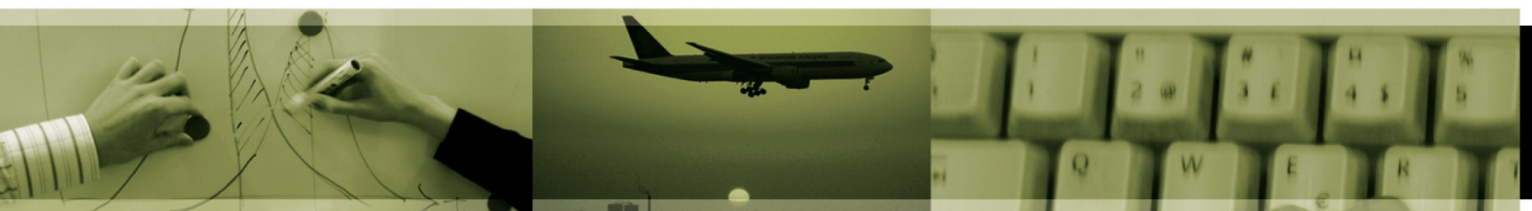


# ASSESSMENT OF BARRIERS TO TRADE AND INVESTMENT BETWEEN THE EU AND MERCOSUR

ECONOMIC IMPACT ASSESSMENT | MAY 2011

INFORMED DECISIONS



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## | COLOPHON

**Author:** Martin H. Thelle and Eva R. Sunesen

**Client:** DG Trade

**Date:** May 2011

**Contact:** SANKT ANNÆ PLADS 13, 2nd FLOOR | DK-1250 COPENHAGEN  
PHONE: +45 2333 1810 | WWW.COPENHAGENECONOMICS.COM

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## EXECUTIVE SUMMARY

Mercosur (Brazil, Argentina, Uruguay and Paraguay) is the EU's seventh largest export destination outside Europe. The EU's pre-crisis exports to Mercosur amounted to €52 billion (€34 billion in goods and €18 billion in services in 2008) and imports from Mercosur reached €61 billion (€48 billion in goods and €13 billion in services in 2008).

The stock of Mercosur investments in the EU rocketed to more than €60 billion between 2004 and 2009, and during the same five years, EU investments in Mercosur jumped from €103 billion to €182 billion (a 76 percent increase), a stock more than double the size of the EU's investment in China.

With more than 250 million people and a rapidly growing economy, Mercosur makes up an attractive market for European exporters and investors, despite a relatively low average GDP per capita, which ranges at around one third of the per capita GDP in the EU.

Similarly, with a population of 500 million and a very high income level, the EU also constitutes a major market for exporters and investors from the Mercosur countries, despite a much lower growth rate than in their South American home markets.

### **Barriers are holding back trade in both directions**

While trade and investment is growing in both directions after the crisis, trade and investments are below potential levels. Tariffs and non-tariff barriers are holding back significant amounts of trade and investments which, despite their sheltering effect on certain so-called sensitive industries, deprives consumers and exporters of considerable benefits.

High tariffs on several agricultural products are maintained at the European borders, keeping Mercosur producers from supplying the European market at competitive prices. In the same way, tariffs and non-tariff barriers on European manufactured goods like cars are reducing the opportunities for Mercosur consumers to buy some of their preferred goods. In the increasingly important services markets, barriers are also holding back both cross-border trade and establishment of foreign affiliates.

Partly for these reasons, policy makers from the EU and Mercosur have decided to resume the negotiations that were suspended in 2004, with the hope of finding new ways to free up the potential welfare gains for consumers and businesses through a possible free trade agreement.

### **We estimate large welfare gains for both the EU and Mercosur from a free trade agreement**

In this report we take a fresh look at the pros and cons of such a free trade agreement. The consequences in terms of job losses and lower investment following the financial crisis has made the pursuit of growth enhancing and job creating initiatives more relevant than ever, and the underlying potential for increasing trade and investment between the EU and Mercosur remains at least as strong as when negotiations were initiated in 1995.

We estimate, that an ambitious EU-Mercosur free trade agreement comprising comprehensive tariff removals, a noticeable reduction of non-tariff barriers on manufactured goods and a reduction of services and investment barriers could enhance GDP in the EU by €15-21 billion (corresponding to a 0.2 percent increase) and by €2-3 billion for the Mercosur countries taken as one (corresponding to up to a 0.3 percent increase). However, a comprehensive scenario does not take into account full liberalisation of all goods due to the existing sensitiveness on both sides in some sectors.

EU exports to Mercosur are estimated to almost double as a result of bilateral trade liberalisation. Compared to the pre-crisis EU exports to Mercosur this corresponds to a €52 billion increase from €52 billion to €104 billion, with the majority of the impact stemming from industrial sectors, where the EU exports more to Mercosur. The EU's imports from Mercosur are estimated to go up by €24 billion compared to its pre-crisis level (close to a 40 percent increase), with the increase equally divided between agriculture and industry imports.

It is important to note that while this report attempts to capture some of the key effects of an FTA, quantifying the impacts is no easy task and not all impacts can be properly accounted for. For example, the impact of provisions on public procurement, intellectual property rights etc are not captured.

#### **The impact varies across sectors**

The impact varies across sectors with EU exports to Mercosur increasing in all major sectors, including agriculture. The EU's imports from Mercosur will also increase in all sectors. Total imports of agriculture goods will increase much more than agriculture exports and the EU's value added in agriculture will contract. This contraction is more than offset by the increase in manufacturing and services exports, and the two largest sectors of the EU economy will benefit substantially from free trade with Mercosur. Total GDP will increase in both the EU and in Mercosur.

Table 1.1 Overview of main results

	EU exports to Mercosur	EU imports from Mercosur	EU exports to world	EU imports from world	EU value added	Mercosur value added
Agriculture	55% to 69%	15% to 34%	-0.1% to 0.0%	4.7% to 7.4%	-0.6% to -1.0%	4.7% to 7.4%
Industry	79% to 118%	31% to 50%	0.5% to 0.7%	-0.1% to -0.6%	0.1% to 0.3%	-0.1% to -0.6%
Services	20% to 53%	7% to 10%	0.0% to 0.2%	0.1% to 0.2%	0.1% to 0.2%	0.1% to 0.2%
<b>Total</b>	<b>68% to 105%</b>	<b>21% to 38%</b>	<b>0.4% to 0.6%</b>	<b>0.1% to 0.3%</b>	<b>0.1% to 0.2%</b>	<b>0.1% to 0.3%</b>

*Note: The results are from the central scenario of trade liberalisation (main scenario 4) and the numbers shown in the table are the minimum and maximum percentage change from the baseline across the four variants of the scenario reflecting different degrees of liberalisation.*

*Source: Copenhagen Economics based on CGE-model results*

### To be most beneficial, an FTA should be deep and comprehensive

Achieving such beneficial impacts on GDP and trade with the above-mentioned order of magnitude, will require a deep and comprehensive reduction of current trade and investment barriers. *Deep* in the sense that the agreed reductions in each sector should cut deep into not only tariffs, but also into non-tariff barriers created by quotas, custom procedures, certification requirements and other regulatory “behind-the-border” barriers. And finally, the agreement would need to be *comprehensive* in the sense that it should include virtually all sectors of the economy from agriculture, to manufacturing and services.

### Conclusion: Overall a positive impact on both economies

Our conclusion is that the overall impact of a possible EU-Mercosur FTA on the EU economy is positive, but the effects vary considerably across sectors and liberalisation scenarios. The positive impacts for the EU economy are substantial in sectors where the EU is globally competitive and a possible EU-Mercosur deal will strengthen the innovative sectors of the EU economy.

#### *Structure of the report*

The report is structured as follows: In chapter 1, we provide an overview of current trade and investment patterns between the EU and Mercosur. Chapter 2 contains a description of the main trade barriers in the Mercosur countries. In chapter 3, we present the main scenario for a possible free trade agreement between the EU and Mercosur and we describe the model we use to evaluate these scenarios. Finally, in chapter 4, we summarise the results on trade and production for the EU and for Mercosur from the model-based simulations of the free trade scenarios described in the previous chapter.

## Chapter 1 | CURRENT TRADE, INVESTMENT AND PRODUCTION IN THE EU AND MERCOSUR

The EU began free trade negotiations with Mercosur in 1995. Negotiations were suspended without an agreement in 2004. The European Commission proposed to re-launch negotiations with Mercosur in May 2010. This was endorsed by the EU-Mercosur Summit and since then five negotiation rounds have taken place (the most recent one in early May 2011).

In this chapter we describe the current trade, investment and production structures in the EU and Mercosur. By Mercosur we refer to the Treaty of Asunción signed in 1991 by Argentina, Brazil, Paraguay and Uruguay. Throughout this chapter we will treat the four countries as one group since the EU negotiations of a free trade agreement (FTA) concern all four Mercosur countries and not bilateral trade with individual Mercosur countries.

Although we treat Mercosur as one region it is important to keep in mind that one country - Brazil - accounts for 80 percent of the total Mercosur GDP. Brazil is the 'B' in the now famous BRIC acronym. It is therefore relevant to compare with Russia, India and China. The BRIC countries are all large countries deemed to be at a similar stage of newly advanced economic development and each of them has a large growth potential. We therefore compare the current Mercosur trade, investments and production structure with the other BRIC countries whenever it is found appropriate.

Trade between the EU and Mercosur has increased steadily during the last decade. While EU imports from Mercosur as proportion of total EU imports have remained relatively stable, EU exports to Mercosur have increased and make up an increasing share of total EU exports. Despite the increase, Mercosur has been losing importance as a destination for EU exports relative to China and other major countries during the period 2002-2009. In 2009, Mercosur was the seventh most important export destination outside the European Economic Area (EEA) behind the US, China, Russia, Turkey, Japan and India.

The EU-Mercosur trade is concentrated in a few sectors. Mercosur mainly exports food and live animals as well as crude materials to the EU, while EU exports to Mercosur are concentrated in machinery and transport equipment and chemical goods as well as in services.

The same pattern can be observed for the EU's direct investments in Mercosur. Bilateral investments have increased from 2004 to 2009, and the EU accounts for more than half of the total Mercosur stock of inward foreign direct investment (FDI). However, EU investments in the three remaining BRIC countries (Russia, India and China) have increased at a rate exceeding that of EU investments in Mercosur. This could be linked to the fact that the level of EU FDI in Mercosur is far beyond the investment level in the other BRIC countries.

### 1.1. MAIN INDICATORS FOR MERCOSUR AND THE EU

Mercosur has a population of almost 250 million people, however, having a GDP per capita worth only around €6,800, Mercosur is below the EU level of development where GDP per capita is around €23,000. During the period 2004-2010, Mercosur experienced relatively high growth with the annual real growth rate averaging 4.6 percent. Growth peaked in 2007 at 6.5 percent and plummeted in 2009 due to the global economic crisis. In the beginning of the period, Mercosur kept a surplus on the current account vis-à-vis the rest of the world of close to 2 percent of GDP, but in the end of the period this surplus turned into a deficit of equal size. We see that the economic crisis in Brazil in 2003 is illustrated by in the large drop in Mercosur GDP in 2003, cf. Table 1.1.

Table 1.1 Key economic indicators, Mercosur 2002-2010

Item	2002	2003	2004	2005	2006	2007	2008	2009	2010
Population, millions of persons	223	226	229	232	234*	236*	239*	241*	244*
Gross domestic product, current prices, billions of €	663	618	673	876	1,061	1,215	1,368	1,384*	1,658*
Gross domestic product per capita, current prices, thousands of €	3,0	2,7	2,9	3,8	4,5*	5,1*	5,7*	5,7*	6,8*
Gross domestic product, constant prices, annual percent change	0.2%	2.6%	6.3%	4.2%	4.7%	6.5%	5.5%	0.0%*	5.2%*
Inflation, average consumer prices, annual percent change	11.4%	14.6%	6.2%	7.3%	5.3%	4.6%	6.2%	5.1%	5.9%*
Current account balance, percent of gross domestic product	0.3%	1.8%	1.7%	1.7%	1.5%	0.4%	-1.2%	-0.8%*	-2.0%*
Current account balance, billions of €	2	11	12	15	16	5	-17	-11*	-34*

Note: \* Indicates that the value for one or more country has been estimated by IMF. The estimated data starts between 2006 and 2010 depending on which Mercosur country we look at. Mercosur inflation has been calculated by weighting inflation in individual countries by their GDP. Values have been converted into Euro using the ECB annual average exchange rate for 2004 through 2009.

Source: IMF (2010), World Economic Outlook Database and the ECB Statistical Data Warehouse.

The EU population is twice as large as the Mercosur population reaching close to 500 million in 2010. The level of development is much higher in the EU compared to Mercosur: EU27 GDP per capita is more than three times larger than the Mercosur average GDP per capita. The EU has a lower rate of inflation (1.8 percent compared to 5.9 percent) and the current account deficit is smaller (-0.1 percent of GDP compared to -2.0 percent of GDP), cf. Table 1.2.



Table 1.2 Key economic indicators, EU 2002-2010

Item	2002	2003	2004	2005	2006	2007	2008	2009	2010
Population, millions of persons	485	487	489	491	493	495	498	500	501
Gross domestic product, current prices, billions of €	9.950	10.118	10.617	11.072	11.699	12.396	12.493	11.787	12.120
Gross domestic product per capita, current prices, thousands of €	20,5	20,8	21,7	22,5	23,7	25,0	25,1	23,6	24,2
Gross domestic product, constant prices, annual percent change	1,2%	1,3%	2,5%	2,0%	3,2%	3,0%	0,5%	-4,2%	1,8%
Inflation, average consumer prices, annual percent change	2,5%	0,3%	2,4%	2,3%	2,4%	2,9%	0,3%	-1,5%	1,0%
Current account balance, percent of gross domestic product	0,2%	0,1%	0,5%	-0,1%	-0,3%	-0,4%	-1,0%	-0,3%	-0,1%
Current account balance, billions of €	17	13	52	-8	-36	-49	-129	-35*	-8*

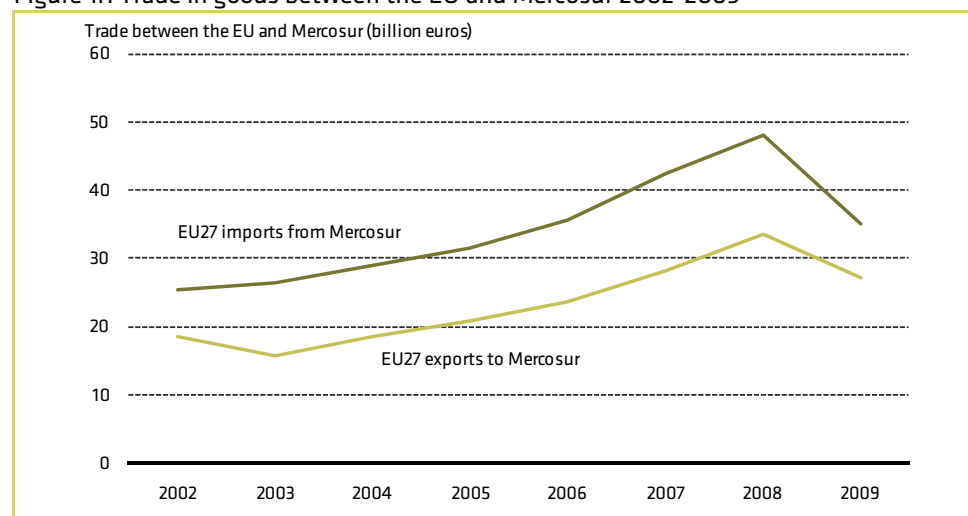
Note: \* Indicates that the value for one or more country has been estimated by IMF. The estimated data starts between 2006 and 2010 depending on which EU country we look at. EU inflation has been calculated by weighting inflation in individual countries by their GDP. Values have been converted into Euro using the ECB annual average exchange rate for 2004 through 2009.

Source: Eurostat and the ECB Statistical Data Warehouse. Current account data is from IMF (2010).

## 1.2. CURRENT TRADE BETWEEN THE EU AND MERCOSUR

Trade between the EU and Mercosur has increased steadily during the period 2002-2009. In 2009, the EU imported €35 billion worth of goods from Mercosur and exported €28 billion, cf. Figure 1.1. EU exports to Mercosur dropped in 2003 due to falling exports mainly to Brazil.

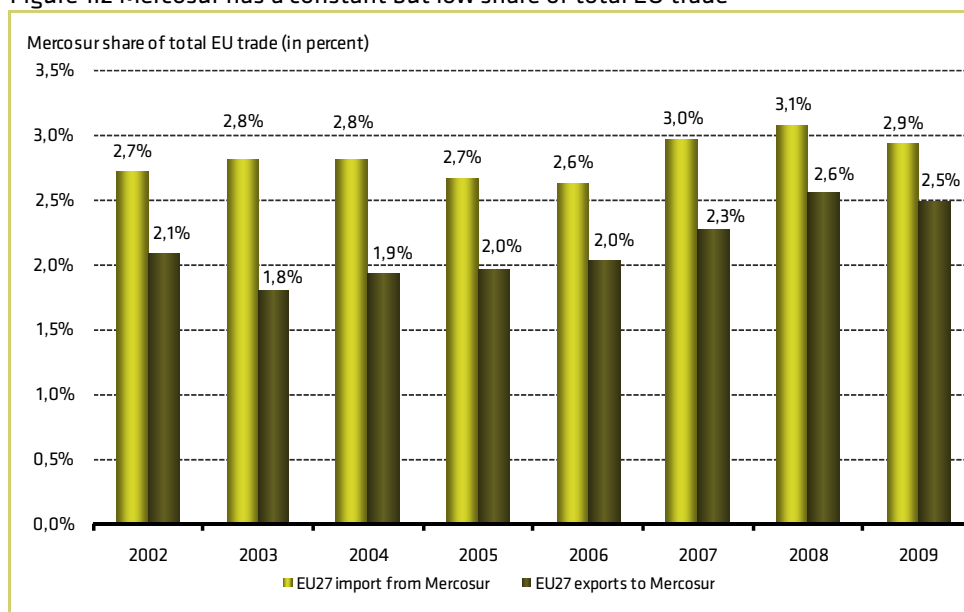
Figure 1.1 Trade in goods between the EU and Mercosur 2002-2009



Source: Eurostat.

The EU has maintained a relatively low but constant share of imports from Mercosur of around 3 percent of total imports. Simultaneously, the share of EU exports going to Mercosur has resurged from the temporary low-point of 1.8 percent in 2003 to 2.5 percent in 2009, cf. Figure 1.2. The low-point in 2003 was mainly caused by the recession in Brazil.

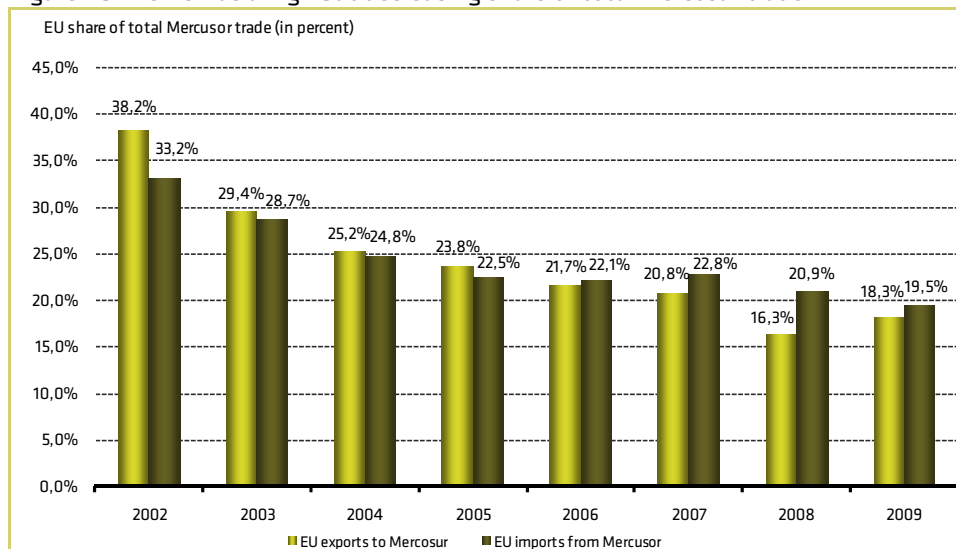
Figure 1.2 Mercosur has a constant but low share of total EU trade



Note: Shows EU imports (exports) from Mercosur as a share of total EU imports (exports). Excl. intra-EU trade.  
Source: Eurostat.

The EU is an important trading partner for Mercosur although its share in total Mercosur trade has been falling during 2002-2009, cf. Figure 1.3. In 2002, almost 40 percent of total Mercosur imports came from the EU, however in 2009 the EU share was less than 20 percent. Mercosur exports to the EU also account for a decreasing share falling from one third in 2002 to less than 20 percent in 2009.

Figure 1.3 The EU has a high but decreasing share of total Mercosur trade



Note: Shows EU exports (imports) to Mercosur as a share of total Mercosur imports (exports). Excl. intra-Mercosur trade.

Source: Eurostat.

In 2009, Mercosur was the 7<sup>th</sup> most important destination for EU exports (excluding Switzerland and Norway), cf. Table 1.3. During the period 2002-2009, Mercosur has been bypassed by India as one of EU's main export destinations but has at the same time gained importance relative to Canada and Hong Kong. The current Mercosur position should therefore be seen in the context of Mercosur being only the 11<sup>th</sup> most important destination for EU exports in 2003.

Table 1.3 The EU's main export destinations outside the EEA, 2002-2009

Rank	2002	2003	2004	2005	2006	2007	2008	2009
1	US	US	US	US	US	US	US	US
2	Japan	China	China	Russia	Russia	Russia	Russia	China
3	China	Japan	Russia	China	China	China	China	Russia
4	Russia	Russia	Japan	Turkey	Turkey	Turkey	Turkey	Turkey
5	Turkey	Turkey	Turkey	Japan	Japan	Japan	Japan	Japan
6	Canada	Canada	Canada	UAE	Canada	India	<b>Mercosur</b>	India
7	Hong Kong	Hong Kong	Australia	Canada	UAE	<b>Mercosur</b>	UAE	<b>Mercosur</b>
8	<b>Mercosur</b>	Australia	Hong Kong	India	India	UAE	India	UAE
9	South Korea	UAE	UAE	<b>Mercosur</b>	<b>Mercosur</b>	Canada	Canada	Canada
10	Australia	South Korea	<b>Mercosur</b>	Australia	Hong Kong	South Korea	South Korea	Australia

Note: In 2003 Mercosur is ranked number 11 in main export destinations. 'UAE' is the United Arab Emirates. The table does not include EEA countries, and two important trading partners, Norway and Switzerland, are consequently not shown in the table.

Source: Eurostat.

In absolute terms, EU exports to Mercosur are on a comparable level with EU exports to India, whereas EU exports to Russia and China are almost three times larger, cf. Table 1.4. EU exports to Mercosur have also grown by a much lower rate than to the other BRIC countries (5 percent compared to around 10 percent in the other BRICs).

Mercosur has larger exports to the EU than India but the gap has narrowed during 2002-2009 during which the Indian growth rate of exports to the EU has been almost twice that of Mercosur's (4.7 percent in Mercosur compared to 9.2 in India).

Table 1.4 The EU's main trading partners outside the EEA

	2002	2003	2004	2005	2006	2007	2008	2009	Growth rate 2002-09
<b>Mercosur</b>									
Imports from EU	18,564	15,620	18,421	20,739	23,608	28,198	33,486	27,220	5.6%
Exports to EU	25,494	26,361	28,912	31,482	35,611	42,589	48,157	35,147	4.7%
<b>China</b>									
Imports from EU	35,099	41,473	48,376	51,825	63,794	71,928	78,416	81,631	12.8%
Exports to EU	90,148	106,221	128,692	160,327	194,932	232,664	247,933	214,755	13.2%
<b>India</b>									
Imports from EU	14,330	14,572	17,154	21,322	24,392	29,472	31,603	27,487	9.8%
Exports to EU	13,682	14,064	16,369	19,086	22,614	26,605	29,482	25,387	9.2%
<b>Russia</b>									
Imports from EU	34,420	37,206	46,030	56,696	72,328	89,137	105,028	65,473	9.6%
Exports to EU	64,492	70,683	83,954	112,591	140,916	144,459	177,761	115,251	8.6%
<b>United States</b>									
Imports from EU	247,934	227,282	235,499	252,683	269,144	261,477	250,124	204,740	-2.7%
Exports to EU	182,618	15,8124	159,374	163,511	175,547	181,739	186,772	159,535	-1.9%
<b>Turkey</b>									
Imports from EU	26,624	30,852	40,129	44,625	50,038	52,684	54,136	43,749	7.4%
Exports to EU	24,591	27,257	32,733	36,082	41,720	46,967	45,990	36,086	5.6%
<b>Japan</b>									
Imports from EU	43,455	40,975	43,424	43,749	44,771	43,745	42,267	35,947	-2.7%
Exports to EU	73,651	72,390	74,695	74,064	77,510	78,446	75,074	55,832	-3.9%
<b>South Korea</b>									
Imports from EU	17,651	16,449	17,931	20,226	22,864	24,784	25,568	21,519	2.9%
Exports to EU	24,563	26,003	30,671	34,451	40,814	41,369	39,564	32,075	3.9%

Note: The table does not include EEA countries, and two important trading partners, Norway and Switzerland, are consequently not shown in the table.

Source: Eurostat.

### 1.3. COMPOSITION OF EU-MERCOSUR TRADE

The EU's imports of agriculture and manufacturing products from Mercosur are very concentrated and only two sectors - food and live animals and in crude materials – account for more than 65 percent of total goods imports, cf. Table 1.5. Machinery and transport equipment (most notably automotives) are also important sectors. At the same time, EU exports to Mercosur are concentrated mainly in machinery and transport equipment and chemical goods. Together these two sectors account for more than 70 percent of EU exports

to Mercosur. Overall, the EU had an average trade deficit in agriculture and manufactured products worth €12.7 billion during 2007 to 2009.

Table 1.5 EU trade in agriculture and manufactured products

	EU exports			EU imports			EU trade balance		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
<b>Total Mercosur</b>	<b>27,588</b>	<b>33,007</b>	<b>26,785</b>	<b>42,449</b>	<b>48,012</b>	<b>35,095</b>	<b>-14,861</b>	<b>-15,005</b>	<b>-8,310</b>
<i>of which:</i>									
Food and live animals	422	489	479	14,883	16,723	13,665	-14,461	-16,234	-13,186
Beverages and tobacco	236	271	271	661	690	817	-425	-419	-547
Crude materials*	278	382	320	11,110	13,518	9,004	-10,832	-13,136	-8,684
Mineral fuels and lubricants	784	712	408	1,478	2,202	1,247	-694	-1,489	-839
Animal and vegetable oils, fats and waxes	126	164	157	646	1,279	430	-521	-1,114	-273
Chemical and related products	5,663	6,680	6,338	2,070	2,549	2,687	3,593	4,131	3,651
Manufactured goods	3,521	4,268	3,200	5,775	5,046	2,647	-2,254	-778	553
Machinery and transport equipment	14,316	16,981	12,983	4,181	4,302	3,231	10,135	12,679	9,752
Miscellaneous manufactured articles	1,860	2,097	1,903	1,197	1,189	924	664	907	979
Commodities and unclassified transaction	383	963	728	447	515	443	-65	449	285

Note: Data is in million Euros. The data is based on SITC codes. \*) 'Crude materials' include 'hides, skin and furskins', 'oil-seeds and oleaginous fruits', 'crude rubber', 'cork and wood', 'pulp and waste paper', 'textile fibres', 'crude fertilizers', 'metalliferous ores and metal scrap' and 'crude animals and vegetable materials'.

Source: Copenhagen Economics' calculations based on data from Eurostat.

The EU has a trade surplus in services trade with Mercosur. In 2008, the EU exported €18.4 billion in services to Mercosur, while imports of services from Mercosur amounted to €12.7 billion, meaning that the EU had a surplus of €5.7 billion in trade in services with Mercosur, cf. Table 1.6. One of the main causes is that EU exports of services to Mercosur have almost doubled over the period 2006 to 2008 (from €9.8 billion to €18.4 billion). One contributing factor is the large increase in other business services going up from €1.4 billion to €5.4 billion. For comparison, we note that the US trade surplus with Mercosur in 2008 is €6.3 billion.<sup>1</sup>

More than one third of the EU's surplus in services comes from transportation services. Other important service sectors are construction services (+€855 million), royalties and licences fees (+€824 million), and other business services (+€882million). The only two service sectors where the EU is running trade deficits are government services<sup>2</sup> (-€133 million) and personal, cultural and recreational services (-€44 million). Mercosur accounted for around 2.2 percent of the total extra-EU trade in services.

<sup>1</sup> Data is only available for Argentina and Brazil.

<sup>2</sup> Such as education and health services consumed by non-resident customers.

Table 1.6 EU trade in services with Mercosur (million Euros)

	EU exports			EU imports			EU trade balance		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
<b>Total Mercosur</b>	<b>9,814</b>	<b>13,043</b>	<b>18,422</b>	<b>8,345</b>	<b>9,504</b>	<b>12,743</b>	<b>1,469</b>	<b>3,539</b>	<b>5,679</b>
<i>of which:</i>									
Transportation	3,789	4,497	5,273	2,552	2,889	3,345	1,237	1,608	1,928
Travel	2,191	2,680	3,408	2,617	2,810	3,022	-426	-130	385
Other services	3,729	5,698	9,576	3,099	3,691	6,177	630	2,007	3,399
<i>of which:</i>									
Communication services	185	265	341	142	183	215	43	82	126
Construction services	517	702	1,117	160	218	261	358	484	855
Insurance services	246	242	378	87	85	120	159	157	258
Financial services	327	524	473	167	256	269	161	268	205
ICT services	377	490	627	121	141	202	256	349	426
Royalties and license fees	499	698	935	37	73	111	462	624	824
Other business services	1,382	2,534	5,448	2,050	2,332	4,565	-668	202	882
Personal, cultural and recreational services	115	141	139	117	152	183	-2	-11	-44
Government services	81	103	118	220	252	251	-139	-149	-133
<b>Total extra-EU27</b>	<b>566,128</b>	<b>688,514</b>	<b>763,441</b>	<b>476,510</b>	<b>569,560</b>	<b>648,528</b>	<b>89,618</b>	<b>118,955</b>	<b>114,913</b>
<b>Mercosur/extra-EU27</b>	<b>1.73%</b>	<b>1.89%</b>	<b>2.41%</b>	<b>1.75%</b>	<b>1.67%</b>	<b>1.96%</b>			

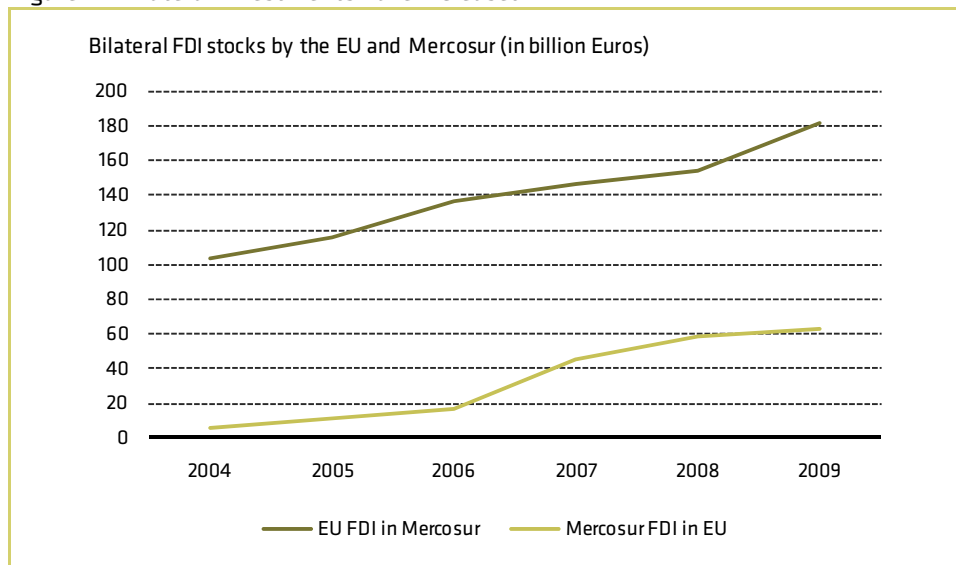
Note: Data is in million Euros. Data for 'Other services' does not include Paraguay, which is why there is a small difference between the 'Total Mercosur' and the sum of 'Transportation', 'Travel' and 'Other services'.

Source: Copenhagen Economics' calculations based on data from OECD.

#### 1.4. CURRENT INVESTMENTS BETWEEN THE EU AND MERCOSUR

The closer economic integration between the EU and Mercosur is also reflected in an impressive increase in bilateral investments. The stock of Mercosur FDI in the EU has gone from almost nothing to more than €60 billion over the period 2004 to 2009 whereas EU investments in Mercosur have increased from €103 billion to €182 billion (an increase equal to 76 percent). The EU's investments in Mercosur are approximately three times larger than Mercosur's investments in the EU, cf. Figure 1.4.

Figure 1.4 Bilateral investments have increased

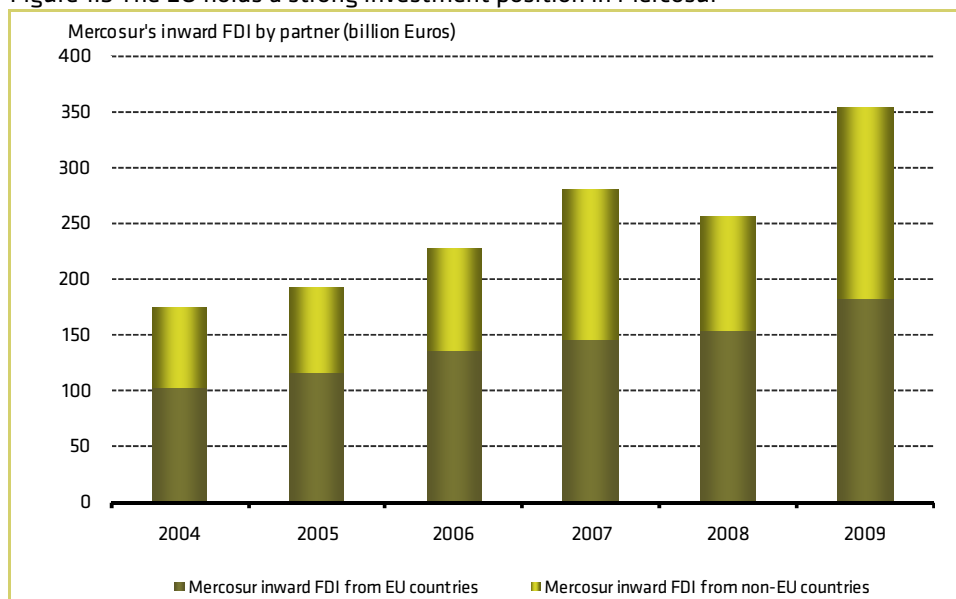


Note: No data available for Paraguay.

Source: Eurostat.

The EU is an important foreign investor in Mercosur and accounts for more than half of the total stock of inward FDI in Mercosur (including intra-Mercosur FDI since bilateral FDI data is not available for the period 2004-2009), cf. Figure 1.5.

Figure 1.5 The EU holds a strong investment position in Mercosur

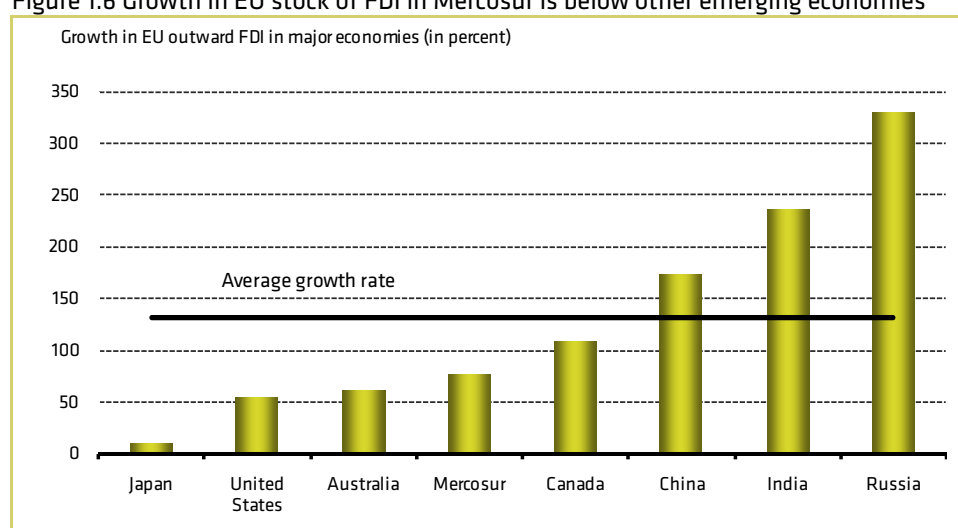


Note: No data available for Paraguay. Data measures the stock of inward FDI and includes intra-Mercosur FDI.

Source: Eurostat, UNCTAD and [www.exchangerate.com](http://www.exchangerate.com).

Although the EU stock of FDI in Mercosur has increased by 76 percent during 2004 to 2009 its growth rate is significantly below the average growth rate of total EU outward FDI 131 percent and below the growth rate of EU FDI in other major economies. In particular, we note that EU investments in the other BRIC countries (Russia, India and China) have more than doubled over the same period. The EU stock of FDI in Russia, for example, has increased by more than 300 percent, cf. Figure 1.6.

Figure 1.6 Growth in EU stock of FDI in Mercosur is below other emerging economies



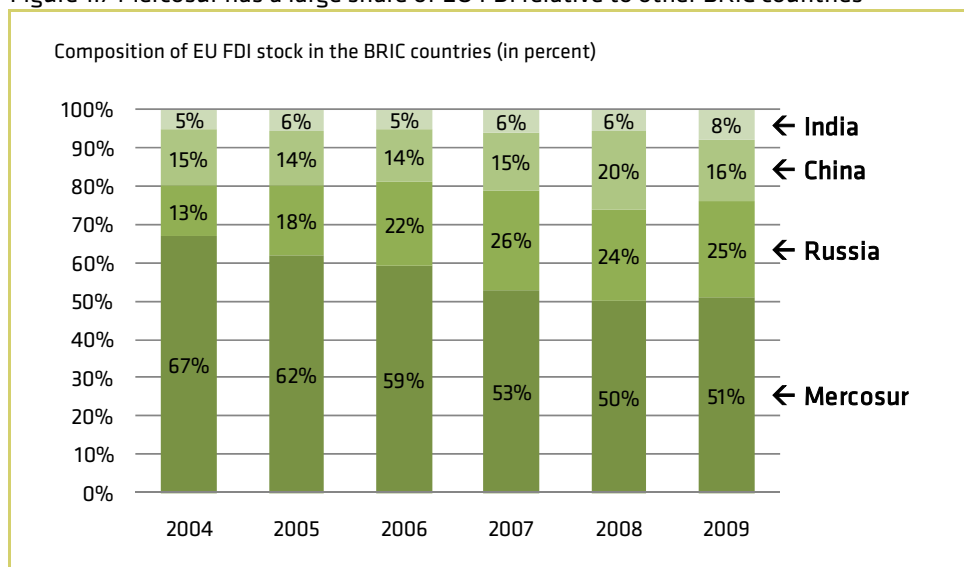
Note: The figure shows the growth in EU outward FDI to major economies during 2004-2009. No data is available for Paraguay. Black line is the average growth for these partners.

Source: Eurostat.

The modest growth of EU FDI in Mercosur compared to the other BRIC countries is linked to the fact that Mercosur started out from a strong position, being the largest recipient of EU outward FDI to the BRIC countries. In 2004, more than 2/3 of total EU outward FDI to the BRIC countries was invested in Mercosur, cf. Figure 1.7. In spite of the high rates of growth in EU FDI to China, India and Russia, Mercosur still accounted for more than half of EU outward FDI in the BRIC countries.



Figure 1.7 Mercosur has a large share of EU FDI relative to other BRIC countries



Note: The figure shows the composition of the EU stock of outward FDI in the BRIC countries during 2004-2009. No data is available for Paraguay.

Source: Eurostat.

### 1.5. PRODUCTION STRUCTURES IN THE EU AND MERCOSUR

A baseline snapshot of the Mercosur production structure shows that agriculture and manufacturing account for more than 25 percent of total value added in Mercosur with the service sectors accounting for the remaining 75 percent. A closer look at Table 1.7 informs us that it is mainly oil seeds, ruminant meat and livestock cattle, food products, and vegetables, fruit and nuts that dominate the agricultural production in Mercosur and that chemicals, rubber and plastic products constitute a large part of manufacturing production. These sectors are not very skill intensive, but require relatively large amounts of capital.<sup>3</sup> A bulk of Mercosur service sector value added lies in public services, trade services and recreation, housing, and consumer services.

<sup>3</sup> Skill-intensity is defined as value added from skilled labour relative to the value added from unskilled labour.

Table 1.7 The Mercosur production structure

Sector	Skill intensity (larger than one is skill intensive)	Capital intensity (larger than one is capital intensive)	Size of sector (share of total value added)
Oil seeds	0,03	2,16	1,53%
Ruminant meat & livestock: cattle etc	0,09	1,70	1,29%
Food products	0,18	1,17	1,56%
Vegetables, fruit and nuts	0,03	2,16	0,45%
Other agricultural products	0,03	2,16	1,04%
Other primary	0,14	0,78	0,80%
Dairy products	0,11	1,95	0,84%
Beverages and tobacco products	0,17	0,97	0,48%
Cereal grains	0,03	2,16	0,48%
Animal products	0,03	2,16	0,56%
Wheat	0,03	2,16	0,18%
Vegetable oils and fats	0,18	1,92	0,20%
Rice	0,06	1,98	0,31%
Poultry and non-ruminant other meat	0,16	1,38	0,26%
Sugar (unprocessed)	0,03	2,16	0,28%
Sugar (processed)	0,18	0,53	0,18%
<i>Total agriculture</i>	<i>0,09</i>	<i>1,72</i>	<i>10,43%</i>
Chemical, rubber and plastic prods	0,19	1,37	2,80%
Machinery and equipment	0,20	0,97	2,21%
Paper products and publishing	0,18	0,33	1,21%
Mineral products	0,17	1,20	0,74%
Wood products	0,16	0,66	0,66%
Manufactures	0,17	0,79	0,89%
Wearing apparel	0,17	0,40	0,53%
Textiles	0,16	1,43	0,54%
Metal products	0,17	0,46	1,05%
Leather products	0,16	0,67	0,38%
Motor vehicles and parts	0,18	1,86	0,91%
Ferrous metals	0,17	1,86	0,57%
Transport equipment	0,18	0,59	0,85%
Electronic equipment	0,20	2,10	0,67%
Metals	0,17	1,91	0,18%
<i>Total manufacture</i>	<i>0,18</i>	<i>1,07</i>	<i>14,21%</i>
<b>Total agriculture and manufacture</b>	<b>0,14</b>	<b>1,34</b>	<b>24,64%</b>

[...table continued from previous page...]

Sector	Skill intensity (larger than one is skill intensive)	Capital intensity (larger than one is capital intensive)	Size of sector (share of total value added)
Public and other services	1,19	0,03	16,67%
Trade	0,19	0,59	9,61%
Recreation, housing and consumer services	0,68	4,39	11,16%
Energy	0,29	1,11	6,20%
ICT and business services	1,09	1,23	11,86%
Construction	0,21	2,87	7,49%
Financial services	1,09	0,35	4,69%
Transport	0,19	0,36	2,40%
Communications	1,09	1,78	1,70%
Insurance	1,09	0,23	3,18%
Water	0,33	0,81	0,41%
<b>Total services</b>	<b>0,75</b>	<b>1,39</b>	<b>75,36%</b>

*Note:* Ratios are calculated in terms of value added, i.e. 'Skill Intensity' is calculated as value added from skilled labour relative to the value added from unskilled labour. 'Capital Intensity' is calculated as value added from capital relative to the value added from total labour input (skilled and unskilled).

*Source:* GTAP 8 data, 2007.

The Mercosur agricultural and manufacturing sectors are dominated by agricultural products since the total share of value added of 28 percent in these sectors, 18 percent comes from agriculture and 10 percent comes from manufacturing. The manufacturing sector dominates the EU production structure since the total share of value added of 23 percent, 5 percent come from agriculture and 18 percent from manufacturing. Dominant manufacturing sectors are machinery and equipments; chemical, rubber and plastic products; metal products; paper products and publishing; and motor vehicles, cf. Table 1.8. The EU production of services account for 76 percent of total value added. For the EU, ICT and business services are the largest service sectors accounting for 24 percent of total production. Public services are also a large sector accounting for 22 percent of total.

A sector by sector comparison shows that the EU production structure is more skill intensive and less capital intensive than the Mercosur production structure. A FTA between the EU and Mercosur that removes trade barriers will allow the two countries to specialise in the goods and services where they have a competitive advantage compared to the trading partner. In Mercosur, increased exports of capital-intensive goods and services are therefore expected to increase the return on capital investments. A higher return on investments will make Mercosur a more attractive destination for foreign investors and Mercosur may be able to experience a growth in inward FDI similar to that of the other BRIC countries (cf. Figure 1.6). Likewise, increased EU exports of skill-intensive products are expected to stimulate innovation and technological development in EU countries, which could support the EU's competitiveness in the longer run.

Table 1.8 The EU's production structure

Sector	Skill intensity (larger than one is skill intensive)	Capital intensity (larger than one is capital intensive)	Size of sector (share of total value added)
Food products	0,31	0,69	1,36%
Beverages and tobacco products	0,36	0,92	0,74%
Dairy products	0,17	0,55	0,62%
Other agricultural products	0,07	0,31	0,53%
Other primary	0,25	1,38	0,50%
Vegetables, fruit and nuts	0,07	0,30	0,37%
Poultry and non-ruminant other meat	0,29	1,68	0,25%
Animal products	0,06	0,31	0,23%
Ruminant meat & livestock: cattle etc	0,20	0,51	0,19%
Oil seeds	0,07	0,30	0,11%
Wheat	0,07	0,30	0,10%
Cereal grains	0,06	0,30	0,10%
Sugar (processed)	0,28	0,66	0,07%
Sugar (unprocessed)	0,06	0,29	0,04%
Vegetable oils and fats	0,28	0,57	0,04%
Rice	0,15	1,08	0,02%
<i>Total agriculture</i>	<i>0,17</i>	<i>0,64</i>	<i>5,27%</i>
Machinery and equipment	0,59	0,38	4,08%
Chemical, rubber and plastic products	0,57	0,75	3,02%
Metal products	0,32	0,41	1,84%
Paper products and publishing	0,42	0,61	1,83%
Motor vehicles and parts	0,39	0,37	1,62%
Mineral products	0,32	0,60	0,93%
Electronic equipment	0,58	0,68	0,88%
Manufactures	0,30	0,49	0,74%
Transport equipment	0,39	0,27	0,61%
Wood products	0,23	0,58	0,58%
Textiles	0,26	0,43	0,56%
Ferrous metals	0,35	0,52	0,56%
Wearing apparel	0,21	0,46	0,42%
Metals	0,32	0,55	0,27%
Leather products	0,24	0,52	0,24%
<i>Total manufacture</i>	<i>0,37</i>	<i>0,51</i>	<i>18,18%</i>
<b>Total agriculture and manufacture</b>	<b>0,26</b>	<b>0,56</b>	<b>23,45%</b>

[...table continued from previous page...]

<b>Sector</b>	<b>Skill Intensity (larger than one is skill intensive)</b>	<b>Capital Intensity (larger than one is capital intensive)</b>	<b>Size of sector (share of total value added)</b>
ICT and business services	1.15	1.92	23.54%
Public and other services	1.30	0.28	21.75%
Trade services	0.37	0.55	7.49%
Construction services	0.31	0.77	7.18%
Transport services	0.36	0.77	4.02%
Recreation, housing, consumer services	1.09	0.85	3.52%
Financial services	1.14	0.73	3.31%
Communication services	1.14	0.94	2.41%
Energy services	1.10	1.73	2.07%
Insurance services	1.15	0.48	0.98%
<b>Total services</b>	<b>0.91</b>	<b>0.90</b>	<b>76.27%</b>

*Note:* Ratios are calculated in terms of value added, i.e. 'Skill Intensity' is calculated as value added from skilled labour relative to the value added from unskilled labour. 'Capital Intensity' is calculated as value added from capital relative to the value added from total labour input (skilled and unskilled).

*Source:* GTAP 8 data, 2007.

## Chapter 2 MERCOSUR BARRIERS TO EU EXPORTS

In this chapter we highlight some of the main barriers to EU exports to Mercosur. Since Mercosur consists of four individual countries one should keep in mind there are two types of barriers facing EU producers: external barriers to entering Mercosur and internal Mercosur barriers. We therefore draw on papers that focus on Mercosur barriers to imports from the EU (and other trading partners such as the US when appropriate) as well as papers that focus on one or more Mercosur countries. We attempt to make a general description of the barriers to EU trade with Mercosur, but in some cases it may be relevant to point to differences between Argentina, Brazil, Paraguay and Uruguay.

Argentina, Brazil, Paraguay and Uruguay are all emerging economies and some of the Mercosur barriers to EU exports may be due to their level of development rather than their trade restrictiveness per se. Some examples include the relatively high level of corruption and the poor protection of property rights which are also prevalent in other developing and emerging economies. To take this into account we therefore benchmark Mercosur against two other BRIC countries, China and India, who, as we saw in the previous chapter, are on a comparable level of trade integration with the EU.

Mercosur does not appear to be very open to global trade and investments. The Mercosur barriers to EU exports and investments can be summarised under two headings:

*First*, tariffs and non-tariff measures (NTMs) restrict EU exports to Mercosur. Tariffs and customs barriers pose a challenge to EU producers who wish to export to Mercosur. The complex and changing nature of the domestic regulatory environment in individual countries and in Mercosur as a whole creates high uncertainty for investors and exporters (changes in the tax system, sanitary and phytosanitary regulations, customs procedures, etc).

*Second*, there continue to be important barriers to the free circulation of goods that constrain the potential benefits of free trade, particularly for firms located in more than one country. The common external tariff (CET) on many product categories remain high, unharmonised and are in some cases paid twice (when the product enters Mercosur and when it is traded within Mercosur). Also, Mercosur is not yet effectively consolidated as a single customs union where, for example, differences among national trade regimes and intraregional customs remain.

In addition, there is a lack of domestic competition (e.g. incomplete liberalisation and privatisation processes, minimum import prices and unfair competition in public procurement).

Other issues (e.g. protection of IPR, corruption, problems in relation to obtaining business visas, opening bank accounts and repatriating funds) are also relevant but seem to be less specific to Mercosur compared to other developing countries. Another example is the complex and burdensome tax systems in the Mercosur countries, which appear to have a large impact on the incentives to work and invest in Mercosur. According to the Global

Competitiveness Index, for example, Brazil has the most complex taxation system in the world, which makes trade and investments costly and cumbersome. According to the US State Department, Brazil's taxes do not discriminate between foreign and domestic firms, although in a few instances there have been complaints that the value-added tax collected by individual states (ICMS) is set to favour local companies.<sup>4</sup> Moreover, some services were subject to "cumulative taxation" in Brazil.<sup>5</sup> Since these issues are not directly negotiable in bilateral trade negotiations, they will not be extensively dealt with in this paper.

The trade cost equivalents (TCEs) of Mercosur NTMs have been calculated by Philippidis and Sanjuán (2007). The TCEs express the cost impact on cross-border trade of the identified NTMs. The study finds that NTMs are particularly serious for EU exports of beverages and tobacco to Mercosur. In this sector, NTMs are equivalent to a tariff of 160% of the value of the product. NTMs are also important for EU exports of livestock, vegetables, fruits and nuts, and of other food products. An FTA between the EU and Mercosur that lowers NTMs in these sectors is therefore expected to have a large impact on EU exports to Mercosur.

It appears that Mercosur has low tariffs and high NTMs on agriculture imports from the EU whereas the opposite is the case for manufacturing. The overall conclusion is therefore that the agenda of trade liberalisation with Mercosur must include not only tariffs but also a general reduction in the regulatory and administrative obstacles to trade in order to reduce barriers to both agriculture and manufacturing products. We also find that in order to reap the full benefits of their integration process, the Mercosur countries would have to deepen their efforts at instituting and enforcing common rules and standards and remove any remaining non-tariff barriers which continue to impede trade. However, it is important to point out that even though many barriers to EU exports are identified, it is uncertain whether the EU-Mercosur FTA would be able to eliminate these hindrances. This could, for example, be the case for the preference for local suppliers in public procurements.

Another important thing to point out is that the Mercosur countries have become increasingly integrated and have undertaken important steps to advance toward a true customs union. At a recent meeting, foreign ministers from the Mercosur countries reached an accord to eliminate the double imposition of tariff on non-Mercosur goods transported between countries within the bloc by 2012. The pact includes a formula for the redistribution of customs revenue among the member-states. In addition, it includes a provision to compensate landlocked Paraguay for the revenue it will lose once it can no longer charge CETs on non-Mercosur products imported from another member-state.<sup>6</sup>

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<sup>4</sup> US State Department (2006), Investment Climate Statement – Brazil. In 2004 a WTO trade policy review stated that Brazil's ICMS tax could discriminate against imports in some cases (WTO, Trade Policy Review – Brazil).

<sup>5</sup> House of Commons (2007, p. 33).

<sup>6</sup> See Latin American Herald Tribune (2010), <http://laht.com/article.asp?CategoryId=12394&ArticleId=361694>.

## 2.1. MERCOSUR IS NOT VERY OPEN TO TRADE AND INVESTMENTS

The *Trade Enabling Index* provides an assessment of a country's obstacles to trade. Out of 125 countries ranking the most open country first, Mercosur was on average ranked 88 in 2010 moving back from a rank of 79 in 2008.<sup>7</sup> The *Ease of Doing Business Index* reflects whether the regulatory environment in a country is conducive to the starting and operation of a local firm. Out of 183 countries ranking the most business friendly country first, Mercosur was on average ranked 124 in 2010. The *Global Competitiveness Index* summarises a set of institutions, policies and factors that determine the level of productivity of a country and, consequently, the return obtained by investments. Here, Mercosur is ranked 65 out of 139 (where the most competitive country is ranked first). The overall picture that emerges is that Mercosur is not very open to trade and investments, since it ranks poorly in these overall indices.

Overall openness to trade and investment in Mercosur is far behind China in most cases and is more comparable to Russia and India, cf. Table 2.1.

Table 2.1 Overall indices of openness to trade and investments

	Trade Enabling <sup>1</sup>		Ease of Doing Business <sup>2</sup>		Global Competitiveness <sup>3</sup>	
	2010	2008	2010	2008	2010	2008
<b>Mercosur</b>	<b>88</b>	<b>(79)</b>	<b>124</b>	<b>n.a.</b>	<b>65</b>	<b>(69)</b>
Argentina	95	(78)	115	n.a.	87	(88)
Brazil	87	(80)	127	n.a.	58	(64)
Paraguay	103	(83)	106	n.a.	120	(124)
Uruguay	50	(56)	125	n.a.	64	(75)
<b>Russia</b>	<b>114</b>	<b>(103)</b>	<b>123</b>	<b>n.a.</b>	<b>63</b>	<b>((51)</b>
<b>India</b>	<b>84</b>	<b>(71)</b>	<b>134</b>	<b>n.a.</b>	<b>51</b>	<b>(50)</b>
<b>China</b>	<b>48</b>	<b>(48)</b>	<b>79</b>	<b>n.a.</b>	<b>27</b>	<b>(30)</b>

Note: <sup>1</sup> Rank out of 125. <sup>2</sup> Rank out of 183. <sup>3</sup> Rank out of 139. The Mercosur rank is calculated as a weighted average of the rank for Argentina, Brazil, Paraguay and Uruguay, where the weight is the country's share of total EU exports to Mercosur.

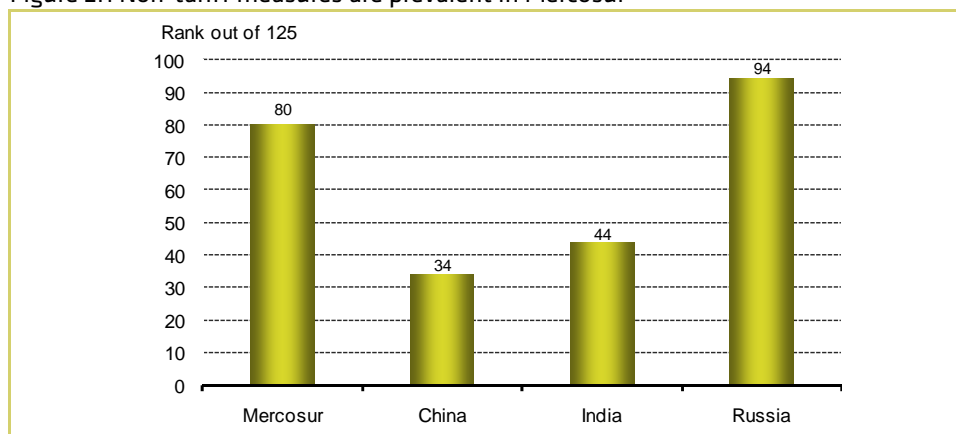
Source: The Global Enabling Trade Report (2008, 2010), The Global Competitiveness Report (2008, 2010) and World Bank Ease of Doing Business 2010 rankings.

In addition, traditional core NTMs (price control measures, automatic licensing measures and quantity control measures) included in the Trade Enabling Index confirm that NTMs in Mercosur countries pose significant challenges to EU exporters, cf. Figure 2.1. Mercosur lies far behind India and China, however the Mercosur level of NTMs compares better to that of Russia.

<sup>7</sup> The Mercosur rank is calculated as a weighted average, where the weight is the country's share of total Mercosur imports from the EU.



Figure 2.1 Non-tariff measures are prevalent in Mercosur



Note: This index is constructed as the average of two NTM variables: The percentage of trade affected by NTMs and the average number of notifications for products affected by NTMs, for products with imports larger than 0. Rank out of 125. The Mercosur rank is calculated as a weighted average, where the weight is the country's share of total EU exports to Mercosur.

Source: Global Enabling Trade Index 2010.

Table 2.2 summarises some of the competitive advantages and disadvantages of the four Mercosur countries. The main advantages of *Argentina*, related to its market size and a fairly good educational system, should be balanced against a low quality of the institutional environment, a lack of competition and inefficient product markets (capital, labour and goods markets). *Brazil* is the most advanced of the Mercosur countries and it does not only benefit from its large market size and an efficient infrastructure, but Brazil also has elaborated business and financial sectors which are able to adopt technology and innovate. *Paraguay* offers a strong protection of investors and a favourable tax system, but the low quality of the institutional environment, its labour force, its infrastructure and the product markets pose a significant disadvantage. The institutional, infrastructural, educational and technological levels are relatively high in *Uruguay* but macroeconomic instability as well as labour and goods market inefficiencies should also be taken into account.

Table 2.2 Competitive advantages and disadvantages in Mercosur

Country	Advantages	Disadvantages
<b>Argentina</b>	Large market size Fairly good educational systems	Low quality of institutional environment Rigid labour and goods market Low development of financial market Lack of competition
<b>Brazil</b>	Large market size Efficient and dynamic business sector Ability to adopt technology and to innovate Sophisticated financial sector Efficient infrastructure Well-functioning on-the-job training	Macroeconomic instability Rigid labour and goods market Poor quality of institutions Need for improvements of the educational system
<b>Paraguay</b>	Strong protection of investors Low extent and effect of taxation Low total tax rate	Low quality of institutional environment Poor educational standards Poor infrastructure Inefficient labour and goods markets
<b>Uruguay</b>	Strong institutions and governance standards Developed infrastructure Strong educational system Technological readiness, notably via FDI Increasing ICT adoption	Macroeconomic instability Labour market inefficiencies and rigidities

*Note:* Competitive 'Advantages' and 'Disadvantages' are measures relative to other countries.

*Source:* Global Competitiveness Index 2010-2011, p. 32-37.

The competitive advantages and disadvantages listed above are very general and they are in most cases difficult to incorporate directly in bilateral free trade negotiations between the EU and Mercosur. In the following section we will provide some more details on the barriers behind the competitive advantages and disadvantages that seem to characterise the Mercosur countries, and we will zoom in on the more "actionable" barriers.

## 2.2. TARIFFS AND CUSTOMS POSE A BARRIER TO EU EXPORTS TO MERCOSUR

External tariffs are high and very little imports enter duty free into Mercosur. Overall, 30 percent of all EU exports to Mercosur enter duty-free<sup>8</sup> but there are large differences across sectors. Petroleum, minerals & metals and manufactures have a high share of duty-free access whereas no dairy, sugars and confectionary and clothing products enter duty-free into Mercosur. In cases where external tariffs are not fully harmonised, Mercosur's rules of origin prevent non-members countries from exploiting differences in import tariffs by entering Mercosur through the country which offers the lowest tariffs. At the same time, internal customs are not fully removed and the efficiency of import-export procedures in Mercosur appears to be low.<sup>9</sup>

<sup>8</sup> Calculated as the weighted averages across sectors where the weights are the shares in total EU exports to Mercosur.

<sup>9</sup> See the Global Enabling Trade Report (2010).

### High external tariffs in Mercosur countries

The Common External Tariff (CET) is the main instrument of the common trade policy in Mercosur, and estimates suggest that the CET covers around 85 percent of products, with a range of exceptions including sensitive products.<sup>10</sup> CETs for many product categories remain high. Mercosur has high tariff peaks in agricultural products such as dairy products, sugars & confectionary and beverages & tobacco with average bound tariffs of 35-45 percent and average applied MFN tariffs of 15-17 percent. Likewise, no dairy, sugars and confectionary and clothing products enter duty-free into Mercosur, cf. Table 2.3. There is thus a potential for increasing EU agricultural exports to Mercosur if the EU-Mercosur FTA involves an elimination of Mercosur tariffs on the agricultural products with large tariff peaks.

Table 2.3 Mercosur tariffs and imports by product groups

	Final bound duties				MFN applied duties			Imports	
	AVG	Duty-free	Max	Binding	AVG	Duty-free	Max	Share	Duty-free
Animal products	35.3	3.4	51.0	100.0	8.9	6.8	16.0	0.2	5.9
Dairy products	45.4	0.0	50.2	100.0	15.1	0.0	16.0	0.1	0.0
Fruit, vegetables, plants	34.0	0.9	52.7	100.0	9.7	5.4	16.2	0.8	1.5
Coffee, tea	34.1	0.0	35.0	100.0	13.1	1.5	20.0	0.2	0.7
Cereals & preparations	42.3	0.8	54.0	100.0	11.8	8.7	20.6	2.0	1.9
Oilseeds, fats & oils	34.7	0.4	35.0	100.0	8.0	7.5	13.9	0.8	1.2
Sugars & confectionary	34.1	0.0	35.0	100.0	17.0	0.0	20.5	0.1	0.0
Beverages & tobacco	36.2	0.0	49.5	100.0	17.1	0.7	20.0	0.4	5.8
Cotton	48.6	0.0	48.6	100.0	6.4	0.4	8.0	0.0	2.7
Other agricultural products	30.1	4.5	46.1	100.0	7.6	10.2	14.0	0.5	17.3
Fish & fish products	33.8	2.2	35.0	100.0	10.0	6.3	16.0	0.3	20.9
Minerals & metals	33.1	0.5	35.0	100.0	10.1	6.7	21.1	18.3	38.3
Petroleum	35.0	0.0	35.0	100.0	0.2	96.7	6.0	15.2	99.4
Chemicals	21.3	0.3	35.0	100.0	8.2	1.4	18.0	15.1	6.2
Wood, paper, etc.	30.5	1.5	35.0	100.0	10.7	3.7	18.0	2.2	17.0
Textiles	34.8	0.0	35.0	100.0	22.0	0.1	34.9	2.2	1.0
Clothing	35.0	0.0	35.0	100.0	34.0	0.0	34.1	0.5	0.0
Leather, footwear, etc.	34.6	0.0	35.0	100.0	15.6	1.3	34.9	2.4	3.4
Non-electrical machinery	33.0	0.3	35.0	100.0	10.9	24.9	23.3	15.0	23.8
Electrical machinery	32.5	2.1	35.0	100.0	13.7	13.0	20.0	11.1	14.6
Transport equipment	33.3	0.0	35.0	100.0	18.4	14.7	35.0	10.4	19.8
Manufactures, n.e.s.	33.2	0.4	35.0	100.0	14.4	14.8	25.3	4.5	34.2

Note: Data is in percent. Numbers are calculated as a weighted average of the four Mercosur countries, with the weights being the countries import shares for the different product groups.

Source: International Trade Centre, World Tariff Profiles 2010, Country Profiles Part A.2.

<sup>10</sup> See <http://actrav.itcilo.org/actrav-english/telearn/global/ilo/blokit/mercor.htm>.

Also manufactured goods face high tariffs, where peaks of 35 percent are recorded in transport equipment, footwear and textiles. Petroleum, non-electrical machinery and transport equipment also have high tariffs. Adding to this are the aforementioned cases of double imposition of duties, whereby EU exporters in some instances pay tariffs both when they export their products to one Mercosur country and when they re-export the product to another Mercosur country.<sup>11</sup>

The CET does not cover all products and differences between tariffs in individual Mercosur countries remain. Mercosur's rules of origin<sup>12</sup> prevent non-members countries from exploiting the continuing differences in import tariffs between members, since they require certain proportions of products to be manufactured within Mercosur countries to benefit from tariff-free trading terms between them. The rules of origin also mean that EU exporters get access to the enlarged market by establishing in one Mercosur country. To receive the preferential tariff rate, a certificate of origin must be certified, and this certification is valid for 180 days. This has proven problematic for some companies that report that the major delays in obtaining an import license often cause them to exceed the 180 days validity period for the certificate of origin.

Compared to Russia, India and China, Mercosur has below average MFN applied duties on agriculture products but high tariffs on manufacturing cf. Table 2.4. At the same time, we find that EU tariffs on imports of agriculture products are high compared to the US tariffs whereas tariffs on manufactures are more comparable.

**Table 2.4 Mercosur has low tariffs on agriculture and high tariffs on manufactures**

Country	Agriculture	Manufactures
EU	13.5	4.0
US	4.7	3.3
<b>Mercosur</b>	<b>10.2</b>	<b>13.9</b>
Russia	13.2	10.1
India	31.8	10.1
China	15.6	8.7

*Note:* Data measures the average MFN applied duties in 2009 (in percent). Numbers are calculated as a weighted average of the four Mercosur countries, with the weights being the countries import shares for the different product groups. Import shares are from 2008. Ad valorem equivalents (AVEs) of non-ad valorem tariffs are estimated by the ITC/WTO and are included in the estimation of tariff indicators.

*Source:* International Trade Centre (ITC), *World Tariff Profiles 2010*.

We would therefore expect that a FTA between the EU and Mercosur that lowers tariffs would stimulate EU exports of manufacturing products to Mercosur (in addition to exports

<sup>11</sup> See University of Manchester (2008), p. 140.

<sup>12</sup> Rules of origin may be used to ensure trade restrictive effects in FTAs are sufficiently stringent. These specify the conditions under which a good becomes eligible for zero tariffs in an FTA, Krishna (2004). Grossman and Helpman (1995) for example argue that being able to exclude certain sectors (which is what appropriately constructed RoO will do) can make a FTA viable.

of agricultural products with large tariff peaks) and would benefit Mercosur exports of agricultural products to the EU.

### Cumbersome Mercosur customs procedures

It appears to be very costly to import goods to Mercosur. The average cost of importing a container is \$1,520. This is probably due to high port costs, strikes, corruption and bureaucratic barriers.<sup>13</sup> From Table 2.5 we see that the comparable costs in India and China are \$545 and \$960, respectively, whereas the costs in Russia are as high as \$1,850.

Table 2.5 Efficiency of import-export procedures in Mercosur is low

Country	Cost to import, US\$ per container	Documents to import, number	Time to import, days
<b>Mercosur</b>	<b>1,520</b>	<b>7</b>	<b>16</b>
Argentina	1,810	7	16
Brazil	1,440	7	16
Paraguay	1,750	10	33
Uruguay	1,330	10	22
<b>Russia</b>	<b>1,850</b>	<b>13</b>	<b>36</b>
<b>India</b>	<b>960</b>	<b>9</b>	<b>20</b>
<b>China</b>	<b>545</b>	<b>5</b>	<b>24</b>

*Note:* The Mercosur rank is calculated as a weighted average of the rank for Argentina, Brazil, Paraguay and Uruguay, where the weight is the country's share of total EU exports to Mercosur.

*Source:* The Global Enabling Trade Report (2010).

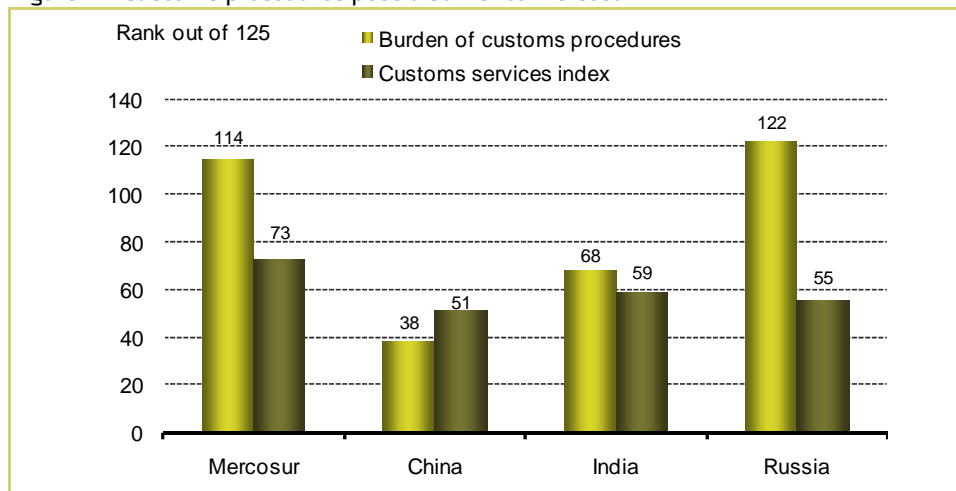
Custom procedures in some Mercosur countries can be complex, slow and unpredictable. On average, seven documents are required by Mercosur authorities to be able to import (compared to 5, 9 and 13 in Russia, India and China respectively). To obtain an import license frequently involves various administration agencies and compulsory registration of importers, which is particularly problematic for express shipments. Paperwork must be completely correct or importers face serious consequences.<sup>14</sup> At the same time, however, we note that the average time to import is well below the number of days it takes to import to the other BRIC countries.

Overall, the customs procedures pose a barrier for trade with Mercosur and Mercosur is ranked 114 on the burden of customs procedures in Mercosur (China, India and Russia rank 38, 68 and 122 for comparison), cf. Figure 2.2. The extent of services provided by customs authorities is more comparable to that of the other BRIC countries.

<sup>13</sup>University of Manchester (2008), p. 29.

<sup>14</sup>University of Manchester (2008), p. 140.

Figure 2.2 Customs procedures pose a barrier to Mercosur



*Note:* Rank out of 125. The Mercosur rank is calculated as a weighted average of the rank for Argentina, Brazil, Paraguay and Uruguay, where the weight is the country's share of total EU exports to Mercosur. 'Burden of customs procedures' are measured on the basis of the following question "How would you rate the level of efficiency of customs procedures (related to the entry and exit of merchandise) in your country?" 'The customs services index' measures the extent of services provided by customs authorities and related agencies.

*Source:* The Global Enabling Trade Report (2010).

### Mercosur lacks domestic competition

There appears to be a lack of competition in Mercosur where:

- Mercosur has not completed the liberalisation and privatisation process that would permit foreign access to the provision of services and goods on the basis of national treatment.<sup>15</sup>
- Minimum import prices are fixed arbitrarily above the real price of many imported goods.<sup>16</sup> Mercosur uses "criterion values" (also known as minimum import prices or reference values) as a means to prevent the under-invoicing of imports. These minimum import prices apply when goods are imported for consumption. When there is a difference between the criterion value and the declared value, the importer must make a deposit for taxes due on the price differential to take merchandise out of customs. This deposit will be held during the period of investigation on the "real/market" import price.
- Unfair competition exists in public procurement. In Argentina and Brazil, for example, foreign companies can participate in international tenders. However the law maintains a preference for goods and services produced locally when bids are equivalent in terms of price, quality and delivery time.<sup>17</sup>

<sup>15</sup> See University of Manchester (2008), p. 140.

<sup>16</sup> See Bouzas et al. (2002) and Freshfields, Bruckhaus and Deringer (2011).

<sup>17</sup> See the Market Access Database for Argentina and Brazil at <http://madb.europa.eu>.

The poor level of competition in Mercosur also shows up in the Global Enabling Trade Indicators on competition. The intensity of local competition in Mercosur is significantly lower than the competitive stance in China and India. Mercosur obtains an average rank of 64 compared to a rank of 19 in China and 30 in India, cf. Table 2.6. Likewise, there is a larger extent of market dominance in Mercosur and the anti-monopoly policies work less effectively than in China and India. The last BRIC country, Russia, appears to have a severe lack of domestic competition.

Table 2.6 Indicators of competition

Country	Intensity of local competition	Extent of market dominance	Effectiveness of anti-monopoly policy
<b>Mercosur</b>	<b>64</b>	<b>59</b>	<b>58</b>
Argentina	107	104	118
Brazil	50	46	39
Paraguay	117	110	132
Uruguay	105	56	104
<b>Russia</b>	<b>115</b>	<b>88</b>	<b>108</b>
<b>India</b>	<b>30</b>	<b>26</b>	<b>29</b>
<b>China</b>	<b>19</b>	<b>23</b>	<b>50</b>

*Note:* Rank out of 139. The Mercosur rank is calculated as a weighted average of the rank for Argentina, Brazil, Paraguay and Uruguay, where the weight is the country's share of total EU exports to Mercosur.

*Source:* Global Competitiveness Index 2010-2011.

Araujo (2000) shows that a competition policy agreement between the EU and Mercosur could generate important results both at the regional and multilateral levels. One example is the large amounts of subsidies granted by national governments to the auto industry consisting of large EU firms (e.g. Volkswagen and Peugeot). In the case of Mercosur, the adoption of common policies for the auto industry has been postponed several times. During the nineties this industry was marginally affected by the trade reforms in Argentina and Brazil, but has secured a great part of the privileges enjoyed during the period of import substitution policies, such as high tariffs, import quotas, tax incentives and the like. As a result, it has turned into a continual source of trade disputes both inside Mercosur and at the multilateral level. The interim protocol agreed for the period 2000-2005<sup>18</sup> included an assorted set of tariffs on vehicles and parts, rules of origin and some export performance targets, but not a single discipline on subsidies.

### 2.3. BARRIERS TO OPERATING AND ENTERING THE MERCOSUR MARKETS

The treaty of Asunción lays down the need to harmonise different national laws in order to foster the regional integration efforts. To date, limited progress has been made in key areas of importance for a distortion free common market to be realised. Our survey of the

<sup>18</sup> The interim protocol is a part of the Fortaleza protocol that was signed in December 1996 with the objective of setting up a common competition regime among Mercosur countries.

literature on barriers to the Mercosur markets suggests that standards, technical regulation, conformity assessment and certification pose a challenge to EU exporters.

### **Barriers to unaligned technical standards**

Regulations vary widely among the Mercosur countries and frequently deviate from international standards.<sup>19</sup> Mercosur regulations mandate certification on many product categories in order to show compliance with technical regulations. These requirements should be discussed with the importer in order to ensure that the product conforms to local rules. Only bodies that are accredited by local authorities may perform mandatory certifications. In Brazil, only bodies that are accredited by the National Institute of Metrology, Standardization and Industrial Quality (INMETRO) may perform mandatory certifications. INMETRO is a signatory to the mutual recognition arrangement (MRA) of the International Laboratory Accreditation Cooperation (ILAC), which in some cases can facilitate acceptance of test results from EU laboratories that are accredited by EU organisations who are also signatories.<sup>20</sup>

It is therefore not so much high standards but rather unaligned technical standards within the region, as well as a changing nature of the domestic regulatory environment, that limit trade and create uncertainty for EU investors and exporters.<sup>21</sup> Mutual intra-Mercosur recognition of product legislation and conformity certification, as well as harmonisation of legislation, standards and procedures for key sectors, may solve the problem. The Mercosur Standards Association (AMN - Asociacion MERCOSUR de Normalizacion) develops and harmonises standards in the region. The standards institutes of Mercosur countries (Argentina, Brazil, Paraguay, and Uruguay), through AMN, are working together to establish Mercosur-wide standards.

One example of the progress being made is the labelling requirements for textile and apparel products adopted by Mercosur in 2008. In general, most textile and apparel products will require the following information on a permanent label that is either attached, stamped, printed or otherwise affixed to the product: (1) name or registered brand and tax identification of the domestic producer or importer; (2) country of origin; (3) fibre content; (4) care instructions; and (5) size or dimensions, as applicable. This information must be in the language of the country of consumption, but may also be in other languages. Labels of all products commercialised in the country should be in Spanish, whereas imported products may keep the original label of country/language of origin but should have a sticker/label attached to the package in Spanish.<sup>22</sup> While the new labelling requirements may in some cases impose an additional cost on EU exports to Mercosur, the fact that intra-Mercosur

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<sup>19</sup> See University of Manchester (2008), p. 140.

<sup>20</sup> See for example [www.inmetro.gov.br/english/international/mutual.asp](http://www.inmetro.gov.br/english/international/mutual.asp) for a full list of Brazilian MRAs.

<sup>21</sup> On the Mercosur side, the lack of control of diseases has a negative impact on Mercosur interregional trade and on trade with third countries, see European Commission (2002).

<sup>22</sup> See Office of Textiles and Apparel (OTEXA), Market Reports/Tariffs, downloadable for all Mercosur countries at [http://web.ita.doc.gov/tacgi/overseasnew.nsf/\\$\\$searches](http://web.ita.doc.gov/tacgi/overseasnew.nsf/$$searches).



labelling rules are now being harmonised will improve market potentials and reduce costs for EU producers that already export to more than one Mercosur country.

### **Barriers related to import licenses**

An important continuing barrier to Mercosur markets is that an import license is required for all shipments - except for products shipped under the “Simplified Import Regime”. According to the WTO relevant regulation<sup>23</sup>, the licenses should be released within 60 days after the application, but this is often not the case.<sup>24</sup> In Argentina, for example, the licensing process generally takes 100 days or more, partly due to a backlog of license applications.<sup>25</sup> Import licenses are issued on a transaction basis and are valid for 60 to 120 days, after which the license expires. Non-compliance with this regulation will prevent the importer from closing or liquidating foreign exchange contracts, and failure to detail information on import licensing will result in considerable delays. Furthermore, the documents cannot be subsequently modified to fit the new commercial invoice and care must be taken that the shipment date comes after the license approval date.<sup>26</sup>

In the context of the global recession during 2007–09 there has been a significant backsliding from a liberal trade agenda in Argentina. At the beginning of 2009, Argentina introduced non-automatic import licensing requirements on steel, metallurgical, tyre, and textile products, among others, which created a large bureaucratic burden on importers and succeeded in curtailing imports. It also introduced reference prices (“criterion values”) on 1,000 imported products such as auto parts, textiles and shoes, and imposed price references for the exports of copper. These measures have not only put a burden on EU exporters but have also become a source of some friction between the Mercosur countries.<sup>27</sup>

### **Barriers related to compulsory registration**

Compulsory registration in Mercosur markets (e.g. construction permits and registration of property) results in very bureaucratic, slow and complex procedures for starting and expanding businesses. In Brazil, for example, regulatory agency backlogs can delay the introduction of novel goods and services for months or even years and in many cases it is perceived to be easier to get a local partner rather than starting a new business.<sup>28</sup> In particular, this is the case for certain strategic sectors where limitations to foreign ownership are prevalent, cf. Box 2.1. However, most of these obstacles are expected to be tackled in the Mercosur framework and multilaterally in the WTO negotiations.

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<sup>23</sup> See [http://www.wto.org/english/tratop\\_e/implic\\_e/implic\\_info\\_e.htm](http://www.wto.org/english/tratop_e/implic_e/implic_info_e.htm).

<sup>24</sup> See Foreign Trade Association (2010).

<sup>25</sup> See USTR (2010).

<sup>26</sup> See Office of Textiles and Apparel (OTEXA), Market Reports/Tariffs, downloadable for all Mercosur countries at [http://web.ita.doc.gov/tacgi/overseasnew.nsf/\\$\\$searches](http://web.ita.doc.gov/tacgi/overseasnew.nsf/$$searches).

<sup>27</sup> See World Bank (2010).

<sup>28</sup> See University of Manchester (2008), p. 31.

### Box 2.1 Limitations to foreign ownership in Brazil

Various prohibitions limit foreign investment in the following strategic sectors:

- a) **Air transportation and freight agency services.** Authorisation is required from the Ministry of Aviation. The domestic air transport and no regular air transport are limited to Brazilian companies.
- b) **Agriculture and forestry.** Authorisation is required from the Ministry of Agriculture.
- c) **Health care.** Direct or indirect investment in health care in Brazil is closed to foreign enterprises or capital, except in certain cases.
- d) **Highway freight transport.** Investment is limited to no more than 1/5 of the capital stock with voting rights. The enterprise must obligatorily be organised as a joint stock company and its capital must be represented by registered shares. This limit does not apply to juridical persons already existing on July 11, 1980, which, however, in the event of future capital increases through subscriptions, shall be required to have 4/5 of this increase in ordinary registered shares subscribed and paid up by national investors.
- e) **Maritime, river, and lake transport and coastwise shipping.** Authorisation is required from the Ministry of Transportation.
- f) **Services for the safeguarding and transport of valuables.** Investment by foreign investors is prohibited.
- g) **Construction and engineering services.** Foreign architects may establish in Brazil, but they need to be registered in a temporary register. They can be contracted provided that they work with a Brazilian assistant.
- h) **Postal services, letters and telegrams are a state monopoly.** These services can only be sub-delegated to legal Brazilian or foreign entities established in Brazil.

Foreign investment must be registered in order to repatriate capital or remit profits or dividends. Finally, establishing a Brazilian branch of a foreign company requires a presidential decree. No such limitation applies to subsidiaries or foreign-controlled joint ventures.

Source: *The Market Access Database for Brazil* at <http://madb.europa.eu>.

Another example is the Argentine implementation of a policy to restrict food imports from abroad in cases where it is considered that equivalent goods can be produced in Argentina. Since 7 May, 2010 the Instituto Nacional de Alimentos (INAL) reportedly started to delay the issuance of "certificates of free circulation" for food imports. The issuance of these certificates, which are necessary for releasing products in the domestic market, used to be a formality in the past. However, now INAL sends all demands for a certificate to the Secretary of State for Internal Trade and waits for its approval. These practices have already produced concrete negative effects on EU exports (containers stopped, importers not placing new orders). Several EU products are affected and have been blocked in Argentina inter alia: canned peaches, cheese, premium food products, pasta, oil and vinegar. It is important to notice that also intra-Mercosur trade is affected.<sup>29</sup>

The compulsory registration makes it cumbersome and time consuming to start and expand business in Mercosur. This is confirmed by the Global Competitiveness Index. Mercosur obtains an average rank of 130 out of 139 on an assessment of the number of procedures required to start a business and a rank of 124 on the time required to start a business. The other BRIC countries receive a better assessment than Mercosur in particular in the time required starting a business, cf. Table 2.7.

<sup>29</sup> See the Market Access Database for Argentina at <http://madb.europa.eu>.

Table 2.7 There are important barriers to entering Mercosur markets

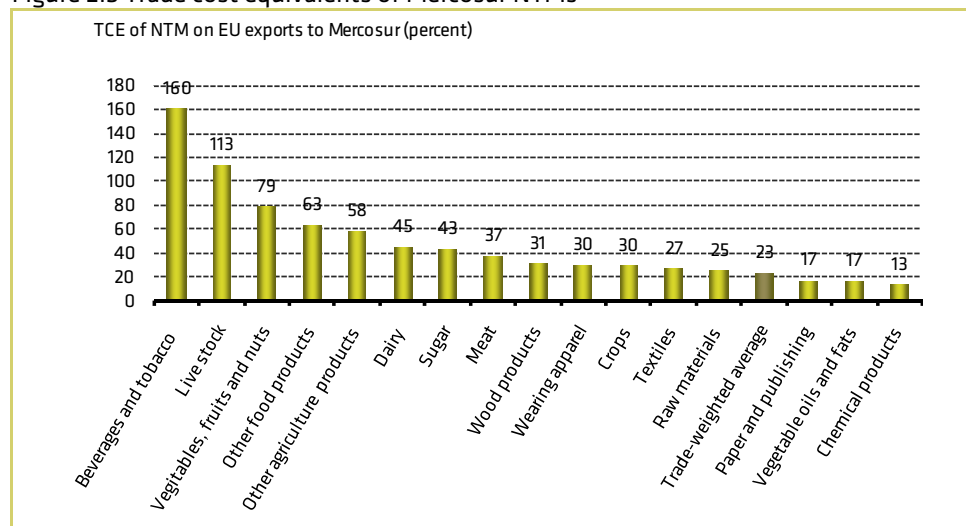
Country	Number of procedures required to start a business	Time required to start a business
<b>Mercosur</b>	130	124
Argentina	128	86
Brazil	132	135
Paraguay	57	106
Uruguay	110	127
<b>Russia</b>	<b>88</b>	<b>93</b>
<b>India</b>	<b>121</b>	<b>93</b>
<b>China</b>	<b>126</b>	<b>108</b>

Note: Rank out of 139. The Mercosur rank is calculated as a weighted average of the rank for Argentina, Brazil, Paraguay and Uruguay, where the weight is the country's share of total EU exports to Mercosur.

Source: The Global Competitiveness Index Report (2010).

Using a gravity model specification on EU-Mercosur trade in 16 sectors, Philippidis and Sanjuán (2007) have made an attempt to calculate the trade cost equivalents (TCEs) of the NTMs that constrain EU exports to Mercosur. The TCEs express the cost impact on cross-border trade of the identified NTMs (i.e. trade barriers that are not related to tariffs). For example, a TCE of 30 percent indicates that the NTM in question increases trade costs by 30 percent due to the Mercosur regulatory barriers with which the EU exporter has to comply. TCEs are particularly high in beverages and tobacco where the NTMs pose an additional cost for EU exporters equal to 160 percent, cf. Figure 2.3.

Figure 2.3 Trade cost equivalents of Mercosur NTMs



Note: Mercosur NTMs facing EU exporters are calculated as the difference between actual and predicted EU exports to Mercosur in a gravity model specification of bilateral trade. TCEs were originally expressed for EU15 and EU12 separately. EU27 numbers have been calculated by weighting by EU15 and EU12 NTMs by their shares of total EU exports to Mercosur in each sector. The overall trade-weighted average has been calculated using sectoral shares of EU exports to Mercosur.

Source: Philippidis and Sanjuán, (2007).

NTMs are also important in livestock, vegetables, fruits and nuts, and in other food products. However, we also notice that the trade-weighted average is only around 23 percent. This is due to the fact that the bulk of EU exports to Mercosur are in chemical products and the low TCE in this sector (equal to 13 percent) therefore pull down the average.

#### 2.4. CONCLUSION

Overall, we find that Mercosur is not very open to foreign trade and investments. Tariffs and custom procedures pose a barrier to EU exporters and the combination of poor domestic competition and high NTMs hampers EU exporters' access to Mercosur's attractive market and reduces Mercosur's attractiveness as a destination for foreign direct investments.

## Chapter 3 MAIN SCENARIO FOR AN EU-MERCOSUR FTA

In this chapter we provide some details of how we calculate the impacts of an EU-Mercosur FTA on the two trading partners. We describe the elements that enter into the main scenario for an EU-Mercosur FTA to be simulated in our general equilibrium model. We sketch the baselines to which our model results should be compared. Finally we include a description of the general equilibrium model to be used for our impact assessment.

### 3.1. DESCRIPTION OF THE MAIN SCENARIO

The main scenario includes both tariff reduction, TRQs in agriculture, service barriers, NTBs in goods sectors and trade facilitation:

- **Tariff reductions**

Tariff reductions include liberalisation of most industrial tariffs. This means full liberalisation ranging from 86 percent (reflecting the bloc's 2004 request) to 92 percent by Mercosur, with partial liberalisation for the rest (more ambitious scenario). For agriculture, liberalisation ranges from 85 percent to 100 percent of tariffs for Mercosur, and reductions ranging from full liberalisation (tariffs currently less than 5 percent) to a maximum of 10 percent (for products where tariffs are now greater than 15 percent) by the EU. A 100 percent liberalisation for industrial goods is carried out for the EU side.

- **TRQs in agriculture**

TRQs involve expansion of quotas, as explained below.

- **Service barriers**

This is modelled as trying to capture the value for the EU in locking in Mercosur services protection at currently applied levels in the following way: In the baseline, Mercosur services protection is increased by either 25 percent (post Doha) or 50 percent (no Doha), but this would not apply to the EU if the FTA is concluded.

- **NTBs in goods sectors**

Comprise reductions of NTBs for manufacturing goods sectors of on average approximately 3 percent trade cost reduction for Mercosur (no NTB reductions in agriculture goods) and about 1.5 percent for the EU. This corresponds to a 50 percent reduction of the actionable trade costs. For more information on this see Section 3.2.

- **Trade facilitation**

This involves a 2 percent reduction in deadweight (iceberg) costs. Trade facilitation is modelled in addition to NTBs.

### 3.2. DESCRIPTION OF BASELINES AND EXPERIMENTS

We analyse four experiments of trade liberalisation between the EU and Mercosur in this study. In the first two experiments, we assume that there is no Doha-round liberalisation from the outset, and only FTAs that are currently in force or that have been concluded are taken into account. We analyse the impact of two different liberalisation scenarios between the EU and Mercosur.

The *first experiment* (labelled ‘Experiment A’) includes full liberalisation on the EU side apart from quotas for sensitive agriculture products, and a moderate liberalisation on the Mercosur side.

The *second experiment* (labelled ‘Experiment B’) assumes the same liberalisation of manufacturing goods on the EU side but the quotas for sensitive agriculture products are higher. Liberalisation on the Mercosur side is somewhat more extensive.

In the two last experiments, we assume that the Doha-round is implemented alongside with a number of EU-centred FTAs that were recently negotiated. Based on this more open trading environment, we will again analyse the impact of the two same EU-Mercosur liberalisation experiments. These are identical to the two first experiments, and differ only from by the baseline assumptions and from the quotas for sensitive agriculture products.

The *third experiment* (labelled ‘Experiment C’) is thus identical to Experiment A, except that the bilateral EU-Mercosur liberalisation takes place from a much more liberalised outset and quotas are lower.

Similarly, the *fourth experiment* (labelled ‘Experiment D’), corresponds to Experiment B except for the baseline assumptions. Quotas in the two experiments are similar.

#### Two baselines used

As mentioned above, we apply two baselines in the study:

- **Baseline 1** is the most conservative in that it operates under the assumption that there will not be a Doha agreement, and it only incorporates EU-related FTAs that are currently in force (or where negotiations have been concluded). Finally, in Baseline 1 we assume that Mercosur increases the level of protection in services by 50 percent.
- **Baseline 2** is more optimistic. Here, the Doha negotiations lead to a wide-spread liberalisation (including services and trade facilitation). Furthermore, we add to the list of EU FTAs, such that it includes all EU FTAs where negotiating mandates are granted. We also assume that Mercosur increases the level of protection in services by 25 percent. Finally, the TRQ expansion foreseen in the DDA for sensitive products is taken into account to the extent possible.

The details of the two baselines are summarised in Table 3.1. The other EU FTAs so that all EU FTAs where negotiating mandates have been granted are included full tariff liberalisation apart from some WTO compatible sensitive treatment in agriculture (grains, dairy, meats) and modest liberalization of services trade.

Table 3.1 Description of the two baselines

	Baseline 1	Baseline 2
<b>Doha</b>	No agreement	A Doha- liberalisation scenario, including services and trade facilitation
<b>FTAs</b>	All FTAs currently in force and those for which negotiations have been concluded (1).	(1) plus all EU FTAs which there are negotiating mandates for (2).
<b>Services</b>	Services: increase in Mercosur protection by 50 percent.	Services: increase in Mercosur protection to by 25 percent.

*Note:* (1) EU - Chile, Mexico, South Africa (Developing country FTAs), EU - Andorra, San Marino, Turkey, Iceland, Liechtenstein, Norway, Switzerland (European Free Trade Association and Customs Unions), Caribbean ACP (Economic Partnership Agreement) Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Occupied Palestinian Territory, Tunisia (Mediterranean countries FTA), Albania, Bosnia and Herzegovina, Croatia, Former Yugoslav Republic of Macedonia, Montenegro, Serbia (Western Balkans, Stabilisation and Association Agreements), Colombia, Ecuador (Andean Community), Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panamá (Central America), Korea.

(2) In addition to (1) the following are added: Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam (ASEAN), Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates (GCC), Armenia, Azerbaijan, Canada, Georgia, India, Libya, Moldova, Syria, Ukraine (Other FTAs), African and Pacific ACPs (Economic Partnership Agreements).

Source: European Commission.

### Two EU-Mercosur trade liberalisation experiments used

There are two liberalisation schemes proposed under each of the two baselines meaning that we have four experiments all together. Experiment A and C are mirror images and differ only in their baseline assumption (Baseline 1 and 2, respectively) and in the agricultural goods under tariffs rate quotas. In these experiments, EU tariffs on industrial goods and non-TRQ agricultural goods are fully eliminated. Mercosur eliminates 86 percent of their tariffs on industrial goods and 85 percent of the non-TRQ agricultural goods. The two experiments include no trade facilitation.

Experiment B and D also have the baseline assumption and the agricultural goods under tariffs rate quotas as the only differences. The EU tariffs elimination schedule are the same as in the two other experiments whereas the Mercosur liberalisation schedule is more extensive: 92 percent of tariffs on industrial goods are eliminated and tariffs on non-TRQ agricultural products are fully eliminated. The two experiments involve trade facilitation.

All four experiments involve the same Mercosur and EU NTM reduction. For automobiles, 60 percent will be cut at the initiation of the FTA ( $t=0$ ), out of which 10 percent will be eliminated at MFN basis. Five years after the imposition of the FTA; another 20 percent will be cut. In consumer electronics, 80 percent of the Mercosur NTMs will be cut over five

years. For the EU we model a 50 percent cut in the trade costs from NTMs. These are all bilateral reductions.

Experiments B and D include bilateral trade facilitation. A and C do not. This will result in increased Mercosur exports because trade cost reductions run both ways. Also Doha includes some multilateral facilitation. In contrast, in experiments B and D, it is bilateral. Trade facilitation impacts manufacturing, so the composition of EU exports shifts accordingly. This implies that we will see differences in the impact for manufacturing. Following the structure of the trade facilitation, we foresee differences in the impact in experiments B and D where the facilitation is preferential, when comparing to experiment C, where the facilitation is multilateral. Details of the four experiments can be found in Table 3.2.

Table 3.2 Description of the four experiments

Liberalisation element	Baseline 1		Baseline 2	
	Experiment A	Experiment B	Experiment C	Experiment D
<b>Tariffs :</b> Industrial goods	EU: 100% liberalisation			
	Mercosur 86% lib.	Mercosur: 92% lib.*	Mercosur: 86% lib.	Mercosur: 92% lib.*
<b>Tariffs :</b> Agricultural goods non-TRQ	EU: 100% liberalisation			
	Mercosur: 85% lib.	Mercosur: 100% lib	Mercosur: 85% lib.	Mercosur: 100% lib
<b>Agricultural goods under tariffs rate quotas (TRQs)</b>	See detailed TRQ table for experiment A	See detailed TRQ table for experiment B, No in-quota tariff	See detailed TRQ table for experiment C	See detailed TRQ table for experiment D, No in-quota tariff
<b>NTBs in goods</b>	Reduction on average approximately 3% (half of the trade cost portion of actionable NTBs reduction)			
<b>Bilateral trade facilitation</b> a 2 percent trade cost reduction in addition to NTBs	No	Yes	No	Yes

Note: \*) The tariff cut for Mercosur of 92% in B and D includes a 50% cut in tariffs of the remaining 8% of trade not fully liberalised. The 92% is reached by adding automobiles followed by other sectors in equal proportion to the 86% in experiment A and C, respectively.

Source: European Commission.

It should be noted that the C and D experiments are based on an approximation of a result in the Doha round and includes the anticipation of the FTAs to be concluded by the EU. The assessment of the impact of EU-Mercosur liberalisation in experiments C and D are modelled against a very different backdrop than experiments A and B. In experiments C and D, both the EU and Mercosur have conducted substantial multilateral liberalisation compared to the assumed situation in A and B. Furthermore, the EU has also been assumed to have concluded a long list of other FTAs in experiments C and D. The degree of positive preferential access provided to the Mercosur in C and D is consequently much smaller. It shows the impact of bilateral free trade in a much more open world economy than in A and B "(which reflects the current situation). The results will thus need to be interpreted in this light.

#### Detailed schedules for tariff rate quotas in agriculture

The four experiments differ in the treatment of agricultural goods that currently fall under tariff rate quotas (TRQs). The total TRQs in Experiment A and C remain relatively limited,



and only 2.17 and 1.28 million tonnes of sensitive agricultural products are allowed to enter the EU (measured in net weight). Experiment B and D open up for EU imports of 6.58 million tonnes of sensitive agricultural products from Mercosur.

Details of the composition of the TRQs across product groups can be found in Table 3.3. The main difference between the four experiments is the TRQs in beef and poultry, in wheat and in maize and sorghum included in Experiment B and D, as compared to Experiment A and C.

**Table 3.3 Breakdown by product groups of the TRQs in sensitive products, tonnes**

<b>Product group</b>	<b>Experiment A</b>	<b>Experiment B</b>	<b>Experiment C</b>	<b>Experiment D</b>
	<b>Net weight</b>	<b>Net weight</b>	<b>Net weight</b>	<b>Net weight</b>
Beef meat	100,000	300,000	60,000	300,000
Pork meat	11,000	20,000	6,000	20,000
Ovine meat	-	20,000	-	20,000
Poultry meat	75,000	250,000	45,000	250,000
Milk powder	13,000	35,000	6,500	35,000
Butter	4,000	20,000	2,000	20,000
Cheese	20,000	60,000	10,000	60,000
Garlic	10,000	20,000	6,000	20,000
Wheat (excl. seeds)	200,000	1,000,000	120,000	1,000,000
Maize & Sorghum	700,000	3,500,000	400,000	3,500,000
Rice	40,000	150,000	26,000	150,000
Sugar	0	200,000	-	200,000
Ethanol	1,000,000	1,000,000	600,000	1,000,000
<b>Total</b>	<b>2,173,000</b>	<b>6,575,000</b>	<b>1,281,500</b>	<b>6,575,000</b>

*Source: European Commission.*

The quotas are modelled using detailed data at the 6 digit product code level under each product group in the table above. For example, the product group ‘beef’ is constituted by eight individual product codes and data for EU’s imports from Mercosur for these products have been compared to the quota levels in the specified scenarios. The TRQ product groups can be matched to the sectors in the CGE-model (as explained in section 4.5).

The analysed experiments imply binding quotas for all the major agriculture products listed in the table above. For poultry and rice, quotas are binding in all experiments and EU imports from Mercosur will be subject to the current out-of-quota tariff. For beef and garlic imports, quotas will be binding in experiments A to C, but not in B and D. For sugar, quotas are binding in B and D, while for maize and sorghum the quota becomes binding only in experiment C. Products that are bound in one or more experiments constitute more than 80 percent of the EU import volume of the listed sensitive products.

For a number of products with small import volumes, none of the proposed quotas becomes binding with current import levels. This goes for pork, ovine meat, milk powder, butter, cheese, wheat and ethanol. For these products the in-quota-tariff applies.

For the subsequent modelling purposes, weighted model sector averages of in-quota and out-of-quota tariffs are calculated respectively and we achieve a match to the model sectors for

the sensitive agriculture TRQ products. For products where quotas becomes binding, the out-of-quota tariff applies. For products where the quota does not bind, the in-quota tariff applies. Therefore, in TRQ products where the quota remains binding, the out-of-quota tariff will still apply, and no liberalisation takes place. Naturally, the quota levels are increased, but as long as the quota remains binding, no reduction in marginal tariffs is achieved. The main impact of increasing the quota is that it transfers some rent from the EU budget to Mercosur farmers obtaining the new quotas.

The approach we use is similar to Brockmeier and Pelikan (2008), where TRQs are taken into consideration by utilizing the fill rate. If the fill rate is less than 90%, the in-quota tariff is used. The out-of-quota rate is employed if the fill rate is higher than 99%. If the fill rate is higher than 90%, but smaller than 99%, a simple average of the in-quota and out-of-quota rate is applied.

Furthermore, like Brockmeier and Pelikan (2008), tariff cuts are implemented at the 6-digit tariff line level with the help of an additional module serving as a pre-module to the CGE-model. Since the parties will negotiate tariff cuts at the 6-digit level, this procedure has the advantage of being as close as possible to the negotiation process.

### **Impact of tariff rate quotas in agriculture**

Having analysed the TRQs and compared current to simulated trade levels, we find that:

1. For many sectors TRQs are binding both before and after liberalisation. This means the out-of-quota tariff remains the binding constraint and there is no change.
2. For many sectors TRQs were not binding to begin with and so this means the in-quota tariff is reduced to zero
3. For some sectors, there is a change where we switch from above to below quota and subsequently reduced tariffs.

We can match all TRQs to model sectors except for garlic, and there is a good match with model sectors for most of the products, with overlap of 98 to 100 percent between model and TRQ sectors. Even ethanol is 85 percent of the beverages and tobacco category. Poultry and swine matches “other meats” with 40 to 50 percent, and dairy products can be matched with 25 to 40 percent. For poultry and pork the TRQ products represent only half of the total volume in the corresponding GTAP sector on a volumes basis (measured in kilograms). Also the quotas are binding in all scenarios for covered products. Changes in marginal protection, and the extra increased volume, are for the non-quota products.

Model sector overlap with TRQ sectors (quantity)				
TRQ sectors	model sectors	TRQ volume as share of total model sector volume		
		2007	2008	2009
rice	rice 1/	99,8	100,2	99,8
wheat (excluding seeds)	wheat 1/	97,7	100,0	99,8
maize & sorghum	other grains 2/	99,7	98,0	98,4
beef	beef 1/	96,0	95,0	95,6
poultry, swine	other meat 3/	51,5	46,4	44,1
sugar	sugar 1/	99,9	98,2	95,4
milk powder, butter, cheese	dairy 4/	35,0	41,7	25,9
ethanol	beverages, tobacco 2/	86,9	90,2	85,4

1/ Quotas remain below estimated trade volumes, so marginal protection is not changed. Current estimated marginal (out of quota) protection is 98%, 25%, 105%, and 183% for rice, wheat, beef, and sugar. In quota rates go to zero.

2/ Quotas expand to cover current and estimated trade, and in quota tariffs set at zero from current rate of 36%.

3/ Quotas remain below estimated trade volumes, so marginal protection is not changed for TRQ products. Partial tariff cut is applied to reflect trade in non-TRQ products within the category. Current marginal protection is 38%.

4/ scenarios modeled as partial reduction in protection at model sector level. Quotas sufficient for current and estimated trade, but most trade (55%) in model sector is non-TRQ products. Current estimated marginal protection is 43%.

### The trade protection in the two baselines

In order to assess the impact of the liberalisation scenarios, it is instructive to look at the level of protection in place prior to bilateral trade liberalisation. Completing the Doha-round has no impact on Mercosur's protection rates in primary goods and only limited impact on agriculture and food products, which only drops from 14.1 percent to 13.9 percent. Mercosur's protection in machinery and other manufactured goods drops somewhat more when including the Doha-round, with a drop from 11.7 percent down to 8.8 percent protection and 10.8 percent down to 8.9 percent, respectively. For the EU, protection rates in food and agriculture take a large cut, from 23.3 percent to 14.8 percent. For machinery and other manufacturing goods, trade protection is already low at 0.6 and 1.9 percent, respectively, which drops further to 0.4 and 1.1 percent with the Doha-round in the baseline.

Table 3.4 Protection rates in the two baselines

Sector	Mercosur protection on EU		EU protection on Mercosur	
	Baseline 1 (without Doha)	Baseline 2 (with Doha)	Baseline 1 (without Doha)	Baseline 2 (with Doha)
Primary	5.1	5.1	0.0	0.0
Food, agriculture	14.1	13.9	23.3	14.8
Energy	0.2	0.2	0.0	0.0
Machinery	11.7	8.8	0.6	0.4
Other Manufactures	10.8	8.9	1.9	1.1

Note: Protection rates include preferences and are trade weighted applied rates, based on GTAP 8 and MacMaps.  
Source: Own calculations based on GTAP 8 model data.

On industry NTBs on the Mercosur side, the simple average actionable NTB level is 10 percent. Of this (based on EU rates) the trade cost portion is estimated at 6 percent (or

about 60 percent of average actionable NTBs). We reduced the actionable trade cost portion by 50 percent, which means we have a simple average reduction of 3 percent. The EU averages are 5.4 actionable, of which 3.1 percentage-points are trade costs.

Table 3.5 Mercosur NTB estimates (percent trade cost equivalent)

Sectors	Actionable costs	Trade cost portion	Reduction (50% of actionable)
Textiles	4,6	2,7	1,3
Wearing apparel	4,6	2,7	1,3
Leather products	4,6	2,7	1,3
Wood products	24,2	17,0	8,5
Paper products, publishing	24,2	17,0	8,5
Chemical, rubber and plastic	15,1	9,2	4,6
Mineral products nec	4,6	2,7	1,3
Ferrous metals	10,0	3,6	1,8
Metals nec	10,0	3,6	1,8
Metal products	10,0	3,6	1,8
Motor vehicles and parts	17,5	11,7	5,9
Transport equipment nec	6,0	3,3	1,7
Electronic equipment	3,0	1,8	0,9
Machinery and equipment nec	9,3	5,4	2,7
Manufactures nec	4,6	2,7	1,3
<b>Average</b>	<b>10,1</b>	<b>6,0</b>	<b>3,0</b>

These NTB estimates are based on gravity estimates based on NTM survey responses for Mercosur countries from an earlier study on EU-US NTMs, see box 3.1.

### Box 3.1 Estimation of NTM trade cost equivalents using gravity models

The trade cost equivalents on NTMs have been estimated in a *gravity model with NTM index*. We use the state-of-the-art gravity model and use an NTM index collected from a global business survey to measure the impact of NTMs. We introduce the NTM index in the gravity equation as control variable for NTMs.

The NTM index is based on a large scale firm survey conducted for the European Commission by Ecorys (2009), in which firms from 40 countries have reported the perceived NTM barrier by sector regarding their main trade destinations. In particular, firms have been asked to indicate on a scale of 0 to 100 how restrictive they find exporting from their home country to the EU and their other export destinations.

#### Box 3.2 Question on level of restrictiveness

**Question A12a.** Consider exporting to *[name of export market]*, keeping in mind your domestic market. If 0 represents a completely 'free trade' environment, and 100 represents an entirely closed market due to NTBs, what value between 0 – 100 would you use to describe the overall level of restrictiveness of the *[name of export market]* to your export product in this sector?

*Note:* Companies were asked to state their main export destinations in terms of export shares. Firms indicate on a 0 to 100 scale, how restrictive they find exporting from their home to each of their main export destinations.

Responses to this question provided a measure of NTMs for each trading partner as perceived by exporters to that market. For perceived barriers to the EU we get a satisfactory number of responses and we therefore rely on this method to quantify the NTMs that non-EU exporters face in European markets. However, the number of observations for Mercosur as destination market in the original survey was too low for estimations in a gravity model. For this reason, we have used the difference between the EU NTM index and the average Mercosur NTM index to estimate the trade cost of NTMs into the Mercosur markets.

In the original study, Ecorys (2009) assessments were also made about the share of the estimated NTM-related trade cost that could be reduced. This is the so-called actionable part of the NTM.

*Note:* See Ecorys (2009) for more details.

On services, we rely on a number of existing economic studies quantifying service barriers in the form of a trade cost equivalent. These estimates show that current protection levels (measured in percent trade costs) are higher in Mercosur than in the EU. The difference is highest in construction services, which is little traded, but large differences are also found in some heavy traded services such as transport and communications services, where service barriers are estimated to be around twice as high in the Mercosur as in the EU. The smallest difference is found for IT and business services, where similar protection rates are estimated on each side.

**Table 3.6 Current protection in services, EU and Mercosur rates in percent trade costs**

Service sector	EU27	Mercosur
Construction services	4.6	41.5
Retail and wholesale	14.3	20.8
Transport services	8.0	17.7
Communications services	11.7	20.7
Financial services	11.3	16.7
Insurance	10.8	18.8
IT and business	14.9	16.4
Consumer services	4.4	19.3
Public services	13.3	19.3

*Source: Current EU rates are based on Ecorys (2009). Mercosur estimates are from Fontagne et al (2010).*

In the baseline, Mercosur's service protection increases from the current level. The explanation is as follows: EU-Mercosur FTA is likely to primarily serve to bind existing protection at current level. However, in absence of an FTA, Mercosur would be free to increase their currently applied rate of services protection to the GATS level. The baseline is therefore adjusted to reflect the rise in Mercosur services protection in the absence of an FTA. The simulations then bring protection back to the currently applied levels.

**Table 3.7 Current Mercosur protection in services compared to Doha and GATS**

Service sector	Current Mercosur estimate	Doha max	UR GATS max
Construction services	41.5	146.4	162.2
Retail and wholesale	20.8	73.4	81.3
Transport services	17.7	62.4	69.2
Communications services	20.7	72.8	80.7
Financial services	16.7	58.8	65.2
Insurance	18.8	66.3	73.5
IT and business services	16.4	58.0	64.2
Consumer services	19.3	68.0	75.4
Public services	19.3	68.0	75.4

*Source: Comparison of GATS, Doha, and current access is based on Gootiz and Mattoo (2010).*

### 3.3. THE CGE MODEL

We evaluate the effect of trade liberalisation between the EU and Mercosur using a CGE-model of global trade (see Box 3.2). We have used this model to simulate the scenarios described above.

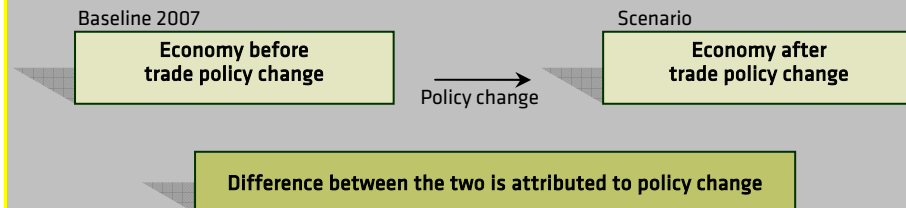
The CGE model used is based on Francois, Van Meijl, and Van Tongeren (2005) where international trade is modelled as a process that explicitly involves trading costs, which includes both trade and transportation services. The model is a standard multi-region computable general equilibrium (CGE) model with imperfect competition features using product varieties; see Francois and Roland-Holst (1997) and Francois (1998). For more details on the model, see appendix 1.

We have employed the following so-called *closure rules*:

- Employment is fixed (implying that we have not modelled any possible dynamic effects of changes in labour supply as a result of trade liberalisation).
- Capital and labour are mobile between sectors (this implies that the simulations express the benefits after long-run adjustments between sectors)
- Investment is linked to capital stock levels (long-run or steady state Ramsey closure)
- Capital account balances are a function of the equilibrium allocation of capital and investment under the long-run macro closure
- The numeraire is the value of global value added (which some people refer to as fixing the exchange rate to a global basket of currencies, but this is not really relevant in a real prices CGE model).
- Land is specific to agriculture

### Box 3.2 The applied CGE model

General equilibrium models help us answer “what if” questions. They are simulation models that can simulate market equilibriums on markets under different assumptions. The “baseline” for the model is the equilibrium before the policy change, and the “scenario” is the equilibrium after the policy change.



Simulating the model will yield estimates of the economic impact in terms of trade and incomes in the EU and the partner of removing tariffs and increasing quotas.

#### The model is dynamic

The model has both short and long run effects. In this study, we focus on long-run effects (short-run results are not reported). The short run does not take the dynamic effects of the economy into account, e.g. investment and reallocation of resources. These estimates provide an *immediate* impact assessment of trade liberalisation.

In the long run scenarios being reported in this study, we include dynamic effects and allow for productivity gains through more efficient allocation of investments across sectors. Thus, these long run estimates provide the view of the global economy where dynamic links between trade liberalisation and investments levels have worked through the economy. The long-run estimates reveal the total economy-wide potential of the trade liberalisation, and they provide insights to the likely dynamic effects that take a longer time to be fully realised.

#### The model has imperfect competition

The model has imperfect competition in several sectors (monopolistic competition). This implies that the model replicates the real world by reflecting that each firm in a given industry sells products or services that are differentiated from fellow firms in the same industry. This also implies that each firm has a small degree of market power allowing them to raise price slightly over marginal costs.

Finally, the model includes so-called agglomeration effects whereby the productivity of firms in a given industry increases with the number of firms in the industry. The intuition is that as a wider set of firms are present in the industry there will be more competition and more choice (e.g. between subcontractors within the industry) and consequently there will be scale effects at the industry level meaning that unit costs will go down as the number of firms in the industry goes up.

#### The model is calibrated to new baseline

The model is calibrated using social accounting data based on the most recent version of the GTAP database (GTAP 8). The baselines has been re-calibrated to reflect assumed changes in the trade environment, such as known and agreed FTAs which are not included in the standard GTAP model. The model also includes the data on Ad-Valorem Equivalents (AVEs) of border protection across the world.

*Note: See Appendix 1 for more details.*

## Chapter 4      IMPACTS OF TRADE LIBERALISATION

In this chapter we present the results of the trade liberalisation scenarios described in the previous chapter. We first discuss the impact of the EU-Mercosur FTA on bilateral trade flows between the EU and Mercosur in the main scenario (Section 4.1). In the next section we examine the wider economic impacts on GDP in the EU and Mercosur in the main scenarios (Section 4.2). After this, we report the results on bilateral trade, total trade and GDP in three alternative scenarios (simulations 1, 2 and 3) and compare this to the main scenario (see section 4.3). Finally, in Section 4.4 we compare with other empirical results. The results in this chapter are reported for agriculture, industry and services. Appendix 2 provides further sector details for the main scenario.

### 4.1.    IMPACTS ON BILATERAL TRADE

First we look at the impact on bilateral trade between the EU and Mercosur. We show how much EU's exports to Mercosur will increase as a result of the FTA-scenario, and subsequently how much Mercosur's exports to the EU will go up at the same time.

#### **EU Exports to Mercosur**

In sum, EU exports to Mercosur will almost double in most experiments. Compared to the CGE-model's baseline data, the increase is in a range from €23 billion to €32 billion. In the following section we will compare with model baseline data. Experiment B gives the largest increase in EU exports of €32 billion (a 105 percent increase), while experiment C gives the smallest increase of €23 billion (a 68 percent increase). The largest impact is in the industry sector, where the EU initially exports more to Mercosur.

For agriculture<sup>30</sup>, the EU exports to Mercosur will see an increase ranging between €0.3 billion and €0.4 billion (corresponding to percentage increase from 55 to 69 percent) with slight differences across scenarios.

For industrial goods, the EU can expect a major increase, with exports to Mercosur going up by €21 billion to €29 billion in experiments C and B respectively. The smallest increase is seen in experiment C with a 79 percent increase and the largest increase is found in experiment B with a 118 percent increase in EU industry exports to Mercosur.

For services, the increase in EU exports to Mercosur will vary from €1 billion in experiments C and D to € 3 billion in experiment A and B. This corresponds to an increase of 20 percent in experiments C and D, and an increase of 53 and 51 percent in scenario A and B respectively.

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<sup>30</sup> In the summary tables in this chapter, *agriculture* includes processed foods (i.e. processed agricultural sector goods).



Table 4.1 EU Exports to Mercosur (main scenario)

Sector	Experiment A Change from baseline 1	Experiment B Change from baseline 1	Experiment C Change from baseline 2	Experiment D Change from baseline 2
<b>Change in EU exports to Mercosur (fixed prices, 2007 billion Euros)</b>				
Agriculture	0.3	0.3	0.4	0.4
Industry	24.0	28.7	21.2	25.1
Services	2.6	2.5	1.3	1.3
<b>Total</b>	<b>27.0</b>	<b>31.6</b>	<b>22.9</b>	<b>26.8</b>
<b>EU exports to Mercosur, percentage change</b>				
agriculture	57%	55%	69%	69%
industry	98%	118%	79%	94%
services	53%	51%	20%	20%
<b>Total</b>	<b>90%</b>	<b>105%</b>	<b>68%</b>	<b>79%</b>

*Note: Exports are f.o.b. values.*

*Source: Copenhagen Economics based on CGE model simulations.*

### Mercosur Exports to EU

Mercosur's exports to the EU are estimated to increase by almost 40 percent. Compared to the models baseline data, this is an increase of €15 billion in experiment B (a 38 percent increase), while experiment C gives the smallest increase of €10 billion (a 21 percent increase). In the following we will compare with model baseline data.

For agriculture, the Mercosur exports value to EU will see an increase of €4 billion to €5 billion (corresponding to 15 and 16 percent in scenario C and D to around 33 percent and 34 percent in scenario A and B respectively).

For industrial goods, Mercosur can expect to increase their exports to EU within a range of €6 billion to €9 billion. This corresponds to a 31 percent increase in scenario C and a 50 percent increase of Mercosur industry exports in scenario B.

For services, the increase in Mercosur exports to EU will vary from €0.4 billion in scenario C and D to €0.5 billion in scenario A and B. This corresponds to increases of 7 percent to 10 percent increase.

Table 4.2 Mercosur Exports to EU (main scenario)

Sector	Experiment A Change from baseline 1	Experiment B Change from baseline 1	Experiment C Change from baseline 2	Experiment D Change from baseline 2
<b>Change in Mercosur exports to the EU (fixed prices, 2007 billion Euros)</b>				
agriculture	4.9	5.0	3.5	3.6
industry	6.4	9.4	6.0	9.0
services	0.5	0.5	0.4	0.4
<b>total</b>	<b>11.8</b>	<b>14.9</b>	<b>9.9</b>	<b>13.0</b>
<b>Mercosur exports the EU, percentage change</b>				
agriculture	33%	34%	15%	16%
industry	34%	50%	31%	47%
services	8%	10%	7%	7%
<b>total</b>	<b>30%</b>	<b>38%</b>	<b>21%</b>	<b>27%</b>

*Note: Exports are f.o.b. values.*

*Source: Copenhagen Economics based on CGE model simulations.*

## 4.2. IMPACTS ON GDP

### Impacts on EU Gross Domestic Product (GDP)

We assess the change in real gross domestic product (GDP) using the quantity change at constant prices. We also report the components of GDP in terms of gross value added in agriculture, industry and services. GDP is the sum of sector value added, indirect taxes and depreciation.

For agriculture, the EU gross value added will see a decrease of €2.8 billion in scenarios C and D and €4.8 billion in scenarios A and B (corresponding to a percentage decrease of 0.6 to 1.0 percent respectively).

For industrial goods, the EU can expect an increase in GDP of €6 billion to €8 billion in experiments C and B respectively. The smaller increase is seen in experiment C (0.2 percent increase) and the larger increase is found in experiment B (a 0.3 percent increase).

For services, EU GDP will see a major increase which varies from €11 billion in experiment C to €17 billion in experiment B. This corresponds to an increase of 0.1 percent in experiments C, and an increase of 0.2 percent of service gross value added in scenario B.

In sum, EU GDP will increase by €15 billion to €21 billion, with the largest impact in the service sector, where the EU initially has a larger GDP share. Experiment B gives the largest increase in EU GDP by between €15 billion and €21 billion (a 0.2 percent increase), while experiment C gives the smallest increase of €15 billion (a 0.1 percent increase).

Table 4.3 EU GDP change (main scenario)

Sector	Experiment A Change from baseline 1	Experiment B Change from baseline 1	Experiment C Change from baseline 2	Experiment D Change from baseline 2
<b>Gross value added - fixed prices, 2007 Billion Euros</b>				
agriculture	-4.8	-4.8	-2.8	-2.8
industry	6.8	8.0	5.7	6.2
services	14.0	16.9	11.1	12.0
other	0.9	1.4	0.7	0.8
<b>Total GDP</b>	<b>17.0</b>	<b>21.4</b>	<b>14.7</b>	<b>16.2</b>
<b>Gross value added - percentage change</b>				
agriculture	-1.0%	-1.0%	-0.6%	-0.6%
industry	0.3%	0.3%	0.2%	0.2%
services	0.2%	0.2%	0.1%	0.1%
Other	0.1%	0.1%	0.0%	0.0%
<b>Total GDP</b>	<b>0.1%</b>	<b>0.2%</b>	<b>0.1%</b>	<b>0.1%</b>

Note: "other" includes the other components of GDP, namely indirect taxes and depreciation.

Source: Copenhagen Economics based on CGE model simulations.

### Impact on Mercosur GDP

In the agricultural sector, the Mercosur gross value added at constant prices will see an increase of almost €5 billion in scenario C and D and close to €7 billion in scenario A and B (corresponding to percentage increase of 4 to 7 percent respectively) compared to the baseline values. Measured by the value of GDP the increase in this sector will be somewhat smaller.

We estimate that Mercosur's industrial gross value added at constant prices could decrease by around €1 billion in all experiments. This corresponds to a decrease of around half a percent.

For services, Mercosur gross value added at constant prices will experience a small increase varying from €1 billion in experiments A, B and C (corresponding to an increase of 0.1 percent) and €2 billion in experiment D (corresponding to an increase of 0.2 percent).

In sum, Mercosur GDP at constant prices will increase slightly by €1.6 billion (experiment C) to €3.2 billion (experiment B), with the largest impact in the service sector, where the Mercosur initially has a larger GDP share. This corresponds to an increase in GDP of around 0.1 percent to 0.3 percent.

Table 4.4 Mercosur GDP Change (main scenario)

Sector	Experiment A Change from baseline 1	Experiment B Change from baseline 1	Experiment C Change from baseline 2	Experiment D Change from baseline 2
<b>Gross value added - fixed prices, 2007 billion Euros</b>				
Agriculture	6.6	6.9	4.5	4.8
Industry	-1.2	-1.5	-1.0	-1.2
Services	0.8	1.2	0.9	1.8
other	-3.2	-3.4	-2.8	-2.9
<b>Total GDP</b>	<b>3.0</b>	<b>3.2</b>	<b>1.6</b>	<b>2.5</b>
<b>Gross value added -- percentage change</b>				
agriculture	7.0%	7.4%	4.4%	4.7%
industry	-0.6%	-0.8%	-0.5%	-0.6%
services	0.1%	0.2%	0.1%	0.2%
Other	-2.2%	-2.3%	-1.9%	-2.0%
<b>Total GDP</b>	<b>0.3%</b>	<b>0.3%</b>	<b>0.1%</b>	<b>0.2%</b>

Note: "other" includes the other components of GDP, namely indirect taxes and depreciation.

Source: Copenhagen Economics based on CGE model simulations.

### 4.3. IMPACTS IN ALTERNATIVE SIMULATIONS

In the previous part, we reported the results of the main scenario, which is the most comprehensive trade liberalisation scenario including tariff reductions, liberalisation of agriculture tariff rate quotas (TRQs), reduction of service barriers, reduction of NTBs in all goods sectors (motor vehicles, electronics and other goods) and trade facilitation.

In this part, we analyse the impact of less comprehensive scenarios and thereby obtain information about how the different elements in the trade liberalisation scenario affect key performance parameters such as bilateral trade, total trade and the GDP effect for the EU. We model four different scenarios and analyse four different experiments within each scenario. In total, 16 simulations are conducted.

In the first simulation, we explore what happens if only tariffs are included as trade liberalisation element. In the second simulation, we look at the combined effect of tariff reductions, TRQs liberalisation and service trade liberalisation, but without NTB reductions and trade facilitation. In the third simulation, the impact of service liberalisation is left out, but instead reductions of NTBs for goods and trade facilitation are included. The main scenario reported above - includes all five elements.

Table 4.5 Overview of the four simulations

Trade liberalisation element included	Alternative scenarios			Main scenario
	Simulation 1	Simulation 2	Simulation 3	
Tariff reductions	●	●	●	●
TRQs in agriculture	●	●	●	●
Service barriers		●		●
NTBs in goods sectors			●	●
Trade facilitation			●	●

Source: Copenhagen Economics based on scenarios specified by the client.

In the remaining part of the section, we present the results for the EU across these alternative simulations for the experiment B (more ambitious scenario).

### Impacts on EU exports to Mercosur

Naturally, total EU exports to Mercosur will increase most in the main scenario, which includes the most comprehensive liberalisation. The increase in EU exports to Mercosur is estimated at €31.6 billion (a 105 percent increase), as previously reported. The increase is composed of a small absolute increase in agriculture exports of €0.3 billion (a 55 percent increase), a large increase in industry exports of €28.7 billion (a 118 percent increase) and a moderate increase in EU services exports of €2.5 billion (a 51 percent increase).

Leaving out services liberalisation (simulation 3) will reduce the overall increase in exports from the EU to Mercosur to €29.3 billion (a 98 percent increase) reflecting a small contraction of EU service exports of -€0.4 billion<sup>31</sup> (a 7 percent decrease), and a slightly larger increase in industry exports compared to the increase in main scenario. The increase in industry exports in simulation 3 is of €29.4 billion (a 120 percent increase).

Leaving NTB reductions and trade facilitation out instead, but keeping services liberalisation (simulation 2), will result in a somewhat smaller impact on bilateral exports to Mercosur. In this case, the total increase in EU exports to Mercosur will be €21.9 billion (a 73 percent increase), i.e. almost €9.3 billion lower compared to the €31.6 billion in the main scenario. This indicates that NTB reductions constitute a large part of the potential increase in EU exports to Mercosur.

In the “goods only” simulation (simulation 1, which also includes TRQs), we see that the total EU exports to Mercosur will increase by €20.9 billion (a 70 percent increase), which is €10.7 billion lower compared to the main scenario. In simulation 1, there is a slight

<sup>31</sup> The reason for the contraction of services exports in simulation 3, where everything but services is liberalised, is that the liberalised sectors, industry and agriculture, will pull resources (investments and labour) away from services as industry and agriculture expands their production as a result of the increased exports. This implies that services sectors will face more competition in the home market on the input side, and thus loose competitiveness in the export market.

contraction in EU service sector exports to Mercosur i.e. -€0.3 billion (a 6 percent drop) and a slightly lower increase of € 20.9 billion (an 86 percent increase) and €0.3 billion (a 58 percent increase) in industry and agriculture sector respectively compared to the main scenario.

Table 4.6 EU exports to Mercosur

Sector	Simulation 1 Change from baseline 1 Experiment B	Simulation 2 Change from baseline 1 Experiment B	Simulation 3 Change from baseline 1 Experiment B	Main scenario Change from baseline 1 Experiment B
<b>EU exports to Mercosur (fixed prices, 2007 Billion Euros)</b>				
agriculture	0.3	0.3	0.3	0.3
industry	20.9	18.9	29.4	28.7
services	-0.3	2.7	-0.4	2.5
<b>total</b>	<b>20.9</b>	<b>21.9</b>	<b>29.3</b>	<b>31.6</b>
<b>EU exports to Mercosur, percentage change</b>				
agriculture	58%	58%	56%	55%
industry	86%	78%	120%	118%
services	-6%	54%	-7%	51%
<b>Total</b>	<b>70%</b>	<b>73%</b>	<b>98%</b>	<b>105%</b>

Note: The table shows the changes in export quantities from baseline 1. Exports are reported as f.o.b.

Source: Copenhagen Economics based on CGE model simulations.

### EU imports from Mercosur

It is expected that total EU imports from Mercosur will increase the most in the main scenario, which includes the most comprehensive liberalisation. The increase in EU imports from Mercosur is estimated at €16.5 billion (a 39 percent increase). The increase is composed of a small increase in service imports of €0.5 billion (a 10 percent increase), a large increase in industry imports of €10.4 billion (a 50 percent increase) and agriculture imports of €5.5 billion (a 34 percent increase).

Leaving out services liberalisation (simulation 3) will slightly reduce the overall increase in imports to the EU from Mercosur to €15.8 billion (a 37 percent increase) reflecting a minor change in EU service imports, and a slightly lower increase in industry imports compared to the increase in the main scenario. The increase in industry imports in simulation 3 is of €9.9 billion (a 48 percent increase) and a €5.5 billion (a 33 percent increase) in agriculture.

Leaving NTB reductions and trade facilitation out instead, but keeping services liberalisation (simulation 2), will result in a somewhat smaller impact on bilateral imports from Mercosur. In this case, the total increase in EU imports from Mercosur will be €9.6 billion (a 22 percent increase), i.e. almost €6.9 billion lower compared to the €16.5 billion in the main scenario.

In the “goods only” simulation (simulation 1), the total EU imports from Mercosur will increase by €9.2 billion (a 22 percent increase), which is €7.3 billion lower compared to the main scenario (€16.5 billion). This constitutes of a slightly lower increase in service sector i.e. €0.4 billion (a 7 percent increase) and agriculture sector of €5.2 billion (a 32 percent increase) and a smaller increase in industry sector of €3.6 (a 18 percent increase) compared to the main scenario. We note that the majority of the increase of agriculture imports from Mercosur is due to tariff liberalisation (€5.2 billion out of €5.3 billion).

Table 4.7 EU Imports from Mercosur

Sector	Simulation 1 Change from baseline 1 <b>Experiment B</b>	Simulation 2 Change from baseline 1 <b>Experiment B</b>	Simulation 3 Change from baseline 1 <b>Experiment B</b>	Main scenario Change from baseline 1 <b>Experiment B</b>
<b>EU Imports from Mercosur (fixed prices, 2007 Billion Euros)</b>				
agriculture	5.2	5.3	5.5	5.5
industry	3.6	3.9	9.9	10.4
services	0.4	0.4	0.5	0.5
<b>Total</b>	<b>9.2</b>	<b>9.6</b>	<b>15.8</b>	<b>16.5</b>
<b>EU Imports from Mercosur, percentage change</b>				
agriculture	32%	32%	33%	34%
industry	18%	19%	48%	50%
services	7%	7%	9%	10%
<b>Total</b>	<b>22%</b>	<b>22%</b>	<b>37%</b>	<b>39%</b>

Note: The table shows the changes in import quantities from baseline 1. Exports are reported as c.i.f.  
Source: Copenhagen Economics based on CGE model simulations.

### Impacts on EU GDP

In simulations 3 and 4, which includes the most comprehensive liberalisation, total EU GDP will increase more than in the more moderate simulations. The increase in EU GDP is estimated at €21.4 billion, as previously reported, corresponding to a 0.2 percent increase in EU GDP. The change is composed of a contraction in agriculture sector gross value added of -€5 billion (a 1 percent decrease), a large increase in service sector gross value added of €17 billion (a 0.2 percent increase) and a moderate increase in the EU industry sector of €8 billion (a 0.3 percent increase).

Leaving out services liberalisation (simulation 3) will result in a similar overall increase in EU GDP to €21.4 billion (a 0.17 decrease) reflecting the same contraction of EU agriculture sector of -€5 billion, a lower increase of service sector (i.e. €15 billion, corresponding to a 0.2 percent increase) and a slightly larger increase in industry sector compared to the increase in the main scenario. The increase in industry exports in simulation 3 is of €15 billion (a 0.4 percent increase).

Leaving NTB reductions and trade facilitation out instead, but keeping services liberalisation (simulation 2), will result in a somewhat smaller impact on EU GDP change. In this case, the total increase in EU GDP change will be €16 billion (a 0.1 percent increase), i.e. €5 billion lower compared to €21 billion in the main scenario. This indicates that NTB reductions constitute a major potential for increasing EU GDP.

In the “goods only” simulation (simulation 1), we see that the total EU GDP will also be increased by €16 billion (a 0.1 percent increase). In this simulation, there is the same contraction in agriculture sector i.e. -€4.4 billion (0.9 percent decrease) and an increase of €8 billion (0.4 percent increase) and €12 billion (0.1 percent increase) in industry and service sector respectively.

Table 4.8 EU GDP change

Sector	Simulation 1 Change from baseline 1 Experiment B	Simulation 2 Change from baseline 1 Experiment B	Simulation 3 Change from baseline 1 Experiment B	Main scenario Change from baseline 1 Experiment B
<b>Gross value added -- change (fixed prices, 2007 billion Euros)</b>				
agriculture	-4.4	-4.5	-4.7	-4.8
industry	7.6	6.3	9.3	8.0
services	11.7	13.4	15.3	16.9
others	1.0	0.9	1.5	1.4
<b>Total GDP</b>	<b>15,9</b>	<b>16,0</b>	<b>21,4</b>	<b>21,4</b>
<b>Gross value added –percentage change</b>				
agriculture	-0.9%	-0.9%	-1.0%	-1.0%
industry	0.3%	0.3%	0.4%	0.3%
services	0.1%	0.2%	0.2%	0.2%
others	0.1%	0.1%	0.1%	0.1%
<b>Total GDP</b>	<b>0,1%</b>	<b>0,1%</b>	<b>0,2%</b>	<b>0,2%</b>

Note: “other” includes the other components of GDP, namely indirect taxes and depreciation.

Source: Copenhagen Economics based on CGE model simulations.

#### 4.4. REVIEW OF OTHER EMPIRICAL RESULTS

In this section we compare our results with some other empirical studies that assess the impacts of an FTA between the EU and Mercosur. Our overall results are in line with the other empirical papers where a positive impact of the FTA on both EU and Mercosur trade is also expected. However, the empirical literature also draws other conclusions that might be relevant here. The empirical papers are summarised in Table 4.9. Details of the empirical papers are provided below.



Table 4.9 Empirical studies of the impacts of an EU-Mercosur FTA

Study	Sectors	Finding
Boyer and Schuschny (2010)	All	\$7.1 billion gain for Mercosur and \$1.8 billion gain for the EU in case of a full liberalisation
Calfat and Flores (2004)	All	\$1.45 billion gain for Mercosur, and \$1.2 billion gain for the EU in case of full liberalisation.
Ramos et al. (2010)	Beef products	If the EU treats beef as a 'sensitive product' in a Doha round, imports would be lower, despite the accompanying TRQ expansion, than with larger tariff cuts. TRQ expansion would, however, increase the high-quality bias in beef imports and welfare losses, whereas a cut in the specific tariff would reduce this bias.
Weissleder et al. (2008)	Agricultural products	Impacts for the EU are very small. The production and export potential of the Mercosur countries seem to be limited more through the projected production than through trade restrictions.
Philippidis and Sanjuán (2007)	All	Gains from finalising a FTA of the Americas would be larger than the gains from signing an FTA with the EU
University of Manchester (2008)	All	\$9 billion gain for Mercosur and \$4 billion gain for the EU in case of a full liberalisation
Francois et al. (2005)	All	\$2.3 billion gain for Mercosur and \$3,95 billion gain for the EU

Source: *Copenhagen Economics*.

Using a GTAP CGE model, Boyer and Schuschny (2010) assess the possible effects of an FTA between Mercosur and the EU. The study takes into consideration the most important recent FTAs signed among the Latin American countries, as well as the latest EU enlargements (comparable to our Baseline 1). Two different policy simulations are addressed: (i) full liberalisation and (ii) liberalisation excluding sensitive products. From the point of view of the Mercosur countries, the results suggest that the FTA would be beneficial to foster their exports, especially in the case of traditional sectors and in light manufactures. Mercosur's import from the EU would be increased, particularly in the heavy manufactures sectors. In terms of GDP the paper finds that welfare impacts for Mercosur would be positive and lead to about \$7.1 billion gains (0.83 percent of GDP) in case of a full liberalisation, and \$1.8 billion for the EU27 (0.02 percent of GDP). The main conclusion points out a potential complementary trade relationship among these two regions.

Similar results have been found in Calfat and Flores (2004) who concentrate on the liberalisation of trade in goods. Based on trade flows statistics, they select products for which prospective gains lie within the EU-Mercosur FTA. For each identified product, they produce a US dollar value that predicts the market access gains. This value results from adding up trade creation and trade diversion. They examine two scenarios: (i) a reduction of 50 percent in the ad valorem tariff equivalent and (ii) a similar reduction of 100 percent. They find that the sum of all gains under total liberalisation amounts to \$1.45 billion for Mercosur, and \$1.2 billion for the EU. The first three top goods for Mercosur – orange juice, bovine cuts boneless, fresh or chilled and frozen – account for a little more than 50 percent of the total. It represents around 8 percent of annual exports; which is quite attractive for a preferential agreement. A fifty percent reduction in the tariffs results in a figure of \$0.74 billion gains for Mercosur (\$0.61 billion for the EU).

The conclusion in these two papers is the opposite of our findings: the Mercosur welfare gain is much larger and the EU welfare gain is much smaller. There are a number of explanations for this. First, the two papers summarised above only include tariffs in the trade barrier reduction scenarios and we also take NTBs into account (Calfat and Flores only take goods trade into account). The implication is that impacts in the service sector become much smaller, and this is where the main gain to the EU can be found in our results. Second, our study includes a number of EU FTAs which has a tendency to increase the EU's bilateral trade with these partners. These FTA are not taken into account in the two other studies.

Ramos et al. (2010) highlight that different patterns of trade liberalisation might have different consequences for both producers and consumers through changes in the composition of trade. The paper illustrates the issues at stake in the beef sector, focusing on Mercosur exports to the EU. They model import demand for different qualities in the presence of TRQs where the different types of beef imports are categorised as 'high' or 'low' quality according their conservation (fresh, chilled or frozen). Based on this they derive comparative static results showing the consequences of different patterns of bilateral and multilateral trade liberalisation.

They consider four scenarios. The first scenario involves eliminating the in-quota ad valorem tariff for high-quality beef. The second scenario eliminates the ad valorem component of the out-of-quota tariff. The third scenario eliminates the specific component of the out-of-quota tariff. Finally, the fourth scenario involves an increase in the TRQ for high-quality beef. Mercosur countries have requested a 315,000 ton quota, and in this scenario the existing EU TRQ is expanded to 100,000 tons. These two cases are considered as Scenario 4A for the small quota expansion and Scenario 4B for the large quota expansion. The quotas for Scenario 4A are comparable to our Scenario A, and their Scenario 4b falls somewhere in between our Scenario B and D. They find that if the EU treats beef as a 'sensitive product' in a Doha round, imports would be lower, than with larger tariff cuts, despite the accompanying TRQ expansion. TRQ expansion would, however, increase the high-quality bias in beef imports and welfare losses, whereas a cut in the specific tariff would reduce this bias.

Weissleder et al. (2008) apply the Common Agricultural Policy (CAPRI) model (a regional impact projection and simulation tool for the agricultural sector) to make a quantitative assessment of the impacts of bilateral liberalisation between the EU and Mercosur. Three different baseline scenarios that vary in the assumed production potential of the Mercosur countries are defined. The *first* scenario reflects a unilateral partial liberalisation between the EU and the Mercosur countries by allocating additional TRQs to the Mercosur countries for certain products based on an official EU proposal (USDA, 2005). The *second* scenario combines the partial unilateral liberalisation with the multilateral WTO G20 proposal. The *third* scenario comprises a bilateral full liberalisation between the EU and Mercosur by allowing quota and duty free access in both directions for all agricultural products. The

results focus on welfare effects and the market balances of seven key commodities (wheat, maize, rice, soybeans, bovine meat, chicken and pork).

The paper finds that changes for the EU in all scenarios are small. The production and export potential of the Mercosur countries seem to be limited more through the projected production than through trade restrictions. With the examples of beef and maize from Argentina and Brazil it is shown that those changes might be over-estimated, and increasing exports stem mainly from the redirection of Mercosur export flows from other countries to the EU rather than an increase in output.

Philippidis and Sanjuán (2007) focus on the treatment of NTB estimates employing a gravity specification, where calculated TCEs are subsequently implemented into a CGE model. From the Mercosur side, the results suggest that the gain from promoting negotiations with countries belonging to the American continent in order to finalise a FTA of the Americas would be larger than the gains from signing an FTA with the EU. This is due to Mercosur's greater reliance on the other American continent imports (i.e. greater trade cost benefits) and in particular technologically embodied trade (greater trade-induced productivity).

Other studies try to assess the possible impacts of bilateral or regional FTAs, including some papers on the agreement between Mercosur and the EU, as follows: The Trade SIA (sustainability impact assessment) of the Association Agreement under negotiation between the European Community and Mercosur (2008) is a large scope study carried out by the University of Manchester, which combines CGE and econometrical analyses. It investigates the impacts of an FTA for agriculture, industry and services and rules related measures (including investments, trade facilitation and government procurement). The impact of static gains under full liberalisation on EU's GDP would reach 0.1 percent. Static gains in GDP for Mercosur would be 0.5 percent for Argentina, 1.5 percent for Brazil, 2.1 percent for Uruguay and 10 percent for Paraguay. Most of these gains stem from manufactures liberalisation; few are from services. Mercosur would see an increase in its agriculture production, whereas its manufactures production would decline. Welfare gains for Mercosur would account for \$9 billion and \$4 billion for the EU.

Francois, McQueen, and Wignaraja (2005) build their quantitative analysis around the Global Trade Analysis Project (GTAP) computable general equilibrium model and database (version 5.0) with an aggregation of 29 regions and 24 sectors. It presents a simulation of the effects of five European Union–developing partner FTAs (South Africa, Mexico, Chile, Mercosur and Egypt) and the customs union agreement in industrial products with Turkey. The global impact of the EU-Mercosur regional agreement on real income would amount to \$2.3 billion for Mercosur and \$3.95 billion for the EU.

Flores and Watanuki (2008) use the static CGE model known as AMIDA – Analysing Mercosur's Integration Decisions and Agreements – to study impacts of possible FTAs

between Mercosur and its main trading partners. The model introduces economies of scale and imperfect competition in some sectors. It includes 25 sectors and 10 regions, and is benchmarked in 2001. They find relatively small but positive gains in case of a full liberalisation with the EU. Mercosur would sharply reorient its exports towards the EU, while increasing its imports from most other markets. Mercosur's agribusiness exports would be the most favourably affected with a 62 percent increase. The rise in exports to the EU market takes place at the expense of generalised decreases in all other regions. On the other hand, imports increase almost everywhere.

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## | APPENDIX 1 DETAILS OF THE CGE MODEL



## | APPENDIX 2 DETAILED RESULTS

## APPENDIX 1      DETAILS OF THE CGE-MODEL

In this appendix we outline the broad structure of the computable general equilibrium (CGE) model used in the main body of the report. We have estimated the broad macroeconomic effects of tariff, agriculture, NTM and service liberalisation with a CGE model. Due to limits in data availability, the sector-structure of the CGE model is more aggregated than for some of the detailed sector analysis in the main report.

The model is based on Francois, van Meijl, and van Tongeren (2005), and is similar to World Bank, CEPII and CPB global models. It is a multi-sector, multi-region model of the global economy. Estimated effects are based on the GTAP8 database (benchmarked to 2007). From this baseline, we have estimated the long-term impact of trade liberalisation with a steady-state closure that reflects investment-savings linkages. The long-term impact provides an estimate of how the benchmark year would look if the agreement had been implemented far enough in the past (approximately 7 to 10 years) so that the full set of investment impacts have already been realised. We modify the benchmark, as discussed in the report, to reflect assumptions about FTAs to be implemented, and the implementation of a Doha Round agreement.

### A1.1      Technical overview

The core CGE model is based on the assumption of optimising behaviour on the part of consumers, producers, and government. Consumers maximise utility subject to a budget constraint, and producers maximise profits by combining intermediate inputs and primary factors at least possible cost, for a given technology. The model employed here is based on Francois, van Meijl, and van Tongeren (2005). It is a standard, multi-region CGE model, with important features related to the structure of competition (as described by Francois and Roland-Holst 1997). Imperfect competition features are described in detail in Francois (1998). Social accounting data follow conventions for the structure of the GTAP dataset ([www.gtap.org](http://www.gtap.org)).

The model is implemented in GEMPACK, a software package designed for solving large applied general equilibrium models. The model is solved as an explicit non-linear system of equations, through techniques described by Harrison and Pearson (1994). More information can be obtained [www.monash.edu.au/policy/gempack.htm](http://www.monash.edu.au/policy/gempack.htm). For a detailed discussion of the basic algebraic model structure represented by the GEMPACK code, refer to Hertel (1996). The aim of this appendix is to provide a broad overview of the model and detailed discussion of mathematical structure is limited to added features, while for the standard GEMPACK-based structure the reader is referred to Hertel (1996).

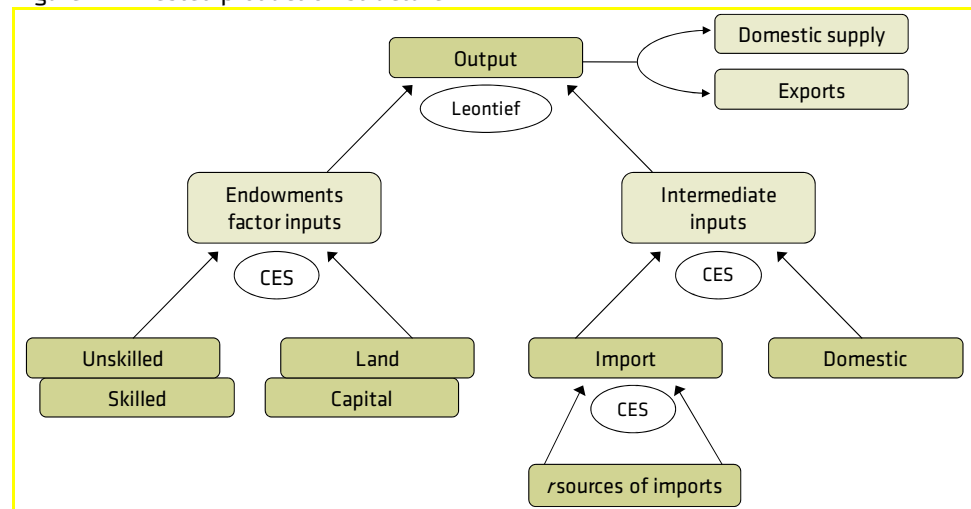
Table A1.1 Model sectors

Sector description		
1	ric	Rice
2	wht	Wheat
3	gro	Cereal grains nec
4	v_f	Vegetables, fruit, nuts
5	osd	Oil seeds
6	sug	sugar
7	oag	Other ag products
8	oap	Animal products nec
9	opr	Other primary
10	cmt	Ruminant Meat & livestock: cattle etc
11	omt	Poultry and non-ruminant other meat
12	vol	Vegetable oils and fats
13	mil	Dairy products
14	sgr	Sugar
15	ofd	Food products nec
16	b_t	Beverages and tobacco products
17	egy	Energy
18	tex	Textiles
19	wap	Wearing apparel
20	lea	Leather products
21	lum	Wood products
22	ppp	Paper products, publishing
23	crp	Chemical, rubber, plastic prods
24	nmm	Mineral products nec
25	i_s	Ferrous metals
26	nfm	Metals nec
27	fmp	Metal products
28	mvh	Motor vehicles and parts
29	otn	Transport equipment nec
30	ele	Electronic equipment
31	ome	Machinery and equipment nec
32	omf	Manufactures nec
33	wtr	Water
34	cns	Construction
35	trd	Trade
36	tsp	Transport nec
37	cmn	Communications
38	ofi	Financial services nec
39	isr	Insurance
40	itb	ICT and business services
41	csv	Recreation, housing, consumer
42	osv	Public and other services

### General model structure

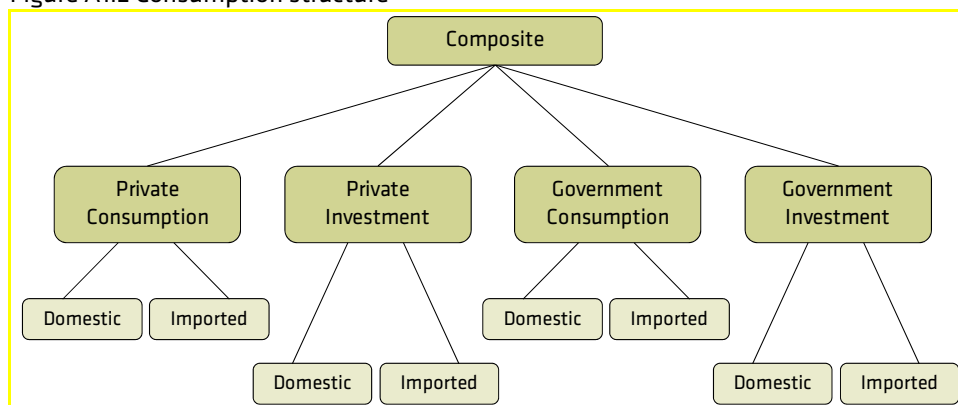
The general conceptual structure of a regional economy in the model is as follows: firms produce output, employing land, labour, capital, and natural resources and combine these with intermediate inputs, within each region/country. Firm output is purchased by consumers, government, the investment sector, and by other firms. Firm output can also be sold for export. Land is only employed in the agricultural sectors, while capital and labour (both skilled and unskilled) are mobile between all production sectors. While capital is assumed to be fully mobile within regions, land, labour and natural resources are not. Substitution elasticities in value added (capital, labour, natural resources) are detailed in the elasticity table below.

Figure A1.1 Nested production structure



Source: François.

Figure A1.2 Consumption structure



Source: Francois.

### Trade policy

Trade policy can be represented in the model as direct taxes and subsidies, or as increased costs of production for export markets due to non-tariff measures. Trade taxes are a special case of the range of taxes that are included in the theory of the model. Trade taxes and subsidies include both applied most-favored nation (MFN) tariffs and preferential rates as appropriate. The full set of tariff vectors are based on WTO tariff schedules, combined with possible Doha and regional initiatives as specified by the Commission during this project, augmented with data on trade preferences. The underlying GTAP data include data from CEPII on preferential tariff rates (including regional agreements and developing country preferences), and these are supplemented with WTO tariff data as appropriate.

In addition to tariffs, we also model non-tariff measures as frictional trade costs. Frictional trading costs represent real resource costs associated with producing a good or a service for sale in an export market instead of the domestic market. Conceptually, for the model this means we have implemented a linear transformation technology between producing for domestic and export markets. This technology is depicted in Annex Figure 1 below. The straight line AB indicates, given the resources necessary to produce a unit of goods or services for the domestic market, the feasible amount that can instead be produced for export to a particular destination using those same resources. If there are no frictional barriers to trade, this line has slope -1. The line AC represents the NTM-free case. As we reduce NTM-related trading costs, the linear transformation line converges on the free trade line, as indicated in the figure. This approach is used for liberalisation of non-tariff measures, affecting both goods and services, where they are modelled as increasing the cost of goods and services sold to trading partners.

It should be stressed that, in the services sectors, FDI restrictions are also important for total cross-border sales and sales through affiliates. Indeed, the econometrics used to arrive at NTM measures for services are based on indicators of regulatory barriers and discrimination against FDI in the service sector. As such, the NTM barrier estimates in services, as imple-

mented in the model, also reflect estimated effects on trade related to FDI restrictions. (See discussion in the report).

### Transportation costs

International trade is modelled as a process that explicitly involves trading costs, which include both trade and transportation services. These trading costs reflect the transaction costs involved in international trade, as well as the costs of the physical activity of transportation itself. Those trading costs related to international movement of goods and related logistic services are met by composite services purchased from a global trade services sector, where the composite "international trade services" activity is produced as a Cobb-Douglas composite of regional exports of trade and transport service exports. Trade-cost margins are based on reconciled f.o.b. and c.i.f. trade data.

## A1.2 Market structure

### Demand for imports: Armington sectors

The basic structure of demand in constant returns sectors is Armington preferences. In Armington sectors, goods are differentiated by country of origin, and the similarity of goods from different regions is measured by the elasticity of substitution. Formally, within a particular region, we assume that demand for goods from different regions is aggregated into a composite import according to the following CES function:

$$(1) \quad q_{j,r}^M = \left[ \sum_{i=1}^R \alpha_{j,i,r} M_{j,i,r}^{\rho_j} \right]^{1/\rho_j}$$

In equation (1),  $M_{j,i,r}$  is the quantity of imports in sector  $j$  from region  $i$  consumed in region  $r$ . The elasticity of substitution between varieties from different regions is then equal to  $\sigma_j^M$ , where  $\sigma_j^M = 1/(1-\rho_j)$ . Composite imports are combined with the domestic good  $q^D$  in a second CES nest, yielding the Armington composite  $q$ .

$$(2) \quad q_{j,r} = \left[ \Omega_{j,M,r} \left( q_{j,r}^M \right)^{\beta_j} + \Omega_{j,D,r} \left( q_{j,r}^D \right)^{\beta_j} \right]^{1/\beta_j}$$

The elasticity of substitution between the domestic good and composite imports is then equal to  $\sigma_j^D$ , where  $\sigma_j^D = 1/(1-\beta_j)$ . At the same time, from the first order conditions, the demand for import  $M_{j,i,r}$  can then be shown to equal

$$\begin{aligned}
M_{j,i,r} &= \left[ \frac{\alpha_{j,i,r}}{P_{j,i,r}} \right]^{\sigma_i^m} \left[ \sum_{i=1}^R \alpha_{j,i,r}^{\sigma_j^M} P_{j,i,r}^{1-\sigma_j^M} \right]^{-1} E_{j,r}^M \\
(3) \qquad &= \left[ \frac{\alpha_{j,i,r}}{P_{j,i,r}} \right]^{\sigma_j^M} \left( P_{j,r}^M \right)^{\sigma_j^M - 1} E_{j,r}^M
\end{aligned}$$

where  $E_{j,r}^M$  represents expenditures on imports in region  $r$  on the sector  $j$  Armington composite. In practice, the two nests can be collapsed, so that imports compete directly with each other and with the corresponding domestic product. This implies that the substitution elasticities in equations (2) and (3) are equal.

### Imperfect competition

As indicated in Annex Table 1, we model a number of sectors as being imperfectly competitive. The approach we follow has been used in the Michigan and the WTO assessment of the Uruguay Round, and many recent studies of the Doha Round (see Francois *et al.* 2005). Recent model testing work indicates that this approach works "best" vis-à-vis Armington models, when tracked against actual trade patterns (i.e. Fox (1999) for certain sectors, uses the US-Canada FTA as a natural experiment for model testing).

Formally, within a region  $r$ , we assume that demand for differentiated intermediate products belonging to sector  $j$  can be derived from the following CES function, which is now indexed over firms or varieties instead of over regions. We have

$$(4) \qquad q_{j,r} = \left[ \sum_{i=1}^n \gamma_{j,i,r} X_{j,i,r}^{\Gamma_j} \right]^{1/\Gamma_j}$$

where  $\gamma_{j,i,r}$  is the demand share preference parameter,  $X_{j,i,r}$  is demand for variety  $i$  of product  $j$  in region  $r$ , and  $\sigma_j = 1/(1-\Gamma_j)$  is the elasticity of substitution between any two varieties of the good. Note that we can interpret  $q$  as the output of a constant returns assembly process, where the resulting composite product enters consumption and/or production. Equation (4) could therefore be interpreted as representing an assembly function embedded in the production technology of firms that use intermediates in production of final goods, and alternatively as representing a CES aggregator implicit in consumer utility functions. In the literature, and in our model, both cases are specified with the same functional form. While we have technically dropped the Armington assumption by allowing firms to differentiate products, the vector of  $\gamma$  parameters still provides a partial geographic anchor for production. (Francois and Roland-Holst 1997, Francois 1998).

Firms in different regions/countries compete directly on a global level. Firms are assumed to exhibit monopolistically competitive behaviour. This means that individual firms produce unique varieties of good or service  $j$ , and hence are monopolists within their chosen market niche. Given the demand for variety, reflected in equation (4), the demand for each variety is

less than perfectly elastic. However, while firms are thus able to price as monopolists, free entry (at least in the long-run) drives their economic profits to zero, so that pricing is at average cost. The joint assumptions of average cost pricing and monopoly pricing, under Bertrand behaviour, imply the following conditions for each firm  $f_i$  in region  $i$ :

$$(5) \quad \zeta_{j,f_i} = \sum_{r=1}^R \frac{X_{j,f_i,r}}{X_{j,f_i}} \left( \sum_{k=1}^n \left( \frac{\alpha_{j,k,r}}{\alpha_{j,f_i,r}} \right)^{\sigma_j} \left( \frac{P_{j,k,r}}{P_{j,f_i,r}} \right)^{1-\sigma_j} \right)^{-1}$$

$$P_{f_i} = AC_{f_i}$$

(6)

The elasticity of demand for each firm  $f_i$  will be defined by the following conditions.

$$(7) \quad \varepsilon_{j,f_i} = \sigma_j + (1 - \sigma_j) \zeta_{j,f_i}$$

(8)

$$\frac{P_{f_i} MC_{f_i}}{P_{f_i}} = \frac{1}{\varepsilon_{f_i}}$$

In a fully symmetric equilibrium, we would have  $\zeta = n^{-1}$ . However, the calibrated model includes CES weights  $\gamma$ , in each regional CES aggregation function, that will vary for firms from different regions/countries. Under these conditions,  $\zeta$  is a quantity weighted measure of market share. To close the system for regional production, we index total resource costs for sector  $j$  in region  $i$  by the resource index  $Z$ . Full employment of resources hired by firms in the sector  $j$  in region  $i$  then implies the following condition.

$$(9) \quad Z_{j,i} = \sum_{f=1}^{n_i} TC_{j,i,f}$$

Cost functions for individual firms are defined as follows:

$$(10) \quad C(x_{j,i}) = (a_{j,i} + b_{j,i} x_{j,i}) P_{Z_{j,i}}$$

This specification of monopolistic competition is implemented under the "large group" assumption, which means that firms treat the variable  $n$  as "large", so that the perceived elasticity of demand equals the elasticity of substitution. The relevant set of equations then collapses to the following:



$$q_{j,r} = \left[ \sum_{i=1}^R \bar{\gamma}_{j,i,r} \bar{x}_{j,i,r}^{\Gamma_j} \right]^{\frac{1}{\Gamma_j}}$$

(11)

$$\bar{\gamma}_{j,i,r} = \alpha_{j,i,r} n_{j,i} 0^{1-\Gamma_j}$$

$$\bar{x}_{j,i,r} = \left( \frac{n_{j,i}}{n_{j,i} 0} \right)^{(1-\Gamma_j)/\Gamma_j} X_{j,i,r}$$

(12)

$$\bar{x}_{j,i} = \left( \frac{Z_{j,i} 1}{Z_{j,i} 0} \right)^{(1-\rho_j)/\rho_j} X_{j,i}$$

In equation (12),  $n_0$  denotes the number of firms in the benchmark. Through calibration, the initial CES weights in equation (12) include the valuation of variety. As a result, the reduced form exhibits external scale effects, determined by changes in variety based on firm entry and exit, and determined by the substitution and scale elasticities. For sectors covered in this study, the underlying gravity model yields estimate tariff or substitution elasticities. We have used these here, and so then calibrate the implied scale coefficients in equation (12) from the trade substitution elasticities, cf. Table A5.2.

Table A1.2 Key elasticities in the model

Sector description			Trade substitution elasticity	Value added substitution (CES) elasticity
1	ric	Rice	5.87	0.51
2	wht	Wheat	8.90	0.25
3	gro	Cereal grains nec	2.60	0.25
4	v_f	Vegetables, fruit, nuts	3.70	0.25
5	osd	Oil seeds	4.90	0.25
6	oag	Other ag products	6.56	0.25
7	oap	Animal products nec	2.60	0.25
8	opr	Other primary	2.10	0.20
9	cmt	Meat: cattle,sheep,goats,horse	7.04	0.64
10	omt	Poultry and other meat	8.80	1.12
11	vol	Vegetable oils and fats	6.60	1.12
12	mil	Dairy products	7.30	0.72
13	sgr	Sugar	5.40	0.68
14	ofd	Food products nec	4.00	1.12
15	b_t	Beverages and tobacco products	2.30	1.12
16	egy	Energy	10.18	0.74
17	tex	Textiles	7.50	1.26
18	wap	Wearing apparel	7.40	1.26
19	lea	Leather products	8.10	1.26
20	lum	Wood products	6.80	1.26
21	ppp	Paper products, publishing	5.90	1.26
22	crp	Chemical,rubber,plastic prods*	6.60	1.26
23	nmm	Mineral products nec	5.80	1.26
24	i_s	Ferrous metals	5.90	1.26
25	nfm	Metals nec	8.40	1.26
26	fmp	Metal products	7.50	1.26
27	mvh	Motor vehicles and parts	5.60	1.26
28	otn	Transport equipment nec	8.60	1.26
29	ele	Electronic equipment*	8.80	1.26
30	ome	Machinery and equipment nec*	8.10	1.26
31	omf	Manufactures nec*	7.50	1.26
32	cns	Construction	3.80	1.40
33	trd	Trade	3.80	1.68
34	tsp	Transport nec	3.80	1.68
35	cmn	Communications	3.80	1.26
36	ofi	Financial services nec	3.80	1.26
37	isr	Insurance	3.80	1.26
38	itb	ICT and business services	3.80	1.26
39	csv	Recreation, housing, consumer	3.80	1.26

Note: \* Monopolistic competition sectors.

### **The composite household and final demand structure**

Final demand is determined by an upper-tier Cobb-Douglas preference function, which allocates income in fixed shares to current consumption, investment, and government services. This yields a fixed savings rate. Government services are produced by a Leontief technology, with household/government transfers being endogenous. The lower-tier nest for current consumption is also specified as a Cobb-Douglas. The regional capital markets adjust so that changes in savings match changes in regional investment expenditures.<sup>1</sup>

### **Capital accumulation and investment**

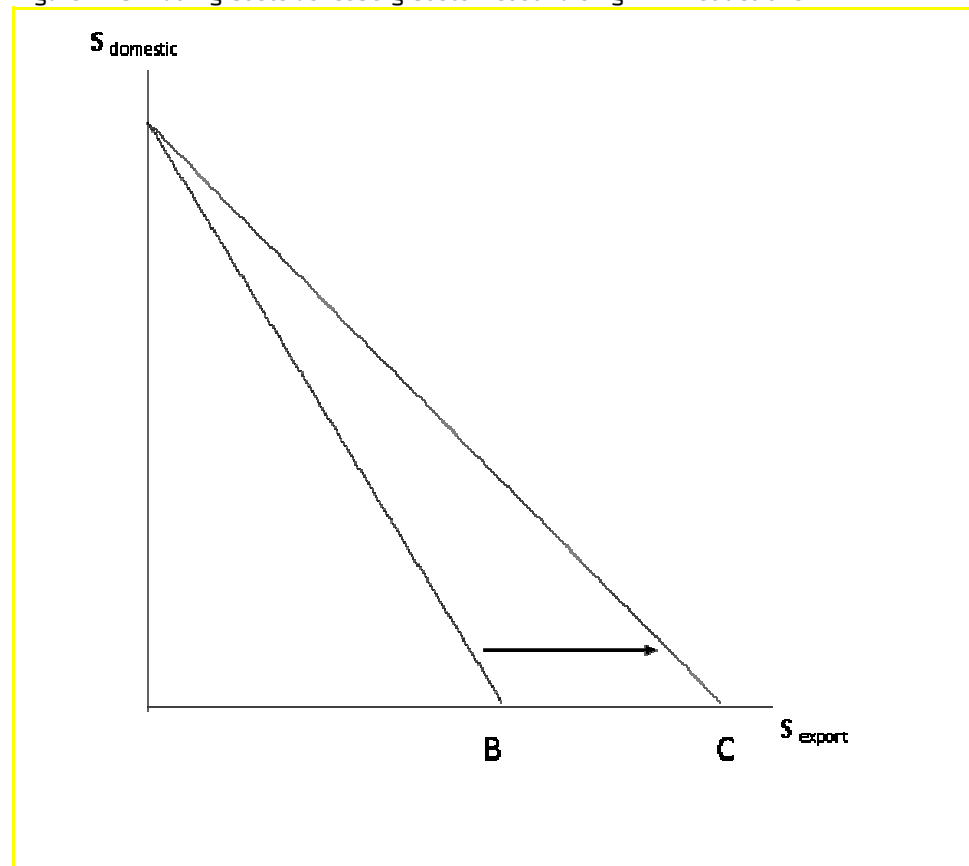
An important feature of the model involves a savings-investment-capital link, whereby the static or direct income effects of trade liberalisation induce shifts in the regional pattern of savings and investment. These effects have been explored extensively in the trade literature, including Baldwin and Francois (1999), Smith (1976, 1977), and Srinivasan and Bhagwati (1980). Several studies of regional and multilateral trade agreements have also incorporated variations on this mechanism. Such effects compound initial output welfare effects over the medium-run, and can magnify income gains or losses. How much these "accumulation effects" will supplement static effects depends on a number of factors, including the marginal product of capital and underlying savings behaviour. In the present application, we work with a classical savings-investment mechanism (Francois *et al.* 1996). This means we model medium- to long-run linkages between changes in income, savings, and investment. The results reported here therefore include changes in the capital stock, and the medium- to long-run implications of such changes.

The resulting estimates can be viewed as including two sets of effects. Our short-run or static estimates, as described in the report, correspond to the impact of a reduction in NTMs as observed in 2018, if the agreement was fully introduced and implemented in 2018. The longer-term (dynamic) estimates provide an overview of the observed impact in 2018, of the agreement had already been in place for several years, such that investment effects are fully realized. Hence, the estimates with capital accumulation provide a sense of the eventual outcome from dynamic gains linked to NTM reduction.

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<sup>1</sup> Note that the Cobb-Douglas demand function is a special case of the CDE demand function employed in the standard GTAP model code. It is implemented through GEMPACK parameter files.

Figure A1.3 Trading Costs as Iceberg Costs – cost-raising NTM reductions



Source: Francois.

## APPENDIX 2 DETAILED RESULTS TABLES FROM CGE-MODEL

In this appendix we provide a number of detailed result tables from the CGE-model simulations as described in the main report.

Here we present the sector results for detailed manufacturing and service sectors with respect to exports, imports and value added.

The results for the main scenario are reported. This includes the combined effect of:

- tariff reductions
- TRQs liberalisation
- NTB reductions for manufactured goods
- trade facilitation
- service trade liberalisation

First we present the sector results for the EU and then the sector results for Mercosur. Since EU imports from Mercosur are the mirror image of Mercosur's exports to the EU we only report these results once.

## 1.1. IMPACT FOR THE EU27

Table A2.1 EU Exports to MERCOSUR (main scenario)

Sector	Experiment A Change from baseline 1	Experiment B Change from baseline 1	Experiment C Change from baseline 2	Experiment D Change from baseline 2
<b>Change in EU Exports to MERCOSUR (fixed prices, 2007 billion USD)</b>				
Energy	-0,1	-0,1	0,0	0,0
Textiles	0,6	0,7	0,5	0,5
Wearing apparel	0,3	0,3	0,2	0,2
Leather products	0,1	0,2	0,1	0,1
Wood products	0,5	0,5	0,4	0,4
Paper products, publishing	1,1	1,3	1,1	1,1
Chemical, rubber, plastic prods	7,4	9,0	7,3	7,3
Mineral products nec	0,3	0,4	0,3	0,3
Ferrous metals	0,7	0,8	0,6	0,6
Metals nec	0,6	0,7	0,6	0,6
Metal products	2,0	2,2	1,6	1,6
Motor vehicles and parts	3,8	5,0	3,1	3,1
Transport equipment nec	0,1	0,4	0,2	0,2
Electronic equipment	1,0	1,3	0,8	0,8
Machinery and equipment nec	13,8	15,8	11,6	11,6
Manufactures nec	0,5	0,5	0,4	0,4
Construction	0,0	0,0	0,0	0,0
Trade	0,3	0,3	0,1	0,1
Transport	0,9	0,9	0,5	0,5
Communications	0,1	0,1	0,0	0,0
Financial services	0,2	0,2	0,1	0,1
Insurance	0,2	0,1	0,1	0,1
ICT and business services	1,5	1,4	0,7	0,7
Recreation, housing, consumer	0,2	0,2	0,1	0,1
Public and related services	0,1	0,1	0,1	0,1

Source: Copenhagen Economics based on CGE model simulations.

Table A2.2 EU Exports to MERCOSUR (main scenario) – Pct. Change

Sector	Experiment A Change from baseline 1	Experiment B Change from baseline 1	Experiment C Change from baseline 2	Experiment D Change from baseline 2
<b>Change in EU Exports to MERCOSUR (percentage change)</b>				
Energy	-8%	-9%	-6%	-7%
Textiles	177%	207%	125%	150%
Wearing apparel	261%	299%	132%	158%
Leather products	176%	215%	127%	160%
Wood products	196%	218%	138%	157%
Paper products, publishing	129%	142%	112%	125%
Chemical, rubber, plastic prods	83%	101%	77%	90%
Mineral products nec	75%	89%	68%	81%
Ferrous metals	82%	94%	72%	84%
Metals nec	86%	108%	83%	106%
Metal products	174%	196%	110%	128%
Motor vehicles and parts	99%	131%	63%	87%
Transport equipment nec	6%	17%	7%	19%
Electronic equipment	85%	117%	69%	15%
Machinery and equipment nec	125%	143%	97%	115%
Manufactures nec	216%	248%	132%	158%
Construction	96%	94%	38%	37%
Trade	62%	60%	24%	23%
Transport	52%	51%	20%	20%
Communications	46%	45%	18%	18%
Financial services	52%	50%	20%	19%
Insurance	54%	52%	21%	20%
ICT and business services	50%	48%	19%	18%
Recreation, housing, consumer	54%	52%	21%	20%
Public and related services	59%	57%	22%	22%

Source: Copenhagen Economics based on CGE model simulations.

Table A2.3 EU27 Value Added Change (main scenario) - Pct. Change

Sector	Baseline share of total VA	Experiment A Change from baseline 1	Experiment B Change from baseline 1	Experiment C Change from baseline 2	Experiment D Change from baseline 2
<b>Gross Domestic Product -- percentage change (fixed prices)</b>					
Energy	1,6%	-0,1%	-0,1%	0,0%	0,0%
Textiles	0,5%	0,1%	0,1%	0,0%	0,0%
Wearing apparel	0,4%	-0,1%	-0,1%	-0,1%	-0,1%
Leather products	0,2%	-0,6%	-0,9%	-0,6%	-0,8%
Wood products	0,6%	-0,3%	-0,4%	-0,2%	-0,4%
Paper products, publishing	1,8%	0,1%	0,1%	0,1%	0,1%
Chemical, rubber, plastic prods	3,2%	0,3%	0,7%	0,6%	0,7%
Mineral products nec	1,0%	0,1%	0,1%	0,1%	0,1%
Ferrous metals	0,7%	0,1%	0,1%	0,1%	0,1%
Metals nec	0,4%	-0,2%	-0,3%	-0,2%	-0,3%
Metal products	1,9%	0,3%	0,3%	0,2%	0,3%
Motor vehicles and parts	1,6%	0,2%	0,3%	0,2%	0,3%
Transport equipment nec	0,6%	-0,5%	-0,6%	-0,4%	-0,5%
Electronic equipment	0,8%	-0,2%	-1,0%	-1,0%	-1,9%
Machinery and equipment nec	4,4%	0,7%	0,7%	0,5%	0,6%
Manufactures nec	0,8%	0,0%	0,0%	-0,1%	0,0%
Construction	7,8%	0,2%	0,2%	0,2%	0,2%
Trade	7,3%	0,1%	0,1%	0,1%	0,1%
Transport	4,2%	0,1%	0,1%	0,1%	0,1%
Communications	2,4%	0,1%	0,1%	0,1%	0,1%
Financial services	3,2%	0,1%	0,1%	0,0%	0,0%
Insurance	0,9%	0,1%	0,1%	0,0%	0,0%
ICT and business services	23,1%	0,1%	0,2%	0,1%	0,1%
Recreation, housing, consumer	3,4%	0,1%	0,1%	0,1%	0,1%
Public and related services	21,2%	0,1%	0,1%	0,0%	0,1%

Source: Copenhagen Economics based on CGE model simulations.



## 1.2. IMPACT FOR MERCOSUR

Table A2.4 MERCOSUR exports to EU (main scenario)

Sector	Experiment A Change from baseline 1	Experiment B Change from baseline 1	Experiment C Change from baseline 2	Experiment D Change from baseline 2
<b>Change in EU Imports from MERCOSUR (fixed prices, 2007 billion USD)</b>				
Energy	0,1	0,1	0,1	0,1
Textiles	0,1	0,2	0,1	0,1
Wearing apparel	0,1	0,1	0,1	0,1
Leather products	0,6	1,0	0,7	0,7
Wood products	0,8	1,1	0,7	0,7
Paper products, publishing	0,4	0,6	0,4	0,4
Chemical, rubber, plastic prods	1,0	1,3	0,9	0,9
Mineral products nec	0,1	0,1	0,1	0,1
Ferrous metals	0,3	0,6	0,3	0,3
Metals nec	0,6	0,9	0,8	0,8
Metal products	0,1	0,2	0,1	0,1
Motor vehicles and parts	0,9	1,3	0,8	0,8
Transport equipment nec	0,4	0,6	0,4	0,4
Electronic equipment	0,1	0,2	0,1	0,1
Machinery and equipment nec	0,5	0,8	0,5	0,5
Manufactures nec	0,0	0,1	0,0	0,0
Construction	0,0	0,0	0,0	0,0
Trade	0,1	0,1	0,0	0,0
Transport	0,2	0,2	0,1	0,1
Communications	0,0	0,0	0,0	0,0
Financial services	0,0	0,0	0,0	0,0
Insurance	0,0	0,0	0,0	0,0
ICT and business services	0,3	0,3	0,2	0,2
Recreation, housing, consumer	0,0	0,0	0,0	0,0
Public and related services	0,0	0,0	0,0	0,0

Source: Copenhagen Economics based on CGE model simulations.

Table A2.5 MERCOSUR exports to EU (main scenario) – Pct. Change

Sector	Experiment A Change from baseline 1	Experiment B Change from baseline 1	Experiment C Change from baseline 2	Experiment D Change from baseline 2
<b>Change in EU Imports from MERCOSUR (percentage change)</b>				
Energy	14%	16%	11%	12%
Textiles	40%	61%	36%	57%
Wearing apparel	46%	68%	43%	64%
Leather products	34%	55%	36%	56%
Wood products	49%	67%	40%	56%
Paper products, publishing	30%	44%	27%	40%
Chemical, rubber, plastic prods	42%	53%	37%	51%
Mineral products nec	18%	31%	18%	30%
Ferrous metals	18%	32%	16%	28%
Metals nec	34%	57%	43%	66%
Metal products	28%	48%	23%	41%
Motor vehicles and parts	38%	52%	32%	45%
Transport equipment nec	40%	66%	36%	59%
Electronic equipment	34%	70%	35%	63%
Machinery and equipment nec	22%	38%	21%	35%
Manufactures nec	22%	41%	18%	36%
Construction	9%	10%	7%	8%
Trade	8%	9%	7%	7%
Transport	8%	9%	6%	7%
Communications	9%	10%	7%	8%
Financial services	9%	10%	7%	7%
Insurance	8%	10%	7%	7%
ICT and business services	8%	10%	7%	7%
Recreation, housing, consumer	8%	10%	7%	7%
Public and related services	9%	10%	7%	7%

Source: Copenhagen Economics based on CGE model simulations.

Table A2.6 Mercosur Value Added Change (main scenario) - Pct. Change

Sector	Baseline share of total VA	Experiment A Change from baseline 1	Experiment B Change from baseline 1	Experiment C Change from baseline 2	Experiment D Change from baseline 2
<b>Gross Domestic Product -- percentage change (fixed prices)</b>					
Energy	3,1%	3,0%	3,4%	2,4%	2,7%
Textiles	0,5%	0,2%	0,3%	0,9%	1,1%
Wearing apparel	0,5%	-0,3%	-0,3%	0,0%	0,0%
Leather products	0,3%	9,3%	12,7%	9,0%	12,5%
Wood products	0,5%	4,0%	5,6%	3,3%	4,6%
Paper products, publishing	1,2%	-1,0%	-0,8%	-1,1%	-1,0%
Chemical, rubber, plastic prods	3,1%	-1,3%	-2,3%	-2,1%	-2,5%
Mineral products nec	0,8%	-0,3%	-0,3%	-0,4%	-0,4%
Ferrous metals	0,6%	-1,5%	-1,3%	-1,1%	-1,2%
Metals nec	0,2%	4,1%	5,9%	5,1%	6,9%
Metal products	1,0%	-5,4%	-6,1%	-4,1%	-5,0%
Motor vehicles and parts	0,9%	-2,3%	-3,4%	-1,4%	-2,4%
Transport equipment nec	0,7%	4,3%	4,5%	3,9%	3,8%
Electronic equipment	0,7%	3,2%	4,7%	3,9%	6,4%
Machinery and equipment nec	2,1%	-13,1%	-15,1%	-10,7%	-13,3%
Manufactures nec	0,9%	-0,5%	-0,5%	-0,2%	-0,3%
Construction	7,9%	0,3%	0,3%	0,2%	0,2%
Trade	10,0%	0,0%	-0,1%	-0,1%	0,0%
Transport	3,1%	-0,6%	-0,5%	-0,1%	0,0%
Communications	1,8%	-0,3%	-0,3%	-0,2%	-0,1%
Financial services	4,6%	-0,2%	-0,3%	-0,1%	-0,1%
Insurance	3,4%	-0,2%	-0,2%	-0,1%	-0,1%
ICT and business services	12,1%	-0,4%	-0,4%	-0,1%	-0,1%
Recreation, housing, consumer	11,5%	0,0%	0,0%	-0,1%	0,0%
Public and related services	18,1%	0,1%	0,1%	0,0%	0,0%

Source: Copenhagen Economics based on CGE model simulations.