FTA on Mexico's emissions of classical air pollutants, based on the results of the CGE model. The quantitative simulations only take direct effects of economic activity on emissions of air pollutants into consideration. Therefore indirect effects related to economic development, such as improved technology or shifts in preferences towards emission abatement are not taken into account. Since these indirect effects are expected to have a reducing effect on emissions, the estimates below can be considered as the upper limits of FTA induced emission change.

The FTA has affected both the volume of economic activity for the different sectors as well as the composition of the overall economy. Both these changes affect the emission volumes, therefore the FTA-induced changes have been split into two components labelled the scale effect and the composition effect. The scale effect expresses the increased volume of emissions due to an increase of economic activity. The composition effect expresses a change in emissions due to a change in sector composition of the economy. For details on the methodology and aggregation method, please refer to Annex D.

According to the GCE results and estimation of the impact of emissions, the FTA contributed to a reduction of some air pollutants, most notably in the emissions of sulphur oxides, and an increase of others, but the effects are quite small. The overall impact of the FTA on the classical air pollutants, including baseline values for emissions, is presented in the table below.

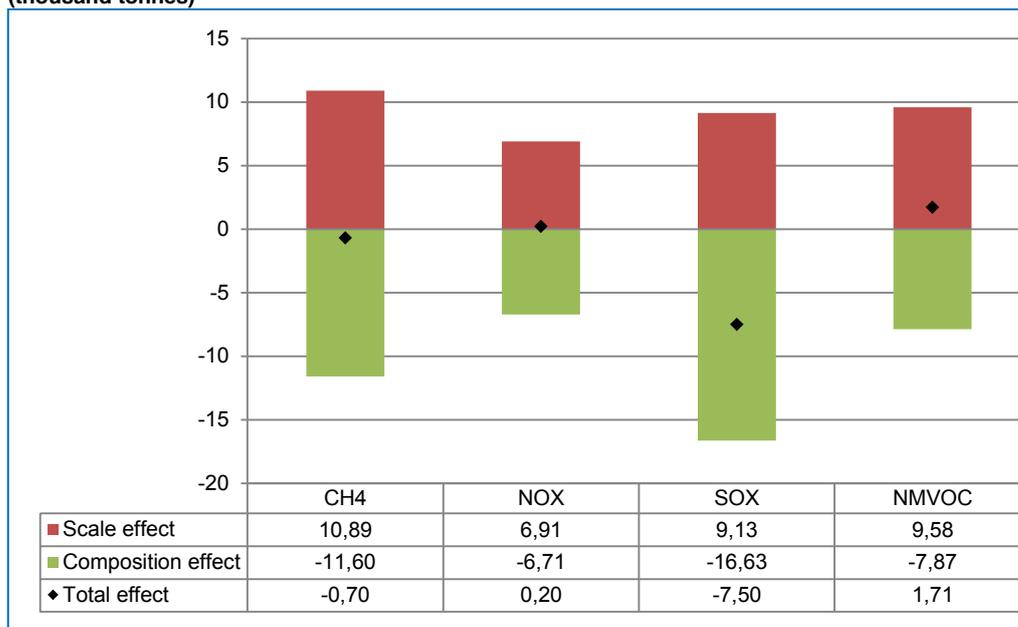
**Table 5.3 Baseline values and FTA-induced changes of air pollutant emissions, in thousand tonnes**

	CH <sub>4</sub>	NO <sub>x</sub>	SO <sub>x</sub>	NMVOC
Baseline level	3,229	2,049	2,706	2,841
FTA-induced change	-0.70	0.20	-7.50	1.71
FTA-induced change (in %)	-0.02%	0.01%	-0.28%	0.06%

Source: own calculations based on CGE results and WIOD database. Data refer to yearly emissions.

**Figure 5.26** shows the total effect divided into scale and composition effects. As can be seen, the composition effect more than compensates the scale effect in the case of CH<sub>4</sub> and SO<sub>x</sub>. Most anthropogenic SO<sub>x</sub> emissions in Mexico come from the agricultural, electricity and petrochemicals sectors, which all have reduced output as a result of the FTA.

**Figure 5.26 Decomposition of FTA-induced change in emissions of classical pollutants in Mexico (thousand tonnes)**



Source: own calculations based on CGE results and WIOD database. Data refer to changes in yearly emissions.

In the case of NMVOCs, there was a reducing effect due to the FTA-induced contraction in the petrochemicals and agricultural sectors; however, a large share of NMVOCs is emitted by private households and their activities were assumed to be in line with GDP (and thus with the scale effect).

Overall, it becomes clear that the influence of the FTA on air pollution has been rather limited, which reflects its small impact on economic developments compared to other drivers.

Apart from these impacts through the economic channel, air pollution effects through the trade channel, namely increased transport, are noteworthy. According to the CGE model, land transport decreased by 0.04 percent due to the agreement. Water and air transport increased by 0.06 and 0.17 percent, respectively; this can be assumed to have increased NMVOC, black carbon, SO<sub>2</sub>, NOX and CO emissions, but with impacts largely outside Mexican (or EU) borders. According to the CGE model, the worldwide CO<sub>2</sub> emissions have increased by 0.6 million tonnes as a result of the FTA (see also under climate change). Given the large amount of CO<sub>2</sub> emissions worldwide, this change is zero when expressed in percentage change,

It is unclear whether there have been any regulatory effects of the FTA regarding air pollution. Clearly trade and production of transport equipment has increased as a result of the agreement, but to the authors' knowledge no clear efforts have been made to bring Mexican vehicle emission standards in line with EU standards.

Another interesting issue is whether increased trade in environmental goods and services may have contributed to improved air quality – improved filters or waste management are a trade-induced type of “technology improvement” that cannot be captured in the above quantitative calculations, but may have played a role. Their impact is assessed in section 5.2.7 in the paragraphs on environmental goods and services.

#### 5.2.4 Water

Looking at water scarcity, the effect of the FTA can be assumed to have been generally positive: agriculture clearly is the main water user, and the FTA had a reducing effect on agricultural output. Hydroelectric power plants are also major water consumers due to evaporation; according to the CGE results, output in the electricity, gas and water sector has decreased as a result of the FTA as well. Whether this leads to a result in water use is dependent on whether this decrease in output affected all (electricity, gas, water) equally or in different ways and to which extent hydro in particular decreased or not.

In the case of wastewater and wastewater management, it is difficult to establish a direct link to the FTA. It has increased Mexican GDP and thus it is likely that municipal wastewater production has increased too. Moreover, public and personal services have grown as a result of the FTA; this includes tourism, which reportedly has put Mexican wastewater systems under considerable stress.

Summarising, the effect of the FTA on water and water quality is mainly indirect, through changes in sectoral output and GDP. Most changes point to a reduction in water scarcity as a result of the FTA. However, given the size of the changes, the effects are estimated to be small.

Next to water scarcity, the question is whether the FTA has also contributed to an improved provision of water management services, through trade in EGS; this question will be addressed further in section 5.2.7.

#### 5.2.5 Waste

The case of solid waste is similar to that of waste water – a direct link to the FTA is hard to show. Again, municipal solid waste production can be assumed to increase in line with or even more than GDP, so the FTA has contributed to this increase. Most hazardous waste in Mexico is generated by the chemical, metallurgical and automotive sectors; this means the FTA's effect is ambiguous, since it contributed to an increase in the transport equipment sector, but to a decrease in metals and chemicals. Although drilling wastes do not fall under the definition of hazardous waste any more according to Mexican statistics, they may be relevant to mention here; the FTA's effect on energy extractive industries in Mexico has been a negative one, thus reducing this type of waste.

International activities related to waste management so far often were in the framework of CDM projects, and as such unrelated to the FTA. In contrast to water and wastewater management, the situation of waste management and the regulatory framework have not improved significantly in the last years, which makes it unlikely that imports of EGS from the EU have had a large positive impact. Again, their potential effects are discussed in section 5.2.7.

#### 5.2.6 Climate change

##### Mitigation

This section starts with and focuses on a quantitative assessment of the FTA's effects on greenhouse gas emissions through the economic channel, mostly using the same methodology as in the section on air pollution. Looking at the quantitative results, there are two sides to the impacts of the FTA: within and outside Mexico.

Within Mexico, the FTA's effect on GHG emissions has been a reducing one: Mexican emissions of CO<sub>2</sub>, CH<sub>4</sub> as well as N<sub>2</sub>O have decreased – albeit only slightly – as a result of the FTA.

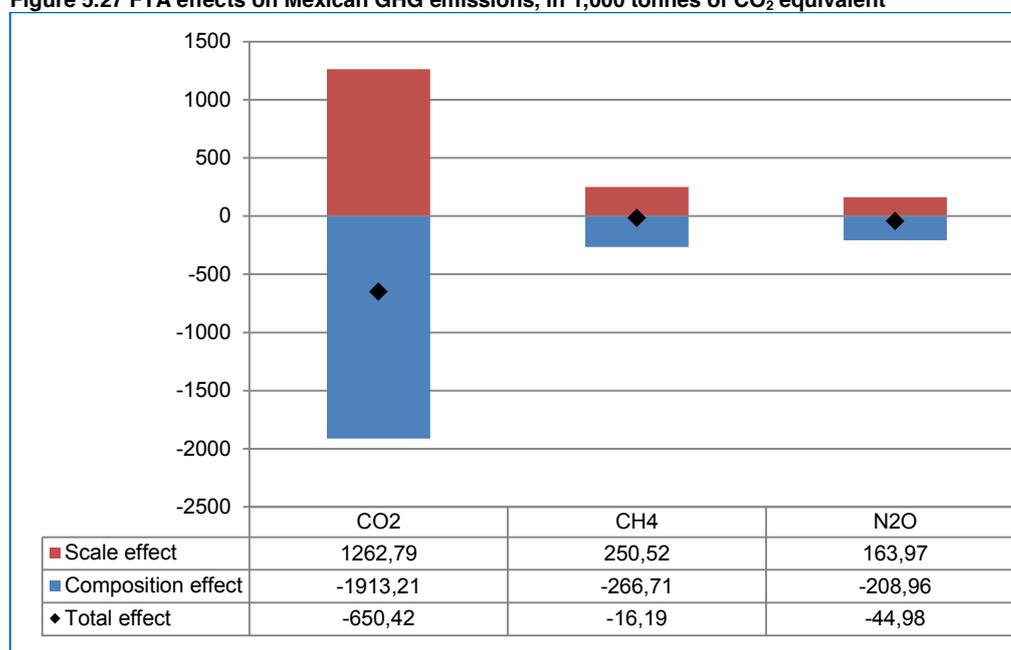
**Table 5.4 Baseline values and FTA-induced changes of GHG emissions, in thousand tonnes**

	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
Baseline level	374,334	3,229	164
FTA-induced change	-650.42	-0.70	-0.15
FTA-induced change (in %)	-0.17%	-0.02%	-0.09%

Source: own calculations based on CGE results and WIOD database. Data refer to yearly emissions.

The effect is most pronounced in the case of carbon dioxide; this can also be seen in the decomposition of the result into scale and composition effects. Note that in the figure below, emissions of CH<sub>4</sub> and N<sub>2</sub>O have been converted into CO<sub>2</sub> equivalents based on their global warming potential, for better means of comparison. Evidently especially for CO<sub>2</sub>, the changes in industry composition more than compensated for the effects of overall economic growth. The main CO<sub>2</sub>-emitting sectors in Mexico are electricity / gas / water, agriculture and petrochemicals, all of which have shown a relative decline due to the FTA. The only large CO<sub>2</sub>-emitting sector positively affected by the FTA is inland transport.

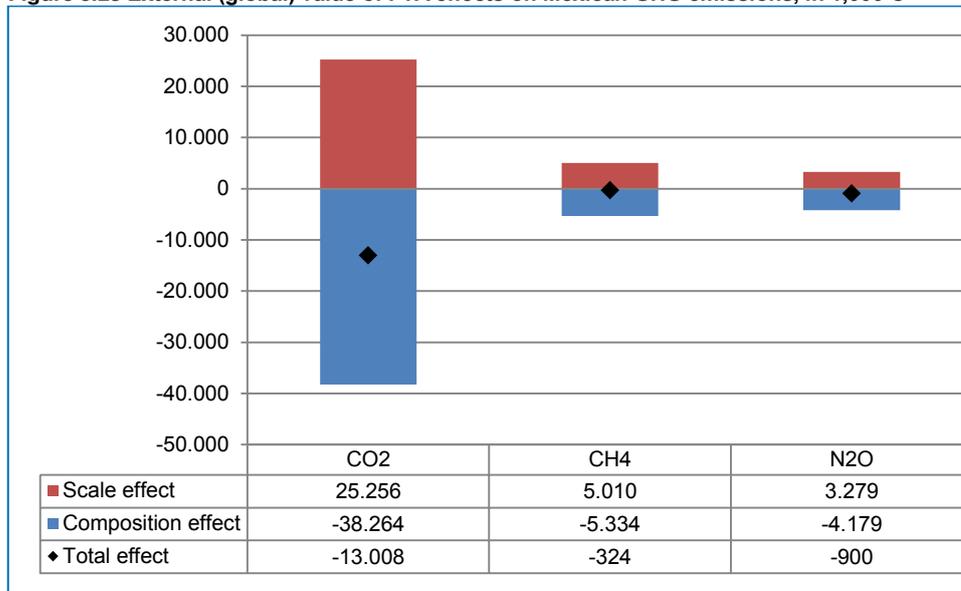
**Figure 5.27 FTA effects on Mexican GHG emissions, in 1,000 tonnes of CO<sub>2</sub> equivalent**



Source: own calculations based on CGE model outcomes, WIOD database, and IPCC Third Assessment Report Global Warming Potential factors. Data refer to changes in yearly emissions.

These effects can also be monetized. In line with previous environmental assessments of trade agreements and taking a median value from a number of estimates, we use a value of 20€ as the (global) social cost of a tonne of CO<sub>2</sub> emitted. As a result, we can conclude that the FTA has led to a reduction in GHG emissions by 712 thousand tonnes of CO<sub>2</sub> equivalent, with a value of € 14.2 million.

**Figure 5.28 External (global) value of FTA effects on Mexican GHG emissions, in 1,000 €**



Source: own calculations based on CGE model outcomes, WIOD database, and IPCC Third Assessment Report Global Warming Potential factors. Data refer to changes in yearly emissions. For a background on the Social Cost of Carbon (SCC) value of €20, please refer to Annex D.

However, the global costs of GHG emissions lead us to the second side of the FTA effects on climate change. In the context of CO<sub>2</sub> emissions – which through climate change have global effects – it is particularly important to also look at the impact of the FTA on other countries. According to the CGE modelling calculations, CO<sub>2</sub> emissions in Mexico and the United States were reduced as a result of the EU-Mexico agreement; however, this is more than compensated for by the agreement-induced emission increases in the EU and Canada. The CGE model figures alone do not provide insight into the drivers of these effects, but we may assume that industry reorganization due to shifting trade flows played a role as well as scale effects. As already indicated, the agreement has had a reducing effect on energy intensive industries in Mexico, such as metals, electrical machinery, (petro-) chemicals and wood and paper products, which can explain the emission decrease. The EU also experienced slight decreases in metals and electrical machinery due to the FTA, but an increase in the wood and paper industry and in the petrochemicals and chemicals sectors.

Worldwide, the agreement has led to a CO<sub>2</sub> emission increase of 600,000 tonnes, which is roughly equivalent to 0.015 percent of the EU's yearly CO<sub>2</sub> emissions.

In the case of other impact channels of the agreement, the conclusions are similar to those on air pollution: in general, increased shipping and air transport due to increased trade means rising greenhouse gas emissions (not only CO<sub>2</sub>, but also short-lived climate forcers such as black carbon).

Regarding regulatory changes, no direct link between the FTA and Mexican climate change legislation can be found. As indicated in the introduction to the environmental chapter, collaboration on climate change mitigation is important in the EU-Mexican relations under the “Global Agreement”; this notably included dialogues on environment and climate change and collaboration via the SENER-CONACYT Sustainable Energy Fund, as well as a discussion on wind power investments.

In general, however, investment is not covered under the FTA and is more related to BITs with EU countries, of which Mexico has several. The Global Agreement, of which the FTA is a part, provides

a forum to discuss investment-related issues, but the FTA itself had hardly any influence on renewable energy investments apart maybe from increased trade in components (see next section). The role of FDI in the energy sector may change in the future due to the recent domestic regulatory changes in Mexico (described in the baseline section); this could thus be an area for consideration in a possible modernization of the agreement.

### **Adaptation**

According to our results, vulnerability to climate change has not significantly changed due to the FTA – it has led to a slight increase in greenhouse gas emissions worldwide, but at the same time contributed to a reduction in water-intensive sectors in Mexico. The FTA-induced small sectoral shift away from agriculture and primary sectors also reduced (economic) vulnerability because the sectors most affected by climatic changes relatively lost importance.

In terms of adaptation activities, it is again hard to find a direct link between the FTA and related policies and measures. What can be noted is the increase in dairy and meat production, related to pastures and potentially overgrazing, as well as the reported increase in land use intensity due to the FTA. Both run counter to efforts to adapt production to climate change.

It can thus be concluded that the agreement led to a relative reduction in agricultural output (and thus reduced the value at stake due to climate change), but made the activities more land use intensive and potentially more damaging (which may increase the impact of climate change).

#### **5.2.7 Green growth and environmental goods and services**

Based on the evidence presented above and taken from the CGE model, the impact of the FTA on green growth in Mexico through the economic channel is small and mixed. Intensity of air pollutant emissions and greenhouse gas emissions went down as a result of the FTA, and the main water consuming sectors were influenced negatively. However, land use intensity increased and also fisheries intensity rose slightly. As outlined in the previous sections, it is hard to find evidence on a direct influence of the FTA on regulation which may have promoted green growth, although e.g. in the case of fisheries the increased adherence to EU standards as promoted by the PROTCLEUM may have improved the sustainability of the sector.

Turning to environmental goods and services, in a survey among environmental industry companies, Ferrier (2010) found out that the increase in the EGS market in Mexico may have been stimulated a bit by NAFTA and other free trade agreements, albeit only indirectly (increasing presence of foreign firms who bring higher standards of environmental operations with them). European firms, especially French and British, seem to be strongly represented in water and wastewater infrastructure; these are also the areas that have shown particular strong increases in import shares between 2001 and 2006. However, this development can be attributed to BITs with EU member states rather than to the FTA. The EU-Mexico agreement does not contain any specific provisions on EGS. While environmental services have the largest share of the environmental market in Mexico, the services part of the EU-Mexico FTA focuses on insurance and banking services.

Another main driver of the environmental market is domestic regulation (some of it is described in the sections on water and waste, for example), which is less connected to FTAs. The increasing import shares show that none of the trade agreements have stimulated the domestic environmental industry in Mexico.

In the specific case of the EU-Mexico FTA, its tariff reductions did not cover any environmental goods specifically; environmental goods could therefore be expected to be traded in line with the sector they are part of, unless specific developments are at play.

In order to look at EU-Mexican trade in environmental goods more specifically, observed data on trade flows on a more disaggregate level were used. Environmental goods and services are often defined on the basis of 6-digit or even 8-digit HS codes. For a number of goods we set observations on these specific trade developments in relation to the CGE results of the more aggregate sector. It is clear that there is no internationally recognized list of EGS. For the quantitative analysis of EGS, we looked at a comparison of OECD and APEC lists<sup>527</sup> and chose the products based on these two lists. Please note that it is even more difficult to identify trade in environmental services; therefore the analysis is limited to environmental goods.

The selection of goods took place according to several aims:

- Coverage of several sectors as reported in the CGE outcomes (and trying to cover sectors with large FTA-induced changes);
- Coverage of several environmental issues related to the environmental goods;
- Coverage of products appearing in APEC and OECD lists, and preferably in both.

The table below shows an overview of the selected environmental goods, indicating their category in the list (which refers to the environmental issue they relate to), the corresponding sector in the CGE model, and indicating the EGS list where the particular product appears. We also checked the products for dual use status according to the DG Taxud list; in case they appear on the list, footnotes indicate the dual use categories they fall into.

**Table 5.5 Environmental goods trade analysis**

HS Code	Description	Environmental goods category	GTAP / CGE sector	Based on EG list:
5801.90	Woven pile & chenille fabrics of other textile materials	Wastewater management: Sewage treatment	Textiles (27)	OECD
8541.40 <sup>528</sup>	Photosensitive semiconductor devices, incl. solar cells	Renewable energy: Solar energy	Electrical machinery / electronic equipment (40)	OECD, APEC
8502.31	Wind-powered electric generating sets	Renewable energy: Wind energy	Other machinery / machinery and equipment nec (41)	APEC
8404.10	Auxiliary plant for use with boilers (for example soot removers)	Air pollution control	Metals and metal products (35-37)	APEC
3914.00 <sup>529</sup>	Ion exchangers / chloride	Water supply: Potable water supply and	Chemicals / chemicals, rubber, plastic (33)	OECD

<sup>527</sup> See Steenblik, R. (2005): Environmental Goods: A Comparison of the APEC and OECD Lists. OECD Trade and Environment Working Paper 2005-04.

<sup>528</sup> This code is on the Dual Use list in the following categories: 6A002 (Sensors and lasers: Optical sensors or equipment and components thereof); 6A102 (Sensors and lasers: Radiation hardened 'detectors'); 6A005 (Sensors and lasers: other lasers); 3A001h (Electronics: Solid-state power semiconductor switches, diodes, or 'modules', with certain minimum requirements on voltage, temperature, and current); 3A001e (Electronics: point e includes Solar cells, cell-interconnect-coverglass (CIC) assemblies, solar panels, and solar arrays, which are "space qualified").

<sup>529</sup> This code is on the Dual Use list in the following category: 0B001f (Nuclear facilities and equipment: Equipment and components, specially designed or prepared for ion-exchange separation process).

HS Code	Description	Environmental goods category	GTAP / CGE sector	Based on EG list:
		distribution		
8539.31	Fluorescent lamps	Cleaner technologies and products: Heat/energy savings and management	Other machinery / machinery and equipment nec (41)	OECD

Sources: Steenblik R. (2005): Environmental Goods: A Comparison of the APEC and OECD Lists; Taxud Dual Use Table; Council Regulation 428/2009; CGE model sector classification; GTAP sector classification.

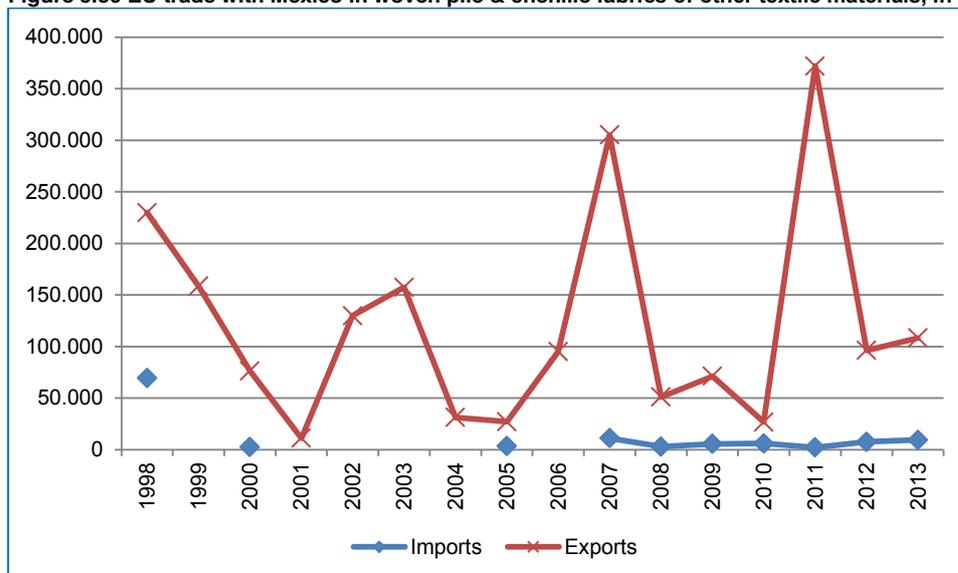
Starting with Woven pile & chenille fabrics of other textile materials which are used for sewage treatment, the table below shows the changes in EU imports and exports from / to Mexico between 2000 and 2013 and compares them to the FTA-induced changes in the overall textiles sector.

**Figure 5.29 Woven pile & chenille fabrics of other textile materials (used in sewage treatment)**

Overview of observed trade changes at product level and FTA-induced changes at sector level	
<b>Product: Woven pile &amp; chenille fabrics</b>	
Change in EU imports from Mexico 2000-2013	+303.20%
Change in EU exports to Mexico 2000-2013	+42.12%
<b>Sector: textiles</b>	
Change in Mexico exports to EU due to FTA	+34.07%
Change in EU exports to Mexico due to FTA	+37.04%
Change in Mexico sector output due to FTA	-0.30%
Change in EU sector output due to FTA	+0.14%

Based on growth rates alone, the development of Mexican exports in this product looks quite spectacular. However, as one can see in the graph below, Mexican exports to the EU are in fact rather negligible and inconsistent. For EU exports to Mexico, it appears from the table that they have grown slightly more than the FTA-induced export change in the textiles sector; however, looking at the graph, they show great variation and no clear pattern related to the FTA can be made out (the growth reported in the table above would depend crucially on the choice of years for comparison). As the product is related to sewage treatment, one explanation for this could be that investments by EU wastewater management firms in Mexico created demand in particular years. This would mean that EU exports of sewage treatment products are more related to bilateral investment treaties than to the FTA. Another point is that the trade values are very small overall; thus the volatility may be related to single contracts with individual supplying firms, which may not have been renewed every year. In general the analysis of this particular product does not provide enough evidence to suggest that water management in Mexico has improved as a result of the FTA.

**Figure 5.30 EU trade with Mexico in woven pile & chenille fabrics of other textile materials, in €**



Source: Comext / Eurostat. HS code 5801.90. Data for EU-15; for the applicable years they are equivalent to EU-25 or EU-27 data.

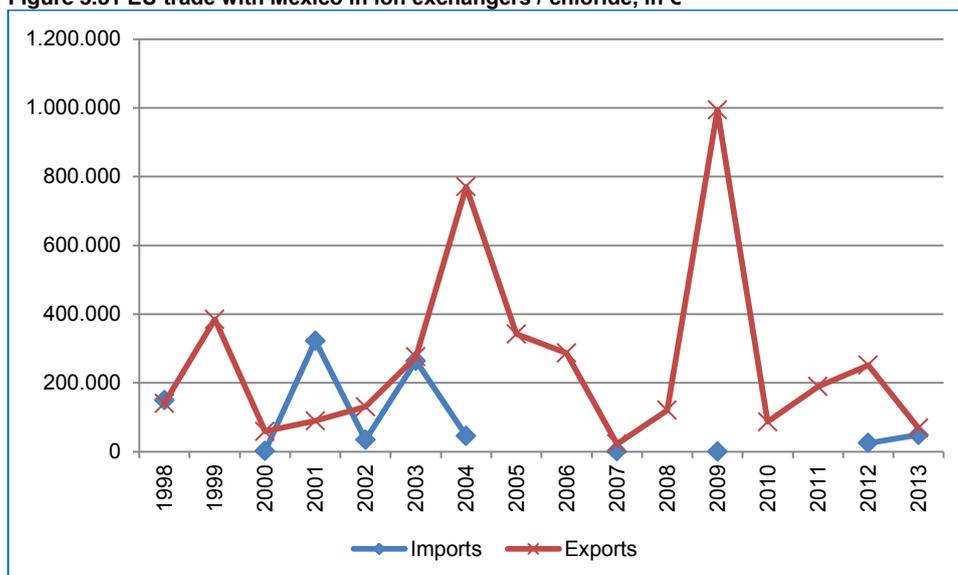
The picture is even less clear for ion exchangers / chloride. EU imports from Mexico seem to have increased dramatically, and are sometimes even larger than exports, but again show extreme variation. EU exports are extremely volatile as well, and it cannot be concluded that they have increased in line with the FTA-induced export increase in the chemicals sector.

**Table 5.6 Ion exchangers, chloride (used in water supply)**

Overview of observed trade changes at product level and FTA-induced changes at sector level	
<b>Product: ion exchangers, chloride</b>	
Change in EU imports 2000-2013	2,627.62%
Change in EU exports 2000-2013	16.44%
<b>Sector: Chemicals</b>	
Change in Mexico exports to EU due to FTA	22.34%
Change in EU exports to Mexico due to FTA	25.48%
Change in Mexico sector output due to FTA	-1.24%
Change in EU sector output due to FTA	0.11%

As ion exchangers / chloride are continually used in water supply activities, the volatility of their trade is unlikely to be linked to investment activities. Given the overall small volumes of trade, it is rather likely that single shipments of individual firms dominate the statistics. It cannot be concluded that an increase due to the FTA has happened and thus we can not deduce from this product either that water management has improved as a result of the FTA.

**Figure 5.31 EU trade with Mexico in ion exchangers / chloride, in €**



Source: Comext / Eurostat. HS code 3914.00. Data for EU-15; for the applicable years they are equivalent to EU-25 or EU-27 data.

In the case of auxiliary plants for use with boilers (for example soot removers, economisers), trade volumes – or at least export values from the EU – are at a somewhat higher level than for the last two products, but still show large variation. From the mere comparison of 2000 and 2013 figures, it looks as if EU exports in this products increased more than the FTA-induced increase in the metals sector; but when comparing different years, this increase could be much higher or much lower, and again no clear link to the entry into force of the FTA in 2000 is visible.

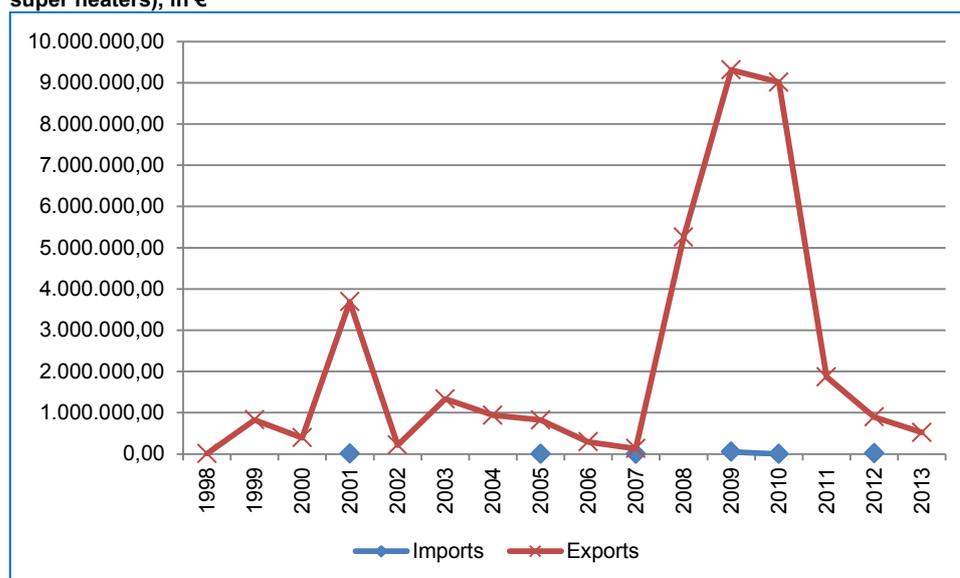
**Table 5.7 Auxiliary plant for use with boilers\***

Overview of observed trade changes at product level and FTA-induced changes at sector level	
<b>Product: Auxiliary plant for use with boilers (e.g. soot removers)</b>	
Change in EU imports 2000-2013	n.a.
Change in EU exports 2000-2013	32.76%
<b>Sector: Metals and metal products</b>	
Change in Mexico exports to EU due to FTA	3.36%
Change in EU exports to Mexico due to FTA	21.83%
Change in Mexico sector output due to FTA	-2.34%
Change in EU sector output due to FTA	-0.002%

\* used in industrial air pollution control and efficiency processes.

It is unclear whether the peaks are related to investment. Such auxiliary industrial air pollution control plants are usually connected to electricity generation plants, where foreign investment in Mexico has so far been limited. Nevertheless, they are also used in other industrial applications and EU exports may be related to investments of EU firms which bring their environmental and efficiency standards with them. However, even if a link through investment exists, there is no direct connection to the FTA. Moreover, this product presumably falls under anti-pollution equipment for which Mexico has unilaterally reduced all import tariffs to zero, which further lowers the scope of impact of the FTA.

**Figure 5.32 EU trade with Mexico in auxiliary plants for boilers (such as economisers, soot removers, super heaters), in €**



Source: Comext / Eurostat. HS code 8404.10. Data for EU-15; for the applicable years they are equivalent to EU-25 or EU-27 data.

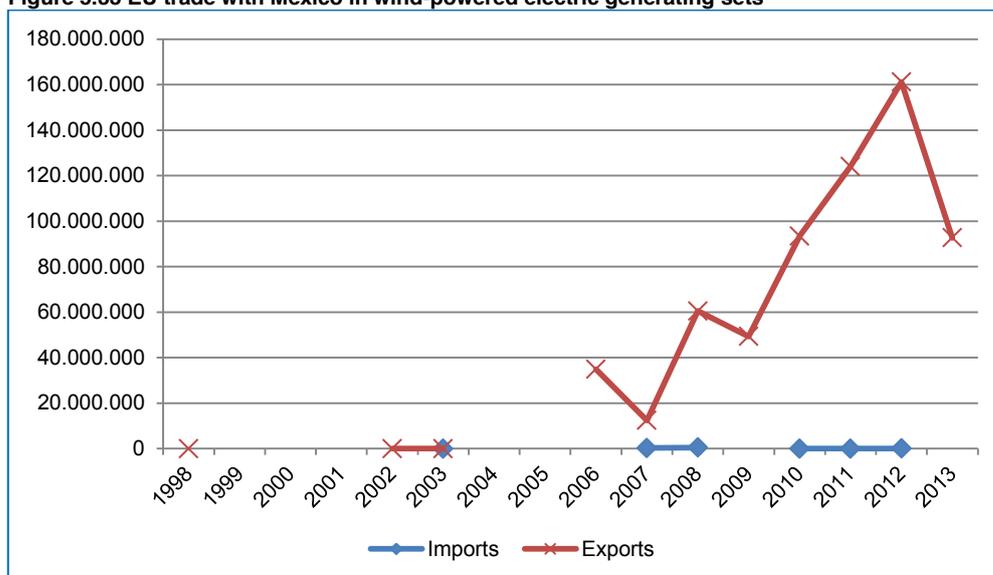
Turning to trade in wind-powered electric generating sets – one of the main components for windmills – due to lack of data for 2000, the table below shows a comparison with EU exports in 1998. EU exports in this field increased by a staggering 817,170 percent.

**Table 5.8 Wind-powered electric generating sets (in renewable energy / climate change mitigation)**

Overview of observed trade changes at product level and FTA-induced changes at sector level	
<b>Product: Wind-powered electric generating sets</b>	
Change in EU imports 2000-2013	n.a.
Change in EU exports 1998-2013	+817,170%
<b>Sector: Other machinery and equipment nec</b>	
Change in Mexico exports to EU due to FTA	+1.84%
Change in EU exports to Mexico due to FTA	+6.52%
Change in Mexico sector output due to FTA	-1.61%
Change in EU sector output due to FTA	+0.01%

The graph below shows that trade really only picked up after 2006, which roughly coincides with increasing climate change mitigation efforts in Mexico (and elsewhere in the world). It should be noted though that the FTA may have had an influence on the source of Mexican imports, because wind energy components are one of the few environmental goods in Mexico where Mexican average tariff lines are above 5 percent. Thus the FTA with the EU may have given EU producers and advantage over other exporters to Mexico.

**Figure 5.33 EU trade with Mexico in wind-powered electric generating sets**



Source: Comext / Eurostat. HS code 8502.31. Data for EU-15 for 1998, for EU-27 in all other years.

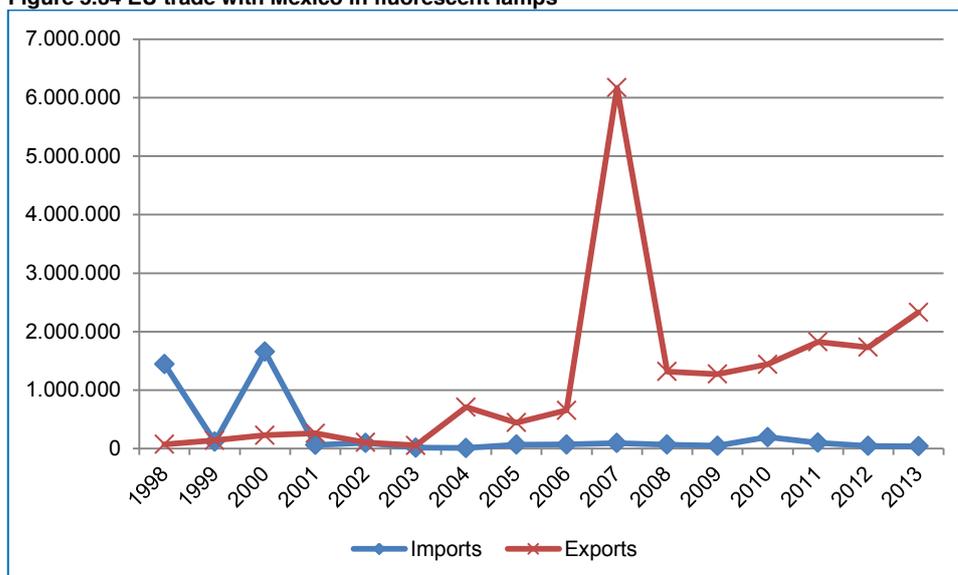
The case of fluorescent lamps is an interesting one. As indicated in the baseline, they are one of Mexico's main exports of environmental goods. However, as the numbers show, Mexican exports to the EU have decreased after entry into force of the FTA. Instead, Mexican imports of fluorescent lamps from the EU increased substantially.

**Table 5.9 Fluorescent lamps (used for energy saving)**

Overview of observed trade changes at product level and FTA-induced changes at sector level	
<b>Product: Fluorescent lamps</b>	
Change in EU imports 2000-2013	-97.46%
Change in EU exports 2000-2013	919.67%
<b>Sector: Other machinery and equipment nec</b>	
Change in Mexico exports to EU due to FTA	+1.84%
Change in EU exports to Mexico due to FTA	+6.52%
Change in Mexico sector output due to FTA	-1.61%
Change in EU sector output due to FTA	+0.01%

The graph below also shows that apart from the one spike in 2007, EU exports to Mexico increased quite steadily at least after 2003. While the increasing use of fluorescent lamps is certainly positive from an energy saving perspective, the figures also give the impression that the Mexican lighting manufacturers proved less competitive and thus declined relatively after the FTA went into force. It is unclear what the overall effect on energy consumption in Mexico (or the EU) was and whether the loss of competitiveness of the Mexican environmental goods industry may have a negative environmental impact in the long run.

**Figure 5.34 EU trade with Mexico in fluorescent lamps**



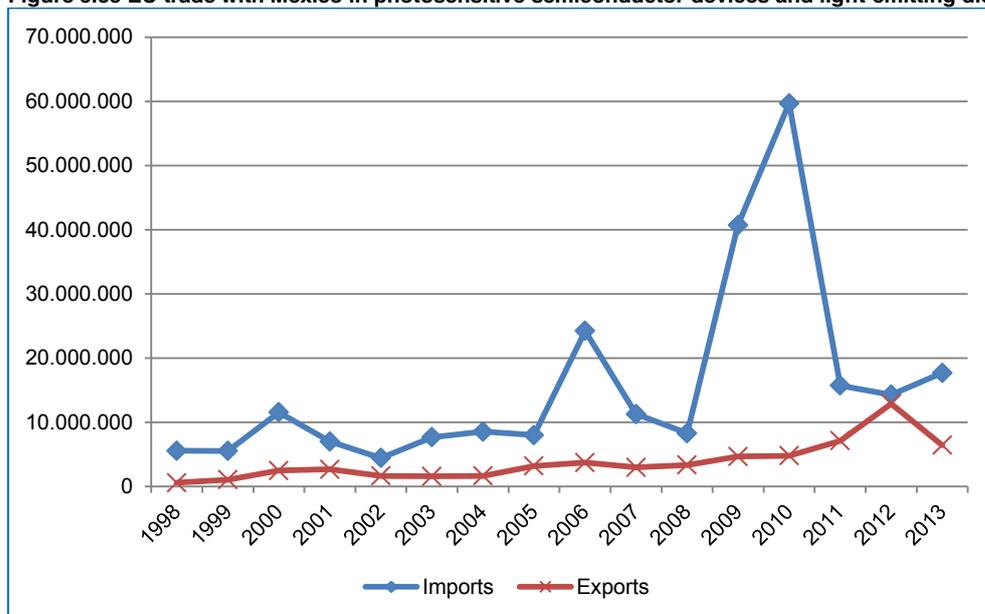
Source: Comext / Eurostat. HS code 8539.31. Data for EU-15 for 1998, for EU-27 in all other years.

Finally, we consider the development of trade in photovoltaics equipment, which is captured in trade statistics under “Photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels; light-emitting diodes”. This is an interesting case as both EU imports from and exports to Mexico went up between 2000 and 2013 – in contrast especially to the trend for Mexican exports in the wider sector of electronic equipment, where both output and exports went down as a result of the agreement.

Overview of observed trade changes at product level and FTA-induced changes at sector level	
<b>Product: Photosensitive semiconductor devices, light-emitting diodes</b>	
Change in EU imports 2000-2013	+52.99%
Change in EU exports 2000-2013	+158.28%
<b>Sector: Electrical machinery / electronic equipment</b>	
Change in Mexico exports to EU due to FTA	-7.80%
Change in EU exports to Mexico due to FTA	+9.50%
Change in Mexico sector output due to FTA	-11.45%
Change in EU sector output due to FTA	-0.19%

In the graph comparing exports and imports, another special feature becomes apparent: this is a product where Mexico has over the years been a net exporter to the EU. The general trend in Mexican exports to the EU after entry into force of the FTA has been positive, although again with quite some variation. EU exports to Mexico are still below imports, but also show a rising trend.

**Figure 5.35 EU trade with Mexico in photosensitive semiconductor devices and light-emitting diodes**



Source: Comext / Eurostat. HS code 8541.40. Data for EU-15 for 1998, for EU-27 in all other years.

It is difficult to explain these numbers. Clearly trade in HS code 8541.40 has increased far above the FTA-induced trend for the larger sector. Whether this was made possible by the FTA is hard to say; as also mentioned above, the FTA may have made the EU and Mexico more “popular” among their respective exporters, but the driving force for increased trade in these products is obviously rising demand primarily due to policy objectives. A remaining question is which products these numbers actually refer to. Given Mexico’s position in the lighting sector, it is well possible that some of the export value does not refer to PV components, but rather to diodes. Both have positive effects for the environment – PV equipment as it produces clean electricity, and diodes because they reduce energy use. However triangular trade may also play a role, and thus we cannot make a direct link between increased trade and increased domestic use and the corresponding technology improvement (in the sense that production requires less pollution or GHG emissions per unit of output).

To finish with, it should also be mentioned that environmentally preferable products – such as products produced sustainably – can affect the sustainability aspects of trade.<sup>530</sup> Unfortunately these products are difficult to classify and report on, and it is therefore not surprising that there are neither provisions in the agreement to reduce trade barriers for such products, nor are there data on trade flows in these products which would allow to investigate the issue. It is indeed likely that by increasing their exports to the EU, Mexican producers faced increasing demand for products with environmental labels, for example. The impact of obligatory labelling in the case of honey containing GMO shows how such an influence can work. However, voluntary labels are of course weaker incentives for producers to change their way of production or to influence policymaking, and only for few products from Mexico the EU market is the most relevant. To our knowledge there have not been any accompanying measures to the agreement to support Mexican producers in conforming to voluntary standards or labels which are prevalent in the EU.

<sup>530</sup> See for examples of such products specifically in the Mexican case: Enrique Lendo (2005): Defining Environmental Goods and Services: A Case Study of Mexico.



## 6 Way forward

### 6.1 Roadmap for completion of the study

The main elements of Module 1 of the study (ex-post analysis) have been presented in this ITR. In the coming period, the emphasis will be on stakeholder consultation, especially to establish whether the link between the observed economic, social and environmental developments and the implementation FTA are confirmed by observations 'on the ground' - in other words to answer the question to what extent the FTA played a role in these developments. In addition, we will formulate the conclusions and policy recommendations as a last step in the study process. This will also include addressing the evaluation criteria effectiveness and coherence.

A major activity in the next phase will be the workshop in Mexico that is planned for June/July. By the end of July, we will also close the survey and analyse the results. In addition, we will have targeted interviews with selected stakeholders to develop a better understanding on specific elements. To this end we plan to contact e.g. some EU and Mexican human rights organisations on the possible violation of labour standards by EU companies in Mexico, and some EU and Mexican business associations on the impact of the FTA on SMEs. Furthermore, based on the results of the online survey and other consultation activities, we will analyse the impacts of the FTA on SMEs.

Table 6.1 presents the provisional planning for the final phase of the ex-post assessment of the EU-Mexico FTA. Exact dates still have to be agreed with the Steering Committee.

**Table 6.1 Planning of the project**

Activity	Deadline
Draft interim technical report (ITR) ex-post analysis	27 November 2014
Final comments EC on ITR	February 2015
Revised draft ITR ex-post analysis (final interim technical)	March 2015
Approval interim technical report ex-post analysis	May 2015
Local workshop in Mexico City	June/July 2015
Closure of the online survey	July 2015
Draft final report (DFR) ex-post analysis	September 2015
DFR meeting with DG Trade	October 2015
Final comments EC on DFR	October 2015
Minutes of DG Trade DFR meeting	October 2015
Revised final report ex-post analysis	November 2015

### 6.2 Proposed structure of the final report

The proposed structure for the final report of the ex-post analysis is as follows.

Content
<b>Executive summary</b>
<b>Introduction</b>
<b>Regulatory analysis:</b>
<ul style="list-style-type: none"> <li>• A descriptive account of the Agreement including its main features;</li> <li>• an overview of the context the Agreement operates in;</li> </ul>

## Content

- An identification of regulatory changes;
- An analysis of the institutional framework.

### **Economic analysis:**

- Trend and share analysis as presented in section 3.2;
- Gravity modelling will be completed and results will be used to define experiments of the CGE analysis;
- CGE results will be presented.

### **Social analysis**

- Qualitative and indicator based description of developments since 2000 as described in section 4.1, as well as an analysis of Decent Work impacts and informal economy aspects;
- Quantitative social analysis containing the following elements will be completed:
  - Presentation and interpretation of social CGE indicators;
  - Micro-simulation based on a household survey to look at poverty and inequality aspects.
- All steps of the HR analysis.

### **Environmental analysis:**

- Qualitative and indicator based description of developments since 2000 as described in section 5.1, as well as qualitative attribution of FTA effects;
- Analysis of trade in environmental goods;
- Quantitative analysis calculating scale and composition effects.

### **Consultations:**

- Stakeholder inputs will be incorporated into the overall analysis;
- Presentation of the survey results;
- Information material and minutes from the workshop.

### **Conclusions and policy recommendations.**





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