

**TRADE SIA OF THE ASSOCIATION AGREEMENT UNDER
NEGOTIATION BETWEEN THE EUROPEAN COMMUNITY AND
MERCOSUR**

**UPDATE ON THE OVERALL PRELIMINARY TRADE
SIA EU-MERCOSUR**

MID TERM REPORT

- CONSULTATION DRAFT -

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ABBREVIATIONS

AMS	Aggregate Measure of Support
CAP	Common Agricultural Policy
CGE	Computable General Equilibrium
CCA	Causal chain analysis
CIFOR	Center for International Forestry Research
CGE	Computable General Equilibrium
CoC	Chain of Custody
CSR	Corporate Social Responsibility
CTA	Technical Centre for Agricultural and Rural Cooperation ACP-EU
DDA	Doha Development Agenda
DFID	UK Department for International Development
DG	Directorate General
EBA	Everything But Arms
EC	European Commission
EFTA	European Free Trade Area
EU	European Union
ERRT	European Retail Round Table
FAO	Food and Agricultural Organization of the United Nations
FDA	Food and Drugs Administration
FDI	Foreign Direct Investment
FERN	Forests and the European Union Resource Network
FLEGT	Forest law Enforcement, Governance and Trade
FOB	Free On Board
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GNP	Gross National Product
GFT	Government Financial Transfers
GFW	Global Forest Watch
GTAP	Global Trade and Protection
HPDC	Highly Protected Developing Country
HACCP	Hazard Analysis Critical Control Point
IDPM	Institute for Development Policy and Management
IARC	Impact Assessment Research Centre
IEEP	Institute for European Environmental Policy
IISD	International Institute for Sustainable Development
ICTSD	International Centre for Trade and Sustainable Development
IFF	Intergovernmental Forum on Forests
IFPRI	International Food Policy Research Institute
IPF	Intergovernmental Panel on Forests

ITC	International Trade Commission
ITTA	International Tropical Timber Agreement
ITTO	International Tropical Timber Organisation
IMF	International Monetary Fund
LDC	Least Developed Country
LIDC	Low Income Developing Country
M and E	Mitigation and Enhancement
MFN	Most-favoured-nation
MOU	Memorandum of Understanding
MEAs	Multilateral Environmental Agreements
MEDC	Major Exporting Developing Country
MENA	Middle East and North Africa
MFA	Multifibre Arrangement
MFN	Most-favoured-nation
MOU	Memorandum of Understanding
NAFTA	North American Free Trade Agreement
NAMA	Non-agricultural Market Access
NGOs	Non-governmental Organizations
NSDS	National Sustainable Development Strategies
NTB	Non-Tariff Barriers
NTM	Non-Tariff Measure
ODC	Other Developed Country
ODI	Overseas Development Institute
OECD	Organization for Economic Co-operation and Development
PPP	Public Private Partnerships
RA	Representative Agent
ROO	Rules of Origin
SADC	Southern African Development Community
SCM	Subsidies and Countervailing Measures
S & D	Special and Differential
SD	Sustainable Development
SIA	Sustainability Impact Analysis
SME	Small and Medium-sized Enterprises
SPS	Sanitary and Phytosanitary Measures
SSA	Sub-Saharan Africa
TBT	Technical Barriers to Trade
TD/BU	Top Down/Bottom Up
TOR	Terms of Reference
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UN	United Nations
UNCED	United Nations Conference on Environment and Development

UNCTAD	United Nations Conference on Trade and Development
UNDESA	UN Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
US	United States of America
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
WHO	World Health Organization
WTO	World Trade Organization
WWF	World Wide Fund for Nature

EXECUTIVE SUMMARY

Introduction

This mid term report presents the findings of an overall sustainability impact assessment (SIA) of the Association Agreement under negotiation between the European Union and Mercosur. The report updates the results of a preliminary overview SIA of the proposed EU – Mercosur trade agreement that was completed in 2003.

The European Commission has been engaged in conducting SIAs as part of its trade policy process since 1999, and SIA studies have been carried out for all EU multilateral, regional and bilateral trade negotiations. The current EU – Mercosur Association Agreement SIA is being undertaken in two phases. The first phase, which will be completed in March 2007, comprises of four related studies:

- Updated Overall Preliminary SIA of the EU- Mercosur Association Agreement Negotiations
- Agriculture Sector SIA of the EU-Mercosur Association Agreement Negotiations
- Forests Sector SIA of the EU-Mercosur Association Agreement Negotiations
- Automobiles Sector SIA of the EU-Mercosur Association Agreement Negotiations.

The SIA is intended to assess the significance of the potential social, environmental and economic impacts of a trade agreement, in both partners. The purpose of the SIA is to support better policy making, by providing decision makers with an evidence-based assessment of the potential positive and negative consequences of their policy choices. To achieve this, the analysis strives to be credible, evidence-based, and transparent. The SIA also aims to provide the results of the assessment to decision makers at an early stage in the policy cycle, so they can inform the decision-making process.

The main components of the SIA methodology are:

- Screening and scoping
- Scenarios
- Assessment of impacts
- Evaluation of alternative preventative, mitigation and enhancement measures
- Consultation and stakeholder engagement

The Inception Report (IARC, 2006) presented the results of the screening and scoping stage. Following a period of public consultation with stakeholders and other interested parties, the scenarios and methodology for assessment of impacts were confirmed. The current report provides the results of the assessment, for consultation and discussion with stakeholders. The final report will update the findings of the assessment and will evaluate alternative preventative, mitigation and enhancement measures.

CGE Modelling Results

The SIA has been informed by the results of a computable general equilibrium (CGE) model, which is used to quantify the impact of trade liberalisation in the Mercosur countries (Argentina, Brazil, Paraguay and Uruguay) and the European Union (EU10 and EU15). The model assumes a full liberalisation scenario and a reduction in trade facilitation costs amounting to 1% of the value of trade. All tariff and non-tariff trade measures on EU – Mercosur trade in goods and services are assumed to be removed.

The key economic indicator, real income, combines the effect of changes in incomes and changes in consumer price levels and calculates the net economic effect for a representative consumer in each economy. The results in the free trade scenario are then compared to the constructed baseline.

The trade liberalisation scenario has positive real income effects for all countries in Mercosur, and a positive real income effect for the European Union as a whole (EU25). Since the Mercosur countries have higher initial barriers to trade, these countries are expected to experience larger gains from trade

liberalisation, mainly because of the increase in purchasing power for domestic consumers when the high tariffs on European goods are dropped. This is confirmed by the model simulations. In absolute terms, a potential full FTA is expected to lead to a real income gain of 2 percent GDP for the Mercosur countries, varying between countries. For the EU25, the corresponding figure is 0.1 percent GDP.

Real income basically increases through two channels. One is through the generation of higher incomes when export-oriented sectors expand their activity, as does for example the Brazilian processed food sector. The other effect is through the reduction of consumer prices for imported goods when tariffs are removed. Both these effects need to be considered when evaluating the economic impact of a free trade agreement on final consumers.

Tariff reductions are the most important factor for the gains from trade liberalization in the Mercosur countries. This measure accounts for a little over 60 percent of the real income effect. The second most important factor for the Mercosur countries is trade facilitation, which would account for approximately 30 percent of the gains for the effects assumed in the model. For the EU trade facilitation would be the single most important trade liberalization measure. This would account for approximately half the increase in real income for EU25. Tariff reductions are attributable for 35 percent, while the corresponding figure for service liberalization is 15 percent.

Estimates of the changes in output in each country measure provide an aggregated indicator for the goods producing sectors that reflects the changes in physical output due to free trade. The increases in economy-wide output range from 0.3% in Argentina to 2.5% in Paraguay. For the European Union the effect on total output is smaller (0.1%).

Disaggregating the output figures shows that the effect of a potential FTA leads to significant sectoral variations. changes in production across sectors. Overall, a pattern emerges where, for Mercosur, there is a large increase in the production of agricultural goods, while the manufacturing sectors, in general, contract. The opposite is true for European production, i.e. production of agricultural goods is expected to decrease, while the manufacturing sector in general will expand. Production of grains, other crops, animal products and processed foods is expected to increase across all Mercosur countries. Meanwhile, the manufacturing of metals, motor vehicles, transport equipment and machinery are all shown to contract.

For Argentina, full trade liberalization is expected to lead to an increase in overall production amounting to 0.3 percent (including the impact of trade facilitation). Comparing the changes in output to their relative share of total production gives a better picture of each sector's effect on the overall economy. For Argentina, output in the sector 'other services', is attributable to 38 percent of total value added, thus the 0.2 percent increase in this is expected to have a significant effect on the overall economy. Meanwhile, the 15 percent decrease in machinery sector, although dramatic on a sector specific level, does not translate to a large effect on the overall Argentinean economy, since this sector only accounts for 1.7 percent of total production.

The Brazilian economy is shown to expand overall output by 0.8 percent, with the biggest relative increase is shown to occur in the processed food sector, which is expected to expand by close to 50 percent. Given that 3.5 percent of total production is attributable to this sector, this large increase will have a significant effect on the overall output increase in the economy. The same is true for animal products, which is accountable for 1.8 percent of total value added, and is expected to increase by 32 percent, which implies an overall effect of 0.6 percent. Motor vehicles are shown to be the sector expected have the biggest contraction, here production will decrease by close to 30 percent. The production of machinery is expected to decrease by a quarter of its output.

In Paraguay, the largest absolute increase is shown to occur in the processed foods sector, where output is expected to increase by almost 75 percent. Since this sector is accountable for close to 5 percent of overall production, this leads to a significant increase of total value added. Animal products

is the sector with the second biggest expected expansion. On the contracting side, the motor vehicles, transport equipment and machinery sectors are all expected to experience a fall in production. The utilities sector, which is expected to decrease by 7.8 percent, is the single most important contracting sector, since it is accountable for close to 20 percent of total production.

In Uruguay, the expected 17 percent increase in production in this sector is accountable for a 1.3 percent increase in overall production. The expected decrease in production in the textiles and clothing sector, which accounts for a decline of 0.3 percent of total value added.

In the EU15, production of manufacturing goods is expected to increase, while the agricultural sectors in general and processed foods in particular are expected to contract. The service sectors are largely unaffected. For EU10, the effects are very similar with an expected decrease in the agricultural sectors, most notably for processed food. The manufacturing sectors are also expected to increase, with significant effects in the sectors metals and machinery.

The full trade liberalization scenario does not alter the overall level will have both positive and negative impacts on the long term pattern of sectoral employment, corresponding to the changes in output in both Mercosur and EU (the overall level of employment remains constant by assumption in the model).

For energy consumption, the model predicts an overall shift in production away from high energy intensity sectors to lower intensity ones, so that while overall production rises, there is a small decline in overall energy consumption in the EU and Mercosur combined. This includes an increase in energy for transport, which is modelled in the transport services sector. The overall decline of energy use in EU-Mercosur results from production in higher energy intensity sectors moving to other countries. The changes in demand for energy lead to corresponding changes in CO₂ emissions.

SIA Findings

The SIA methodology summarises the potential sustainability impacts in terms of a standard set of core indicators covering the economic, social and environmental dimensions of sustainable development. In addition, the potential impact on the process dimension of sustainable development is assessed, using two process indicators.

The core indicators are:

Economic:

- Real income
- Fixed capital formation
- Employment

Social

- Poverty
- Health and education
- Equity

Environmental

- Biodiversity
- Environmental quality
- Natural resource stocks

The process indicators are:

- Consistency with sustainable development principles
- Institutional capacity for effective development strategies

These SIA indicators are used to present the results of the assessment of the full trade liberalisation scenario for the industrial, agriculture and services sectors in Mercosur and EU.

Economic impacts

The removal of all trade restrictions would have a significant impact in terms of changes in output and real income in the industrial sub-sectors. Those sectors that have been heavily protected are likely to experience a decline in output in the long run. Textiles and clothing, wood, pulp and paper, chemicals, metals, motor vehicles, transport equipment (except for Argentina), and machinery are all predicted to decline in the long run, as a result of full trade liberalisation.

The immediate impact on investment is expected to be negative, as imports replace domestic production and uncompetitive firms retrench or close. Over time, the exposure to competition is expected to induce efficiency and productivity gains, and the opportunities for new investment and prospects of higher rates of return can be expected to attract foreign and domestic investment, depending on the other factors which affect the investment climate.

The Mercosur – EU model follows the standard computable general equilibrium modelling approach and assumes that total employment is fixed at the national or regional level. However, there are likely to be significant transitional and persistent unemployment effects due to labour market constraints and associated adjustment costs that are not evaluated within the CGE modelling framework. The overall impact on employment in the manufacturing sector is negative for each of the Mercosur countries, reflecting the predicted structural shift from industrial to agricultural based production which occurs following full trade liberalisation. Given the rigidities in the labour market and the high level of official unemployment in the urban sector in Mercosur countries, the employment effects of trade liberalisation in the manufacturing sector are expected to be significant.

Social impacts

Allowing for the significant decline in manufacturing employment and the likelihood that many of the displaced workers will join the pool of urban unemployed, any gain in wages by those remaining in employment will be offset by the fall in income for the now-unemployed. Poverty is not confined to the rural areas, with many urban households on or below nationally recognized poverty levels. The impact of trade liberalization in the manufacturing sector on poverty is expected, therefore, to be adverse.

The direct fiscal impact of the removal of tariff barriers to imports of industrial goods will be to reduce government revenue. If this is not mitigated by levying the same amount of income by other means, a reduction in social expenditure can be expected. Depending on the types of alternative taxes that are chosen, further social impacts will occur, if the incidence of their effects differ from those of the import tax which they replace. The impact of trade liberalisation on health and education in the industrial sector might be expected, therefore, to be negative, at least in the short term.

The differential between skilled and unskilled labour wages is predicted in the CGE model to decline, which would have the effect of lowering income inequality within the formal sector. This is likely to be offset, however, by the increase in unemployment which will worsen income distribution and equity. There are unlikely to be significant gender equity impacts at the industrial sector level, although there may be differential impacts at the sub-sector level, where female employment may be concentrated.

Environmental impacts

In Mercosur countries the impacts on biodiversity for the manufacturing sector are expected to be small. Production levels rise for processed food, particularly in Paraguay and Brazil, and decline in most other manufacturing sectors. The principal biodiversity effects will occur through any consequent changes in pollution (primarily of water) and water consumption, which may have knock-on effects through pollution of aquifers or a fall in groundwater levels. Water resources are relatively abundant in the Mercosur countries, and impacts from consumption changes are unlikely to be significant. The effect on water pollution may be significant in local species-rich areas if existing

pollution levels are high, and regulation is weak. The overall effect of the production changes is expected to be beneficial but small, with a possibility of localised effects that are adverse, but also small.

Impacts will occur for both air pollution and water pollution as a result of the production changes. In Mercosur countries these will be beneficial overall as a result of the overall fall in manufacturing production, but with the possibility of localised adverse effects from the increase in production of processed foods. These could be significant if regulatory regimes are weak or are unable to respond. The potential for adverse effects is particularly high in Paraguay and to a lesser extent Brazil. Any reduction in intra-Mercosur shipments of industrial goods will contribute to the overall improvement in environmental quality.

Little effect on greenhouse gas emissions and climate change is expected from the production changes, as these consist primarily of movements of production between the EU and Mercosur and also other countries. A small adverse effect is expected from the increase in international transport.

The overall effect on water resources in Mercosur countries will be beneficial, because of the overall decline in industrial production. Water resource pressures tend to be low in the region, and so any localised adverse effects are not expected to be significant. Similar effects are expected for industrial energy consumption. As assessed in the economic model, energy consumption is expected to fall slightly overall. A larger decline in the industrial sector will be countered by an increase for other sectors.

Consistency with sustainable development principles

The scenario is consistent with sustainable development principles, and makes a positive contribution in some cases. The scenario is judged to be highly consistent with the principle of promoting a supportive and open international economic system. In relation to consumption and production patterns, the scenario is expected to accelerate the underlying processes which drive increasing consumption and associated wastes. These processes are broadly associated with economic growth, which itself has social benefits, and which the negotiations aim to enhance. Stronger environmental regulation is needed in some areas, to achieve a sustainable balance between economic growth and environmental degradation. The EU-Mercosur trade liberalisation scenario adds incrementally to this general need.

Institutional capacity for effective sustainable development strategies

The effects identified are all relatively neutral in that they neither add to nor detract from Mercosur countries' capacity to implement effective sustainable development strategies. However, a failure to take full account of these issues may be regarded as a significant adverse impact on their capacity to plan strategically for sustainable development, and may limit their policy space for doing so. This is of particular concern in relation to the adverse effects on high added-value industrial production in Mercosur countries.

SIA Impacts in Agriculture Sector in Mercosur

Economic impacts

The removal of all trade restrictions will have a significant impact in terms of changes in output and real income in the agriculture sector. sub-sectors. Production of grains, other crops, animal products and processed foods are expected to increase across all Mercosur countries (with the exception of other crops in Paraguay). The expected changes in exports are largely in line with the prediction with regards to changes in production, although the overall increase in agricultural production is mainly reflected in an increase in processed foods exports. The primary agricultural sectors outputs are used as intermediate inputs in the processed foods sector, which is confirmed by the significant increase in exports.

The immediate impact on investment is expected to be insignificant, allowing for the lag in investment response to changing market opportunities. However, as production and export increase, investment will be stimulated in those sectors where production rises. The exposure to competition will induce efficiency and productivity gains, reflected in improved rates of return on investment. The opportunities for new investment and prospects of higher rates of return can be expected to attract foreign and domestic investment, depending on the other factors which affect the investment climate.

The agriculture output changes induced by trade liberalisation will result in sectoral changes in employment, as sectors achieve a new equilibrium output level. The overall impact on employment in the agriculture sector is positive for each of the Mercosur countries, reflecting the structural shift from industrial to agricultural based production which occurs following full trade liberalisation.

Social impacts

The growth in employment opportunities in the food processing sector may allow some households to graduate out of poverty, but overall, the impact on poverty in the rural sector is unlikely to be significant.

The direct fiscal impact of the removal of tariff barriers to imports will be to reduce government revenue. If this is not mitigated by levying the same amount of income by other means, a reduction in social expenditure can be expected. Depending on the types of alternative taxes that are chosen, further social impacts will occur, if the incidence of their effects differ from those of the import tax which they replace. The impact of trade liberalisation on health and education in the agriculture sector might be expected, therefore, to be negative, at least in the short term.

The differential between skilled and unskilled labour wages is predicted in the CGE model to decline, which would have the effect of lowering income inequality within the formal sector. Given the relatively low level of formal sector employment in the rural area, the impact on agricultural sector equity will be negligible. The improvement in opportunities for former sector employment in agriculture and food processing are likely to have a positive impact in reducing gender inequality.

Environmental impacts

Mercosur agriculture is expected to expand as a result of liberalisation, with consequent pressure for land conversion. The biggest effects will occur in Brazil and Paraguay, mainly for animal products. Grain production will also increase across all four countries. Without strong protection measures, a significant adverse impact on biodiversity may occur in all the Mercosur countries, particularly Brazil and Paraguay.

Biodiversity pressures may be exacerbated by increased demand in Europe for Mercosur ethanol, particularly from Brazil. Ethanol from sugarcane already has economic advantages over that from European crops, which will increase if carbon-trading or other regulatory measures take greater advantage of the higher energy balance of sugar-based ethanol.

The economic incentives for increased agricultural production in Mercosur are expected to create pressure for greater intensification and greater use of fertilisers, pesticides and herbicides. This will strengthen the need for effective regulation to avoid adverse impacts on water pollution and soil quality. An increase in food processing is also predicted, particularly for Paraguay. Effective regulation will therefore also be needed in this area, to avoid adverse impacts on water pollution. A beneficial impact on climate change is expected from greater use of Mercosur ethanol from sugar cane as opposed to fuel from EU crops.

Increased agricultural production will create additional demand for water, but water scarcity is not high in the region, and the impact is not expected to be significant. Greater pressures on resource stocks are expected from the incentives for land conversion and consequent depletion of forests.

Consistency with sustainable development principles

All the effects identified are relatively neutral except for the principle of reducing and eliminating unsustainable patterns of production and consumption. The scenario is otherwise consistent with sustainable development principles, and makes a positive contribution in some areas.

Institutional capacity to implement effective sustainable development strategies

The effects identified are all relatively neutral in that they neither add to nor detract from Mercosur countries' capacity to implement effective sustainable development strategies. However, a failure to take full account of these issues may be regarded as a significant adverse impact on their capacity to plan strategically for sustainable development, and may limit their policy space for doing so.

SIA Impacts for Services Sector in Mercosur

Economic impacts

The nature of liberalisation in services is fundamentally different to liberalisation in goods. In the latter case, the discussion centres on changes in the level of effective trade barriers expressed in quantitative terms. In the case of services, liberalisation is mainly about measures, such as regulation changes, which are more difficult to quantify. Second, most services are consumed at the point of production, which means that trade in services is closely linked to movement of capital and labour. Trade liberalisation in services often therefore raises issues of national economic and social policy and concerns about policy autonomy.

The EU Mercosur modelling predicts that under the full liberalisation scenario, the services sector will account for about 8% of the real income gains in Mercosur. This modest gain is distributed across the main sub sectors, with negative impacts predicted for financial services and business services in all Mercosur countries. The retail and wholesale services sector is also shown to be adversely affected by trade liberalisation in Argentina and Paraguay.

The exposure of Mercosur's services industries to foreign entry and competition can be expected to encourage investment in establishing a commercial presence on the part of foreign firms, particularly from EU companies. Domestic investment in services provision may also increase over time, as local firms establish an export capacity in services sector activities. In the environmental services sector, for example, there is an upward trend in participation by companies from Latin America, as they have acquired technological and services capacities through their experience of participating in joint ventures. In some cases, including Brazil, the export capacity is based mainly on indigenous knowledge and experience.

Given the labour intensive nature of services provision, the percentage changes in employment are proportionately larger than the output changes. Significant declines in employment are predicted in financial and business services in all Mercosur countries, and in communications in Brazil.

Social impacts

The increase in investment in infrastructure services provision, such as water and sanitation, and electricity has the potential for improving the access of the poor to essential services. This will require an effective regulatory institutional structure which can ensure that the services provided to the poor are affordable and accessible. In the short term, the liberalisation of distributional services may have adverse effects if not appropriately mitigated, through the loss of incomes earned in small scale retailing.

Provided that the new investment in infrastructure results in improved quality, affordability and accessibility for the poor to water and sanitation services in particular, then some improvement in health can be expected from services sector liberalisation.

There are unlikely to be any significant impacts on equity from trade liberalisation in services sector.

Environmental impacts

No significant impacts on biodiversity have been identified. Services liberalisation is expected to help increase the use of environmentally efficient management techniques and technologies, and add to the pressures on government to improve environmental regulation and enforcement. This will provide a small addition to the promotion of such techniques by international agencies.

Greater use of environmentally efficient management techniques and technologies will tend to reduce pressures on consumption of water and other resources. The impact is not expected to be significant in relation to other effects in this area.

Consistency with sustainable development principles

The effects will be similar to those identified for industrial products. All are beneficial or neutral, except for the principle of reducing and eliminating unsustainable patterns of production and consumption.

Institutional capacity for effective sustainable development strategies

The effects on sustainable development strategies are all relatively neutral in that they neither add to nor detract from Mercosur countries' capacity to implement effective sustainable development strategies.

SIA Impacts in EU

Economic impacts

The 2003 Overall Preliminary SIA for EU-Mercosur found that for the EU the main impacts were likely to be social, associated with potentially adverse economic effects for particular economic sectors in specific regions of some Member States. Pockets of unemployment and social exclusion exist in old urban areas or remote rural areas. In Belgium, Germany and the UK, high unemployment tends to be associated with declining industrial regions, particularly in former East Germany. In Greece, Spain, France and Italy, the high unemployment regions are mainly agricultural. In both cases, and similarly in the new Member States, greater access for Mercosur products could in principle exacerbate existing problems. The overall economic impacts within the EU were not significant. Similarly, environmental regulations and controls with the EU ensured that the environmental effects of liberalising trade with Mercosur were also insignificant.

These earlier findings are confirmed in the current sustainability assessment findings. The economic welfare impact in EU15 and EU 10 is 0.1 percent of GDP. The changes in output also indicate that the economic effects for the European Union as a whole are insignificant, with the exception of grains, animal products and processed foods. These impacts are examined at the disaggregated product level in the Mid Term Report for Agriculture.

Employment effects in the EU follow the changes in output. Employment falls across the agriculture sector and increases marginally in services and manufacturing.

The improved access to markets in Mercosur allows EU producers to increase their exports in sectors where Europe has a competitive advantage. Export gains are concentrated in services (particularly wholesale and retail, financial services and business services) and in most manufacturing sectors (particularly transport equipment).

Social Impacts

The social impact of output and employment declines will typically be concentrated in certain regions and areas within Union Member economies. The adjustment costs associated with this process of restructuring will be largely mitigated by Communion level and national –level structural adjustment and social welfare programmes and are not expected to be significant at the Union level.

Environmental impacts

The environmental impacts in the EU of liberalisation of EU-Mercosur trade will include the increase in energy use resulting from the increase in industrial sector activities. The decline in certain agricultural activities will result in an offsetting decline in energy use and in related pollutants. The total consumption of energy increase marginally in the EU 15 and EU10. The marginal increase in demand for energy is mainly from oil, and will result in a small increase in CO2 emissions.

Other environmental effects in the EU will be in the opposite direction from those in Mercosur. Production levels fall for processed food, and rise in other manufacturing sectors. Biodiversity effects occur through consequent changes in levels of water pollution and water consumption, and could have knock-on effects through pollution of aquifers or a fall in groundwater levels. However, the production changes are a smaller component of total production in the EU, and regulation is relatively strong. No significant impacts are expected. EU agriculture will contract as a result of liberalisation, particularly for animal products and grain. This may have a small beneficial effect on biodiversity, with adverse effects on the amenity value of agriculture.

No significant effects are expected in the EU on environmental quality. The expected rise in industrial production and fall in agricultural production will have localised impacts on both air pollution and water pollution, but regulatory systems are expected to respond adequately. The increase in international transport will have a combined EU-Mercosur effect on climate change that is adverse.

The principal effect on natural resource stocks expected in the EU is reduced demand for energy and water. The effects are small however, and not expected to be significant.

Consistency with sustainable development principles

The trade liberalisation scenario is not expected to have a significant impact in terms of consistency with sustainable development principles with the EU.

Institutional capacity to implement effective sustainable development strategies

The EU's capacity to implement effective sustainable development strategies will be unaffected by the full liberalisation of trade between Mercosur and the EU.

Summary

The assessment of the potential impact of full liberalisation of EU Mercosur trade has shown that there are likely to be significant negative and positive economic, social and environmental impacts at the sector and sub-sector level. In the short run, the negative economic and social impacts can become more severe, given the rigidities and constraints in adjusting to new economic and market incentives. Similarly, the environmental externalities associated with the economic changes induced by trade liberalisation become increasingly significant over time.

These impacts can be mitigated or enhanced by the application of appropriate and effective flanking measures. The Final Report, in addition to updating the findings of the SIA, will provide a detailed assessment of alternative flanking measures.

Further Consultation

Stakeholders are invited to respond to a specific set of questions on this Report, or on any other issue:

- Is there any important evidence of which you are aware that has not been taken into account, such that the assessment of impacts is misleading or incorrect?
- Are there faults in the analysis which may have led to incorrect conclusions?
- Do you have any suggestions for the analysis of prevention, mitigation and enhancing measures? Do you have any suggestions for further development of communication with experts and other stakeholders?

Do you have any additional suggestions or issues for consideration in the Final Report?

Comments and suggestions may be sent to the project email address:

sia-trade@man.ac.uk

1. INTRODUCTION

1.1 EU - Mercosur Trade Association Negotiations

The negotiations for an Association Agreement between the EU and Mercosur (comprising Brazil, Argentina, Paraguay and Uruguay) began in June 2000 with the ultimate objective of achieving a greater level of political and economic cooperation and integration within the Mercosur group itself, and with the EU. In 2004 the EU and Mercosur held intensive negotiations aimed at concluding trade talks by the end of October 2004. However, at a ministerial meeting held in Lisbon on 31st October 2004, both parties agreed that the negotiations required more time. Although the parties met several times in 2005, they have been unable to re-launch successfully the bi-regional discussions. A calendar of meetings has been set up for the year 2006. It is in this context that the Commission has decided to undertake a new Trade SIA of the Mercosur – EU Association Agreement.¹

1.2 The European Commission's Trade SIA Programme

The European Commission has been engaged in conducting Trade SIAs as part of its trade policy-making process since 1999. The European Union's approach to the impact assessment of trade policy goes beyond strategic environmental assessment of the effects in Europe, to assess the impacts of proposed trade agreements on all aspects of sustainable development for all trading partners. The approach aims to make a significant contribution to regional and global governance, although to achieve this many challenges have to be overcome. As well as the general methodological difficulties of undertaking *ex ante* impact assessment at the policy level, the assessment has to evaluate the significance of economic, social and environmental impacts, and find appropriate entry points into complex decision-making processes.²

The approach was first developed in 1999 in the preparations for the World Trade Organisation (WTO) conference in Seattle. At that stage the level of detail possible in the assessment could go no further than confirm that some of the issues were genuine cause for concern, and would need fuller investigation. When the WTO trade negotiations were resumed at the Doha conference of 2001 the European Commission embarked on a more comprehensive series of SIAs of the Doha Development Agenda, and launched similar SIA studies for regional trade agreements.

The initial methodology for SIA of trade agreements was developed in early 1999 (Kirkpatrick, Lee and Morrissey, 1999), building on earlier North American experience of assessing the environmental impacts of trade policy. An overview assessment of the Seattle agenda was undertaken prior to the WTO Ministerial Meeting in November 1999 (Kirkpatrick and Lee, 1999). The methodology was subsequently refined and developed further for more detailed assessments (Kirkpatrick and Lee, 2002), and the European Commission has recently issued a handbook describing its current status (European Commission 2006). With further refinements for each of the studies undertaken, the extended methodology has been applied to the WTO negotiations mandated by the WTO Ministerial Meeting in Doha, and to regional trade negotiations and agreements to which the EU is a party. Some 16 SIA studies have been undertaken to date by a range of organisations, as listed in Box 1.

¹ The work completed in 2003 on a preliminary Trade SIA of the EU Mercosur negotiations (Planistat, 'Global Preliminary SIA EU-Mercosur. Final Report', September, 2003) provides the starting point for the current EU-Mercosur Trade SIA.

² See Kirkpatrick and George (2006a) for a detailed discussion the methodological issues relating to the Trade SIA approach.

Box 1: European Union SIAs

Pre-Seattle SIAs

Initial development of SIA methodology

- Overview SIA

WTO Doha Development Agenda

Further development of SIA methodology

- Preliminary Overview SIA
- Sector studies
 - Agriculture – major food crops
 - Non-Agricultural Market Access - textiles and clothing, non-ferrous metals, pharmaceuticals
 - Competition policy
 - Environmental services
 - Distribution services
 - Forests
 - Agriculture – general
 - Fisheries
- Final Overview SIA

Regional SIAs

- EU-GCC EU-ACP
 - overview SIA
 - sector/sub-region SIAs
- EU-Chile EU-Mercosur
 - overview SIA sector/sub-region SIAs
- Euro-Mediterranean Free Trade Area
 - overview SIA
 - sector/sub-region SIAs

The European Commission has defined the objective of its SIA studies (European Commission, 2002) as a means of integrating sustainability into European trade policy:

- by analysing the issues of a trade negotiation with respect to sustainable development;
- by informing negotiators of the possible social, environmental, and economic consequences of a trade agreement;
- by providing guidelines to help in the design of possible flanking measures, the sphere of activity of which can exceed the commercial field (internal policy, capacity building, international regulation), and which makes it possible to maximise the positive impact and to reduce the negative impact of the trade negotiations in question.

1.3 The Updated EU – Mercosur Preliminary Trade SIA

An initial preliminary overview SIA of the proposed EU-Mercosur trade agreement was undertaken for DG Trade in 2003 (Planistat, 2003). The current study draws together the results of this earlier study and updates the analysis to account for developments in the negotiations and in the pattern of EU-Mercosur trade that have occurred since 2003.

The aim of the study is to provide an overall assessment of the potential impact on sustainable development of the trade aspects of an Association Agreement between the European Union and Mercosur. The overall assessment will allow for the cross sectoral and cumulative impacts likely to result from the implementation of the trade aspects of an Association Agreement between the

European Communities and Mercosur as a whole. It will also integrate the findings of the sectoral Trade SIA studies that are being undertaken for Automobiles, Forests and Agriculture.³

The updated Preliminary Trade SIA and the sector studies will be carried out using a standard methodological framework. This framework has two complementary elements:

- *Trade sustainability impact assessment*, comprising a balanced and integrated assessment of potential economic, social and environmental impacts. The sustainability impact assessment will:

- build on the findings of existing trade and economic analysis relating to EU-Mercosur trade;
- provide a clear analysis of the underlying sustainability context;
- specify the scenarios for analysis;
- provide a quantitative and qualitative assessment of the potential impacts, using appropriate techniques of economic, environmental and social analysis. The quantitative analysis will be informed by the results of modelling of the trade liberalisation scenario.
- Utilise case study evidence, including case studies undertaken by local experts.
- give a transparent analysis of the causal chain mechanisms through which the scenarios are expected to impact on the social, economic and environmental dimensions of sustainability.

- *Consultation process*, whereby consultation with, and dissemination of results to, partners and key stakeholders in the EU and its Mercosur trading partners is an integral part of the assessment process. Consultation and transparency are essential processes for ensuring the credibility and legitimacy of the Trade SIA.

This Mid-Term Report builds on the results of the EU Mercosur Trade SIA Inception Report (IARC, 2006), which provided an initial update and screening of potentially significant sustainability impacts. In accordance with the requirements of the Terms of Reference, the midterm report describes:

- Implementation of the methodology: a summary of the process by which the methodology has been implemented in the case of EU-Mercosur negotiations
- Information on communication activities:
 - Creation of the web site and links to other web sites. Number of hits.
 - Consultations and dialogue with external experts and civil society: summary of comments and suggestions received (via e-mail, web site comment function, ordinary mail, meetings etc.) and the uses made of these.
 - Development of network of Trade SIA experts: contacts undertaken, information supplied and comments received.
- State of play of study underway, outcomes regarding the screening phase, design of sector studies
- The way ahead to complete the study

There are seven sections in the Report:

1. Introduction
2. Methodology
3. Baseline Conditions and Trends
4. Modelling the EU – Mercosur Association Agreement Trade Liberalisation
5. Sustainability Impact Assessment: Update of the Overall Preliminary EU-Mercosur Trade SIA
6. Consultation and Communication Activities
7. Way Forward and Content of Final Report

³ Separate Mid Term Reports have been prepared for the automobile, forests and agriculture sectors.

2. METHODOLOGY

2.1 Trade SIA Framework

The purpose of the (ex ante) SIA is to support better policy making,, by providing decision makers with an evidence-based assessment of the potential positive and negative consequences of their policy choices. To achieve this, the analysis strives to be credible, evidence-based, and transparent. The results of the assessment also need to be provided to decision-makers at an early stage in the policy cycle, if they are to inform the decision-making process.

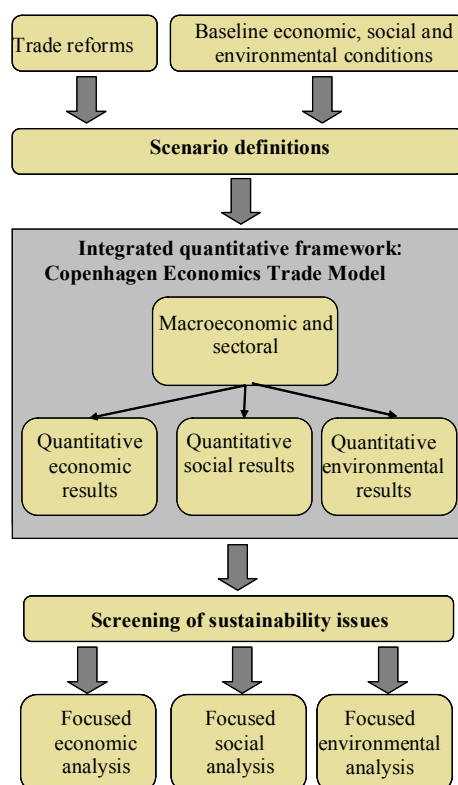
The main components of the SIA methodology are:

- Screening and scoping
- Scenarios
- Assessment of impacts
- Evaluation of alternative preventative, mitigation and enhancement measures
- Consultation and stakeholder engagement

The methodological framework for undertaking sustainability impact assessments (SIA) of trade negotiations was originally developed in 1999, and has subsequently has been refined on the basis of experience in its application (George and Kirkpatrick, 2004; EC, 2006). This ongoing process of refinement and development has been maintained in the current study, by incorporating economic modelling as one of the analytical tools that is used to assess the significance of potential sustainability impacts.

The methodology for the EU-Mercosur SIA includes an integrated CGE modelling component which provides a quantitative framework for identifying major economic impacts and linking these to the analysis of social and environmental impacts (Figure 1). This analytical framework provides a common quantitative foundation for the assessment of sustainability impacts.

Figure 1: The Integrated Framework



The core of the quantitative framework is the Copenhagen Economics Trade Model (CETM), a global computable general equilibrium (CGE) model incorporating environmental and social parameters. The CETM captures all linkages between the different sectors and regions of the world economy, and allows for an economy-wide assessment at both the national and global level.

The CETM model incorporates features such as imperfect competition, increasing returns to scale, labour-leisure choice and product differentiation according to firm varieties and geographic origin. The GTAP database, version 6, provides the majority of the data for the empirical implementation of the model.

Figure 1 shows the impacts that can be modelled directly in the CETM, in relation to the corresponding core indicators of the SIA methodology. Generally, the main use of the general equilibrium model is to provide estimates of the economic effects of the trade agreement, but there are social and environmental indicators included as well in the output of the model.

An important part of the output from the model is the information on which sectors are expected to contract or expand (for each country/region), and the relative magnitude of these sectoral shifts. If combined with information on sector characteristics from a social and environmental perspective, this information provides the starting point for the SIA analysis.

The model can calculate impacts on a wide range of variables for each individual country, such as:

- Economic welfare (measured as equivalent variation)
- Real income
- Total employment
- Employment by sector and skill-level
- Real wages
- Return on capital
- Economy-wide value added (GDP)
- Value added by sector
- Real prices for both domestic and imported goods and services
- Output and market sizes for goods and services
- Imports and exports by sector
- Tariff revenues
- Energy usage
- CO₂ emissions

Regarding social impacts, the CETM can analyse the distributional effects of macroeconomic and sectoral effects following trade reforms. The output includes quantitative changes in real wages and sectoral employment for skilled and unskilled labour. Due to the detailed regional and sectoral disaggregation of the CETM that is used for this study, this output from the CETM shows in which sectors jobs will be lost, in which sectors employment will increase, and the aggregate effect on wage levels for skilled and unskilled workers in each country.

The focus of the environmental modules in the CETM is energy usage (electricity, oil, coal, gas) and greenhouse gas emissions (CO₂). The GTAP energy data set (EDS) is used, which covers among other variables the quantity of energy usage by energy commodity and energy use class. The energy and CO₂ impacts of international transport are included in the model as well, and will also be assessed separately by considering the estimated changes in trade flows.

The GTAP6 database provides the majority of the data for the empirical implementation of the model. The database is the most recently updated source for internally consistent data on production, consumption and international trade by country and sector on a global level. It is based on detailed national accounts and balance of payments data from both national sources and international

organisations. Compared to previous versions of the GTAP database, version 6 includes several important improvements with respect the EU-Mercosur context, all of which are incorporated in the CETM:

- improved domestic databases for Argentina and Brazil
- improved treatment of data on services trade
- improved tariff coverage using MAcMaps data on preferential rates

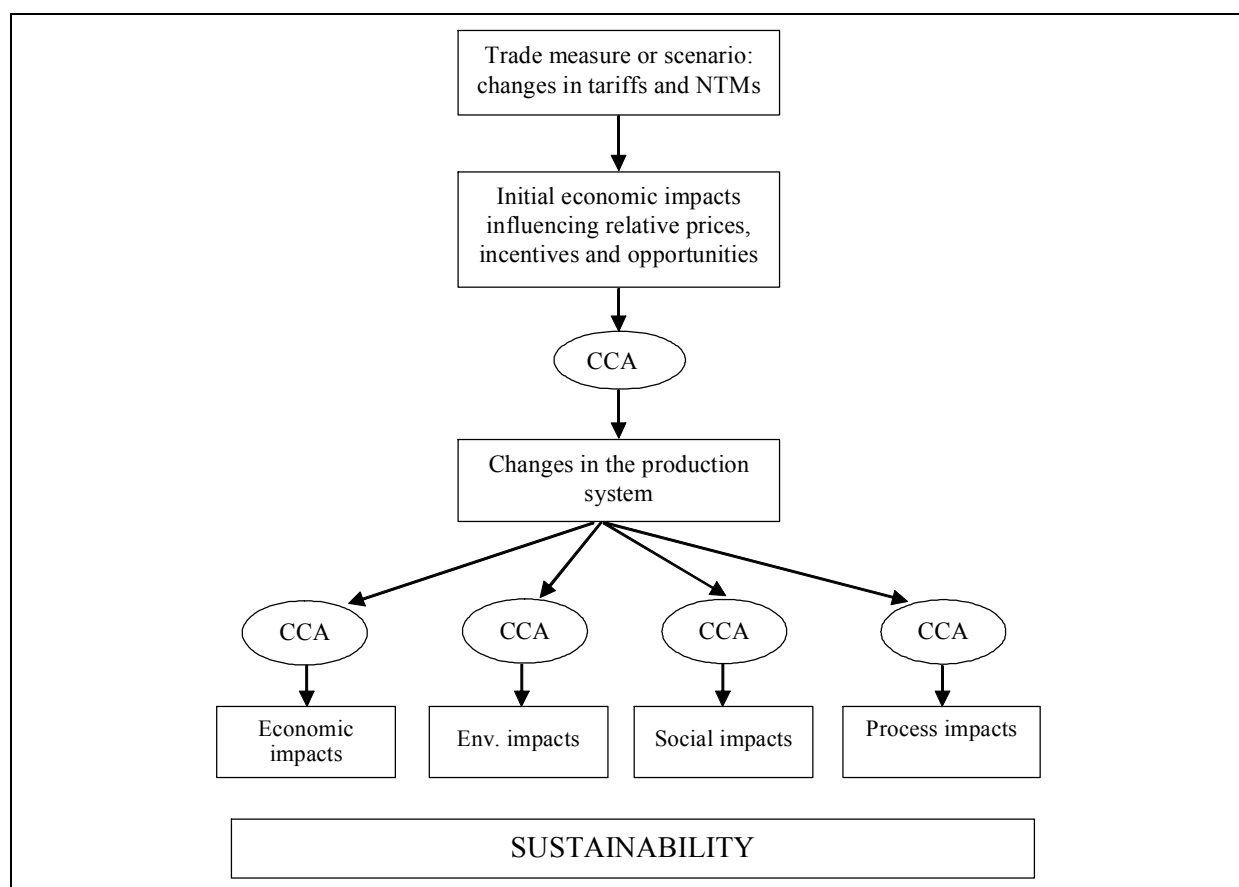
2.2 Causal Chain Analysis

Causal chain analysis (CCA) is the fundamental building block for the SIA methodology, and is used to identify the significant cause-effect links between the proposed trade measure (scenario) and its final economic, social and environmental impacts. CCA aims first at (i) linking changes in a trade measure to changes in the incentives (prices) and opportunities (expanded market access), which can influence the production system and trade flows; and then at (ii) linking changes in the production system to sustainability impacts. The CCA draws on a range of sources for the evidence that informs the analysis, including:

- economic theory, evidence from earlier studies and data analysis;
- economic (trade) models, based on available computable general equilibrium (CGE) models and spatial trade model applications;
- qualitative analysis based on the analysis of anticipated changes in the production system and trade flows;
- case studies;
- consultations and expert opinions.

Successful application of the *causal chain method* requires separating the trade-related causes from other causes, which implies adopting a “systems model” of all the main factors affecting sustainability. A conceptual framework for the SIA is presented in Figure 2.

Figure 2 Basic Principles of the Causal Chain Analysis



2.3 Scenarios

Two scenarios are used in assessing the potential impact of the EU-Mercosur negotiations on sustainable development:

- *Base scenario*: no change in the current negotiated trade measures affecting EU and Mercosur trade, including no agreement on the trade liberalisation measures being discussed within the WTO Doha Development Agenda negotiations. The baseline scenario assumes, therefore, a continuation of existing trends in trade flows and current levels of tariff and non-tariff measures.
- *Full liberalisation scenario*: removal of all tariff and non-tariff measures affecting EU-Mercosur trade.

2.4 Sustainability Indicators and Impact Significance

The SIA uses the general sustainability definition comprising the economic, environmental and social dimensions, similar to the previous SIA studies. Also, the same set of nine *core indicators* for sustainability impacts is retained (Table 2). For each of the core indicators *second tier indicators* can be used to specify the core indicators in more detail.

Table 2 Sustainability Indicators

Sustainability dimension	Core indicator	Second tier indicator
Economic	Real income Fixed capital formation Employment	- Sector specific
Environmental	Biodiversity Environmental quality Natural resource stocks	- Sector specific
Social	Poverty Equity Health and education	- Sector specific

In addition to the nine core sustainability indicators, the methodology allows for two *process indicators*. Long term economic, social and environmental impacts may arise from the impact of the EU-Mercosur Association Agreement on underlying economic, social or environmental processes. Any effect that the trade agreement may have on accelerating, decelerating or otherwise altering any of these processes may have significant long term cumulative impacts on the economic, social or environmental aspects of sustainable development. The SIA methodology identifies two aggregative process indicators for such potential effects:

- Consistency with sustainable development principles
- Institutional capacity for effective sustainable development strategies

The key principles of sustainable development are taken to be the principles defined in the Rio Declaration on Environment and Development⁴. Not all of these are relevant to trade liberalisation, and Box 2 summarises those which are. For the first of the two process indicators, the assessment examines the consistency of the further liberalisation scenario with these principles.

Box 2. Sustainable development principles relevant to trade liberalisation

Principle 8 – reduce and eliminate unsustainable patterns of production and consumption

Principle 9 – exchange scientific and technological knowledge, and enhance the development, adaptation, diffusion and transfer of technologies, including new and innovative technologies

Principle 11 – enact effective environmental legislation

Principle 12 – promote a supportive and open international economic system

Principle 14 – discourage or prevent the relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health

Principle 15 – the precautionary approach shall be widely applied

Principle 16 – promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should bear the cost of pollution

Principle 20 – enable the full participation of women in environmental management and development

Principle 22 – recognize and duly support the identity, culture and interests of indigenous people and their communities, and other local communities

Source: The Rio Declaration, United Nations (1992)

For the second of the two process indicators, the assessment examines the effect of the further liberalisation scenario on capacity to implement National Sustainable Development Strategies (NSDS). The UN Department of Economic and Social Affairs (UNDESA) and OECD have both developed guidelines and principles for preparing national sustainable development strategies, from

⁴ United Nations (1992)

which a set of criteria has been derived⁵. Those which are considered to be relevant to trade liberalisation are given in Box 3.

Box 3. Criteria for Effective National Sustainable Development Strategies

A2. Integration of poverty eradication, gender issues, and the short-term and long-term needs of disadvantaged and marginalised groups into economic policy.

A3. Integration of the maintenance of sustainable levels of resource use and the control of pollution to maintain a healthy environment into economic policy.

B1. Participation of stakeholders, including government, decentralised authorities, elected bodies, non-governmental and private sector institutions and marginalised groups.

B2. Transparent planning processes, with accountability for decisions made.

B4. Long-term vision for the country's development, which is consistent with the country's capabilities, allows for short-term and medium-term necessities, and has wide political and stakeholder support.

D3. Realistic analysis of national resources and capacities in the economic, social, and environmental spheres, taking account of external pressures in the three spheres.

Source: IDPM (2001)

The SIA analysis evaluates process effects according to the consistency of expected outcomes with the Rio principles, and their likely contribution to implementing the NSDS criteria.

The sections of the report which follow apply this framework to the proposed EU – Mercosur Association Agreement. They describe the analysis of economic, social and environmental impacts, followed by an analysis of process impacts under the headings of the impact indicators defined in the SIA methodology. The impacts are summarised at the end of each section, in tables of the form shown in Table 3.

The following symbols are used in the tables to show impact significance

- ↑ positive greater significant impact
- ↓ negative greater significant impact
- ↑ positive lesser significant impact
- ↓ negative lesser significant impact
- ↑↓ positive and negative impacts likely to be experienced according to context (may be lesser or greater as above)
- impact has been evaluated as non-significant compared with the base situation

Column 2 This shows the types of likely significant impact by country or sector that have been identified in the analysis, grouped under the nine core indicators and two process indicators defined in the methodology.

Column 3 Entries in this column summarise the main factors in the causal chain.

Column 4 An entry in this column indicates potential for either a mitigating or an enhancing measure, or a combination of the two

Column 5 Significance of short and long term impacts.

⁵ IDPM (2001), George and Kirkpatrick (2006b)

Table 3: Format of impact summary tables

Impact	Countries / sectors affected	Causal factors	Factors affecting significance	Potential significance	
				short term	long term
Economic					
Real income					
Fixed capital formation					
Employment					
Social					
Poverty					
Health and education					
Equity					
Environmental					
Biodiversity					
Environmental quality					
Natural resources					
Process					
SD principles					
SD strategies					

Greater and lesser significance are defined by the SIA methodology as:

- *lesser significant impact* – marginally significant to the negotiation decision, and if negative, a potential candidate for mitigation
- *greater significant impact* – significant to the negotiation decision, and if negative, merits serious consideration for mitigation.

Distinctions between greater and lesser significance are based on the importance of an impact for the particular economic, social or environmental factor concerned. They give no indication of relative importance of different impacts. The following factors are taken into account in evaluating significance:

- the extent of existing economic, social and environmental stress in affected areas;
- the direction of changes to base-line conditions;
- the nature, order of magnitude, geographic extent, duration and reversibility of changes;
- the regulatory and institutional capacity to implement mitigation and enhancement measures.

2.5 Country Groupings and Case Studies

Any global or regional level aggregation aggregates variations in sustainability impacts between countries and sectors. The main focus on the SIA is on the potential impacts in the EU and Mercosur as a whole. However, the SIA will also provide information on potential impact at the individual country level, where it appears that a particular country may be disproportionately affected (positively or negatively), in economic, social or environmental terms. Importer and exporters countries are likely to respond in different ways, e.g. depending on their competitive position. Equally, social and environmental impacts may vary significantly depending at the country or intra-country level. The modelling results cover the four Mercosur countries separately and as a single group. For the European Union the results are disaggregated for the 15 member states and the 10 accession members groups.

To strengthen the analysis by allowing for potential differences in impact between countries, a number of sector level case studies were undertaken in individual Mercosur countries.⁶ In selecting the case studies, the following criteria were used:

- importance of the country as producer, importer or exporter of the product;
- the trade structure of the country (taking into account the export or import dependence);
- importance of social and/or environmental issues
- availability of data and overall feasibility with regard to time and funding resources available.

2.6 Preventative, Mitigation and Enhancement Measures

The SIA methodology allows for evaluation of possible preventative, mitigation or enhancement measures, subsequent to the assessment of potential impacts. These measures can be categorised as follows:

- trade-related measures, which can be integrated into the trade agreement
- international and regional measures to improve the policy environment and strengthen national regulatory capacity
- national sectoral policy measures to remedy or regulate market imperfections
- national policy measures to mitigate adjustment costs.

The MTR identifies the significant potential impacts of trade liberalisation in Mercosur and the EU. The detailed analysis of the potential preventative, mitigation and enhancement measures that might be introduced will be undertaken in the Final Report.

⁶ The country level sector studies are included in the Automobile, Forest and Agriculture MTRs.

3. BASELINE CONDITIONS AND TRENDS

The trade SIA methodology incorporates a baseline scenario, which represents the economic, social and environmental conditions and trends that would occur in the absence of a EU – Mercosur Association Agreement. trade agreement. In this section, the existing trade and economic conditions and policy environment relating to EU – Mercosur trade are described.

3.1 The Mercosur Treaty

Mercosur was created in 1991 with the signature of the Treaty of Asunción by four Latin-American countries (Argentina, Brazil, Paraguay and Uruguay). It was the result of a convergence process between the two biggest economies, Brazil and Argentina, in the region during the 1980s, just after democracy was re-established (Devlin, 2000). Different stages in the evolution of Mercosur can be identified according to the main results of the integration process (Narbona, 2005). Sometimes the bilateral relationship between Argentina and Brazil have been decisive to Mercosur's evolution (Machado and Ribeiro, 1999). After an initial transition period where intra-regional trade strongly increased, the regional bloc suddenly deadlocked and Mercosur fell into a structural crisis. The Conference “Mercosur: In search of a new agenda” held in the Getulio Vargas Foundation in Rio de Janeiro (June 2003) was devoted to examining future directions for Mercosur regarding several aspects, including alternatives for the trade agenda (Rios, 2003), and Mercosur's insertion into a globalised world (García Pelufo, 2003). Economic and political solutions have been proposed to be able to cope with the great constraints and problems in each particular field. Subsequent studies has explored various options for the future of this regional initiative (Secretaría del MERCOSUR, 2004).

Two new issues have recently emerged and both constitute perhaps the most important challenges for the internal enlargement process of Mercosur. The first challenge is the impact of different fiscal policies on the integration process. Tax issues directly affect Mercosur in the area of competitiveness, investment promotion, tax collection and its distribution among the sectors. This topic is closely related to the limited efforts for macroeconomic coordination made by Mercosur countries. The second challenge relates to the asymmetries within the framework of the regional integration project. There are asymmetries between the regional integration process and local development that have to be faced to achieve structural convergence inside Mercosur. Moreover, there are specific asymmetries in the smallest member state, Paraguay, demanding specific measure such as the Structural Convergence Fund (Zerbino, 2004).

Mercosur has signed various trade agreements, mainly with Latin American partners (Table 4). Recently, Mercosur has also concluded preferential trade agreements with developing countries from other regions, such as India and South Africa. However, these agreements are only partial scope agreements and they do not cover all the trade flows between the members. Mercosur has never concluded any trade agreement with a developed country, although two are currently in the process of negotiation. Mercosur countries are also members of the Latin American Integration Association.

Table 4: List of trade agreements negotiated by Mercosur

Agreements Established		
Members of agreement	Signature Date	Description
MERCOSUR/Chile	July, 1996	Objectives: to form a free trade area between Mercosur and Chile in 10 years, starting in 1997; to crease a wide economical space to facilitate circulation of goods/services, establish juridical and institutional base for economic/physical cooperation; to promote economic, energetic, scientific and technological cooperation and complementation
MERCOSUR/Bolivia	Dec., 1996	Objectives: form a free trade area in 10 years (max.) leading to total trade liberalization and all forms of non-tariff restrictions should be eliminated by this time
MERCOSUR/Mexico	July, 2002	Objectives: Crease free trade/eliminate all tariffs, restrictions and other obstacles; diversification of trade and the establishment of a juridical basis granting transparency for economical agents; establishment of juridical background to promote and stimulate reciprocal investments; promotion of economic complementation and cooperation
MERCOSUR/Mexico (automobiles)	July, 2002	Objectives: Establish reciprocal reduction on import tariffs for automobiles
MERCOSUR/Peru	Nov., 2005	Objectives: Establish tariff preferences, with a view of a free trade area
MERCOSUR/Andean Community (Columbia, Ecuador, Venezuela)	Dec., 2003	Objectives: Establish tariff preferences, with a view of a free trade area
MERCOSUR/India (preferential trade agreement)	Jan., 2004	Objectives: Framework agreement; signed to establish first stage of tariff concessions and preferences for eventual creation of free trade area
MERCOSUR/SACU (South African Customs Union)	Dec., 2004	Objectives: Establish fixed tariff preferences between Mercosur and SACU; main sectors concerned: agro-industrial, chemical, automobiles and plastic
Free Trade Area of the Americas		Objectives: Wide-scope agreement; create a free trade area in the Americas; areas in discussion include: education, investment, sanitary and phytosanitary measures
MERCOSUR/European Union		Objectives: bilateral trade liberalization of goods/services following WTO rules; better access to government procurement; promotion of open and nondiscriminatory environment for investments; establish effective dispute settlement mechanisms

3.2 EU – Mercosur Relations

The EU has supported the integration process of Mercosur since shortly after its inception. In May 1992, one year after the conclusion of the Asunción Treaty, Mercosur and the EU signed an inter-institutional agreement which served as a vehicle for technical assistance, personnel training, and institutional support for the then recently founded Mercosur. The two blocs signed an inter-regional Framework Agreement in December 1995. It was the first agreement of its kind that the EU was negotiating outside Europe. This agreement was designed to facilitate further negotiations on commercial and economic cooperation while putting in place immediately a political dialogue between the two regions.

The negotiations of the EU-Mercosur Association Agreement, which has three components (political, cooperation and trade), were launched in the first EU-Latin America meeting of Heads of States and Governments held in Rio de Janeiro in June 1999. The EU-Mercosur Bi-regional Negotiations Committee (BNC) is the main forum for negotiations. The first round of negotiation was celebrated in April 2000. Since then, sixteen negotiating rounds have taken place.

During the spring 2004, substantial progress in the trade chapter allowed both parties to realistically envisage a conclusion of negotiations by the end of October 2004. But the year concluded on the

failure to meet the deadline of October 31 for the completion of the negotiations. Following a number of technical contacts in 2005 to discuss the ways to re-engage the process, Ministers met again in September of 2005 and Trade Commissioner Peter Mandelson visited the region in March of 2006. Since then, discussions have continued at the technical level, but no new negotiating offers have been exchanged and the discussions are currently at a standstill.

The main difficulties met by the negotiators are:

- The central role played by agricultural issues on both sides: agriculture is the main objective for Mercosur, whilst it remains the most sensitive issue for the EU.
- The position of Mercosur regarding services and public procurement, where main EU interests are concentrated.
- The *impasse* in the Doha Round and the FTAA
- The need to negotiate “bloc to bloc” with the EU requires the consolidation of an internal consensus prior to an external one. This requirement creates an additional step in the process of defining common positions. Furthermore, the regional bloc has made little progress on the implementation of a customs union and free circulation of goods.
- EU enlargement, which has introduced new interests and priorities in the negotiations.

During recent negotiations different proposals for tariff elimination have been advanced. Mercosur proposes a less than full reciprocity approach with a phased reduction in tariffs for different categories of goods and services:

- For Mercosur imports from the EU the categories for tariff reduction are: A: 0 years; B: 8 years; C,D,E: 10 years, with different levels of reduction per category
- For EU imports from Mercosur, reductions are: A: 0 years; B: 4 years; C: 7 years and D: 10 years.

The EU has proposed the same tariff reduction periods for both EU and Mercosur imports but considers five categories (A to E) instead of the four proposed by Mercosur.

- For Mercosur imports from EU and for EU imports from Mercosur, the categories for tariff reductions are: A: 0 years; B: 4 years; C: 7 years; D: 10 years and E: not defined.

Regarding trade related quotas, (TRQs) the EU proposes a two-step approach. In the first step, the EU would grant Mercosur the right to export an additional but limited quantity of product X within the framework of the EU-Mercosur agreement. In the second step, the volume granted to Mercosur is linked to the WTO negotiations in the Doha Round. The second quantity that Mercosur will effectively obtain will be inversely linked to the increase in the current volume of the EU WTO TRQs that will be negotiated at the WTO. For every percentage point of increase in the EU bound WTO TRQs, the second quantity devoted to Mercosur shall be reduced by a corresponding five percentage points (Kutas, 2006).

Although the parties met several times in 2005 and 2006, they have been unable to successfully re-launch the bi-regional discussions.

3.3 Economic Characteristics

Population, per capita income, economic growth rates and total trade activity vary significantly between the four countries. As of 2004, per capita GDP was highest in Argentina (12,723 US\$ PPP) and lowest in Paraguay (\$4,868 US\$ PPP).⁷ Of the Mercosur countries, Brazil has the largest economy (GNI 584,859 million US\$). Paraguay falls at the other end of the spectrum as the smallest trading partner (1%), with the smallest GNI (7,133 million US\$ in 2004) and slowest rate of per capita annual GDP growth (0.4%). The principal economic data for the partner countries are presented in Table 5.

⁷ LAC Databook (World Bank), 2005

Table 5: Mercosur: Economic Characteristics

	Argentina	Brazil	Paraguay	Uruguay
Population¹				
Population (m)	38.37	183.91	6.02	3.44
Population (% rural)	10	17	43	7
Real Income				
GDP (current \$USb) PPP ²	486	1483	28	32
GDP growth (annual %) ⁸	9	5.2	2.9	12.3
GDP/Capita (current US\$) PPP ²	12723	8297	4868	9465
GDP/Capita growth (%)	8	3.9	0.4	11.6
GINI Coefficient (Total av. 1984-2002)	52	59	57	45
GINI Coefficient (urban)	53	58	58	45
Fixed capital formation				
Gross capital formation (% of GDP)	19	21	22	13
Gross capital formation (annual % growth)	35	11	3	32
FDI net inflows (% of GDP)	3	3	1	2
Employment				
Unemployment rate (total) % of labour force ³	20	9	7	19
Unemployment rate (urban) % of labour force	14	12	10	13
Real Average Wage (2000= 100)	92.2	85.5	90.5	77.9
Trade				
Exports (% of GDP)	25	18	36	30
Imports (% of GDP)	18	13	37	28
External Debt				
Total debt service (% of GNI) 2003	12	12	5	8
Total debt service (% of exports) 2003	38	64	10	26
Total External Debt (% of GDP) 2003	128.25	46.55	53.24	105.20

Notes:

1: All Table 1 data for 2004 unless otherwise indicated

2: Paraguay income data for 2002

3: Data Argentina (2002); Brazil (2001); Paraguay (1999); Uruguay (2002)

Sources:

World Bank World Development Indicators (WDI) 2004; WTO; LAC Databook 2005 (World Bank);

3.4 Trade Flows

Mercosur is the main trading partner of the European Union (EU) in Latin America. Between 1995 and 2004, 42% of EU sales to Latin America went to Mercosur and 48% of its imports from this region originated in the bloc of the Southern Cone⁹. However, the share of Mercosur as a recipient of EU exports has been declining over the period (from 50% to 36%) with corresponding increases in the share of trade with countries such as Chile and Mexico (Table 6).

⁸ Annual growth is for the period 1976 to 2003⁹ Data provided IADB (2006)

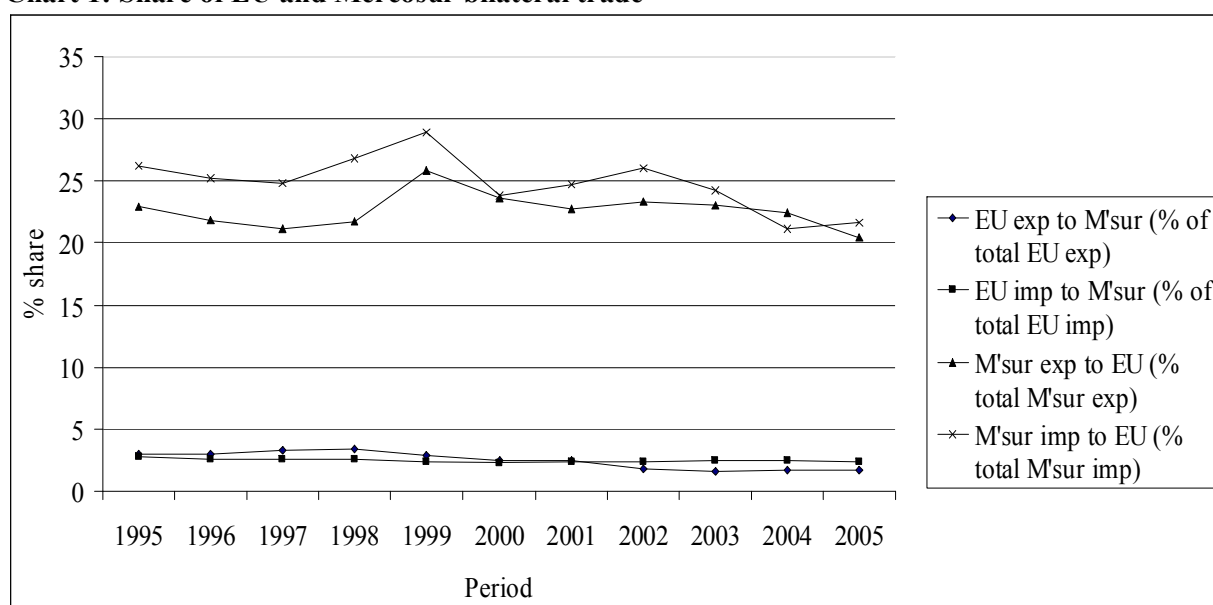
Table 6: Mercosur main trading partners

		Value (\$USm)			Growth (%)		Share (%) by region		
		1995	2000	2004	95/00	00/04	1995	2000	2004
Export	Asia	9171	7971	17537	-13	120	13	9	13
	European Union	18012	20025	30078	11	50	26	24	22
	Intra Mercosur	14451	17741	17114	23	-4	21	21	13
	USA	10773	16930	24678	57	46	15	20	18
	Rest of the world	18087	22196	44453	23	100	26	26	33
	World	70493	84863	133861	20	58			
Import	Asia	7920	10085	15029	27	49	10	11	16
	European Union	21949	21069	20007	-4	-5	27	24	21
	Intra Mercosur	14439	17713	17879	23	1	18	20	19
	USA	17635	18693	15696	6	-16	22	21	17
	Rest of the world	17915	20882	26210	17	26	22	24	28
	World	79858	88441	94821	11	7			
Total Trade	Asia	17091	18055	32566	6	80	11	10	14
	European Union	39961	41094	50086	3	22	27	24	22
	Intra Mercosur	28890	35453	34994	23	-1	19	20	15
	USA	28407	35623	40374	25	13	19	21	18
	Rest of the world	36001	43078	70663	20	64	24	25	31
	World	150351	173304	228682	15	32			

Note: ASIA includes ASEAN members, Bangladesh, Hong Kong, Macao, Japan, Pakistan.

Source: COMTRADE

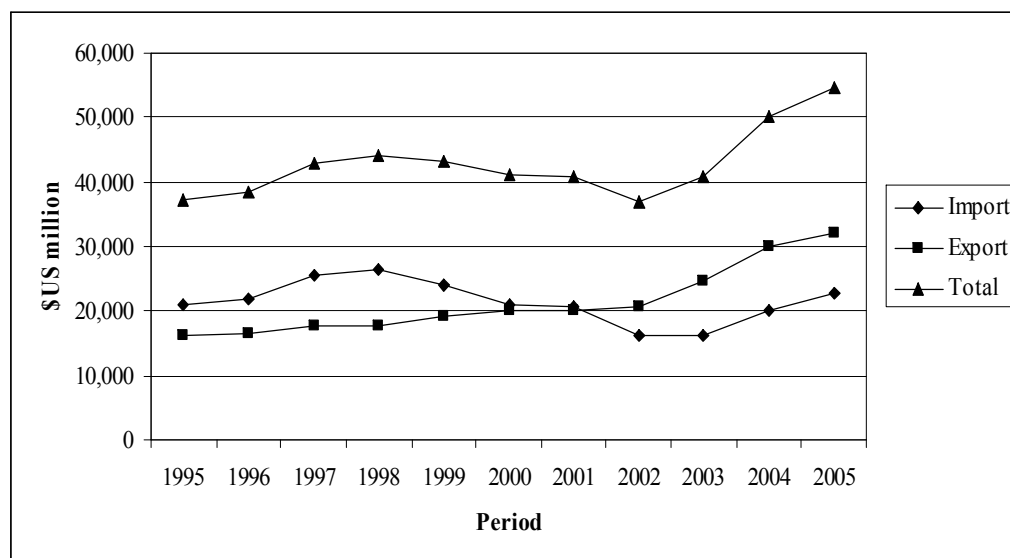
The EU-Mercosur trade relation is characterized by sharp asymmetries. The first imbalance relates to the weight of the bilateral trade relation in each partner's total trade. In 2005, Mercosur accounted for only 2.4 % of EU imports down from 2.95% a decade earlier; and for 1.7% of EU exports down from 2.75% in 1995 (Chart 1). But for Mercosur countries, the EU is a strategic trading partner. In 2005 the EU was the main client of the bloc of the Southern Cone, absorbing 20.5% of its exports, and also its main provider (21.6% of Mercosur imports). The importance of EU in Mercosur's total trade, has however declined in the past decade. The share of total exports/import to and from EU was 23% and 26.2, respectively, in 1995. (Chart 1).

Chart 1: Share of EU and Mercosur bilateral trade

Source: COMTRADE database

The second asymmetry that can be observed in the EU-Mercosur trade relation as regards the trade balance. For a long time, the Mercosur trade balance with the EU was systematically negative. However, in 2002, the trend was reversed and since then Mercosur has recorded continuous trade surpluses which, in 2005, reached \$10.07 billion (Chart 2). This surplus is primarily the result of trade in the agricultural sector. In 2004 Mercosur's exports to EU were worth \$16.2 billion and imports amounted to only \$762 million. In contrast, Mercosur exports of manufactured goods were \$10.5 billion but imports reached nearly \$20 billion. Although Mercosur trade with the EU has increased in absolute terms, as illustrated in Table 6, the relative share of the EU as a trading partner has been declining.

Chart 2: EU – Mercosur Total Trade 1995-2005

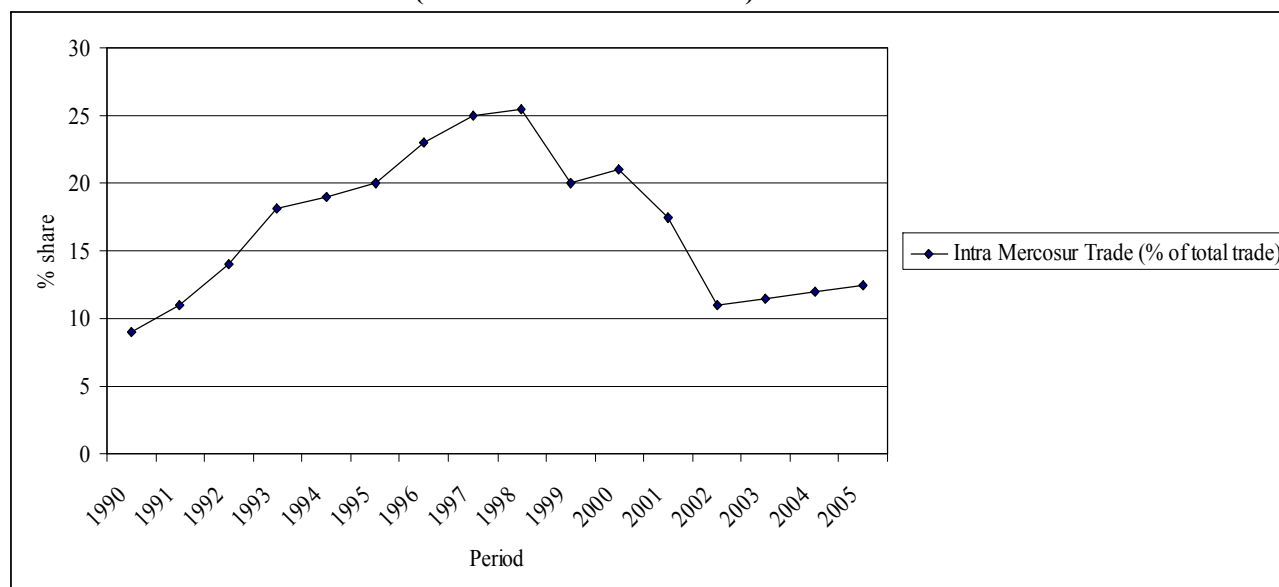


Source: COMTRADE

The Netherlands, Germany, Italy and Spain are the main recipients of Mercosur exports to the EU while approximately 70% of Mercosur imports from Europe originate in Germany, France, Italy and Spain. Despite their strong historical links, trade flows between Portugal and Brazil are very low (3% of the EU total trade with Brazil). Considering the size of the Brazilian economy, it is not surprising that Brazil is responsible for 75.7% of Mercosur trade with the EU, while Argentina accounts for 21%, Uruguay for 2.3% and Paraguay for 1%¹⁰.

Intra-Mercosur trade increased significantly during the period that followed the creation of the common market. From 1990 to 1999 intra-Mercosur trade rose from less than 10% to 25% of total trade, but after the multiple crisis that shook Latin America, at the turn of the centuries, this share dropped significantly to 11%. Since then intra-Mercosur trade has only slightly increased its share to 13% of total trade (Chart 3).

¹⁰ Data for 2004. Source: Eurostat.

Chart 3: Intra-Mercosur Trade (% share of the total trade)

Source: IADB, 2006a

The composition of Mercosur exports to the EU is very different from the composition of exports to the US (Table 7). More than 50% of Mercosur sales to the EU are composed of food and raw agricultural materials and this export profile has varied little over time. On the contrary, the composition of Mercosur exports to the US is characterized by a much lower share of agro-food products (9.9% in 2002). Between 45% and 50% of Mercosur exports to the world are manufactured goods. On the other hand, it is interesting to note that a high percentage of Asian imports from Mercosur are ores and metals, and agro-food products. This shows that Mercosur countries have benefited from the expansion of the Asian economies, through a significant demand for raw materials¹¹.

Table 7: Composition of Mercosur exports (%)

	Food			Agricultural Raw Materials			Ores & Metals			Fuels			Manufactured Goods			Goods not elsewhere		
	95	00	02	95	00	02	95	00	02	95	00	02	95	00	02	95	00	02
World	35.5	30.5	33.9	5.2	3.9	3.3	7.3	7.6	7.1	3.7	6.6	8.3	45.7	49.1	45.4	1.4	2.3	2.1
LAC	24.3	19.5	19.2	2.9	1.7	1.6	2.4	2.5	2.7	8.3	13.2	15.3	61.8	63.0	61.2	0.3	0.1	0.1
USA	16.3	11.6	9.9	5.6	4.4	3.7	4.8	4.4	3.7	3.9	9.3	10.9	67.5	68.1	70.4	1.9	2.2	1.6
EU-15	51.4	46.5	51.7	8.0	6.4	4.9	8.7	11.3	10.4	0.8	0.5	2.2	30.5	34.6	29.6	0.6	0.6	1.1
ASIA	34.3	36.5	40.1	7.6	7.5	6.1	25.6	26.4	23.3	0.8	0.8	3.5	31.5	28.8	26.9	0.2	0.1	0.1

Source: IADB (2004)

Mercosur's export portfolio is fairly diversified, but with wide variation across countries. More than 50% of Brazil's exports are composed of industrial goods, but this percentage decreases to 14.6% for Paraguay. Non agricultural raw materials and fuels account for 34% of Paraguay's exports, while this sector only represents 11.6% of Uruguay sales to the world. Agricultural raw materials and food account for 48.4% of Uruguay's exports, 42.9% for Argentina, 34% for Paraguay and 22.7% for Brazil¹².

Mercosur countries are major producers and net-exporters of agro-food products. In 2003, Brazil ranked third in the top-10 list of agro-exporters and Argentina ranked seventh. Both countries are also the second and third EU providers of agricultural products, behind the US. The agricultural sector is a key component of Mercosur economies. In all the member states, agriculture accounts for more than

¹¹ IADB (2004)

¹² Data for 2003. Source : INTAL

10% of GDP. In addition, it is a very dynamic sector with an impressive rate of growth (except in Paraguay). The data presented in Table 8 illustrate that the sector is also an important source of employment. However, Table 8 does not include employment data for the agro-business sector. In Brazil, if agricultural jobs are added to employment in food processing industries, the percentage of the labour force employed in the sector reaches 35%.

Table 8: Importance of the agricultural sector in Mercosur economies

	Argentina	Brazil	Paraguay	Uruguay
Agricultural share (%) of GDP (2004)	11.2	10.4	27.2	12.4
Growth (%) agricultural GDP (2004)	7	5.3	2.1	9
Agricultural population (% of total) 2003	9.4	14.8	38.9	10.8

Sources: World Bank, FAO.

Mercosur exports of agricultural products are diversified. Table 9 shows that the most important products exported by Mercosur are: soybeans and soy products, bovine and poultry meats and preparations, sugar, fruits juices, coffee, corn, wheat, tobacco, fruits and vegetables (fresh and prepared).

Mercosur imports mainly mineral fuels and oils (15.5%), nuclear reactors, boilers and machinery (14.4%), electrical machinery and equipment (13.8%), organic chemicals and chemical products (8.1%), vehicles (7.1%), plastics and their products (4.2%) and fertilisers (3.8%)¹³.

Table 9: Value and destination of Mercosur agricultural exports (2004)

	World (\$USm)	Share of Mercosur total agricultural exports (%)	Asia (%)	EU 15 (%)	Mercosur (%)	North America (%)	Other (%)
Beverages/Spirits	824	1.8	27	23	8	20	22
Bovine Meat/Preparations	4343	9.3	14	35	2	17	32
Coffee	1759	3.8	12	56	2	20	10
Corn	1825	3.9	42	19	3	0	36
Dairy products/Bird's eggs/natural honey	1014	2.2	12	16	10	9	53
Poultry meat/preparation	2875	6.2	58	7	8	6	21
Soybeans/soya products	18665	40	49	24	0	1	25
Sugar	2707	5.8	1	1	80	1	17
Swine meat/preparation	745	1.6	44	37	3	1	15
Tobacco	1666	3.6	33	2	1	7	58
Vegetables/fruits (fresh and preparation)	1456	3.1	15	4	7	0	74
Fruit juices	1657	3.5	23	33	4	16	24
Wheat	1613	3.5	2	44	21	16	17
Other agricultural products	5565	11.9	11	63	0	20	5
TOTAL AGRICULTURE	46714	100					

Source: COMTRADE

3.5 Tariff rates

In 1995, Mercosur countries adopted a common external tariff (CET). As a result, the four countries share the same level of tariffs with a few exceptions (2% of the tariff lines). With an average MFN¹⁴ tariff that is approximately 11% and a maximum rate of 35%, Mercosur tariff structure presents a low level of dispersion. The MFN average tariff for agricultural products is 10% while the MFN average tariff for non-agricultural goods, capital goods and information technology and telecommunication goods is 10.75%. Mercosur has a simple tariff structure: all the tariffs are expressed in *ad-valorem*

¹³ Data for 2004. Source : COMTRADE

¹⁴ MFN: Most favored nation

terms and there is only one tariff rate quota (TRQ). Table 10 illustrated the average tariffs schedule and effectively applied protection, by sector, in EU and Mercosur. The effectively applied level of protection on manufactured goods is significantly lower in the EU (5.14%) than in Mercosur (13.8%). In contrast, the agriculture sector is more protected in the EU, with an effectively applied tariff of 17.9%, than in Mercosur (11%). In particular, the EU tariffs structure in the agricultural sector contains 640 tariff peaks, defined as 3 time the average tariff rate, which suggest significant variation in level of protection across commodities.

Table 10: EU and Mercosur Tariff Structure by sector: 2003 (all figures in percentage)

Country	Sector	Simple Average Tariff	Effectively Applied Tariff*	Number of Tariff Peaks	Maximum Tariff Rate
EU tariffs applied on Mercosur Exports	Total	6.17	10.2	665	230
	Agriculture	8.99	17.9	640	230
	Raw Materials	0.98	0.98	0	5
	Textiles	10.59	17.2	17	29
	Manufacture	4.72	5.14	6	27
Mercosur tariffs applied on EU exports	Total	11.16	12.25	195	55
	Agriculture	12.41	11.0	3	55
	Raw Materials	1.11	1.11	0	6
	Manufacture	11.35	13.8	192	35
	Textiles	16.24	18.92	0	25

Source: Trains, MAcMap

* - data for 2001 from MAcMap The Effectively Applied Tariff is an ad valorem equivalent of applied border protection that includes information on tariffs, special and mixed tariffs, quotas, tariff rate quotas and preferential rates

Although some main agricultural products exported by Mercosur to the EU enter the European market duty free (soya products and coffee), the access for many Mercosur key export products – such as bovine and poultry meats, sugar, wheat, corn and ethanol, is restricted by TRQs and/or high tariff barriers (Table 11). It is necessary to differentiate between sensitive products under the GSP where there are low or zero tariffs and those sectors where individual Mercosur countries have graduated.

Table 11: MFN rates on main exports by Mercosur

				Share of Mercosur agricultural exports to the EU (2004)	Tariff Rate Quota	EU MFN minimum tariff		EU MFN maximum tariff	
						Equivalent <i>ad valorem</i>		Equivalent <i>ad valorem</i>	
Oilcake	from	soya	32.23%	No	0.0%		0.0%		
bean									
Soya beans			19.25%	No	0.0%		0.0%		
Coffee			5.94%	No	0.0%		11.5%		
Bovine meat, fresh or chilled			4.50%	Yes	20.0%		12.8%+	85.2%	
Orange juice, not frozen			4.26%	No	12.2%		3,034 €/t	85.2%	
Maize			3.18%	Yes	0.0%		15.2%+20	85.2%	
Bovine meat, frozen			2.43%	Yes	20.0%		6 €/t	73.2%	
Raw Tobacco			2.96%	No	18.4	2.9%	90 €/t	141.8%	
					MIN 22€		12.8%+		
					MAX		3,041 €/t		
							11.2 MIN	11.2%	
							22€ MAX		
							56€/100		

			24€/100 kg	kg	
Poultry preparation	1.94%	No	8.5%	867 €/t	33.2%
Poultry meat	1.92%	Yes	6.4%	1,024 €/t	87.9%
Preparation of bovine meat	1.65%	No	16.6%	16.6%	
Sugar	0.6%	Yes	138.3%	198.8%	

Notes: The tariffs refer to the tariff lines where trade flows between the EU and Mercosur do exist. *Ad valorem* equivalents have been calculated by the author according to the WTO methodology currently used in the negotiation of the Doha round.

Sources: COMEXT database, TARIC, author's calculations for *ad valorem* equivalents.

Table 12 shows that there are protectionist tariffs in both EU and Mercosur markets and gives an indication of levels. Both market also protect their market access with non-tariff barriers. Table 13 describes some non-tariff barriers, such as the use of technical standards and labels, that Mercosur economies apply on EU exports.

Table 12: Trade restrictions on selected manufactured products

	EU tariffs	Export tax by Mercosur	Mercosur tariff	Non-tariff barriers
Motor vehicles	10.0%			
Untanned leather		9% (Brazil) 5% (Argentina)		Yes
Processed bovine leather	6.5%			Yes
Other processed leather	3.5%			Yes
Footwear	3.5%		17.7%	Yes
Other leather good, e.g. handbags	3.0%		17.7%	Yes
Metal products	1.2%		18.4%	Yes
Electrical machinery			17.3%	Yes
Other machinery			16.3%	Yes

Sources: COTANCE, European Commission TARIC database, Estevadeordal and Krivonos (2000).

Table 13: Summary of main Mercosur Non-Tariff Barriers

Country/Sector	Type of Barrier	Description
Argentina		
<i>Agriculture</i>	<i>Sanitary/ phytosanitary Measures</i>	Ban on the import of pork meat and pork meat products due to a lack of recognition of free disease status (Classical Swine Fever) for Spain
<i>Agriculture</i>	<i>Sanitary/ phytosanitary Measures</i>	Requirement of presentation of certificates concerning traceability and genetically modified products
<i>Automotive</i>	<i>Standards & Technical Requirements</i>	Certificate of Homologation (CHAS) to ensure compliance of parts with Argentine safety norms (tyres; seat belts).
<i>Horizontal</i>	<i>Export Subsidies and Incentives</i>	Variety of tax and tariff exemptions for imported capital goods and excise and sales tax exemptions for exported products.
<i>Horizontal</i>	<i>Tariff Level Changes</i>	Arbitrary increases of tariffs and non transparent application, e.g. imposition of temporary additional duties.
<i>Horizontal</i>	<i>Quantitative Restrictions</i>	"Canal Morado" to deal with under-invoicing. Requires reference pricing, which is a long and costly procedure with possible penalties attached.
Brazil		
<i>Agriculture</i>	<i>Subsidies</i>	Alcohol production is subsidised indirectly discriminating

		against foreign suppliers. No clear separation between fuel alcohol and traditional alcohol markets.
<i>Agriculture</i>	<i>Sanitary/ phytosanitary Measures</i>	Ban on imports of bovine animals, meat and products from countries with indigenous BSE cases
<i>Agriculture</i>	<i>Sanitary/ phytosanitary Measures</i>	New measures on imports of seed potatoes introduced but no delay for their implementation, no technical justification
<i>Agriculture</i>	<i>Sanitary/ phytosanitary Measures</i>	The import of apples, pears, plums, nectarines, peaches, marmelos, cherries and nuts is restricted by phytosanitary rules
<i>Automotive</i>	<i>Import Ban on Used Goods</i>	Used cars, motorcycles and tyres are all banned. WTO dispute settlement panel requested by EU to investigate ban on retreaded tyres.
<i>Horizontal</i>	<i>Tariff Level Changes</i>	Arbitrary increases and decreases of tariffs.
<i>Horizontal</i>	<i>Non-automatic import licensing</i>	Request left pending without formal reply; goods stopped at border causing losses to exporters.
<i>Pharmaceuticals</i>	<i>Enforcement problems on IPR</i>	Delays in granting patents
<i>Textiles and Leather</i>	<i>Export tax</i>	Export taxes on exports of bovine raw hides and skins.
Paraguay		
<i>Agriculture</i>	<i>Quantitative Restrictions and Related Measures</i>	Prohibition of imports of bovine products from countries that were affected by BSE.
<i>Horizontal</i>	<i>Consular stamping Requirement</i>	Time-consuming, expensive and difficult to fulfil procedures cause delays and raise logistics costs. High fines for errors.
<i>Horizontal</i>	<i>Enforcement problems with IPR</i>	Problems related to music, movie and software piracy, counterfeiting of trademarks and infringements of patents in the pharmaceutical industry
<i>Horizontal</i>	<i>Representation Law</i>	No national treatment for foreign firms; the law imposes high costs if foreign importer changes local representative or distributor. Unclear application of penalties.
Uruguay		
<i>Agriculture</i>	<i>Standards and Other Technical Requirements</i>	Energy drinks cannot be registered as regular foodstuffs as long as they exceed the caffeine maximum amount of 20 mg/100 ml provided for non-alcoholic beverages
<i>Agriculture</i>	<i>Internal Taxation</i>	Uruguay levies an excise tax called IMESI on certain luxurious goods including alcoholic beverages, soft drinks, cosmetics and perfumes, tobacco, cigarettes and cigars, motor vehicles and motorcycles
<i>Automotive</i>	<i>Import Ban on Used Goods</i>	Used cars, motorcycles, chassis and bodywork are generally banned (a few exceptions e.g. classic cars and racing cars).
<i>Horizontal</i>	<i>Enforcement problems with IPR</i>	Problems related to music, movie and software piracy, counterfeiting of trademarks and infringements of patents in the pharmaceutical industry.

Source: EU Market Access Database, available at <http://mkacddb.eu.int>

3.6 Foreign Direct Investment

The liberalisation process of the Mercosur economies during the 1990s fostered the adoption of measures to promote the attraction of foreign direct investment (FDI). During this period, many public enterprises have been privatised and foreign firms have invested massively in the region. Between 1996 and the year 2000, Mercosur attracted 52% of the net FDI flows received by Latin America and the Caribbean (Table 14). But since 2001, the flows directed to Mercosur decreased for two main reasons: firstly, privatisation plans came to an end, and secondly, the economic crisis in Argentina

provoked uncertainty among investors. Mercosur only attracted 34% of the FDI in Latin America over the period 2001-2005. However, after a three year period of continuous decrease, FDI flows resumed with growth in 2004.

Table 14: FDI flows to Mercosur

	1991-1995**		1996-2000**		2001-2005**	
	\$USm	(% total)	\$USm	(% total)	\$USm	(% total)
Argentina	3,781.5	59	11,561.1	31	2,980.6	15
Brazil	2,477.4	38	24,823.6	68	16,480.7	83
Paraguay	103.8	2	185.1	1	53.9	0
Uruguay	82.5	1	187.2	1	367.9	2
MERCOSUR	6,445.2		36,757.1		19,883.1	

* This does not include financial centres. FDI figures are equal to inflows of FDI minus capital outflows generated by foreign investors. The figures differ from those presented in the Preliminary Overview of the Economies of Latin America and the Caribbean, as the latter shows the net balance of foreign investment, i.e., direct investment in the reporting economy minus direct investment abroad.

** Annual average

Source: ECLAC (2005)

The EU is the biggest investor in the region. The majority of European FDI is directed to Brazil. In 2003, the FDI stock of the EU in Brazil amounted to US\$ 47,997 millions and to US\$ 23,193 in Argentina (IADB, 2006). Spain is the EU member with the largest stock of FDI in Mercosur, followed by France, the Netherlands, the United Kingdom, Italy, Germany and Portugal. EU investment is located in areas as diverse as telecoms, energy, financial services, the automotive industry, the agro-industry and the retailing sector. It should be noted that Mercosur does not have a common policy in terms of FDI, and corporate and social taxes vary widely across countries.

4. MODELLING THE EU - MERCOSUR ASSOCIATION AGREEMENT TRADE LIBERALISATION

4.1 Modelling Trade Liberalisation

Quantitative modelling of the effects of trade liberalisation provides a valuable source of information on the likely magnitude of the economic, social and environmental impacts of trade liberalisation in the main sectors and different groups of countries.

Most trade models use a Computable General Equilibrium (CGE) modelling framework. The CGE approach is based on the simulation of outcomes for a specified policy ‘shock’, and it has been widely used to estimate the impact of trade liberalisation, taking both partial and, more often, full implementation of liberalisation scenarios as policy shocks (Kirkpatrick and Scrieciu, 2006). CGE economic modelling studies rely on an extensive economic theoretical framework largely based upon the logic of general equilibrium and neoclassical economic theory, where economic agents display rational optimisation behaviour. All model results are specific to the details of the scenario (policy change) and structure imposed, especially assumptions regarding response elasticities. As a general rule, the greater the degree of trade liberalisation represented in the scenario (policy shock) and the more responsive the economy is assumed to be (as represented by structural parameters), the greater the effect of liberalisation predicted by the model.

Trade liberalisation models rarely discuss, however, the adjustment costs incurred as economies adjust to trade reform and move towards a new equilibrium. In the short term this will reduce the overall income gains and have a negative impact on the affected sectors and factors of production, including labour. Since the gains from trade liberalisation accrue to the most competitive (more responsive) producers and losses are often incurred by the least competitive producers, models have a bias towards overestimating potential gains. This is particularly the case of estimates of effects on developing countries, as non-price constraints on supply response are not always adequately captured in the models.

4.2 The EU Mercosur CGE Model

Overview

This section provides a brief overview of the global computable general equilibrium (CGE) model used in this study. The methodology is comparable with recent policy analyses of the World Bank, the IMF and the OECD, incorporating similar quantitative modelling frameworks.

The GTAP database, version 6.2¹⁵, provides the data for the empirical implementation of the model. The database is the best and most updated source for internally consistent data on production, consumption and international trade by country and sector.¹⁶ The GTAP data on protection incorporates the Macmaps data set¹⁷, which includes a set of *ad valorem equivalents* (AVEs) of border protection across the world. The source information concerns various instruments, such as specific tariffs, mixed tariffs and quotas, which cannot be directly compared or summed. In order to be of use in a CGE model, these have been converted into an AVE per sector, per country and per trading partner.

Impediments to trade in services are not as clearly visible as is the case with tariffs for trade in merchandise. Rather, trade barriers in the service sector often entail prohibitions, quantitative

¹⁵ Available in June 2006.

¹⁶ For more information, see Dimaran and McDougall (2006).

¹⁷ The MacMaps database is the result of a joint effort by the International Trade Center (governed by UNCTAD and WTO) and Cepii.

restrictions and government regulations, which limit the market access to foreign suppliers. These are not easy to model, and require estimates to be made of equivalent tariffs. We follow Francois (2003) in estimating tariff equivalents for the service sector through the use of a gravity-type equation. These estimates are then incorporated into the analysis.¹⁸

Trade facilitation presents similar difficulties, and cannot be modelled with any certainty. In order to give an indication of the possible order of magnitude of the effects, we assume that measures are taken which would facilitate additional trade amounting to 1% of the total trade value.

Box 3. Overview of the Model

The model employed in this study is a global, multi-regional, multi-sectoral general equilibrium model. In each region, there is a single representative household, which allocates its expenditures over personal consumption today and savings (future consumption). The representative household owns all production factors and receives income by selling them to firms. It also receives income from tariff revenues. Part of the income is distributed as subsidy payments to some sectors.

On the production side, firms use domestic production factors (capital, labour and land) and intermediate inputs from domestic and foreign sources to produce outputs in the most cost-efficient way that technology allows. Factor markets are competitive, and labour and capital are mobile between sectors but not between regions.

Prices on goods and factors adjust until all markets are simultaneously in (general) equilibrium. This means that we solve for an equilibrium in which all markets clear. While we model changes in gross trade flows, we do not model changes in net international capital flows. Rather our capital market closure involves fixed net capital inflows and outflows.

A full description of the model is provided in the technical appendix.

Model Data

The GTAP version 6.2 dataset is benchmarked to 2001, and includes detailed information on input-output, trade and final demand structures for the whole world this year. However, there are some important changes to the trade policy environment that have happened since then, that we wish to include in the basic dataset. Therefore, before conducting any policy experiments, we first run a pre-experiment, where we include the ATC phase-out, China's accession to the WTO, EU 10 joining the European Union in 2004, as well as Venezuela joining the Mercosur in 2006.

In short, the data set we employ for the analysis is a representation of a notional world economy in 2001, where we have realized many of the trade policy reforms that have taken place since then.

For the purpose of this study, the GTAP data base has been aggregated into 22 sectors and 10 regions. Table 15 below shows the sector structure.

¹⁸ Further information on these estimates is available in the Technical Annex

Table 15: Sectors in the Model

Primary sectors	Manufacturing Sectors	Service sectors
Grains	Textiles and Clothing	Utilities
Crops	Wood, Pulp and Paper	Construction
Animal Products	Chemicals	Wholesale, retail
Forestry	Metals	Communications
Fisheries	Motor vehicles	Transport Services
Mining	Transport Equipment	Finance
Processed Foods	Machinery	Business Services
		Other Services

Note: The detailed mapping between the aggregated sectors and the original GTAP sectors, together with a list of regions used in the model can be found in the Annex.

Trade liberalization Scenario

When applying CGE analyses to a specific question, in this case a potential free trade agreement, the core of the analysis is set up round a scenario. The employed scenarios are to be viewed as stylized - rather than exact representations.

The core of this analysis is structured around a full free trade scenario, where we have assumed full, i.e. 100% tariff reductions between the Mercosur countries and EU25, 100% liberalization of trade in services between the two trading blocs and measures to facilitate trade amounting to 1% of the value of trade. Trade facilitation instruments aim to reduce less transparent trade barriers, such as customs procedures, product standards and conformance certifications, licensing requirements, and related administrative sources of trading costs.

The trade liberalization scenario assumes that all trade barriers are removed. Thereby our scenario gives us an upper bound as to the possible effects of a potential free trade agreement. The aim is to analyze the maximum effect possible. It does *not* attempt to capture the most likely outcome of any current or future negotiations between EU and Mercosur.

4.3 Model Results

This section describes and discusses the results of simulating the effects of the trade liberalization scenario, in terms of the key variables listed above.

Real Income Effects

The key economic indicator, real income, combines the effect of changes in incomes and changes in consumer price levels and calculates the net economic effect for a representative consumer in each economy¹⁹. The results in the free trade scenario are then compared to the constructed baseline.

The trade liberalisation scenario defined in section 4.2 has positive real income effects for all countries in Mercosur, and a positive real income effect for the European Union as a whole (EU25). These are small except in Paraguay, which experiences a 10% welfare rise. The effect on real income is also positive for EU15 as well as EU10 taken separately (Table 16). Since the Mercosur countries have higher initial barriers to trade, these countries are expected to experience larger gains from trade liberalisation, mainly because of the increase in purchasing power for domestic consumers when the high tariffs on European goods are dropped. This is confirmed by the model simulations. In absolute

¹⁹ Technically we measure the change in so-called ‘equivalent variation’ (EV). The idea is that we find the income required to ensure that we are at the new level of utility but with the old set of prices. Assume that trade liberalisation makes prices fall. At the original price level, what is then the minimum amount of money which we would have to give to our representative consumer to make her as well off as she will be after the price fall? The answer is EV. EV is almost always used as the best lower bound approximation of the true welfare effect in terms of consumer’s surplus.

terms, a potential full FTA is expected to lead to a real income gain of 2 percent GDP for the Mercosur countries, varying between countries. For the EU25, the corresponding figure is 0.1 percent GDP.

Real income basically increases through two channels. One is through the generation of higher incomes when export-oriented sectors expand their activity, as does for example the Brazilian processed food sector. The other effect is through the reduction of consumer prices for imported goods when tariffs are removed. Both these effects need to be considered when evaluating the economic impact of a free trade agreement on final consumers.

The national real income effects are summarized in Table 16 below. As can be seen from the table, large countries have large absolute gains. Thus, approximately three quarters of the net income gain in Mercosur is attributable to Brazil and a large part of the European gains are not surprisingly found in EU15.

Table 16: Real Income Effects, Overview

	Gain in Millions of US\$	Change from baseline (% change in GDP)
Argentina	1 255	+ 0.5%
Brazil	6 883	+ 1.5%
Paraguay	643	+ 10.0%
Uruguay	369	+ 2.1%
EU15	3700	+ 0.1%
EU10	201	+ 0.1%

Source: Model simulations

Given that the Mercosur region is economically much smaller than the European Union²⁰, the relative effects on real income for Mercosur are larger than in the EU. For Argentina, the gain is 0.5 percent of GDP, while for Brazil the corresponding figure is 1.5 percent. The biggest relative effect is shown to occur in Paraguay, where a full FTA between Mercosur and EU25 is expected to lead to an increase in net income amounting to 10.0 percent of GDP.

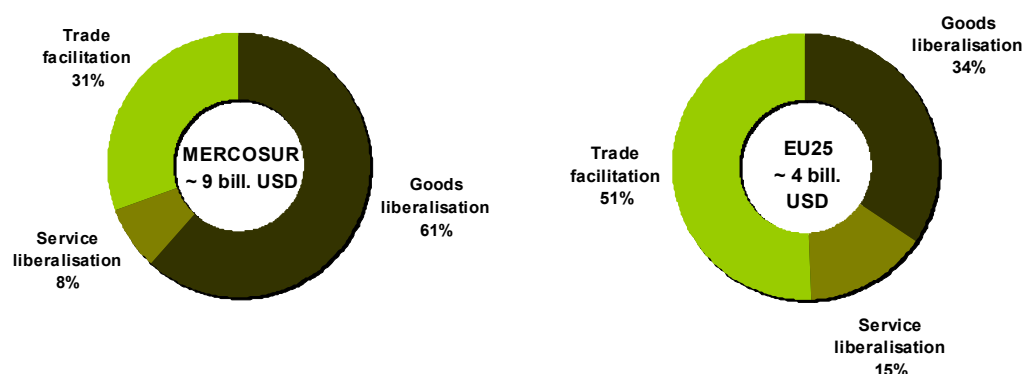
For the European Union the relative net income effect is shown to be approximately 0.1 percent of GDP.

The real income gains shown in Table 16 are the cumulative result of tariff reductions, services liberalization and trade facilitation. In order to find out more about the contribution of each of these different trade liberalization measures, the real income effects is decomposed with respect to tariff reductions, service liberalizations and trade facilitation.

Tariff reductions are the most important factor for the gains from trade liberalization in the Mercosur countries. This measure accounts for a little over 60 percent of the real income effect (Figure 3). The second most important factor for the Mercosur countries is trade facilitation, which would account for approximately 30 percent of the gains for the effects assumed in the model. It is interesting to note, that although the liberalization scenario assumes a full liberalization of trade in services, this measure is shown to have a limited effect on outcome. It should however be noted that larger gains might arise through the potential contribution of services to stimulating technological change and growth throughout the economy. In short, tariff reductions are very important for the Mercosur to realize the potential gains of a free trade agreement with the EU. The main reason for this result is that Mercosur is facing high tariffs in the EU on those trade flows that are already the most important ones. Therefore, if substantial tariffs are removed on those goods which are already traded heavily, then this will inevitably having a large impact.

²⁰ i.e. in GDP terms, the Mercosur market is less than 10 % of the European Union, according to the World Bank World Development Indicators (WDI) 2005.

Figure 3: Where do the gains come from?



Source: Model simulations

Note: The figure shows the decomposition of the gains on real income for the two economies, when decomposing how much of the total effect is due to liberalisation of goods trade, service trade and trade facilitation respectively.

On EU's part, the measures assumed for trade facilitation would be the single most important trade liberalization measure. This would account for approximately half the increase in real income for EU25. Tariff reductions are attributable for 35 percent, while the corresponding figure for service liberalization is 15 percent. Thus, for both regions, tariff reductions are shown to be central. The gains are insensitive to the level of liberalization taking place in the service sector, while larger gains are potentially available from trade facilitation (Table 17). It should however be noted that for trade facilitation the model gives only a broad indication of the order of magnitude of possible effects, without accounting for the costs of implementing the necessary measures.

Table 17: Decomposition of Real Income Effects, (Millions of US\$)

	Total gain	of which from Goods liberalisation	of which from Service Liberalization	of which from Trade Facilitation
Argentina	1 255	411	138	705
Brazil	6 883	4 510	465	1 908
Paraguay	643	502	12	129
Uruguay	369	272	21	76
Total Mercosur	9150	5695	636	2818
EU15	3 700	1 306	558	1 836
EU10	201	39	18	144
Total European Union	3 901	1 345	576	1 980

Source: Model simulations

There is general agreement among CGE modelling experts that the inclusion of trade facilitation costs within the modelling framework is particularly problematic, and the estimated gains from trade facilitation are subject to sizeable margin or error and uncertainty (Francois et al., 2005). Most modelling studies interpret trade facilitation largely in terms of trade transaction costs, that are modelled through an assumed amount of savings, as a percentage of total value of trade likely to emerge due to trade facilitation and a consequent lowering of such non-tariff barriers to trade.²¹ However, the modelling of trade facilitation may overestimate what can actually be achieved through the measures which would need to be implemented, and also underestimate the costs. In order to reap the benefits of trade facilitation, there needs to be investment in training of personnel, administrative

²¹ In other cases, trade facilitation is indirectly modelled through a slight increase in the assumed trade elasticities (Anderson et al., 2006)

reforms and other institutional-related measures. These up-front and ongoing economic costs are not considered in the model, and it is possible that they could cancel out most of the potential gains. If the estimated gains from trade facilitation are excluded, the real income gains from full trade liberalisation are significantly reduced (Table 17).

Aggregate Output Effects

This section describes the changes in output in each country. Here we measure the changes in value added holding producers prices constant. Since we hold producer prices constant this is an aggregated indicator for the goods producing sectors that reflects the changes in physical output due to free trade.

The national level changes in output are shown in Table 18. Looking at the increase in economy-wide output, the largest relative effect are in Mercosur, most notably so in Paraguay, where output is expected to increase by 2.5 percent as a result of a potential FTA. Also, the expected effects are quite large for Uruguay and Brazil, with expected increases of close to one percent. For Argentina and the European Union, the effects on total output are smaller.

Table 18: Economy-wide output changes

	Argentina	Brazil	Paraguay	Uruguay	EU15	EU10
Change from baseline	+ 0.3%	+ 0.8%	+ 2.5%	+ 0.9%	+ 0.1%	+ 0.1%
Change from baseline excluding trade facilitation	0.0%	0.3%	1.7%	0.6%	0.1%	0.0%

Source: Model Simulations

Note: Output is measured by value added (GDP) at given produce prices.

Sectoral Output Effects

Disaggregating the figures in Table 18 to study the changes in sectoral output, shows that the effect of a potential FTA leads to significant changes in production across sectors. These are summarized in Table 19 and Table 20. Overall, a pattern emerges where, for Mercosur, there is a large increase in the production of agricultural goods, while the manufacturing sectors, in general, contract. The opposite is true for European production, i.e. production of agricultural goods is expected to decrease, while the manufacturing sector in general will expand. The changes in sectoral output mirror the underlying initial levels of trade protection, i.e. domestic output is expected to decrease as a result of increased competition, in the industries that initially enjoyed high levels of import protection.

Table 19: Changes in Sectoral Output, Mercosur (percentage change)

	Argentina	Brazil	Paraguay	Uruguay
Grains	11.4	15.1	10.8	8.6
Crops	1.7	0.4	-7.8	1.2
Animal Products	4.1	32.0	36.9	4.6
Forestry	-1.2	7.8	-8.6	-4.6
Fisheries	4.4	2.2	1.2	6.9
Mining	-0.1	-2.2	-23.6	-4.8
Processed Foods	6.1	46.6	73.4	17.1
Textiles and Clothing	-1.4	-6.5	-27.8	-15.7
Wood, Pulp, Paper	-1.8	-5.0	-21.3	-7.8
Chemicals	-0.1	-5.1	-20.1	-5.4
Metals	-3.7	-14.0	-19.1	-13.8
Motor Vehicles	-9.7	-29.1	-66.4	-41.6

	Argentina	Brazil	Paraguay	Uruguay
Transport Equipment	4.0	-17.6	-63.0	-35.7
Machinery	-15.3	-24.3	-57.8	-38.0
Utilities	-0.4	-2.0	-7.8	1.7
Construction	0.3	1.2	8.6	0.3
Wholesale, Retail	-0.4	0.7	-2.7	0.7
Communications	1.1	-0.2	1.3	-2.5
Transport Services	0.8	0.7	0.1	-3.2
Finance	-2.1	-1.4	-23.1	-0.6
Business Services	-1.0	-1.2	-12.5	-2.0
Other Services	0.2	0.3	1.5	0.7

Source: Model simulations

As can be seen from Table 19, production of grains, other crops, animal products and processed foods is expected to increase across all Mercosur countries. Meanwhile, the manufacturing sectors metals, motor vehicles, transport equipment and machinery are all shown to contract. As pointed out in section 3, these are among the sectors where the ex-ante Mercosur trade barriers were higher than their European counterparts.

For **Argentina**, a potential FTA with the EU is expected to lead to an increase in overall production amounting to 0.3 percent (including the impact of trade facilitation). In general, the sector specific effects are not so big in Argentina as for the other Mercosur countries. Comparing the changes in output to their relative share of total production gives a better picture of each sector's effect on the overall economy.²² For Argentina, output in the sector 'other services', is attributable to 38 percent of total value added, thus the 0.2 percent increase in this is expected to have a significant effect on the overall economy. Meanwhile, the 15 percent decrease in machinery sector, although dramatic on a sector specific level, does not translate to a large effect on the overall Argentinean economy, since this sector only accounts for 1.7 percent of total production.

The **Brazilian** economy is shown to expand overall output by 0.8 percent as a result of a potential FTA. Here, the biggest relative increase is shown to occur in the processed food sector, which is expected to expand by close to 50 percent. Given that 3.5 percent of total production is attributable to this sector, this large increase will have a significant effect²³ on the overall output increase in the economy. The same is true for animal products, which is accountable for 1.8 percent of total value added, and is expected to increase by 32 percent, which implies an overall effect of 0.6 percent. Motor vehicles are shown to be the sector expected have the biggest contraction, here production will decrease by close to 30 percent. However, the overall effects of this decrease will not be very big, since less than one percent of total value added is attributable to this sector. The production of machinery is expected to decrease by a quarter of its output. This implies an overall reduction of output of approximately one percent, since production in this sector amounts to four percent of Brazil's total value added.

The effects of a potential FTA are expected to have large effects on the **Paraguayan** economy. As previously pointed out, this is true on an aggregated level i.e. the overall effect on output is expected to be 2.5 percent, but also on disaggregate level. As can be seen from the table above, the largest absolute increase is shown to occur in the processed foods sector, where output is expected to increase by almost 75 percent. Since this sector is accountable for close to 5 percent of overall production, this leads to a big increase (i.e.3.5%) of total value added. Animal products is the sector with the second biggest expected expansion, i.e. 37 percent. Close to five percent of all Paraguayan production stems from this sector, so a large share of the overall gain comes from this increase as well. On the contracting side, the motor vehicles, transport equipment and machinery sectors are all expected to lessen production by around 60 percent. Although these are large sector specific decreases, the effect on total output is very limited since these sectors account for less than 0.1 percent of overall

²² Each sector's share in total production is given in the Technical Annex.

²³ i.e. $0.466 \times 3.5 = 1.6\%$ to be exact.

production. The utilities sector, which is expected to decrease by 7.8 percent, is the single most important contracting sector, since it is accountable for close to 20 percent of total production. (i.e. the decrease in this sector is accountable for a total decrease of 1.5 percent of overall production).

In **Uruguay**, the processed foods sector has the relatively largest share of overall production in all of Mercosur. 7.4 percent of total value added in Uruguay is attributable to this sector, the expected 17 percent increase in production in this sector, is accountable for a 1.3 percent increase in overall production. This is counteracted by the expected decrease in production in the textiles and clothing sector, which accounts for a decline of 0.3 percent of total value added.

Table 20: Changes in Sectoral Output, EU (percentage change)

	EU15	EU10
Grains	-4.4	-1.5
Crops	0.2	-0.4
Animal Products	-3.5	-1.0
Forestry	0.0	-0.1
Fisheries	-0.3	-0.5
Mining	-0.1	0.0
Processed Foods	-5.1	-2.7
Textiles and Clothing	0.9	0.2
Wood, Pulp, Paper	0.1	0.0
Chemicals	0.4	0.2
Metals	0.7	0.6
Motor Vehicles	1.8	0.7
Transport Equipment	0.1	1.0
Machinery	1.4	0.8
Utilities	-0.1	0.2
Construction	0.0	0.0
Wholesale, Retail	0.0	0.1
Communications	0.0	0.0
Transport Services	0.2	0.3
Finance	0.0	0.0
Business Services	0.1	0.0
Other Services	0.0	0.1

Source: Model simulations

The total effect on **EU15** output is close to zero, but comes to 0.1 percent of GDP if the assumed trade facilitation effect is included). The lowering of Mercosur import protection leads to a one percent increase in the production of European textiles and clothing. In general, production of manufacturing goods is expected to increase, while the agricultural sectors in general and processed foods in particular are expected to contract. Meanwhile, the service sectors, which are attributable to about 75 percent of EU output value, are largely unaffected.

For **EU10**, the effects are very similar with an expected decrease in the agricultural sectors, most notably for processed food, which for EU10 is a substantial sector in terms of overall production (i.e. 6.2 percent). The manufacturing sectors are also expected to increase, with significant overall effects in the sectors metals and machinery which are accountable for about six percent of total output each.

Trade Effects

Having analyzed the expected changes in production, we now turn our attention to the effects on trade. As previously pointed out, production in the agricultural sectors in Mercosur are expected to expand, while the manufacturing sectors will decrease output as a result of trade liberalization. Table 21 shows the changes in export for each sector in Mercosur.

Table 21: Change in Export Quantity, Mercosur (percentage change)

	Argentina	Brazil	Paraguay	Uruguay
Grains	15.8	-26.1	-22.7	25.9
Crops	0.8	-33.2	-36.1	-3.6
Animal Products	-17.3	-54.9	-75.5	-35.7
Forestry	5.3	-27.3	-30.6	-6.7
Fisheries	15.2	-13.3	-24.8	-19.7
Mining	0.3	5.6	-35.6	-35.8
Processed Foods	40.5	339.9	608.7	131.2
Textiles and Clothing	8.9	-6.4	-54.3	-19.8
Wood, Pulp, Paper	5.8	-9.5	-42.3	-15.0
Chemicals	3.9	-6.7	-31.2	-9.9
Metals	11.4	-5.9	-48.2	-24.4
Motor Vehicles	0.5	-16.6	-49.0	-39.2
Transport Equipment	12.0	-11.2	-67.7	-34.0
Machinery	-1.9	-16.8	-62.7	-38.3
Utilities	-9.9	54.1	-9.1	43.1
Construction	10.0	10.1	-14.1	6.5
Wholesale, Retail	24.6	17.0	-10.5	7.4
Communications	34.0	17.3	-10.5	9.5
Transport Services	1.3	-4.4	-11.9	-11.3
Finance	22.4	12.6	-18.1	9.6
Business Services	28.3	15.0	-14.1	9.5
Other Services	23.7	2.0	-19.3	4.2

Source: Model simulations

As can be seen from Table 21, the expected changes in exports are largely in line with the prediction with regards to changes in production, although the overall increase in agricultural production is mainly spilling over in an increase in processed foods. The primary agricultural sectors, i.e. grains, crops, and animal products are all shown in Table 19 to increase in Brazil, however in Table 21 they are shown to decrease in exports. The underlying reason for this is that these products are used as intermediate inputs in the processed foods sector, which is confirmed by the fact that exports of processed foods are expected to triple. This is also true for Paraguay, but more extreme; here the processed foods sector crowds out the other sectors. Given that the EU in the base year apply a very high protection against Paraguayan food products (92%) a large increase on this trade link can be expected if these barriers are completely removed.

Table 22: Changes in Export Quantity, EU (percentage change)

	EU15	EU10
Grains	-2.8	-0.2
Crops	1.2	1.0
Animal Products	2.1	-2.3
Forestry	-0.1	0.0
Fisheries	-1.2	-1.0
Mining	0.0	-0.4
Processed Foods	0.5	-5.3
Textiles and Clothing	1.7	0.5
Wood, Pulp, Paper	0.9	0.2
Chemicals	0.8	0.3
Metals	1.5	1.0
Motor Vehicles	3.2	0.8
Transport Equipment	0.1	2.6
Machinery	2.5	1.2
Utilities	3.0	5.1
Construction	0.1	0.3
Wholesale, Retail	1.5	1.6
Communications	0.6	0.7
Transport Services	0.8	0.9

	EU15	EU10
Finance	1.7	1.6
Business Services	1.5	1.2
Other Services	2.1	2.1

Source: Model simulations

The corresponding results for the EU, which are shown in Table 22, are very similar to the expected changes in output.

Trade liberalization implies an overall increase in export for all countries in Mercosur and the EU. The aggregated changes in national exports are summarized in Table 23 below.

Table 23: National Export Effects (percentage change)

	Argentina	Brazil	Uruguay	Paraguay	EU15	EU10
% change in exports	14.1%	36.9%	40.5%	27.7%	1.6%	0.5%

Source: Model estimations

The largest increases in exports are evident in the Mercosur countries. The increases in exports are expected to be large in Brazil, Uruguay and Paraguay. Since the majority of EU-Mercosur trade is accounted for by Brazil, the 37 percent increase in Brazilian exports implies a large increase in trade between the two trading blocs.

Tariff Revenue Effects

With the exception of Paraguay, the members of Mercosur and the EU will have a reduction in tariff revenue as a result of trade liberalization (Table 24). In Paraguay the large rises in production, welfare and exports are associated with a large rise in imports from countries other than the EU (for which tariffs have been removed). The non-Mercosur South American countries are also expected to see higher tariff revenues due to higher imports.

Table 24: Tariff Revenue Effects, millions of dollars

	Base revenue	New revenue	Change	Percent change in tariff revenue
Argentina	1.984	1.044	-0.940	-47.4
Brazil	5.609	3.185	-2.424	-43.2
Paraguay	151	164	13	8.6
Uruguay	246	129	-117	-47.6
Venezuela	2.175	1.308	-0.867	-39.9
MERCOSUR associates	3.625	3.558	-0.067	-1.8
Other South America	6.725	6.995	0.270	4.0
EU15	20.861	18.306	-2.556	-12.3
EU10	6.207	2.152	-4.055	-65.3
ROW	183.166	184.642	1.476	0.8

Source: Model results

Employment Effects

The full trade liberalization scenario will have both positive and negative impacts on employment at the sector level in the Mercosur countries and in the EU (Table 25).

Table 25: Employment Effects (% change)

Employment Effect, % change, total FTA effect						
	Argentina	Brazil	Paraguay	Uruguay	EU15	EU10
grains	14.2	19.1	14.2	11.1	-4.8	-1.9
crops	3.6	3.3	-6.1	3.0	-0.1	-0.7
animal products	6.3	37.6	43.3	6.7	-3.9	-1.4
forestry	-1.4	9.1	-9.0	-5.2	0.0	-0.1
fisheries	8.9	3.6	2.8	13.8	-0.4	-1.0
mining	-0.1	-3.4	-26.8	-5.4	-0.1	-0.1
processed foods	5.9	47.4	76.7	17.1	-5.2	-2.6
textiles and clothing	-1.6	-6.1	-27.3	-15.7	0.9	0.3
wood, pulp, paper	-1.9	-4.8	-20.9	-7.9	0.1	0.1
chemicals	-0.3	-4.5	-19.8	-5.5	0.4	0.2
metals	-3.8	-13.6	-18.0	-13.8	0.7	0.6
motor vehicles	-9.9	-28.6	-66.4	-41.6	1.8	0.7
transport equipment	3.9	-17.2	-63.0	-35.7	0.1	1.0
machinery	-15.4	-23.9	-57.3	-38.0	1.4	0.8
utilities	-0.6	-1.6	-6.6	1.6	-0.1	0.2
construction	0.1	2.1	8.8	0.2	-0.1	0.1
wholesale, retail	-0.7	0.9	-0.6	0.6	-0.1	0.1
communications	0.1	-54.3	0.1	6.4	0.5	-0.3
transport services	0.5	0.9	0.8	-3.2	0.1	0.4
finance	-2.3	-1.3	-23.6	-0.8	0.0	0.1
business services	-1.3	-0.7	-11.5	-2.2	0.0	0.1
other services	0.0	0.6	0.8	0.6	0.0	0.1

Wage Effects

The real income effects can be decomposed with respect to the three production factors, namely unskilled labour, skilled labour and capital. Table 26 contains data on changes in wages for skilled and unskilled labour.

Table 26: Unskilled and Skilled Wage Effects (percentage change)

Unskilled Real Wage Effects, %					
	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
Argentina	0.0	0.0	0.4	0.3	0.0
Brazil	0.3	0.0	0.5	0.9	0.3
Paraguay	3.4	0.1	1.9	5.5	3.5
Uruguay	1.0	0.0	0.3	1.4	1.1
EU15	0.2	0.0	0.0	0.2	0.2
EU10	0.1	0.0	0.0	0.1	0.1

Skilled Real Wage Effects, %					
	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
Argentina	-0.2	0.0	0.2	0.0	-0.2
Brazil	0.4	0.1	0.3	0.7	0.4

Paraguay	0.1	0.0	3.0	3.2	0.1
Uruguay	0.2	0.0	0.4	0.7	0.2
EU15	0.2	0.0	0.0	0.3	0.2
EU10	0.1	0.0	0.1	0.2	0.1

Once economies have settled into a new equilibrium, trade liberalization is shown to have positive effects on wages for both skilled and unskilled labour, in both the EU and Mercosur. It should however be noted that employment is kept constant in the scenario, so the wage shift shown in the tables is the resulting change in wages that exactly clears the labour markets. Depending on the functioning of the labour markets, some of this wage increase will be transformed into higher employment, with a smaller increase in wages. The model does not account for changes in employment levels and wage rates that will occur while the economy is adjusting.

Real Return to Investment

The real return to investments is also expected to increase across both Mercosur and Europe as a result of a potential FTA (Table 27).

Table 27: Real Return to Investment

Real Return to Investment, %					
	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
Argentina	-0.1	0.0	0.2	0.1	-0.1
Brazil	1.2	0.1	0.5	1.8	1.2
Paraguay	4.7	0.1	3.3	8.0	4.7
Uruguay	0.9	0.1	0.5	1.4	0.9
EU15	0.1	0.0	0.0	0.1	0.1
EU10	0.1	0.0	0.0	0.2	0.1

Overall, the increase in return to capital will be higher for the Mercosur countries, most notably so for Paraguay (8.0 percent) but also for Brazil and Uruguay. The increase in return to investments is expected to be smaller for the European countries and Argentina, where it may be negative.

Energy effects

The total consumption of coal and oil declines slightly in the scenario, while the consumption of gas increases slightly (Table 28). The energy mix in each sector is assumed to be fully inelastic, so that the energy mix changes as production changes between sectors. In total, the demand for the energy falls slightly. The model predicts an overall shift in production away from high energy intensity sectors to lower intensity ones, so that while overall production rises, there is a small decline in overall energy consumption in the EU and Mercosur combined. This includes an increase in energy for transport, which is modelled in the transport services sector. The overall decline of energy use in EU-Mercosur results from production in higher energy intensity sectors moving to other countries. Brazil is the country that reduces its energy demand most. The total decrease in Brazil is 5.2 percent, where the main part comes from reduction in oil demand. EU15 is the region with the largest increase in energy demand measured in absolute terms, but only 0.2 percent in percentage terms. For both regions it is the demand for gas that increases most.

Table 28: Energy consumption for firms and households (Mtoe)

	Coal		Oil		Gas		Total Energy	
	Benchmark	Scenario	Benchmark	Scenario	Benchmark	Scenario	Benchmark	Scenario
Argentina	0.7	0.7	25.9	25.9	17.4	17.3	44.0	43.9
Brazil	12.3	11.6	81.8	77.6	7.1	6.8	101.2	96.0
Paraguay	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1
Uruguay	0.0	0.0	1.7	1.6	0.0	0.0	1.7	1.6
EU15	215.0	215.1	569.4	571.8	230.9	230.9	1015.3	1017.8
EU10	92.3	92.4	43.2	43.3	34.6	34.6	170.1	170.3
Sum	320.3	319.8	776.8	774.5	317.6	317.7	1414.6	1412.2

Source: Model simulations

The changes in demand for energy lead to corresponding changes in CO₂ emissions.

Income effects for alternative services scenario

The decomposition with regards to different trade liberalization measures above, indicated that the overall gains from increased trade were not very sensitive to the assumptions with regards to the degree of liberalization taking place in services. In order to look a little closer at this, we analyze the effects of another trade liberalization scenario, which is more restrictive on the behalf of service liberalization. The alternative potential FTA assumes, as was previously the case, 100 % liberalization of trade in goods, 1 % trade facilitation, but instead of assuming 100% liberalization of services, we now assume that a potential FTA only implies a 25 percent service liberalization. The results with regards to net income effects are summarized (and compared to the effects for our basic scenario) in Table 29.

Table 29 Income Effects, 25 % liberalization in services (100% liberalization in services)

	Millions of US\$	% of GDP
Argentina	1 151(1 255)	0.5 (0.5)
Brazil	6 535 (6 883)	1.5 (1.5)
Paraguay	634 (643)	9.8 (10.0)
Uruguay	353 (369)	2.0 (2.1)
Venezuela	45 (91)	0.0 (0.1)
EU15	3 282 (3700)	0.1 (0.1)
EU10	187(201)	0.1 (0.1)

Source: Model simulations

The results of the more restricted trade liberalization scenario are very similar those in the original FTA, which confirms our previous point that the overall effect of a potential EU-Mercosur FTA is not very sensitive to the degree of liberalization taking place in services.

Effects on the rest of the world

The rest of the world is also affected by a potential free trade agreement between the EU and Mercosur. Total world welfare in terms of real income is increased by a bilateral free trade agreement between the EU and Mercosur. The gains to the two parties (EU and Mercosur) outweigh the loss to the rest of the world (Table 30). The other South American countries (both the Mercosur associates and the rest of South America) are facing a relative decline of real income of -0.1 percent.

Table 30: Welfare Effects, millions of dollars

	Goods liberalization (tariff cuts and other AVTs)	Services liberalisation	Total effect (including 1 pct. trade facilitation)
Argentina	411	138	1.255
Brazil	4.510	465	6.883
Paraguay	502	12	643
Uruguay	272	21	369
Venezuela	-267	61	91
MERCOSUR associates	-165	-12	-173
Other South America	-65	-7	-67
EU15	1.306	558	3.700
EU10	39	18	201
ROW	-2.594	-199	-2.982

Source: Model results

Summary and Overview of Modelling Results

The results of modelling the effects of full trade liberalization show that the free trade scenario gives a large welfare improvement for Paraguay and a small increase in the other Mercosur countries. The change in EU15 and EU10 is smaller (0.1 percent). Aggregate output in the two trading blocs is also expected to increase.

At the same time, the full liberalization scenario will entail large scale and long term adjustments of the national economies. Brazil, Paraguay and Uruguay will each experience a major restructuring of their economies, with a decrease in output from many sectors and a rapid increase in output from the processed food sector.

These sectoral changes will imply adjustment costs which have not been quantified in the CGE model. The results show that the impact of trade liberalization on sector outputs is reflected in changes in wage levels. The overall change once a new equilibrium has been reached is small but positive in all economies for both skilled and unskilled wages.

In terms of energy consumption the model predicts that a free trade agreement could lead to a small decrease in energy consumption in the EU and Mercosur, leading to a small downturn in total carbon emissions from Mercosur and EU together, with rises in other countries.

5. SUSTAINABILITY IMPACT ASSESSMENT: UPDATE OF THE OVERALL PRELIMINARY EU-MERCOSUR TRADE SIA

5.1 Introduction

The objective of the current EU-Mercosur Trade SIA is to update the findings of the preliminary overview SIA that was undertaken in 2003 (Planistat, 2003). This section of the midterm report begins by reviewing the previous study. The scenarios assessed in the previous study are described, together with its methods of analysis, its principal findings and its recommendations for more detailed assessment of specific sectors and issues.

The second part of this section describes the baseline scenario, in terms of the nine core indicators and two process indicators that are used in the SIA methodology.

The third section presents the updated overall preliminary Trade SIA for EU-Mercosur, based on the full liberalisation scenario assessment of potential impacts.

5.2 The 2003 Preliminary SIA for EU- Mercosur

The analysis in the Planistat preliminary overview SIA of the EU-Mercosur trade agreement was based on a purpose-developed Computable General Equilibrium (CGE) economic model. For services and FDI it was considered that the economic model would not be able to fully capture the impacts of trade policy changes, and so these were assessed separately in a parallel cross sector analysis.

The model used in the Planistat study included a dynamic link, through which the direct income effects of trade liberalisation induce shifts in the regional pattern of savings and investment. Such effects can magnify income gains or losses. The results estimated changes in the capital stock, and the welfare and other implications of such changes. In practice, the results of the study showed little difference with and without the dynamic link.

The model allowed wages to vary, and kept total employment effectively constant. Its results included changes in wage rates for skilled and unskilled labour, and changes in employment by sector, under the equilibrium conditions that would occur once the economy has adjusted to the change in trading conditions. Other results for the new equilibrium included changes in GDP, national welfare and income, total export quantity and export value, terms of trade, consumer prices, and production output by sector. The equilibrium changes in production levels predicted by the model were used to estimate environmental impacts, outside the model. The data came primarily from the GTAP5 database, which has since been superseded by GTAP6.

The baseline scenario of the first preliminary overview SIA included the assumption of a successful conclusion to the WTO Doha Round, and implementation of the Free Trade Area of the Americas (FTAA). These were implemented in the SIA along with the scenario for a postulated EU-Mercosur agreement, as shown in Table 31.

Table 31: Scenarios assessed in the Planistat SIA of an EU-Mercosur Agreement

Trade Measure & Field of Application	Measure Applied	Implementation in model
<i>Baseline Scenario</i>		
WTO Doha Round	Tariff reduction and reduction of barriers to trade in services. Agricultural subsidy reduction	30% reduction in agricultural subsidies. 50% reduction in all tariffs.
FTAA incorporating Mercosur	Free Trade	All Western-hemisphere border tariffs removed with the exception of 'Other

Trade Measure & Field of Application	Measure Applied	Implementation in model
		Agriculture', where tariffs reduced by 50%.
	Government Procurement: 40% of purchases open to regional competition.	Reduction in tariff equivalent on inputs to public administration and water
EU-Mercosur Scenario		
Agricultural and non-agricultural goods		
<i>A) Elimination of Customs duties</i>		
Agricultural & processed agricultural products HS01-02, 04-24	EU proposal: Tariff elimination covering €2.2bn of Mercosur exports currently covered by tariffs (80% of agricultural sector trade subject to tariffs) + €5.8bn products which already have 0% duty => 90% coverage of MERCOSUR's agricultural exports. More limited tariff reductions on remaining 10% of trade: cereals, olive oil, dairy products, beef, tobacco, sugar, certain processed fruit, vegetables.	Reduction of tariffs by 65% from Doha baseline
	EU export subsidies and other factor payments are not addressed by Mercosur negotiations. But they are addressed by Doha round negotiations.	Incorporated into baseline: subsidies reduced 30%
	Mercosur Export taxes	Elimination of those remaining
Fish - HS03	Complete elimination of duties over 10 year period	Elimination of tariffs
Industrial Products HS25-97	100% elimination of duties over a timetable, possibly faster in EU than Mercosur	Elimination of tariffs
<i>B) Non-tariff measures</i>		
i Internal taxes	Re-statement of multilateral agreements. Progressive elimination of tax discrimination	Reduction in non-tariff taxes on international trade by 80%
ii rules of origin	Agreed application of rules of origin	Reductions in implicit taxes
iii standards	Elimination of use of standards as a means of protection	Reduction in tariff equivalents.
Sanitary / Phytosanitary measures	Recognition of equivalence of technical methods in food and related sectors	Reduction in tariff equivalents on agriculture-based sectors.
Services & Establishment		
	Sector-based agreements. Reduction in frictional trading costs, including between Mercosur countries	Reduction in tariff equivalents both within Mercosur and between regions, specified as changes in elasticities for all services sectors and construction.
Other sectors / other types of measure		
Foreign Direct Investment (FDI)	FDI considered under Services & Establishment	Foreign Direct Investment is endogenous in the model. Nevertheless, reduction in

Trade Measure & Field of Application	Measure Applied	Implementation in model
		tariff equivalents in all manufacturing sectors, water, electricity and gas, construction, communications, financial services, wholesale & retail trade.
A) Government Procurement	Partial (40%) opening of public procurement, especially at federal level where applicable.	Reduction in tariff equivalent on inputs to public administration and water
B) Intellectual Property Rights	Specific agreement on wines and spirits. Increased general protection for intellectual property. Note difficulty in modelling pharmaceutical impact.	Reduction in tariff equivalent for food products, beverages & tobacco products, textiles & wearing apparel, electronics, machinery and other manufactures, business services, recreational and other services, wholesale & retail distribution.
C) Competition	Harmonisation and greater enforcement of competition policy	Suggested reduction in Mercosur tariff equivalents in water, electricity and gas, transport, communications, financial services.
D) Transparency	Incorporated into other measures	

The Planistat model and the model used in the present study share a common theoretical framework used in CGE modelling. The model outputs are therefore similar. The main differences are in the data inputs where the 2006 model uses the updated GTAP6 database, and in the specification of the scenarios. For the present study, the baseline scenario has been updated for the current standstill in the WTO Doha negotiations. A similar 'no change' assumption is made for the FTAA in the baseline scenario. The liberalisation scenario in the present study also differs from the Planistat liberalisation scenario. The present study assumes 100 per cent liberalisation of all trade and services and a 1 per cent reduction in the costs of trade facilitation.

The main findings of the 2203 SIA on sustainable development in Mercosur and the EU were as follows:

Mercosur

- Relatively small overall economic impacts.
- Larger positive or negative economic impacts on particular sectors.
- A danger that short-term problems of employment restructuring might dominate and outweigh the longer term benefits.
- Only a limited contribution towards reducing unemployment
- Potentially extensive agricultural restructuring
- For agriculture, possible environmental effects on water resources and water quality, soil quality and biodiversity; possible social effects on employment (formal or informal) and rural poverty. In particular as these may be gender or ethnically differentiated.
- For food products and meat and dairy products, environmental effects on air emissions or water or ground pollution.
- For petroleum and related chemicals and plastics, potential environmental effects in Brazil.
- For transport: environmental effects in Argentina, Brazil and Uruguay on air emissions from transport, and land quality or water supplies from car disposal.

- For the retail and wholesale sector, social impacts associated with the economic and employment impacts.

European Union

- In the European Union, the main issues identified in the Planistat SIA are social, associated with potentially adverse economic effects for particular economic sectors in specific regions of some Member States. The potential economic and environmental impacts are assessed to be non-significant.

The screening and scoping exercise conducted in the 2003 SIA identified the following priority sectors for more detailed study:

- Agriculture, Food products and Meat & Dairy products: Mercosur
- Agriculture, Food products and Meat & Dairy products: EU-25
- Food products and Meat & Dairy products - Environmental analysis, Mercosur
- Petroleum refining, Chemicals, Rubber, Plastics – Brazil
- Electronics & Machinery – Capital Goods: Mercosur
- Wholesale & Retail – Mercosur and EU
- Transport – Argentina, Brazil and Uruguay

The study also identified impacts in other sectors that were potentially significant:

- Forestry and Wood products. Potentially significant impacts were identified associated with agriculture. It was envisaged that a detailed SIA on agriculture would examine these in more detail.
- Fishing – Argentina. Several studies of this area had already been conducted. Insufficient information was available to indicate that further study would be worthwhile.
- Leather Products. It was considered unlikely that the potential impacts would be sufficiently significant to warrant further analysis.
- Motor Vehicles – Mercosur and EU. Several potentially significant impacts were identified, arising from increased trade between the EU and Mercosur in both directions. It was envisaged that the most significant of these would be examined in a detailed SIA on the transport sector.

Updating the 2003 SIA

The SIA framework described in section 2 will be used to summarise the results of the causal chain analysis and to show the significance of the potential impacts in terms of the core sustainability indicators.

The updated preliminary overview SIA covers three main areas:

- Agriculture
- Non-Agricultural market access
- Services

The terms of reference for the current phase of the SIA of the EU-Mercosur agreement also provide for detailed SIAs on agriculture, forests and the automobile sector. These will cover many of the issues recommended for further study in the previous SIA.

Baseline Scenario Indicators for Mercosur

The general baseline economic characteristics and trends for the SIA were discussed in section 3, and additional statistical data is provided in annex 2. Here, we summarise the baseline conditions for each of the SIA core sustainability indicators and process indicators.

Economic indicators.

Real income

Argentina and Uruguay are classified as upper middle income countries in the World Bank classification, and Brazil and Paraguay as lower middle income. Argentina and Uruguay showed strong growth in 2004, primarily in recovery from decline since 1999, which was exacerbated by the 2002 crisis. Inflation is still a significant issue throughout the region.

Fixed capital formation

Data on gross capital formation and foreign direct investment (FDI) are given in Annex 2. A recent acceleration throughout the region has followed low levels of capital formation and FDI from the late 1990s. The privatisation programme since the 1990s has contributed to inward investment flows, with a decline between 2000 and 2003 that has subsequently been reversed.

Brazil has invested heavily in technological development, spending 1.0% of GDP on Research and Development (UNDP 2005). Argentina has also invested significantly (0.4%), while Uruguay and Paraguay lag at 0.2% and 0.1%.

As the poorest of the four countries, Paraguay is the only Mercosur member with a significant dependence on development aid.

Employment

Unemployment is particularly severe in Argentina and Uruguay, at around 20% of the labour force. In both countries, rural unemployment is significantly higher than in urban areas. In Brazil and Paraguay overall unemployment levels are lower (recorded as less than 10%), and are higher in urban than rural areas.

Social indicators

Poverty

Although Uruguay has a lower GDP per capita than Argentina, it has lower levels of absolute poverty. The proportion of the population living at less than US\$ 1 per day is 16.4% in Paraguay, 8.2% in Brazil, 3.3% in Argentina and less than 2% in Uruguay. The numbers of people with incomes below \$US 2 per day are 33.2% in Paraguay, 22.4% in Brazil, 14.3% in Argentina and 3.9% in Uruguay.

The countries' rankings in the broader measure of the Human Development Index follow the same order as GDP per capita, with Argentina at 0.863, Uruguay at 0.840, Brazil at 0.792 and Paraguay at 0.755.

Poverty levels vary significantly between regions, particularly between the more prosperous cities and remote rural areas. In Paraguay a very skewed distribution of land ownership, with the overwhelming majority of peasants without formal land titles, contributes to a high level of rural poverty.

Health and education

Life expectancy at birth is the highest in Uruguay, at 75.4 years, followed by Argentina at 74.5 years. Brazil (70.5%) has the lowest life expectancy, with Paraguay slightly higher at 71.0%. Life expectancy in Brazil has however improved significantly in recent years, from 68.3 years in 2001.

Although Paraguay is the poorest country Brazil has a lower adult literacy rate, at 88.4% compared with 91.6%. The two richer countries have significantly higher literacy rates, at 97.2% in Argentina and 97.7% in Uruguay. Brazil has however made strong progress, with a combined enrolment ratio the second highest in the region at 91%, after Argentina at 95%. Uruguay has a combined enrolment ratio of 88%, with Paraguay lagging far behind at 73%. Secondary education in Paraguay is particularly weak, at 51% of children.

Equity

Income inequality is the lowest for the four countries in Uruguay, with a Gini index at 44.8 (compared with 25.8 in Norway and 40.8 in the USA). The figure has shown only slight variation between the pre and post-crisis periods. In Brazil income inequality is among the highest in the world, improving somewhat between 1994 and 2003 to a figure of 56.9, then falling sharply back in 2004 to the 1994 level of 61.5. Inequality in Paraguay is similar, at 57.9, with Argentina rather lower at 52.7. The figure in Argentina has been rising steadily since 1996, when its Gini index was 48.5.

Although per capita income in Argentina rose in the early 1990s, the distribution of income worsened and the income of the poorest 20% declined. Since 1995, average income for nearly all groups fell, except for the highest 20%. Similarly in Paraguay, income inequality rose significantly between 1990 and 1995 and has stayed relatively high. With rising unemployment in both countries, many of the poor have resorted to work in the informal sector, with limited social protection. Poverty in Brazil is similarly linked with large disparities in income, both between regions and in the social exclusion of some groups.

As well as income inequalities, the rural poor often have limited access to social services, and lack the power to exercise rights to land or employment. Indigenous peoples and other ethnic minorities are particularly affected, with a close connection to environmental issues, for example in the Amazonian forest.

As measured by the Gender-related Development Index, Argentina has the highest levels of gender equity at 0.854, followed by Uruguay at 0.836. Paraguay has the lowest level of gender equity, at 0.742, with Brazil at 0.786.

Environmental indicators

Biodiversity

Mercosur has the largest reserves of arable lands and forests in the world. The expansion of agricultural activities combined with logging has led to a rapid deforestation in many areas, especially in Brazil and Paraguay. Other activities such as mining and road construction have also contributed to deforestation.

Biological diversity is also high coastal zones, where it is threatened by population pressures and commercial activities such as shrimp farming and oil extraction. Fisheries, especially in Argentina, have suffered from over-exploitation of some species. Catches are difficult to monitor, with limited implementation of fishing licenses.

Concerns have also been expressed about the impact on biodiversity of transgenic crops, particularly in Argentina and in Brazil, used both legally and illegally.

Environmental quality

The main threat to air quality comes from emissions of pollutants in urban areas, particularly from road transport. Industrial emissions are also significant in some areas. In Brazil and Argentina oil extraction and the chemical industry are significant pollution sources.

Water quality management is a major issue in some areas. The agriculture sector has grown rapidly since the 1990s, with potential for pollution from fertilisers and pesticides. Other concerns arise from pollution from mining and the chemical industry.

Natural resource stocks

Water is abundant in most parts of the region, and water quantity is not a major issue in most areas.

Increased oil exploration (notably through foreign direct investment in Brazil), may accelerate the decline of the resource. Brazil has however invested heavily in the development and use of biofuels, and much of the electricity production in the region comes from hydropower.

As noted in terms of biodiversity, over-exploitation of fish stocks has threatened the resource.

The use and potential threat to sustainable production levels, is discussed in detail in the sector study for forests.

Process Indicators

The earlier sections of the report identified key environmental, social and economic trends in the Mercosur. Some environmental qualities are improving while others are deteriorating, through effects such as depletion of water resources, land conversion, coastal development, climate change, urbanisation and increasing consumption, pollution and waste generation. Many of the environmental trends are associated with social and economic ones, including industrialisation and economic growth. Other social and economic changes include education, improvement and extension of health services, technological development and the broad influences of globalisation.

To the extent that the EU- Mercosur trade agreement counters or reinforces any of these processes of change, this may have significant long term cumulative effects on the sustainability of development.

5.3 Updated Preliminary Overview SIA: Mercosur

5.3.1 Impact of Liberalising Trade in Industrial Products

Economic indicators

Real Income

The industrialisation process in Mercosur countries was for many years promoted by the protectionist import substitution industrialisation (ISI) strategy, until the adoption of market liberalisation policies in the late 1980s and 1990s.

The manufacturing sector now accounts for a significant share of GDP in each of the Mercosur countries (Table 32).

Table 32: Manufacturing Value Added (% of GDP)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Argentina	19	19	20	19	18	18	17	22	24	24
Brazil	24	23	20	17	17	17	14	13	12	11
Paraguay	15	15	15	15	14	13	14	14	14	14
Uruguay	19	19	18	18	16	16	15	16	18	21

Source: World Bank: World Development Indicators

Manufactures also account for a significant proportion of Mercosur exports and imports (Tables 33 and 34). Brazil has the highest share of manufactures in total exports at almost 70 percent; Argentina (51 percent), Uruguay (44 percent) and Paraguay (24 percent) have lower share of manufactures in exports. In contrast, imports of manufactures dominate total imports in all four countries.

Table 33: Share of Non Agricultural Exports in Total Exports (%)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Argentina	50	48	51	49	50	56	55	54	51	51	53
Brazil	68	67	66	68	68	73	70	70	68	69	71
Paraguay	55	42	28	26	29	34	30	24	22	24	
Uruguay	54	52	50	48	48	52	54	49	46	44	

Source: UN COMTRADE

Table 34: Share of Non Agricultural Imports in Total Imports (%)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Argentina	93	94	94	94	94	94	93	94	95	97	96
Brazil	88	88	90	89	91	92	93	92	92	94	94
Paraguay	81	79	80	78	82	82	85	87		91	
Uruguay	88	88	88	88	88	87	87	84	85	89	

Source: UN COMTRADE

Existing levels of protection on manufactures are on average around 13-14% (Table 35), although there are sizeable variations in the AVE level of protection on specific products and sub-sectors (see section 3). These sub-sectoral variations in protection levels are found in the external tariff and non-tariff barriers and in the barriers to trade which are imposed on intra-Mercosur trade flows.

Table 35: Average MFN Tariffs on Manufactured Products (%)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Mercosur	12.6	13.0	13.1	15.0	15.3	15.3	14.1	14.2	14.5	13.4	12.0
Argentina	13.1	13.9	14.1	16.4	16.2	16.1	13.3	15.0	15.8	13.1	12.0
Brazil	14.4	14.8	14.4	17.3	17.0	16.8	15.1	14.9	14.5	14.4	13.5
Paraguay	11.4	11.5	11.7	11.8	13.6	13.7	13.5	13.2	13.2	12.4	11.2
Uruguay	11.6	12.0	12.2	14.4	14.5	14.7	14.6	13.7		13.7	11.5

Source: UNCTAD TRAINS

The removal of all trade restrictions would have a significant impact in terms of changes in output and real income in the industrial sub-sectors. Those sectors that have been heavily protected are more likely to experience a decline in output in the long run; in contrast, sectors that are able to compete

internationally will expand their level of activity. Table 36 shows the predicted changes (in percentage terms) in response to full liberalisation.

Table 36: Changes in Industrial Sector Output, Mercosur (percentage change)

	Argentina	Brazil	Paraguay	Uruguay
Textiles and Clothing	-1.4	-6.5	-27.8	-15.7
Wood, Pulp, Paper	-1.8	-5.0	-21.3	-7.8
Chemicals	-0.1	-5.1	-20.1	-5.4
Metals	-3.7	-14.0	-19.1	-13.8
Motor Vehicles	-9.7	-29.1	-66.4	-41.6
Transport Equipment	4.0	-17.6	-63.0	-35.7
Machinery	-15.3	-24.3	-57.8	-38.0
Utilities	-0.4	-2.0	-7.8	1.7
Construction	0.3	1.2	8.6	0.3

Source: Model simulations

Textiles and clothing, wood, pulp and paper, chemicals, metals, motor vehicles, transport equipment (except for Argentina), and machinery are all predicted to decline in the long run, as a result of full trade liberalisation.

Fixed Capital Formation

The immediate impact on investment is expected to be negative, as imports replace domestic production and uncompetitive firms retrench or close. Over time, the exposure to competition will induce efficiency and productivity gains, reflected in improved rates of return on investment and induce some recovery in investment (Table 27). The opportunities for new investment and prospects of higher rates of return can be expected to attract foreign and domestic investment, depending on the other factors which affect the investment climate.

Employment

The Mercosur – EU model follows the standard computable general equilibrium modelling approach and assumes that total employment is fixed at the national or regional level. Workers from one declining sector are able to immediately find work in an expanding sector, hence, the model allows only for the evaluation of inter-industry shifts in employment.²⁴ Transitional and persistent unemployment effects due to labour market constraints and the associated adjustment costs are not generally evaluated within a CGE modelling framework. In other words, CGE models tend to remaining silent on employment effects such as moves out of disguised unemployment in very low productivity, informal sectors into formal employment in higher productivity, modern sectors within a country/region, or the migration of jobs from one country to another as a consequence of trade liberalisation (Ackerman, 2005)²⁵.

The output changes induced by trade liberalisation (Table 36) will result in sectoral changes in employment, as sectors achieve a new equilibrium output level. The predicted changes in sectoral employment as shown in table 37.

²⁴ Changes in relative wages are used to maintain overall level of employment (and unemployment) constant.

²⁵ The short term adjustment costs in employment may be significant, particularly if they are concentrated in particular subsectors and/or regions. Recent work by the OECD has considered ways in which governments can assist workers displaced by trade to re-integrate into the labour market (OECD, 2005).

Table 37: Changes in Employment (%)

Employment Effect, % change, total FTA effect

	Argentina	Brazil	Paraguay	Uruguay	Venezuela	EU15	EU10
textiles and clothing	-1.6	-6.1	-27.3	-15.7	-0.1	0.9	0.3
wood, pulp, paper	-1.9	-4.8	-20.9	-7.9	0.0	0.1	0.1
chemicals	-0.3	-4.5	-19.8	-5.5	2.1	0.4	0.2
metals	-3.8	-13.6	-18.0	-13.8	3.4	0.7	0.6
motor vehicles	-9.9	-28.6	-66.4	-41.6	0.2	1.8	0.7
transport equipment	3.9	-17.2	-63.0	-35.7	2.0	0.1	1.0
machinery	-15.4	-23.9	-57.3	-38.0	3.1	1.4	0.8
utilities	-0.6	-1.6	-6.6	1.6	0.8	-0.1	0.2
construction	0.1	2.1	8.8	0.2	-0.5	-0.1	0.1

The overall impact on employment in the manufacturing sector is negative for each of the Mercosur countries, reflecting the predicted structural shift from industrial to agricultural based production which occurs following full trade liberalisation.

Given the rigidities in the labour market and the high level of official unemployment in the urban sector in Mercosur countries,²⁶ the employment effects of trade liberalisation in the manufacturing sector are expected to be significant.

Poverty

Global CGE models by design are not particularly well suited for poverty analysis due to their lack of disaggregated information at the household level and their inability to distinguish between poor and non-poor individual households.²⁷ Conventional CGE models are not able to assess poverty impacts at the individual household level. Instead they tend to distinguish between various types of representative agents or, in other words, categories of households or workers. Several global CGE models assess the impact of further trade liberalisation on poverty by differentiating between skilled and unskilled labour, and calculating the number of people that may be lifted above the \$1 or \$2 a day poverty line (Anderson et al, 2006, Cline, 2004).²⁸ Poverty impacts are mainly explained in CGE models by changes in real rewards to factors. Since the returns to unskilled labour increase with trade liberalisation more than the returns to skilled labour, and most of the poor are unskilled workers, greater trade reform is expected to contribute to more poverty alleviation. Overall, global CGE models estimate modest poverty impacts stemming from trade liberalization.

An alternative approach to assessing poverty impacts using global (multi-country) CGE models is adopted in Polaski (2006) who undertakes a discussion on the likely poverty impacts by combining the income gains or losses estimated by the CGE model with the data on the current distribution of poverty at the sectoral level. The net effect would depend on the details of the outcome of the trade liberalization scenario and several country characteristics, such as the relative size of the agricultural and manufacturing sectors, the rates of growth or contraction likely to be experienced by each sector, and their relative productivity levels.

²⁶ 14% in Argentina, 12% in Brazil, 10% in Paraguay, 13% in Uruguay. Official figures on employment in developing countries typically understate the level of labour un- and under- employment.

²⁷ See Kirkpatrick and Scricciu (2006) for a detailed discussion of CGE modelling and poverty impact assessment.

²⁸ For example, Anderson et al (2006) employ a fairly conventional global CGE model that they modify to account for changes in the real average wage of unskilled workers (assuming that these are the most relevant for the poor) and to which they attach pre-determined (World Bank) poverty elasticities in order to compute poverty impacts.

The EU- Mercosur trade liberalization model estimates a positive effect for unskilled real wages and skilled wages in each of the Mercosur countries (Table 38). These changes are derived on the assumption that overall employment remains constant. If we allow for the significant decline in manufacturing employment and the likelihood that many of the displaced workers will join the pool of urban unemployed, any gain in wages by those remaining in employment will be offset by the fall in income for the now-unemployed. It is also the case that poverty is not confined to the rural areas, with many urban households on or below nationally recognized poverty levels. The impact of trade liberalization in the manufacturing sector on poverty is expected, therefore, to be adverse.

Table 38: Decomposed Income Effects: Aggregate Level (percentage change)

	Argentina	Brazil	Uruguay	Paraguay	Venezuela	EU15	EU10
Unskilled Real Wage Effects %	0.3%	0.9%	5.5%	1.4%	0.5%	0.2%	0.1%
Skilled Real Wage Effect %	0.0%	0.7%	3.2%	0.7%	0.0%	0.3%	0.2%

Health and Education

The direct fiscal impact of the removal of tariff barriers to imports of industrial goods will be to reduce government revenue (Table 24). If this is not mitigated by levying the same amount of income by other means, a reduction in social expenditure can be expected. Depending on the types of alternative taxes that are chosen, further social impacts will occur, if the incidence of their effects differ from those of the import tax which they replace. The impact of trade liberalisation on health and education in the industrial sector might be expected, therefore, to be negative, in the short term.

Equity

The differential between skilled and unskilled labour wages is predicted in the CGE model to decline (Table 40), which would have the effect of lowering income inequality within the formal sector. This is likely to be offset, however, by the increase in unemployment which will worsen income distribution and equity. There are unlikely to be significant gender equity impacts at the industrial sector level, although there may be differential impact at the sub-sector level, where female employment may be concentrated.

Table 39: Skilled and Unskilled Wage Differentials (If > 0: more equal, if < 0 less equal)

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
Argentina	0.2	0.0	0.2	0.3	0.2
Brazil	-0.1	0.0	0.2	0.1	-0.1
Paraguay	3.3	0.0	-1.1	2.3	3.4
Uruguay	0.8	0.0	-0.1	0.7	0.8
MERCOSUR associates	0.0	0.0	0.0	0.0	0.0
Other South America	0.0	0.0	0.0	0.0	0.0
EU15	0.0	0.0	0.0	0.0	0.0
EU10	0.0	0.0	0.0	-0.1	0.0
ROW	0.0	0.0	0.0	0.0	0.0

Biodiversity

In Mercosur countries the impacts on biodiversity for the manufacturing sector are expected to be small. Production levels rise for processed food, particularly in Paraguay and Brazil, and decline in most other manufacturing sectors. The principal biodiversity effects will occur through any consequent changes in pollution (primarily of water) and water consumption, which may have knock-on effects through pollution of aquifers or a fall in groundwater levels. Water resources are relatively abundant in the Mercosur countries, and impacts from consumption changes are unlikely to be significant. The effect on water pollution may be significant in local species-rich areas if existing pollution levels are high, and regulation is weak. The overall effect of the production changes is expected to be beneficial but small, with a possibility of localised effects that are adverse, but also small.

Environmental Quality

Impacts will occur for both air pollution and water pollution as a result of the production changes. In Mercosur countries these will be beneficial overall as a result of the overall fall in manufacturing production, but with the possibility of localised adverse effects from the increase in production of processed foods. These could be significant if regulatory regimes are weak or are unable to respond. The potential for adverse effects is particularly high in Paraguay and to a lesser extent Brazil. Any reduction in intra-Mercosur shipments of industrial goods will contribute to the overall improvement in environmental quality.

Little effect on greenhouse gas emissions and climate change is expected from the production changes, as these consist primarily of movements of production between the EU and Mercosur and also other countries. A small adverse effect is expected from the increase in international transport.

Natural Resource Stocks

The overall effect on water resources in Mercosur countries will be beneficial, because of the overall decline in industrial production. Water resource pressures tend to be low in the region, and so any localised adverse effects are not expected to be significant.

Similar effects are expected for industrial energy consumption. As assessed in the economic model, energy consumption is expected to fall slightly overall. A larger decline in the industrial sector will be countered by an increase for other sectors.

Consistency with sustainable development principles

Table 40 evaluates the effects on sustainable development processes in relation to the first of the two process indicators defined in the methodology.

Table 40: Consistency with sustainable development principles

Sustainable development principles	Impact
Principle 8 (reduce and eliminate unsustainable patterns of production and consumption).	Except for the adverse transport effect, production becomes more efficient. The trade agreement encourages greater consumption in both Mercosur and EU
Principle 9 (exchange scientific and technological knowledge, and enhance the development, adaptation, diffusion and transfer of technologies, including new and innovative technologies).	The decline in industrial production in Mercosur reduces demand for technological development. Some technology transfer will occur, but primarily for lower added-value production.
Principle 11 (enact effective environmental legislation).	Minor increase in need for effective legislation.
Principle 12 (promote a supportive and open	High consistency.

Sustainable development principles	Impact
international economic system).	
Principle 14 (discourage or prevent the relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health).	Neutral.
Principle 15 (the precautionary approach shall be widely applied).	Neutral.
Principle 16 (promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should bear the cost of pollution).	Neutral for the polluter pays principle.
Principle 20 (enable the full participation of women in environmental management and development).	Minor gender effects in both directions. Neutral effect overall.
Principle 22 (recognize and duly support the identity, culture and interests of indigenous people and their communities, and other local communities).	Neutral.

All the effects identified in Table 40 are relatively neutral, except for the principles of reducing and eliminating unsustainable patterns of consumption (principle 8) and enhancing technology transfer (principle 9). Except in these areas, the scenario is consistent with sustainable development principles, and makes a positive contribution in some cases. The scenario is judged to be highly consistent with principle 12, to promote a supportive and open international economic system.

In relation to consumption and production patterns, the scenario is expected to accelerate the underlying processes which drive increasing consumption and associated wastes. These processes are broadly associated with economic growth, which itself has social benefits, and which the negotiations aim to enhance. Stronger environmental regulation is needed in some areas, to achieve a sustainable balance between economic growth and environmental degradation. The EU-Mercosur trade liberalisation scenario adds incrementally to this general need.

Institutional capacity for effective sustainable development strategies

Table 41 evaluates the effects on sustainable development processes in relation to the second of the two core process indicators.

Table 41: Institutional capacity for effective sustainable development strategies

Sustainable development strategy	Impact
A2. Integration of poverty eradication, gender issues, and the short-term and long-term needs of disadvantaged and marginalised groups into economic policy.	Trade policy does not itself integrate these issues. The expected decline in industrial production may exacerbate adverse trends unless mitigating action is taken.
A3. Integration of the maintenance of sustainable levels of resource use and the control of pollution to maintain a healthy environment into economic policy.	Liberalisation does not integrate environment into economic decisions. Adverse trends may be exacerbated in some areas.
B1. Participation of stakeholders, including government, decentralised authorities, elected bodies, non-governmental and private sector institutions and marginalised groups.	Opportunities for participative planning in the development of the trade agreement are limited.
B2. Transparent planning processes, with accountability for decisions made.	The SIA generates a small increase in transparency and accountability.
B4. Long-term vision for the country's development, which is consistent with the country's capabilities, allows for short-term and medium-term necessities, and has wide political and stakeholder support.	The vision of development is based primarily on exploiting short to medium term comparative advantages, with little emphasis on long term environmental or social change.

Sustainable development strategy	Impact
D3. Realistic analysis of national resources and capacities in the economic, social, and environmental spheres, taking account of external pressures in the three spheres.	The development of trade policy takes little account of these capacities and pressures.

The effects identified in Table 41 are all relatively neutral in that they neither add to nor detract from Mercosur countries' capacity to implement effective sustainable development strategies. However, a failure to take full account of these issues may be regarded as a significant adverse impact on their capacity to plan strategically for sustainable development, and may limit their policy space for doing so. This is of particular concern in relation to the adverse effects on high added-value industrial production in Mercosur countries.

The significance of the impacts of full trade liberalisation on the industrial sector are shown in Table 42 in terms of the core and process indicators.

Table 42: Summary of Sustainability Impacts for Industrial Sector: Mercosur

Impact	Countries / sectors affected	Causal factors	Factors affecting significance	Potential significance	
				short term	long term
Economic					
Real income	All	Reduction in tariffs and non tariff barriers	Share in total output Importance of structural change process	↓	↓
Fixed capital formation		Output changes at firm level New investment	Investment climate Firm dynamics	↓	-
Employment		Reduction in output	Existing level of unemployment Workforce mobility and labour market flexibility Transferability of skills	↓	↓
Social					
Poverty		Loss of employment and household income	Existing level of poverty Wage levels of displaced labour Informal sector income generation opportunities	↓	↓
Health and education		Decline in government revenue from trade tariffs	Reduction in social expenditure programmes	↓	-
Equity				-	-
Environmental					
Biodiversity	<u>Minor effects in both directions, small beneficial overall effect</u>	Water consumption and pollution	Effective regulation	-	-
Environmental quality	<u>Beneficial overall</u>	Reduction in	Improvements in	↑	↑

Impact	Countries / sectors affected	Causal factors	Factors affecting significance	Potential significance	
				short term	long term
	<u>impact on air and water pollution, possible local adverse effects</u> <u>Climate change</u>	industrial sector activity International transport	pollution control technology Changes in output mix Carbon trading etc.	↓	↓
Natural resources	Overall beneficial effect on water and energy	Reduction in industrial sector activity		↑	↑
Process					
SD principles	<u>Positive for international cooperation, otherwise neutral except for consumption and production and technology transfer</u>	Acceleration of underlying processes	Environmental regulation and technology cooperation		↓
SD strategies	<u>Adverse effect on capacity to plan</u>	Decline of high added value industry	Technology planning		↓

The following symbols are used in the tables to show impact significance

- ↑ positive greater significant impact
- ↓ negative greater significant impact
- ↑ positive lesser significant impact
- ↓ negative lesser significant impact
- ↑↓ positive and negative impacts likely to be experienced according to context (may be lesser or greater as above)
- impact has been evaluated as non-significant compared with the base situation

Column 2 This shows the types of likely significant impact that have been identified in the analysis, grouped under the nine core indicators and two process indicators defined in the methodology.

Column 3 Entries in this column summarise the main factors in the causal chain.

Column 4 Highlights factors which may need to be considered in assessing M&E measures.

5.3.2 Impact of Liberalising Trade in Agricultural Products

The sector SIA on agriculture provides a detailed assessment of the potential impact of full trade liberalisation on the agricultural sector in Mercosur. This section provides, therefore, a summary based on the results from the CGE modelling.

Real Income

The agricultural sector is a key component of Mercosur economies. In all the member states, agriculture accounts for more than 10% of GDP (Table 43). In addition, it is a very dynamic sector with an impressive rate of growth (except in Paraguay).

Table 43: Importance of the agricultural sector in Mercosur economies

	Argentina	Brazil	Paraguay	Uruguay
Agricultural share (%) of GDP (2004)	11.2	10.4	27.2	12.4
Growth (%) agricultural GDP (2004)	7	5.3	2.1	9

Sources: World Bank, FAO.

Mercosur exports of agricultural products are diversified. Table 44 shows that the most important products exported by Mercosur are: soybeans and soy products, bovine and poultry meats and preparations, sugar, fruits juices, coffee, corn, wheat, tobacco, fruits and vegetables (fresh and prepared).

Table 44: Value and destination of Mercosur agricultural exports (2004)

	World (\$USm)	Share of Mercosur total agricultural exports (%)	Asia (%)	EU 15 (%)	Mercosur (%)	North America (%)	Other (%)
Beverages/Spirits	824	1.8	27	23	8	20	22
Bovine Meat/Preparations	4343	9.3	14	35	2	17	32
Coffee	1759	3.8	12	56	2	20	10
Corn	1825	3.9	42	19	3	0	36
Dairy products/Bird's eggs/natural honey	1014	2.2	12	16	10	9	53
Poultry meat/preparation	2875	6.2	58	7	8	6	21
Soybeans/soya products	18665	40	49	24	0	1	25
Sugar	2707	5.8	1	1	80	1	17
Swine meat/preparation	745	1.6	44	37	3	1	15
Tobacco	1666	3.6	33	2	1	7	58
Vegetables/fruits (fresh and preparation)	1456	3.1	15	4	7	0	74
Fruit juices	1657	3.5	23	33	4	16	24
Wheat	1613	3.5	2	44	21	16	17
Other agricultural products	5565	11.9	11	63	0	20	5
TOTAL AGRICULTURE	46714	100					

Source: COMTRADE

The removal of all trade restrictions will have a significant impact in terms of changes in output and real income in the agriculture sector. sub-sectors. Table 45 shows the predicted changes (in percentage terms) in response to full liberalisation.

Table 45: Changes in Agriculture Sector Output, Mercosur (percentage change)

	Argentina	Brazil	Paraguay	Uruguay
Grains	11.4	15.1	10.8	8.6
Crops	1.7	0.4	-7.8	1.2
Animal Products	4.1	32.0	36.9	4.6
Processed Foods	6.1	46.6	73.4	17.1

Source: Model simulations

As can be seen from the Table 45 production of grains, other crops, animal products and processed foods are expected to increase across all Mercosur countries (with the exception of other crops in Paraguay).

Having analyzed the expected changes in production, we now turn our attention to the effects on trade. Table 46 shows the changes in agricultural exports for each sector in Mercosur.

Table 46: Change in Export Quantity, Mercosur (percentage change)

	Argentina	Brazil	Paraguay	Uruguay
Grains	15.8	-26.1	-22.7	25.9
Crops	0.8	-33.2	-36.1	-3.6
Animal Products	-17.3	-54.9	-75.5	-35.7
Processed Foods	40.5	339.9	608.7	131.2

Source: Model simulations

As can be seen from the table, the expected changes in exports are largely in line with the prediction with regards to changes in production, although the overall increase in agricultural production is mainly reflected in an increase in processed foods exports. The primary agricultural sectors outputs are used as intermediate inputs in the processed foods sector, which is confirmed by the significant increase in exports.

Fixed Capital Formation

The immediate impact on investment is expected to be insignificant, allowing for the lag in investment response to changing market opportunities. However, as production and export increase, investment will be stimulated in those sectors where production rises. The exposure to competition will induce efficiency and productivity gains, reflected in improved rates of return on investment (Table 27). The opportunities for new investment and prospects of higher rates of return can be expected to attract foreign and domestic investment, depending on the other factors which affect the investment climate.

Employment

The Mercosur – EU model follows the standard computable general equilibrium modelling approach and assumes that total employment is fixed at the national or regional level. Workers from one declining sector are able to immediately find work in an expanding sector, hence, the model allows only for the evaluation of inter-industry shifts in employment.²⁹ The agriculture output changes induced by trade liberalisation will result in sectoral changes in employment, as sectors achieve a new equilibrium output level. The predicted changes in agricultural sector employment as shown in Table 47.

Table 47: Changes in Agriculture Employment (%)

Employment Effect, % change, total FTA effect				
	Argentina	Brazil	Paraguay	Uruguay
grains	14.2	19.1	14.2	11.1
crops	3.6	3.3	-6.1	3.0
animal products	6.3	37.6	43.3	6.7
processed foods	5.9	47.4	76.7	17.1

The overall impact on employment in the agriculture sector is positive for each of the Mercosur countries, reflecting the structural shift from industrial to agricultural based production which occurs following full trade liberalisation.

Poverty

The EU- Mercosur trade liberalization model estimates a positive effect for unskilled real wages and skilled wages in each of the Mercosur countries (Table 40). These changes are derived on the assumption that overall employment remains constant. But these impacts will affect the formal employment segment of the labour market which in the rural/agriculture sector is unlikely to be

²⁹ Changes in relative wages are used to maintain overall level of employment (and unemployment) constant.

characterized by significant levels of poverty. The growth in employment opportunities in the food processing sector may allow some households to graduate out of poverty, but overall, the impact on poverty in the rural sector is unlikely to be significant.

Health and Education

The direct fiscal impact of the removal of tariff barriers to imports will be to reduce government revenue (Table 24). If this is not mitigated by levying the same amount of income by other means, a reduction in social expenditure can be expected. Depending on the types of alternative taxes that are chosen, further social impacts will occur, if the incidence of their effects differ from those of the import tax which they replace. The impact of trade liberalisation on health and education in the agriculture sector might be expected, therefore, to be negative, at least in the short term.

Equity

The differential between skilled and unskilled labour wages is predicted in the CGE model to decline, which would have the effect of lowering income inequality within the formal sector. Given the relatively low level of formal sector employment in the rural area, the impact on agricultural sector equity will be negligible. The improvement in opportunities for former sector employment in agriculture and food processing are likely to have a positive impact in reducing gender inequality.

Biodiversity

Mercosur agriculture is expected to expand as a result of liberalisation, with consequent pressure for land conversion. The biggest effects will occur in Brazil and Paraguay, mainly for animal products. Grain production will also increase across all four countries. Without strong protection measures, a significant adverse impact on biodiversity may occur in all the Mercosur countries, particularly Brazil and Paraguay.

Biodiversity pressures may be exacerbated by increased demand in Europe for Mercosur ethanol, particularly from Brazil. Ethanol from sugarcane already has economic advantages over that from European crops, which will increase if carbon-trading or other regulatory measures take greater advantage of the higher energy balance of sugar-based ethanol.³⁰

Environmental Quality

The economic incentives for increased agricultural production in Mercosur are expected to create pressure for greater intensification and greater use of fertilisers, pesticides and herbicides. This will strengthen the need for effective regulation to avoid adverse impacts on water pollution and soil quality. An increase in food processing is also predicted, particularly for Paraguay. Effective regulation will therefore also be needed in this area, to avoid adverse impacts on water pollution.

A beneficial impact on climate change is expected from greater use of Mercosur ethanol from sugar cane as opposed to fuel from EU crops.

Natural Resource Stocks

Increased agricultural production will create additional demand for water, but water scarcity is not high in the region, and the impact is not expected to be significant. Greater pressures on resource stocks are expected from the incentives for land conversion and consequent depletion of forests.

³⁰ Approximately 50% of ethanol in Brazil is produced from sugarcane. Renewable biodiesel is produced by mixing ethanol and vegetable oils (95% of which are from soya).

Consistency with sustainable development principles

Impacts on the two process indicators defined in the SIA methodology are evaluated in the same way as for industrial products, to indicate potentially significant cumulative effects on sustainable development. For the second of the process indicators (sustainable development strategies) the results are as for industrial development (Table 41). The results for the first of the two indicators are presented in Table 48.

Table 48: Consistency with sustainable development principles

Sustainable development principles	Impact
Principle 8 (reduce and eliminate unsustainable patterns of production and consumption).	As for industrial production, production becomes more efficient, countered by the adverse transport effect. The trade agreement encourages greater consumption in both Mercosur and EU
Principle 9 (exchange scientific and technological knowledge, and enhance the development, adaptation, diffusion and transfer of technologies, including new and innovative technologies).	The rise in processed food production in Mercosur creates some demand for new technology, but this is not expected to benefit technological development significantly.
Principle 11 (enact effective environmental legislation).	Minor increase in need for effective legislation.
Principle 12 (promote a supportive and open international economic system).	High consistency.
Principle 14 (discourage or prevent the relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health).	Neutral.
Principle 15 (the precautionary approach shall be widely applied).	Neutral.
Principle 16 (promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should bear the cost of pollution).	Neutral for the polluter pays principle.
Principle 20 (enable the full participation of women in environmental management and development).	Minor gender effects, neutral overall.
Principle 22 (recognize and duly support the identity, culture and interests of indigenous people and their communities, and other local communities).	Neutral.

All the effects identified in Table 48 are relatively neutral except for the principle of reducing and eliminating unsustainable patterns of production and consumption (principle 8). The scenario is otherwise consistent with sustainable development principles, and makes a positive contribution in some areas.

As for industrial liberalisation, the scenario is judged to be highly consistent with principle 12, to promote a supportive and open international economic system, while contributing to acceleration of the underlying processes which drive increasing consumption and associated wastes. The scenario adds incrementally to this general need for stronger environmental regulation.

The impacts of trade liberalisation in the agriculture sector in Mercosur are shown in Table 49.

Table 49: Summary of Sustainability Impacts for Agriculture Sector: Mercosur

Impact	Countries / sectors affected	Causal factors	Factors affecting significance	Potential significance	
				short term	long term
Economic					
Real income		Reduction in tariffs and non tariff barriers	Share in total output Importance of structural change process	↑	↑
Fixed capital formation		Output changes at firm level New investment	Investment climate Firm dynamics	-	↑
Employment		Increase in output and exports	Existing level of rural unemployment Productivity and technological changes	↑	↑
Social					
Poverty		Increase in agricultural output and exports of processed foodstuffs	Changes in employment opportunities for low income households	↑	↑
Health and education				↓	-
Equity				↑	↑
Environmental					
Biodiversity	<u>Land conversion to agriculture</u>	Greater agricultural production	Protection measures. Influence of biofuel demand	↓	↓
Environmental quality	<u>Water pollution and soil quality</u>	Greater agricultural production and food processing	Effective regulation	↓	↓
	<u>Climate change</u>	International transport, biofuels	Carbon trading etc.	↑↓	↑↓
Natural resources	<u>Land conversion to agriculture</u>	Greater agricultural production	Protection measures. Influence of biofuel demand	↓	↓
Process					
SD principles	<u>Positive for international cooperation, otherwise neutral except for consumption and production</u>	Acceleration of underlying processes	Environmental regulation		↓
SD strategies	<u>Adverse effect on capacity to plan</u>	Decline of high added value industry	Technology planning		↓

The following symbols are used in the tables to show impact significance

- ↑ positive greater significant impact
- ↓ negative greater significant impact
- ↑ positive lesser significant impact

- ↓ negative lesser significant impact
 ↑↓ positive and negative impacts likely to be experienced according to context (may be lesser or greater as above)
 - impact has been evaluated as non-significant compared with the base situation

5.3.4 Impacts of Liberalising Trade in Services

Real Income

The services sector accounts for a large share of GDP in all developing countries, including Mercosur (Table 50). The performance of the services sector is crucial for economic growth. The availability of efficient financial services, for example, has been shown to be a key input to economic advancement.³¹ Infrastructural services are also an essential factor for rapid economic growth.³²

The removal of barriers to trade in services will influence trade and welfare through two effects:

- Allocative efficiency: when a regulatory change allows foreign firms with superior technology and lower costs and prices to supply the domestic market
- Dynamic efficiency: when the removal of barriers raises the level of competition and stimulates innovation

Table 50: Share of Services Sector in GDP (%)

Country\Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Mercosur	58.2	60.0	60.3	60.5	63.1	63.3	60.6	56.9	53.6	53.0
Argentina	65.8	65.1	64.8	65.3	66.9	66.9	68.1	56.8	54.3	54.0
Brazil	54.3	62.3	62.4	62.8	65.3	64.7	53.9	53.3	50.0	49.6
Paraguay	49.3	48.2	48.9	48.8	52.1	53.5	51.1	51.3	48.5	48.5
Uruguay	63.6	64.5	65.0	65.3	68.3	68.1	69.2	66.1	61.8	60.0

Source: World Development Indicators (Edition: April 2006)

Modelling the impact of trade liberalisation in the services sector is difficult and the results of modelling studies need to be interpreted cautiously. The nature of liberalisation in services is fundamentally different to liberalisation in goods. In the latter case, the discussion centres on changes in the level of effective trade barriers expressed in quantitative terms. In the case of services, liberalisation is mainly about measures, such as regulation changes, which are more difficult to quantify. Second, most services are consumed at the point of production, which means that trade in services is closely linked to movement of capital and labour.³³ Trade liberalisation in services often therefore raises issues of national economic and social policy and concerns about policy autonomy.

Most global CGE trade liberalisation models estimate large economic welfare gains from services liberalisation. For example, Hertel and Keeney (2006) argue that welfare gains within a static and constant returns to scale framework, double if trade in services is liberalised (and more than triple if trade facilitation are additionally included). On the other hand, the evidence on the effects on services liberalisation in developing countries is more mixed. Financial sector liberalisation has been linked to increased financial instability; utility sector liberalisation has sometimes been accompanied by increased market concentration and higher prices for consumers; and liberalisation of environmental services has raised issues of national regulatory capacity and autonomy.³⁴

The EU Mercosur modelling predicts that under the full liberalisation scenario, the services sector will account for about 8% of the real income gains in Mercosur (Table 51). This modest gain is distributed

³¹ See Jalilian and Kirkpatrick (2005).

³² World Bank (2004), Jalilian, Kirkpatrick, Parker (2006)

³³ Stiglitz and Charlton (2006)

³⁴ George, Kirkpatrick and Scricciu (2006)

across the main sub sectors (Table 52), with negative impacts predicted for financial services and business services in all Mercosur countries. The retail and wholesale services sector is also shown to be adversely affected by trade liberalisation in Argentina and Paraguay.

Table 51: Decomposition of Real Income Effects, (Millions of US\$)

	Total gain	of which from Goods liberalisation	of which from Service Liberalization	of which from Trade Facilitation
Argentina	1 255	411	138	705
Brazil	6 883	4 510	465	1 908
Paraguay	643	502	12	129
Uruguay	369	272	21	76
Total Mercosur	9150	5695	636	2818
EU15	3 700	1 306	558	1 836
EU10	201	39	18	144
Total European Union	3 901	1 345	576	1 980

Source: Model simulations

Table 52: Changes in Services Output, Mercosur (percentage change)

	Argentina	Brazil	Paraguay	Uruguay
Wholesale, Retail	-0.4	0.7	-2.7	0.7
Communications	1.1	-0.2	1.3	-2.5
Transport Services	0.8	0.7	0.1	-3.2
Finance	-2.1	-1.4	-23.1	-0.6
Business Services	-1.0	-1.2	-12.5	-2.0
Other Services	0.2	0.3	1.5	0.7

Source: Model simulations

Fixed Capital Formation

The exposure of Mercosur's services industries to foreign entry and competition can be expected to encourage investment in establishing a commercial presence on the part of foreign firms, particularly from EU companies.

Domestic investment in services provision may also increase over time, as local firms establish an export capacity in services sector activities. As a group, developing countries have experienced a significant increase in their service exports and their share in world trade in services has increased from 16 per cent in 1990 to 23.5 per cent in 2002 (Neilson and Taglioni, 2004; Marchetti, 2004:25). At the same time, developing countries' share of global outward foreign direct investment (FDI) in services has increased from 1 per cent in 1990 to 10 per cent in 2002, faster than in other sectors (UNCTAD, 2004). In the environmental services sector, for example, there is an upward trend in participation by companies from developing countries, mainly in the water and waste sub-sectors, but also in other non-infrastructure environmental services (OECD, 2000; Steenblik et al., 2005). In most cases, these tend to be Asian or Latin American countries that have themselves acquired technological and services capacities through their experience of participating in joint ventures in their own countries, but in some cases, including Brazil, the export capacity is based mainly on indigenous knowledge and experience. In Brazil, a public company, CETESB, developed the capacity to adapt import environmental technologies and has provided consultancy services to other Latin American countries (Argentina, Uruguay, Paraguay, and Mexico (Zarrilli, 2003).

Employment

The changes in output shown in Table 52 are reflected in changes in employment (Table 53). Given the labour intensive nature of services provision, the percentage changes in employment are large,

relative to the output changes. Significant declines in employment are predicted in financial and business services in all Mercosur countries, in communications in Brazil.

Table 53: Employment Effect, %

	Argentina	Brazil	Paraguay	Uruguay
wholesale, retail	-0.7	0.9	-0.6	0.6
communications	0.1	-54.3	0.1	6.4
transport services	0.5	0.9	0.8	-3.2
finance	-2.3	-1.3	-23.6	-0.8
business services	-1.3	-0.7	-11.5	-2.2
other services	0.0	0.6	0.8	0.6

Poverty

The increase in investment in infrastructure services provision, such as water and sanitation, and electricity has the potential for improving the access of the poor to essential services. This will require an effective regulatory institutional structure which can ensure that the services provided to the poor are affordable and accessible. In the short term, the liberalisation of distributional services may have adverse effects if not appropriately mitigated, through the loss of incomes earned in small scale retailing.

Health and Education

There is a substantial body of empirical evidence showing that improvements in the quality of basic infrastructure services has a positive impact on the health of the poor.³⁵ Provided that the new investment in infrastructure results in improved quality, affordability and accessibility for the poor to water and sanitation services in particular, then some improvement in health can be expected from services sector liberalisation.

Equity

There are unlikely to be any significant impacts on equity from trade liberalisation in services sector.

Biodiversity

No significant impacts on biodiversity have been identified.

Environmental quality

Services liberalisation is expected to help increase the use of environmentally efficient management techniques and technologies, and add to the pressures on government to improve environmental regulation and enforcement. This will provide a fairly small addition to the promotion of such techniques by international agencies.

Natural resource stocks

Greater use of environmentally efficient management techniques and technologies will tend to reduce pressures on consumption of water and other resources. The impact is not expected to be significant in relation to other effects in this area.

³⁵ Clarke et al (2004), Kirkpatrick and Parker (2005, 2006)

Process Indicators

Some of the service sectors affected, particularly telecommunications, can have important beneficial influences on processes of economic and social transformation. The adverse effect on telecommunications identified for Brazil is a cause for concern. Liberalisation is expected to contribute positively to stronger environmental management.

Consistency with sustainable development principles

The effects will be similar to those identified for industrial products. All are beneficial or neutral, except for the principle of reducing and eliminating unsustainable patterns of production and consumption (Principle 8).

Institutional capacity for effective sustainable development strategies

The effects on sustainable development strategies will be similar to those for industrial products. These are all relatively neutral in that they neither add to nor detract from Mercosur countries' capacity to implement effective sustainable development strategies. A potential adverse impact on technology enhancing services such as telecommunications is a cause of concern.

The impacts of trade liberalisation on the services sector in Mercosur are summarised in Table 54.

Table 54: Summary of Sustainability Impacts for Services Sector: Mercosur

Impact	Countries / sectors affected	Causal factors	Factors affecting significance	Potential significance	
				short term	long term
Economic					
Real income		Liberalisation of domestic services sector	Competitiveness of domestic service providers Regulatory capacity	↑↓	-
Fixed capital formation		Market access for FDI commercial presence Service sector exports	Domestic regulation Business environment		↑
Employment				↑↓	↑↓
Social					
Poverty					↑
Health and education					↑
Equity				-	-
Environmental					
Biodiversity	No significant impacts identified			-	-
Environmental quality	Environmental services, energy services.	Greater use of improved management techniques	Government willingness to revise legislation	↑	↑
Natural resources	Environmental services, energy services etc.	Minor beneficial impacts		-	-

Impact	Countries / sectors affected	Causal factors	Factors affecting significance	Potential significance	
				short term	long term
Process					
SD principles		Consistent with most principles. Small incremental consumption pressures	Effective regulation	-	↓
SD strategies		Consistent with most strategic objectives. Concern for adverse effects on telecoms	Technology strategy	-	-

The following symbols are used in the tables to show impact significance

- ↑ positive greater significant impact
- ↓ negative greater significant impact
- ↑ positive lesser significant impact
- ↓ negative lesser significant impact
- ↑↓ positive and negative impacts likely to be experienced according to context (may be lesser or greater as above)
- impact has been evaluated as non-significant compared with the base situation.

5.4 Updated Preliminary Overview SIA: EU

The 2003 Planistat Overall Preliminary SIA for EU-Mercosur found that for the EU the main impacts were likely to be social, associated with potentially adverse economic effects for particular economic sectors in specific regions of some Member States. Pockets of unemployment and social exclusion exist in old urban areas or remote rural areas. In Belgium, Germany and the UK, high unemployment tends to be associated with declining industrial regions, particularly in former East Germany. In Greece, Spain, France and Italy, the high unemployment regions are mainly agricultural. In both cases, and similarly in the new Member States, greater access for Mercosur products could in principle exacerbate existing problems. The overall economic impact within the EU were not significant. Similarly, environmental regulations and controls with the EU ensured that the environmental effects of liberalising trade with Mercosur were also insignificant.

These earlier findings are confirmed in the current modelling results and accompanying sustainability assessment findings. Table 55 shows that the economic welfare impact in EU15 and EU 10 is 0.1 percent of GDP.

Table 55: Economic Welfare Impact

	Gain in Millions of US\$	Change from baseline (% change in GDP)
Argentina	1 255	+ 0.5%
Brazil	6 883	+ 1.5%
Paraguay	643	+ 10.0%
Uruguay	369	+ 2.1%
Venezuela	91	+ 0.1%
EU15	3700	+ 0.1%
EU10	201	+ 0.1%

Source: Model simulations

The changes in output at the sectoral level are shown in Table 56 and again indicate that the economic effects for the European Union as a whole are insignificant, with the exception of grains, animal products and processed foods. These impacts are examined at the disaggregated product level in the Mid Term Report for Agriculture.

Table 56: Changes in Sectoral Output, EU (percentage change)

	EU15	EU10
Grains	-4.4	-1.5
Crops	0.2	-0.4
Animal Products	-3.5	-1.0
Forestry	0.0	-0.1
Fisheries	-0.3	-0.5
Mining	-0.1	0.0
Processed Foods	-5.1	-2.7
Textiles and Clothing	0.9	0.2
Wood, Pulp, Paper	0.1	0.0
Chemicals	0.4	0.2
Metals	0.7	0.6
Motor Vehicles	1.8	0.7
Transport Equipment	0.1	1.0
Machinery	1.4	0.8
Utilities	-0.1	0.2
Construction	0.0	0.0
Wholesale, Retail	0.0	0.1
Communications	0.0	0.0
Transport Services	0.2	0.3
Finance	0.0	0.0
Business Services	0.1	0.0
Other Services	0.0	0.1

Source: Model simulations

Employment effects in the EU are shown in Table 57, and follow the changes in output. Employment falls across the agriculture sector and increases marginally in services and manufacturing.

Table 57: Employment Effects (% change)

	EU15	EU10
grains	-4.8	-1.9
crops	-0.1	-0.7
animal products	-3.9	-1.4
forestry	0.0	-0.1
fisheries	-0.4	-1.0
mining	-0.1	-0.1

	EU15	EU10
processed foods	-5.2	-2.6
textiles and clothing	0.9	0.3
wood, pulp, paper	0.1	0.1
chemicals	0.4	0.2
metals	0.7	0.6
motor vehicles	1.8	0.7
transport equipment	0.1	1.0
machinery	1.4	0.8
utilities	-0.1	0.2
construction	-0.1	0.1
wholesale, retail	-0.1	0.1
communications	0.5	-0.3
transport services	0.1	0.4
finance	0.0	0.1
business services	0.0	0.1
other services	0.0	0.1

The improved access to markets in Mercosur allows EU producers to increase their exports in commodities where Europe has a competitive advantage. From Table 58 it can be seen that these gains are export gains are concentrated in services (particularly wholesale and retail, financial services and business services) and in most manufacturing sectors (particularly transport equipment).

Table 58: Changes in Export Quantity, EU (percentage change)

	EU15	EU10
Grains	-2.8	-0.2
Crops	1.2	1.0
Animal Products	2.1	-2.3
Forestry	-0.1	0.0
Fisheries	-1.2	-1.0
Mining	0.0	-0.4
Processed Foods	0.5	-5.3
Textiles and Clothing	1.7	0.5
Wood, Pulp, Paper	0.9	0.2
Chemicals	0.8	0.3
Metals	1.5	1.0
Motor Vehicles	3.2	0.8
Transport Equipment	0.1	2.6
Machinery	2.5	1.2
Utilities	3.0	5.1
Construction	0.1	0.3
Wholesale, Retail	1.5	1.6
Communications	0.6	0.7
Transport Services	0.8	0.9
Finance	1.7	1.6
Business Services	1.5	1.2
Other Services	2.1	2.1

Source: Model

As noted previously, the social impact of output and employment declines will typically be concentrated in certain regions and areas within Union Member economies. The adjustment costs associated with this process of restructuring will be largely mitigated by Communion level and national –level structural adjustment and social welfare programmes and are not expected to be significant at the Union level.

The environmental impacts in the EU of liberalisation of EU-Mercosur trade will include the increase in energy use resulting from the increase in industrial sector activities. The decline in certain agricultural activities will result in an offsetting decline in energy use and in related pollutants. Table 59 gives the results of the Modelling study for energy consumption with the full liberalisation scenario.

The total consumption of energy increase marginally in the EU 15 and EU10. The marginal increase in demand for energy is mainly from oil, and will result in a small increase in CO2 emissions.

Table 59: Energy consumption for firms and households (Mtoe)

	Coal		Oil		Gas		Total Energy	
	Benchmark	Scenario	Benchmark	Scenario	Benchmark	Scenario	Benchmark	Scenario
EU15	215.0	215.1	569.4	571.8	230.9	230.9	1015.3	1017.8
EU10	92.3	92.4	43.2	43.3	34.6	34.6	170.1	170.3

Source: Model simulation

Other environmental effects in the EU will be in the opposite direction from those in Mercosur. Production levels fall for processed food, and rise in other manufacturing sectors. Biodiversity effects occur through consequent changes in levels of water pollution and water consumption, and could have knock-on effects through pollution of aquifers or a fall in groundwater levels. However, the production changes are a smaller component of total production in the EU, and regulation is relatively strong. No significant impacts are expected.

EU agriculture will contract as a result of liberalisation, particularly for animal products and grain. This may have a small beneficial effect on biodiversity, with adverse effects on the amenity value of agriculture.

No significant effects are expected in the EU on environmental quality. The expected rise in industrial production and fall in agricultural production will have localised impacts on both air pollution and water pollution, but regulatory systems are expected to respond adequately. The increase in international transport will have a combined EU-Mercosur effect on climate change that is adverse.

The principal effect on natural resource stocks expected in the EU is reduced demand for energy and water. The effects are small however, and not expected to be significant.

6. CONSULTATION AND DISSEMINATION ACTIVITIES

6.1 Consultation Process

Consultation processes are an integral part of the SIA methodology. The Inception Report for the SIA of EU-Mercosur Trade Negotiations set out the proposed procedures for consultation with stakeholders, and for providing regular updates on the development of the experts network, website usage, dissemination activities, and contributions made by the consultants to SIA policy debates with experts in other countries and organisations.

These procedures have been progressed during the current phase of the programme. A Civil Society meeting was held on the Inception Report on 18 July 2006 in Brussels, and a report on the consultations is available on the project website. In response to this meeting, a Final Revised version of the Inception Report was submitted on 1 September 2006. The Experts Network and List of Consultees were notified of the draft Inception Report and comments received by email have been responded to (see below). The Reports are available on the project website (www.sia-trade.org). Further consultation will take place on publication of the draft Mid-Term Report.

The comprehensive nature of the global overview SIA is such that dialogue with stakeholders representing all these constituencies should cover all the areas of the trade negotiations. The principal mechanism for achieving this will be through the experts network database which has been accumulated through the SIA programme. This includes stakeholder organisations and individuals in the European Community member states and Mercosur, including experts with knowledge in a wide range of environmental, social and economic areas. The number of participants in the database has increased from about 500 in April 2004, to nearly 1300 as of November 2006.

Electronic communication with stakeholder representatives is being supported by the posting of reports and other information on the project website, and through the website's feedback facility and email correspondence with participants.

Comments from stakeholders on the Inception Report have been responded to, as shown in Table 60.

Table 60: Correspondence with Stakeholders

COMMENTS RECEIVED	RESPONSE
Bob van Dillen, CORDAID When it comes to selecting 2 case studies in agriculture, I would very much like to suggest selecting soy (rather than apples): 1. Soy is by far the most important export product for Brazil and the Mercosur region, and there's the related issue of biofuel that's of interest to both regions. As a second option I would suggest sugar, where there also the link with ethanol, but where the CAP reform measures are now completed and being implemented. 2. The rep of GRET downplayed the importance of soy exports to the EU - as compared to China/Asia. However, China gets their soy and soy products mostly from the USA. The EU is most important for Mercosur as it comes to exports of soy beans and other soy products - precisely because of the zero tariff. We know why this zero tariff is there, and we expect that either with a tariff, or with sustainable production criteria (now being discussed in Round table of Responsible Soy, following example of Palmoil), the demand for sustainable soy will increase, which will have an effect on all actors in the market. For export statistics: see Oilworld and ITC/WTO.	 Report amended to include discussion of soya, sugar and ethanol. These commodities will be included in the MTR SIA

Jérôme Shorjian, European Committee of Sugar Manufacturers	
<p>On 18th July you met with Mrs Dominique LUND, CEFS representative who indicated you a technical comment with regard to the trigger price of sugar (page 56 of the report). Indeed there is not only one trigger price but three different:</p> <ul style="list-style-type: none"> - 531 € for white sugar - 418 € for raw sugar for refining - 552 € for raw sugar not for refining <p>I also would have a question on the presentation which was made on agriculture. On Slide 6 (Trade measures - EU), it is mentioned that MERCOSUR countries have a tariff quota to export sugar to the EU. Which quota are you referring to? There is a quota, which allows in practice Brazil -with Australia and Cuba - to export sugar to the EC, but it has been opened under the WTO law on a MFN basis and it is not specifically granted to the MERCOSUR countries</p>	<p>Comments forwarded to GRET for response</p> <p>Report amended to include price information on sugar</p> <p>The quota arrangements for sugar will be discussed in detail in the MTR</p>
JL MERIAUX, European livestock and meat trading union	
<p>I would be interested to know how the study takes into account the improvements in efficiency that are taking place in the beef sector in South America and will allow a significant increase in production without resort to additional pasture etc. Will relevant meat organisations in these countries be contacted for information?</p> <p>On a point of detail, Table 5.14 - not sure why carcasses are included as no trade exists and surely for frozen beef 0202 30 90 with specific duty of 3041 euro plus 12.8% is more relevant.</p>	<p>Comments forwarded to GRET for response</p> <p>These points will be addressed in the MTR</p>
V CORRE, EUROPEAN UNION OF ETHANOL PRODUCERS	
<p>EUEP papers submitted to consultants</p> <p>Brazil is ahead of EU in fuel ethanol production and is able to produce at much cheaper prices. UEPA stresses the strategic nature of fuel ethanol and suggests that a trade agreement should not prevent the development of an EU fuel ethanol industry.</p>	<p>Received and noted</p> <p>Noted</p> <p>Comments and report sent to GRET who will contact EUEP</p>
M CABRAL MISSION OF BRAZIL TO THE EUROPEAN COMMUNITIES	
<p>the Inception Report appears to depart from a set of untested premises, and not from a careful collection of empirical data. The conclusions, which should be the end-point of the study, seem in fact to have been already reached in the Inception Report.</p> <p>Trade SIAs frequently assign a disproportionate importance to localised adverse impacts, as opposed to dispersed positive impacts. Given the complexity of the situations examined and the need to work with future scenarios, there is necessarily a significant component of subjectivity in the selection of data and the establishment of the causal links between trade liberalisation and its associated economic, social and environmental impacts. Questions are often raised as to the influence of interest groups in the discretionary choices made during the elaboration of SIAs.</p> <p>Agriculture study: ‘On the understanding that such wide ranging generalisations and judgements should be based on robust quantitative evidence and consistent causal relations, we believe the following set of</p>	<p>The Inception report describes the approach that will be used in carrying out the assessment of potential impacts in the MTR. The draft Inception report has been revised accordingly</p> <p>We note these comments on the application of the SIA methodology</p> <p>The detailed set of issues will be considered in the preparation of the MTR</p>

<p>considerations should be taken into account'</p> <p>Case study of the ethanol sector Brazil is convinced that the promotion of biofuels (ethanol and biodiesel) is a very important objective, which can provide significant benefits in the environmental, economic and social dimensions of sustainable development. We therefore hope that this case study can produce an objective and balanced analysis of the ethanol sector, showing the potential benefits of the production and consumption of ethanol in the EU and in Mercosur, especially in the areas of rural development, security of energy supply, and greenhouse gas emission reductions.</p>	<p>Ethanol will be included in the agriculture sector MTR. The Inception report has been amended accordingly</p>
<p>Forest Study: Since the sectoral study on forestry was not specifically required in the Terms of Reference of this SIA, and since the issue of forestry was considered to be of low priority in the 2003 Overall Preliminary SIA (p. 37), it would be important to have a clear explanation of the reasons for this study.</p> <p>Regardless of the undisputed importance of the issue of forests for the multilateral environmental agenda, it is doubtful whether the EU-Mercosur agreement will have any significant effect on the forestry sector.</p> <p>In order to have an informed and balanced analysis, it is important to contact institutions from Mercosur countries. Some Brazilian institutions are listed below.</p>	<p>Noted</p> <p>This will be determined by the SIA</p> <p>These institutions will be contacted</p>
C. HEALY MEAT INDUSTRY IRELAND	
<p>Impact of increased beef imports from Mercosur on European food security should be considered</p> <p>Employment impacts should also be considered</p> <p>The impact of volume ceilings on beef imports from Mercosur to EU could be beneficial to both sides</p>	<p>Noted</p> <p>Noted</p> <p>Noted</p>
C. POPE, FRIENDS OF THE EARTH	
<p>The timing of SIAs should be revised. The EU should carry out SIAs before it embarks in a trade negotiation or, at least, make sure the SIAs are completed before it agrees on its negotiating positions. Ex-post monitoring should also be carried out for all bilateral and multilateral agreements in which the EU is engaged in order to learn lessons from existing agreements.</p> <p>EU trade negotiators need to establish a review and monitoring process in order to demonstrate how they take on board the SIA recommendations in the negotiating positions they adopt.</p> <p>The Commission should ensure that the results of the SIAs are known in the relevant ministries and institutions in the EU Members States dealing with trade and should promote their integration in domestic policy-making</p> <p>The scope and terms of reference of SIAs should be expanded. SIAs must be allowed to question the adequacy of trade liberalisation itself and must provide recommendations for changes in EU policies themselves. Specifically, Trade SIAs should explore the possibility to enforce universal social and environmental rules as limits to trade liberalisation.</p>	<p>Acknowledged Receipt</p>

Direct dialogue with stakeholders will continue to be pursued through attendance at international events involving civil society and governmental representatives.

Stakeholders are invited to respond to a specific set of questions on all Reports, or on any other issue:

- Is there any important evidence of which you are aware that has not been taken into account, such that the assessment of impacts is misleading or incorrect?
- Are there faults in the analysis which may have led to incorrect conclusions?
- Do you have any suggestions for the analysis of prevention, mitigation and enhancing measures? Do you have any suggestions for further development of communication with experts and other stakeholders?

Do you have any additional suggestions or issues for consideration in the Final Report?

Comments and suggestions may be sent to the project email address:

sia-trade@man.ac.uk

6.2 Website Use

The contractors have continued to run the open access website at www.sia-trade.org. The existing database of nearly 1300 stakeholder organisations and individuals was used to distribute electronically an announcement of the commencement of the current phase of the work programme. Details of the dates for completion of the inception, midterm and final reports, and the timetable for consultation on the reports, have been provided. All interested parties, whether individuals or organisations have been invited to participate in the current phase of the SIA programme, using the dedicated email address for comments – sia-trade@manchester.ac.uk

The contractor will continue to respond to the comments received, using the feedback-comment function that is incorporated in the website to facilitate dialogue with stakeholders and other interested parties.

The project website has had over 12,000 visits from May-October 2006 as seen in Table 61. Table 62 shows the number of times that online reports have been accessed from May to October 2006.

Table 61: Numbers of visits to the Mercosur website (May 06 – October 2006)

Month	May	June	July	August	September	October	Total Hits May-Oct 06
Hits per month	197	312	6052	1969	1513	2170	12,213
Consultation	-	14	165	277	138	204	798
Phase 1	-	13	544	170	82	89	898

Table 62: Number of times that online reports have been accessed from May 06 – October 06

Report	May	June	July	August	September	October	Total Hits May-Oct 06
Inception Report (6 July 2006)	n/a	n/a	292	140	86	57	575
Revised Inception Report (1 September 2006)	n/a	n/a	n/a	n/a	54	75	129

6.3 Networking and Contributions to Policy Debate

The contractor has continued to engage in the wider policy debate on issues relating to trade policy analysis, impact assessment and sustainability impact assessment. Networking activities during the current phase of the EU Mercosur SIA programme include:

- Presentation at the Easy-Eco Conference in Saarbrücken Germany, 11-14 October, 2006 on "Improving the quality of Sustainable Development"
- Paper presented at International Workshop on the Use of Research in Trade Policy, Buenos Aires, 31 July – 1 August 2006-11-15
- Evidence presented to UK House of Commons Environmental Audit Committee, 24 October 2006

The contractors have continued to disseminate the results of the SIA programme through academic publications. These include:

George, C. and Goldsmith, B. (editors) (2006) *Impact Assessment and Project Appraisal*, volume 24, December, Special Issue on 'Trade Assessment and Sustainable Development'.

George, C. (2007), forthcoming, 'Sustainable Development and Global Governance' in *Journal of Environment and Development*.

Kirkpatrick, C. and George, C. (2006) 'Methodological Issues in the Impact Assessment of Trade Policy: Experience from the European Commission's Sustainability Impact Assessment (SIA) Programme' *Impact Assessment and Project Appraisal*, volume 24, December

Franz, J. and Kirkpatrick, C. (2006), submitted, 'Integrating Sustainable Development into EC Policymaking: An Evaluation of Recent Impact Assessments', *Journal of Environmental Policy and Planning*

Kirkpatrick, C. and Scricciu, S. (2007) 'Trade Liberalisation and the Environment: Assessing the Evidence', (Submitted) *Global Environmental Change*

George, C. and Kirkpatrick, C. (eds) (2006), forthcoming, *Impact Assessment for Sustainable Development: European Perspectives and Experience*. Edward Elgar: Colchester

Kirkpatrick, C., George, C. and S. Scricciu (2006) 'Trade liberalisation in environmental services: why so little progress?' *Global Economy Journal*, Vol. 6, Issue 2 (May) (electronic journal: www.bepress.com/gej/).

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George, C. and Kirkpatrick, C. (2006) 'Assessing national sustainable development strategies: strengthening the links to operational policy', *Natural Resources Forum*, 30 pp.146-156

Scricciu, S (forthcoming) 'How useful are applied general equilibrium models for sustainability impact assessment?', in George, C. and C. Kirkpatrick (eds.) *Impact Assessment for Sustainable Development: European Perspectives and Experience*, Cheltenham: Edward Elgar, 2006

Two issues of the SIA Newsletter have been produced and widely disseminated in paper and electronic copy. A further Trade-SIA newsletter will be issued on completion of the programme.

7. WAY FORWARD AND CONTENTS OF FINAL REPORT

The Final Report will be submitted in March 2007. The report will present the final outcomes and results of the assessment. The main focus of the report will be on the development of flanking measures.

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ANNEX 1: TERMS OF REFERENCE

Task specifications to Specific Contract No 1
(implementing framework contract No Trade 05-G3-01)

This annex specifies the tasks, activities and reporting which will be carried out during this specific agreement.

Requirements and timetables defined by the Commission must be strictly respected by the contractor.

For information related to the objectives and content of the Trade SIA methodological framework, see the terms of reference of the call for tender of the framework contract.

A) Main tasks and services of this specific agreement

This specific agreement 1 should assess how the trade aspects of the Association Agreement could affect sustainable development in the EU and beyond, in particular in the MERCOSUR countries.

The aims of this specific agreement are the following:

- 1) to up date the Overall Preliminary Trade SIA EU-MERCOSUR
- 2) to conduct three Trade SIAs including Automotives-Motor Vehicles and Agriculture

- 1) Up dated overall preliminary Trade SIA EU-Mercosur

The study will provide an overall assessment of the potential impact on sustainability of the trade aspects for an Association Agreement between the European Communities and Mercosur. The overall preliminary Trade SIA will allow for the cross-sectoral and cumulative impacts likely to result from the implementation of the trade aspects of the Association Agreement between the European Communities and Mercosur as a whole. The assessment will build on the preliminary overview Trade SIA done in 2003. The up dated overall preliminary Trade SIA will be based on an assessment of two scenarios:

- i.) a baseline scenario, without agreement
- ii.) a scenario with trade agreement

The overall preliminary Trade SIA will:

- Draw together the results of the earlier study and complement this with further analysis in order to up date the preliminary overall Trade SIA results in light of the progress made so far in trade negotiations.
- On this basis, identify, as far as possible in quantitative terms, the likely impacts on the three key areas of sustainability – economic, social and environmental development – of the different aspects of the proposed EU-Mercosur trade agreement.
- On the basis of identified impacts, propose mitigation and enhancement measures in different areas of public policy, including trade policy.
- Identify the generic issues (potential sustainability impacts and policy options for optimising outcomes) which can inform negotiators and policy-makers.
- Evaluate the Trade SIA methodology and identify areas for further development and refinement in future Trade SIAs.
- Provide proposals for the ongoing monitoring of key sustainability indicators affected by trade liberalisation and for ex-post evaluation of the overall preliminary Trade SIA EU-Mercosur.

- Contribute to enhancing the dialogue concerning the overall preliminary Trade SIA EU-Mercosur with interested stakeholders, inside and outside of the EU.
- Produce an SIA-Trade Newsletter and distribute in electronic and paper format.
- Contribute to the development of a credible international network of Trade SIA experts in other countries and within other international organisations, particularly in relation to Mercosur.

2) Three Sectoral Trade SIAs including Automotive-Motor Vehicles and Agriculture

Each of the sectoral Trade SIAs should aim to achieve:

- An update of the Trade SIA methodology for these sectors and assessment tools to be used.
- A clear overview of the current trade situation in the three sectors, together with a definition of the options/scenarios to be considered and a clear analysis of causal chain analysis and the mechanisms through which the different options will affect social, economic and environmental areas.
- An analysis of the expected significance of these impacts for the sector, using appropriate measures and indicators for assessment of impacts and making use of appropriate qualitative and quantitative techniques.
- Identification cross-cutting links between these sectors and other sectors.
- Propose preventive as well as flanking measures or other adjustments that would prove effective in tackling any adverse impacts of liberalisation, and/or in promoting its positive impacts, in these three sectors.
- Contribute to enhancing the dialogue concerning the above Trade SIA with all interested stakeholders: inside and outside of the EU, particularly in Mercosur countries.
- Contribute to the development of a credible international network of Trade SIA experts through participation in policy debate on Sustainability Impact Assessments with experts in other countries and within other international organisations.

B) Preliminary sustainability assessment of the overall preliminary Trade SIA and of the three sectoral Trade SIAs

The aim of preliminary assessment of the trade aspects of the Association Agreement EU-MERCOSUR is to present an overview of all the three dimensions of sustainable development (economic, social and environmental) at stake in the trade aspects of the Association Agreement between EU and Mercosur for each of the Trade SIAs to be developed in the scope of this specific agreement 1.

Attention should be paid to building a coherent and rigorous assessment framework. This should include quantitative analysis and modelling as set out in the consultant offer for the framework contract No Trade 05-03-01.

These preliminary assessments should rely on:

- 1) **scenarios and findings** delivered by the previous economic and trade analysis;
- 2) an analysis of the **underlying sustainability context** (economic, social and environmental context);
- 3) a clear **analysis of the mechanisms** through which the different scenarios of the agreement will affect social, economic and environmental areas.

The specific preliminary assessments should provide an analysis in the EU at a regional/national and if appropriate sub national (regional, NUTS 2) level with:

- a preliminary assessment of possible economic impacts of the trade aspect of the Association Agreement between EU and MERCOSUR;

- the preliminary social, and environmental impacts of the trade aspects of Association Agreement between EU-MERCOSUR with an analysis of the **causal chains** which identify the significant cause-effect link between a proposed change in trade policy and its social (including gender and poverty), environmental (including all media) and economic impacts. This analysis should as far as possible combine qualitative and quantitative approaches and a wide range of indicators.

This analysis should cover all trade-related aspects of each sector, highlighting the potential positive and negative effects on sustainability as well as preliminary reflections on possible complementary measures which such effects require.

The main output will comprise:

- 1) a first identification of **key sustainability** issues and most potentially-affected **social groups** and **geographical areas**;
- 2) as a next step, proposal of a set of sector studies for study in the next phase of the contract, to be agreed in consultation with the Commission and Civil Society.

C) Detailed study of sub-sectors and case studies

Sub-sectors will be analysed in detail notably with the help of **at least one case study** for each sector. This work will include:

- **Quantitative analysis** informed by modelling results according to the consultant offer for the framework contract No Trade 05-03-01 as well as qualitative assessments of the impact of potential outcomes in the sub-sector concerned. This work should be undertaken on the basis of case studies and economic, social and environmental analysis (including environmental impact assessment(s), using appropriate methodology, measures and indicators, and making use of both qualitative and quantitative techniques as appropriate. Impacts shall be as much as possible differentiated amongst **EU regions (in particular for the weakest regions of the enlarged EU)** - NUTS 2 level.
- Analysis of cross sectoral effects.
- Suggest possible amendments or adaptations (including phasing in) of the assessed trade measures or new rules whose potential sustainability impacts are expected to be important, taking into account the existing regulatory frameworks and domestic policies.
- Based on the existing regulatory frameworks and domestic policies of the countries/regions under review, suggestions on what complementary measures might be introduced to best address the negative impacts and maximise the positive impact of further liberalisation / changes in rule-making. This should include an assessment of the various options for mitigating and enhancing measures, including those which could be introduced on a domestic or regional level, in international fora, or in other areas of the ongoing negotiation processes. Identify inherent trade-offs where they exist and specify on which basis and principles the choices on measures have to be made (e.g. precaution, prevention, cost-effectiveness, internalisation of external environmental costs, Treaty obligation of a high level of environmental protection).

The consultants shall select an adequate team of local experts to assist them for the geographical case studies. The list of local experts should reflect the three dimensions of sustainable development in a balanced manner. Particular attention should be paid in finding suitably qualified environmental local experts (in Mercosur countries).

D) Process and consultation

Particular attention should be paid to the involvement of stakeholders, not only from the EU but also from developing countries, in particular Mercosur countries.

Recent experience of the Trade SIA shows a deficit of information and consultation both inside and outside the EU and in particular difficulty in involving third country representatives and stakeholders.

This need for better local consultation was also confirmed at the Trade SIA seminar organized by DG Trade in Brussels on 6-7 February 2003 (see more information on http://trade-info.cec.eu.int/civil_soc/docconsult.php?action=list).

Consultation in the EU and abroad is a major challenge which must be met in order for the EU's Trade SIA process to ensure its credibility and legitimacy.

The objectives of the consultation process are:

- a) to ensure a **better understanding** of the Trade SIA process by society inside and outside Europe;
- b) to **disseminate the Trade SIA methodology**, process and results inside and outside the EU. Trade SIA results should also be validated and complemented with opinions from experts in order to improve the analytical work and next steps;
- c) to contribute to the **identification of priority areas and key issues** (see previous section);
- d) to extend the **network of Trade SIA** expertise.

This specific agreement should look at maintaining and strengthening the existing Trade SIA consultation process by which the Commission can ensure transparency of the Trade SIA process and enable civil society and other stakeholders to provide inputs during the study. This will include:

- Presentations of the inception, mid-term and final reports at public meetings in Brussels.
- Electronic dissemination of the inception, mid-term and final report, using Experts Network and project website.
- Produce a SIA-Trade Newsletter and distribute in electronic and paper format.
- Participate in international meetings and consultations on impact assessment, and make oral or written presentations on the Trade SIA Trade methodology and work programme.

E) Composition and competence of the working team of the overall preliminary Trade SIA and of the three sectoral Trade SIAs

Before starting the work on this specific agreement the consultant should provide an indicative list which sets up a minimum qualification team for the overall preliminary Trade SIA and for the three sectoral Trade SIAs.

F) Working meetings in Brussels

The Contractor will be required to attend meetings in Brussels with Commission officials. These will include: working meetings at the launch of both studies, presentations and explanations by the Contractor of work completed, further information from the Commission on negotiating developments and discussion of future work.

This will usually entail, as a minimum, one meeting at the start of the specific contract 1 and thereafter one meeting for each phase of the Trade SIAs work (inception, mid-term and final reports), with other meetings arranged on an ad hoc basis as necessary. A set of six working meetings of one day should be foreseen within this specific agreement.

The consultant will be asked to draft a complete report for each of these meetings.

G) Public meetings

The Contractor will be required to participate in public meetings organised by the Commission involving representatives of Member States, the European Parliament and Civil Society. It must present and explain work completed and provide the opportunity for interested stakeholders to provide direct input.

This will usually entail a minimum of three meetings (held back-to-back with the meetings with the Commission).

The consultant will be asked to draft a complete report for each of these meetings.

H) Electronic documentation

The Contractor must create and maintain a web-site dedicated to the above SIA project with a link to the DG Trade web-site. All reports, meeting reports, outputs presented to the Commission including the news letter, the list of consultant networks and consultation documents will be published by the Contractor on this web-site.

The web-site should incorporate a feedback function allowing all interested parties to provide input and setting up of a forum of discussion to further stimulate the involvement of civil society.

I) Deliverables

i) Content of the reports for each of the four Trade SIAs:

The two first reports (interim and midterm) should aim to describe 1) the state of play of the study and 2) the way ahead and to propose some further developments to be discussed with the Commission.

The Commission draw the attention of the consultant to a necessity of transparency in reports which must include all the references, analytical paths needed to understand fully the outcomes and results of the study.

Interim report:

This interim report will provide the Commission with:

- An overview of the consultant's proposed approach to the study, including a presentation of the conceptual framework of the sustainability assessment analysis.
- A description of preliminary methodological developments or changes from past studies.
- A review of literature, list of tools and references to be used, list of contact in Mercosur countries.
- A preliminary screening exercise for the key sustainability issues/impacts associated with the trade agreement, based as far as possible on quantitative indicators.
- A preliminary discussion on the selection of sector specific indicators relevant for this study.
- Outlines of the contents for both the mid-term and final reports.

Midterm report:

The midterm report summarise the work that has been undertaken on the project and its principal outcomes in September.

In particular, it will describe:

- Implementation of the methodology: a summary of the process by which the methodology has been implemented in the case of EU-Mercosur negotiations
- Information on communication activities:
 - Creation of the web site and links to other web sites. Number of hits.
 - Consultations and dialogue with external experts and civil society: summary of comments and suggestions received (via e-mail, web site comment function, ordinary mail, meetings etc.) and the uses made of these.
 - Development of network of Trade SIA experts: contacts undertaken, information supplied and comments received.
- State of play of study underway, outcomes regarding the screening phase, design of sector studies
- The way ahead to complete the study

Final report:

The final report will entail the following elements

- The methodology used for the Trade SIA
- The outcomes and results of the assessment
- Proposals of flanking measures
- Communication actions, networking
- Conclusions
- References and key sources

ii) Timing:

Deliverables for this preliminary, will be produced in accordance with the following timetable:

	Inception Report	Mid-Term Report	Final Report
Overall preliminary Trade SIA	July 2006	November 2006	March 2007
Sectoral Trade SIAs:	July 2006	November 2006	March 2007

Annex 2. Key statistics for the Mercosur countries

Table 1 Argentina

Argentina	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Real Income											
GDP annual growth rate (%)	5.8	-2.8	5.5	8.1	3.8	-3.4	-0.8	-4.4	-10.9 - 11.9	8.8	9
GDP/capita growth (%)		-4.13	4.2	6.75	2.54	-4.6	-2.02	-5.54	5	7.54	7.69
GDP \$USb	257	258	272	293	299	284	284	269	102	130	
			48.5		49.8		52.2	52.5	52.7		
GINI Coefficient	-	-	8	-	4	-	4	2	5	-	-
Fixed Capital Formation											
								- 15.6	- 36.4	38.1	
Gross capital formation (% annual growth)							-6.8	6	5	7	34.5
Gross fixed capital (% of GDP)							16	14	12	15	19
FDI net inflows (% of GDP)							3.66	0.81	2.11	1.27	2.67
Employment											
Urban Unemployment (%) total)		17.5	17.2	14.9	12.9	14.3	15.1	17.4	19.7	17.3	13.6
Unemployment (%)	12.1	18.8	17.2	14.9	12.8	14.1	15	17.4	19.6	-	-
Development Assistance											
% of GNI	0.06	0.06	0.05	0.05	0.03	0.04	0.03	0.06	0	-	-
US\$/Capita	4.36	4.21	3.9	3	2.4	2.82	2.13	4.19	0	-	-
External Debt											
	19.6	21.4	22.9	22.9	25.8	29.8	31.0	32.9	90.2	76.5	19.6
% of GDP	7	1	7	3	5	2	3	3	3	4	7
Debt Service/Exports (%)	25.2	30.2	39.4	49.9	57.5	75.4	70.8	42.3	16.5	37.9	25.2
Trade (2004)											
	Exports (% of total)				Imports (% of total)						
Manufactures	28.6				87.2						
Fuels/Mining	20				6.6						
Agriculture	49.6				5.1						

Table 2 Brazil

Brazil	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Real Income											
GDP annual growth rate (%)	5.9	4.2	2.7	3.3	0.1	0.8	4.4	1.3	1.9	0.5	5.2
GDP/capita growth (%)	5104	5248	5614	5719	5650	5620	5778	5795	5798	5754	5983
GDP \$USb	546	704	775	808	788	537	602	508	461	492	546
	61.5	59.9	59.0		59.1	59.2		58.7	58.1	56.9	61.5
GINI Coefficient	1	8	5	59.8	9	5	-	5	2	9	1
Fixed Capital Formation											
Gross capital formation (% annual growth)							9.98	-1.14	-4.27	-4.48	10.9
							21.5		19.7	19.7	21.3
Gross fixed capital (% of GDP)							4	21.2	6	6	1
FDI net inflows (% of GDP)							5.45	4.43	3.6	2	3.01
Employment											
Urban Unemployment (%) total)	-	4.6	5.4	5.7	7.6	7.6	7.1	6.2	11.7	12.3	11.5
Unemployment (%)	-	6.1	7	7.8	9	9.6	-	9.4	-	-	-

Development Assistance											
% of GNI	0.05	0.04	0.04	0.04	0.04	0.04	0.06	0.07	0.09	-	-
US\$/Capita	1.61	1.71	1.78	1.76	2.02	1.11	1.9	2.02	2.15	-	-
External Debt											
% of GDP	17.4 6	13.9 6	12.4 4	10.8 1	12.4 7	17.2 1 117.	15.5 8	18.4 7	21.0 5	19.2 9	-
Debt Service/Exports (%)	30	36.6	42.2	62.7	79.4	8	93.5	75.5	68.9	63.8	-
Trade (2004)											
	Exports (% of total)				Imports (% of total)						
Manufactures	32				6.7						
Fuels/Mining	13.5				22.5						
Agriculture	52.4				69.8						

Table 3 Paraguay

Paraguay	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Real Income											
GDP annual growth rate (%)	3.1	4.7	1.3	2.6	-0.4	0.5	-0.4	2.7	-2.3	2.6	2.1
GDP/capita growth (%)	-	2.03	-1.29	0.04	-2.87	-1.96	-2.76	0.26	-4.63	-0.17	0.57
GDP US\$b	7.85	9.02	9.63	9.61	8.6	7.74	7.72	6.85	5.59	5.81	-
GINI Coefficient	-	59.1 3	-	56.5 2	-	56.8 5	-	-	57.9 8	-	-
Fixed Capital Formation											
Gross capital formation (% annual growth)							-4.76	-17.5	10.7 6	7.96	2.69
Gross fixed capital (% of GDP)							26	25	19	20	22
FDI net inflows (% of GDP)							1.35	1.23	0.18	0.55	1.26
Employment											
Urban Unemployment (% total)	-	5.3	8.2	7.1	6.6	9.4	10	10.8	14.7	11.2	10
Unemployment (%)	4.4	3.4	8.2	-	5.4	6.8	-	-	-	-	-
Development Assistance											
% of GNI	1.2	1.53	0.91	1.13	0.89	1.01	1.05	0.9	1.01		
US\$/Capita	20.7	29.7	18.4	22.0	15.2	15.1	15.5	11.3	10.2		
External Debt											
% of GDP	17.3 1	16.1 2		15.2 3		26.9 1	26.7 9	29.1 8		38.2 5	
Debt Service/Exports (%)	6.3	5.6	5.1	6.6	5.7	7.7	10.9	12.7	12.4	9.9	
Trade (2004)											
	Exports (% of total)				Imports (% of total)						
Manufactures	86				8						
Fuels/Mining	12.7				71.7						
Agriculture	0.8				19.1						

Table 4 Uruguay

Uruguay	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Real Income											
GDP annual growth rate (%)	7.3	-1.4	5.6	5	4.5	-2.8	-1.4	-3.4	-11	2.5	12
									-		
									12.0		10.6
GDP/capita growth %)		-1.22	4.94	3.53	3.41	-3.3	-2.27	-3.49	5	2.74	7
	17.4		20.5		22.3	20.9	20.0	18.5	12.2	11.1	
GDP \$USb	4	19.3	2	21.7	7	1	9	6	8	8	
			43.7		45.1		44.5	44.9		44.8	
GINI Coefficient			6		8		6	6		3	
Fixed Capital Formation											
									-		
									32.4		32.0
Gross capital formation (% annual growth)							-13.1	-9.41	9	-11.4	7
Gross fixed capital (% of GDP)							14	14	12	13	13
FDI net inflows (% of GDP)							1.32	1.46	1.42	3.72	2.36
Employment											
Urban Unemployment (%)	-	10.3	11.9	11.5	10.1	11.3	13.6	15.3	17	16.9	13.1
Unemployment (%)	9.2	10.2	-	-	10.1	11.3	13.6	15.3	18.6	-	-
Development Assistance											
% of GNI	0.55	0.77	0.43	0.36	0.17	0.16	0.12	0.11	0.09	0.09	0.11
	22.0	35.7	23.2	21.0	10.7	10.5					
US\$/Capita	1	6	7	5	9	2	7.75	6.74	5.25	4.63	3.99
External Debt											
		19.8	19.9	20.9	22.8	24.3	27.7	32.8	56.0	66.4	
% of GDP	21.5	6	1	9	6	1	6	3	3	5	-
Debt Service/Exports (%)	15.2	22.1	15.4	15.6	23.8	24.7	29.4	35.9	40.3	26.3	-
Trade (2004)											
	Exports (% of total)					Imports (% of total)					
Manufactures			63						12.7		
Fuels/Mining			4.9						25.3		
Agriculture			30.2						62		

Table 5 Mercosur's agriculture, manufacture and service sectors value added (% of GDP)

Year	1995			1998			2000			2002			2004		
Country/Sector	Agr	Man	Ser	Agr	Man	Ser	Agr	Man	Ser	Agr	Man	Ser	Agr	Man	Ser
Mercosur	12	19	58	11	17	61	10	16	63	13	16	57	15	18	53
Argentina	6	19	66	6	19	65	5	18	67	11	22	57	10	24	54
Brazil	9	24	54	8	17	63	7	17	65	9	13	53	10	11	50
Paraguay	25	15	49	24	15	49	20	13	54	24	14	51	27	14	49
Uruguay	8	19	64	7	18	65	6	16	68	9	16	66	11	21	60

Source: World Development Indicators (Edition: April 2006)

Annex 3. Detailed model results

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Sectors and regions
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Sectors and regions

Table 1: Sector aggregation in the model

Sector	GTAP sector	Corresponding ISIC/CPC codes
Grains	Paddy rice; Wheat; Cereal grains nec.	CPC 0111-0116, 0119
Crops	Vegetables, fruit, nuts; Oil seeds; Sugar cane, sugar beet; Plant-based fibers; Crops nec	CPC 012-017, 019
Bovine	Bovine cattle, sheep and goats, horses; Animal products nec; Raw milk	CPC 0211-0212, 0291-0295, 0297-0299
Forestry	Forestry	CPC 03
Fishing	Fishing	ISIC 015
Energy, minerals	Coal; Oil; Gas; Minerals nec	ISIC 101-103, 111-112, 12-14
Food Products	Bovine meat products; Meat products nec; Vegetable oils and fats; Dairy products; Processed rice; Sugar; Food products nec; Beverages and tobacco products	CPC 2111-2114, 216-218, 22-25
Textiles and wearing	Wool, silk-worm cocoons; Textiles; Wearing apparel; Leather products	CPC 0296, ISIC 17-19, 243
Wood and paper	Wood products; Paper products, publishing	ISIC 20-22
Chemicals	Petroleum, coal products; Chemical, rubber, plastic products	ISIC 23-25
Metal products	Mineral products nec; Ferrous metals; Metals nec; Metal products	ISIC 26-28
Motor vehicles and parts	Motor vehicles and parts	ISIC 34
Transport equipment	Transport equipment nec	ISIC 35
Machinery	Electronic equipment; Machinery and equipment nec; Manufactures nec	ISIC 29-33, 36-37
Electricity, gas, water	Electricity; Gas manufacture, distribution; Water	ISIC 40-41
Construction	Construction	ISIC 45
Trade	Trade	ISIC 50-55,
Communication	Communication	ISIC 64
Transport service	Transport nec; Water transport; Air transport	ISIC 60-63
Financial services	Financial services nec; Insurance	ISIC 65-67
Business services	Business services nec;	ISIC 70-74
Other services	Recreational and other services; Public Administration, Defense, Education, Health; Dwellings	ISIC 75, 80, 85, 90-99

Table 2: Regions in the model

Regions
Argentina
Brazil
Paraguay
Uruguay
Venezuela
MERCOSUR
associates:
<i>Bolivia, Chile, Columbia, Equador, Peru</i>
Other South America:
<i>Rest of South America, Central America,</i>
<i>Rest of FTAA, Rest of Caribbean</i>
European Union 15:
<i>Old Eu member states</i>
European Union 10:
<i>New EU</i>
<i>Members</i>
Rest of world

Economic welfare**Table 3: Welfare Effects, millions of dollars**

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
Argentina	411	138	705	1.255	549
Brazil	4.510	465	1.908	6.883	4.975
Paraguay	502	12	129	643	514
Uruguay	272	21	76	369	294
Venezuela	-267	61	297	91	-206
MERCOSUR					
associates	-165	-12	4	-173	-177
Other South America	-65	-7	5	-67	-72
EU15	1.306	558	1.836	3.700	1.864
EU10	39	18	144	201	57
ROW	-2.594	-199	-189	-2.982	-2.793

Table 4: Welfare Effects, % of GDP

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
Argentina	0,2	0,1	0,3	0,5	0,2
Brazil	1,0	0,1	0,4	1,5	1,1
Paraguay	7,8	0,2	2,0	10,0	8,0
Uruguay	1,6	0,1	0,4	2,1	1,7

Venezuela	-0,2	0,1	0,3	0,1	-0,2
MERCOSUR associates	-0,1	0,0	0,0	-0,1	-0,1
Other South America	0,0	0,0	0,0	0,0	0,0
EU15	0,0	0,0	0,0	0,1	0,0
EU10	0,0	0,0	0,0	0,1	0,0
ROW	0,0	0,0	0,0	0,0	0,0

Table 5: GDP, % change in quantity index

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
Argentina	0,0	0,0	0,3	0,3	0,0
Brazil	0,3	0,1	0,4	0,8	0,3
Paraguay	1,6	0,1	0,8	2,5	1,7
Uruguay	0,5	0,1	0,4	0,9	0,6
Venezuela	-0,1	0,0	0,3	0,3	0,0
MERCOSUR associates	0,0	0,0	0,0	0,0	0,0
Other South America	0,0	0,0	0,0	0,0	0,0
EU15	0,1	0,0	0,0	0,1	0,1
EU10	0,0	0,0	0,0	0,1	0,0
ROW	0,0	0,0	0,0	0,0	0,0

Table 6: Tariff Revenue Effects, millions of dollars

	base revenue	new revenue	change
Argentina	1.984	1.044	-940
Brazil	5.609	3.185	-2.424
Paraguay	151	164	13
Uruguay	246	129	-117
Venezuela	2.175	1.308	-867
MERCOSUR associates	3.625	3.558	-67
Other South America	6.725	6.995	270
EU15	20.861	18.306	-2.556
EU10	6.207	2.152	-4.055
ROW	183.166	184.642	1.476

Value added

Table 7: Share of total output in benchmark

	Argentina	Brazil	Paraguay	Uruguay	Venezuela	MERCOSUR associates	Other South America	EU15	EU10	ROW
grains	1,5	0,5	2,3	1,9	1,0	1,2	0,9	0,4	0,8	0,9
crops	2,5	2,8	13,2	1,6	2,7	5,1	4,6	1,0	2,2	2,2
animal products	1,8	1,9	4,7	7,0	3,3	2,7	2,3	0,8	1,4	1,0
forestry	0,2	0,2	2,1	0,5	0,1	0,5	0,3	0,2	0,5	0,3
fisheries	0,1	0,0	0,1	0,3	0,7	0,7	0,4	0,3	0,1	0,3
mining	2,2	1,5	0,1	0,3	12,6	4,9	1,3	0,5	1,5	2,3
processed foods	3,9	3,5	4,8	7,4	5,0	6,5	5,1	3,2	6,1	2,5
textiles and clothing	1,6	1,5	1,9	2,2	1,5	3,0	4,3	1,2	2,6	1,5
wood, pulp, paper	1,8	1,7	1,4	1,4	1,6	3,0	2,2	2,3	3,5	2,7
chemicals	2,6	3,5	0,6	3,1	4,6	2,8	2,8	3,2	3,8	2,9

metals	2,3	2,7	2,6	2,4	3,1	3,9	2,9	3,5	5,3	3,2
motor vehicles	0,9	0,9	0,0	0,5	1,3	0,6	0,6	1,8	1,8	1,3
transport equipment	0,2	0,9	0,0	0,1	0,4	0,2	0,5	0,5	0,5	0,6
machinery	1,6	4,4	1,0	1,1	0,8	2,3	3,4	6,1	6,4	5,6
utilities	2,2	3,2	18,8	4,5	3,9	3,2	1,7	2,3	4,0	2,4
construction	4,3	10,0	4,6	3,1	5,6	6,3	5,7	5,9	6,4	6,4
wholesale, retail	14,7	8,5	18,6	8,5	14,0	9,5	11,0	13,1	13,8	13,4
communications	2,3	1,7	1,3	2,2	2,2	2,3	2,4	2,5	2,4	2,2
transport services	5,3	2,2	3,3	10,4	11,9	5,7	6,3	4,3	6,0	4,6
finance	3,9	8,1	2,6	3,6	2,9	4,0	4,7	4,3	2,3	6,5
business services	6,6	13,4	3,0	5,4	5,6	6,1	7,0	12,8	12,4	7,6
other services	37,6	26,7	12,9	32,7	15,2	25,2	29,6	30,0	16,2	29,5
Sum	100	100	100	100	100	100	100	100	100	100

Table 8: Share of total output in scenario

	Argentina	Brazil	Paraguay	Uruguay	Venezuela	EU15	EU10
grains	1,7	0,6	2,9	1,9	1,0	0,4	0,8
crops	2,6	2,8	13,5	1,6	2,8	1,0	2,2
animal products	1,9	2,5	7,1	7,3	3,2	0,7	1,4
forestry	0,2	0,2	2,1	0,5	0,1	0,2	0,5
fisheries	0,1	0,0	0,1	0,4	0,7	0,3	0,1
mining	2,2	1,4	0,1	0,3	12,8	0,5	1,5
processed foods	4,1	5,2	9,2	8,6	4,9	3,1	5,9
textiles and clothing	1,5	1,4	1,5	1,8	1,5	1,2	2,6
wood, pulp, paper	1,7	1,6	1,3	1,2	1,6	2,3	3,5
chemicals	2,6	3,3	0,6	2,9	4,7	3,3	3,8
metals	2,2	2,3	2,3	2,1	3,2	3,5	5,3
motor vehicles	0,8	0,6	0,0	0,3	1,3	1,8	1,8
transport equipment	0,2	0,8	0,0	0,1	0,5	0,5	0,5
machinery	1,4	3,3	0,4	0,7	0,8	6,2	6,5
utilities	2,2	3,2	8,8	4,6	3,9	2,3	4,0
construction	4,3	10,1	4,7	3,2	5,6	5,9	6,4
wholesale, retail	14,6	8,6	22,4	8,6	13,9	13,1	13,8
communications	2,4	1,7	1,4	2,1	2,1	2,5	2,5
transport services	5,4	2,2	3,7	10,1	12,0	4,3	6,1
finance	3,8	7,9	2,8	3,6	2,9	4,3	2,3
business services	6,5	13,3	2,6	5,3	5,4	12,8	12,4
other services	37,6	26,8	12,5	33,0	15,1	30,0	16,2
Sum	100	100	100	100	100	100	100

Table 9; Value Added and Output Changes, Argentina

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	11,0	0,1	0,2	11,4	11,2
crops	1,4	0,1	0,1	1,7	1,5
animal products	3,2	0,4	0,6	4,1	3,6
forestry	-1,5	-0,1	0,3	-1,2	-1,5
fisheries	3,7	0,3	0,5	4,4	4,0

mining	-0,2	0,0	0,2	-0,1	-0,2
processed foods	4,8	0,5	0,7	6,1	5,3
textiles and clothing	-2,1	-0,1	0,9	-1,4	-2,3
wood, pulp, paper	-1,9	-0,2	0,3	-1,8	-2,1
chemicals	-1,2	-0,2	1,3	-0,1	-1,4
metals	-4,3	-0,4	1,0	-3,7	-4,7
motor vehicles	-12,1	-0,8	3,2	-9,7	-13,0
transport equipment	1,9	-0,2	2,3	4,0	1,7
machinery	-15,3	-1,2	1,3	-15,3	-16,6
utilities	-0,3	-0,1	0,0	-0,4	-0,4
construction	0,4	0,1	-0,1	0,3	0,5
wholesale, retail	-0,1	0,0	-0,3	-0,4	-0,1
communications	0,1	0,0	1,0	1,1	0,1
transport services	0,2	0,0	0,5	0,8	0,2
finance	0,0	0,0	-2,1	-2,1	0,0
business services	0,2	0,0	-1,3	-1,0	0,2
other services	0,2	0,0	-0,1	0,2	0,2

Table 10: Value Added and Output Changes, Brazil

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	14,4	0,3	0,3	15,1	14,7
crops	-0,1	0,3	0,2	0,4	0,2
animal products	30,6	0,7	0,6	32,0	31,3
forestry	7,3	0,3	0,3	7,8	7,5
fisheries	2,0	0,1	0,1	2,2	2,1
mining	-2,7	0,0	0,4	-2,2	-2,6
processed foods	44,6	1,1	0,9	46,6	45,7
textiles and clothing	-7,2	0,0	0,7	-6,5	-7,2
wood, pulp, paper	-5,6	0,0	0,6	-5,0	-5,6
chemicals	-5,3	-0,3	0,5	-5,1	-5,6
metals	-14,8	-0,5	1,3	-14,1	-15,3
motor vehicles	-29,2	-0,8	0,9	-29,1	-30,0
transport equipment	-18,5	-0,5	1,4	-17,6	-19,0
machinery	-24,3	-1,2	1,1	-24,3	-25,5
utilities	-1,1	0,0	-0,9	-2,0	-1,1
construction	1,0	0,1	0,1	1,2	1,1
wholesale, retail	0,8	0,0	-0,1	0,7	0,8
communications	-1,1	0,0	1,0	-0,2	-1,1
transport services	0,3	0,0	0,4	0,7	0,3
finance	-1,0	0,0	-0,3	-1,4	-1,1
business services	-0,1	0,0	-1,1	-1,2	-0,1
other services	0,3	0,1	0,0	0,3	0,4

Table 11: Value Added and Output Changes, Paraguay

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	11,7	0,4	-1,3	10,8	12,1
crops	-6,0	0,1	-1,9	-7,8	-5,9

animal products	39,6	0,3	-3,0	36,9	39,9
forestry	-5,3	0,0	-3,4	-8,6	-5,3
fisheries	1,3	0,0	-0,1	1,2	1,3
mining	-20,2	-0,1	-3,3	-23,6	-20,3
processed foods	79,0	0,6	-6,1	73,4	79,6
textiles and clothing	-22,6	0,0	-5,1	-27,8	-22,7
wood, pulp, paper	-16,1	-0,2	-5,1	-21,3	-16,2
chemicals	-14,5	-0,2	-5,3	-20,1	-14,8
metals	-16,3	-0,2	-2,6	-19,1	-16,5
motor vehicles	-52,7	-1,9	-11,8	-66,4	-54,6
transport equipment	-45,2	-0,6	-17,2	-63,0	-45,8
machinery	-44,9	-1,3	-11,6	-57,8	-46,2
utilities	-22,2	-0,2	14,5	-7,8	-22,4
construction	6,8	0,2	1,7	8,6	6,9
wholesale, retail	1,8	-0,1	-4,4	-2,7	1,7
communications	3,0	0,0	-1,7	1,4	3,0
transport services	2,0	0,0	-1,8	0,2	2,0
finance	-3,7	-0,1	-19,3	-23,1	-3,8
business services	-7,2	-0,1	-5,3	-12,6	-7,3
other services	2,0	0,1	-0,5	1,5	2,1

Table 12: Value Added and Output Changes, Uruguay

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	8,4	0,2	0,0	8,6	8,6
crops	1,1	0,2	0,0	1,2	1,2
animal products	4,6	0,1	-0,2	4,6	4,8
forestry	-4,8	0,6	-0,3	-4,6	-4,3
fisheries	6,9	0,2	-0,1	6,9	7,0
mining	-4,5	-0,1	-0,3	-4,8	-4,5
processed foods	17,2	0,3	-0,5	17,1	17,6
textiles and clothing	-15,2	-0,2	-0,3	-15,7	-15,4
wood, pulp, paper	-6,9	-0,3	-0,6	-7,8	-7,2
chemicals	-4,9	-0,2	-0,4	-5,4	-5,1
metals	-12,3	-0,5	-1,0	-13,8	-12,8
motor vehicles	-37,3	-1,8	-2,5	-41,6	-39,1
transport equipment	-32,7	0,1	-3,1	-35,7	-32,6
machinery	-34,8	-1,6	-1,6	-38,0	-36,3
utilities	-3,8	-0,1	5,6	1,7	-3,9
construction	0,3	0,1	-0,1	0,3	0,4
wholesale, retail	0,8	0,0	-0,1	0,7	0,8
communications	-2,3	-0,1	-0,2	-2,5	-2,4
transport services	-3,0	-0,1	-0,1	-3,2	-3,1
finance	-1,3	0,0	0,8	-0,6	-1,4
business services	-0,3	0,0	-1,8	-2,0	-0,3
other services	0,7	0,1	0,0	0,7	0,7

Table 13: Value Added and Output Changes, Venezuela

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	-1,3	-0,1	0,5	-0,9	-1,3
crops	1,2	0,0	0,3	1,5	1,2
animal products	-0,8	0,0	0,1	-0,7	-0,8
forestry	-0,3	-0,1	0,8	0,3	-0,4
fisheries	-0,7	0,0	0,2	-0,5	-0,7
mining	0,8	0,0	0,4	1,3	0,8
processed foods	-2,5	-0,1	0,4	-2,2	-2,6
textiles and clothing	-0,7	0,0	0,7	0,0	-0,7
wood, pulp, paper	-0,5	-0,1	0,7	0,2	-0,6
chemicals	1,2	0,0	1,1	2,2	1,1
metals	1,0	0,0	2,6	3,5	0,9
motor vehicles	-1,1	-0,1	1,5	0,3	-1,2
transport equipment	0,9	-0,2	1,5	2,2	0,7
machinery	0,5	-0,5	3,2	3,2	0,0
utilities	0,2	0,0	0,8	0,9	0,2
construction	-0,2	0,0	-0,1	-0,3	-0,2
wholesale, retail	-0,2	0,0	-0,2	-0,4	-0,2
communications	0,0	0,0	-1,7	-1,7	0,0
transport services	0,1	0,0	0,5	0,6	0,1
finance	0,1	0,0	-1,3	-1,2	0,1
business services	0,4	0,0	-3,3	-3,0	0,4
other services	-0,1	0,0	-0,6	-0,7	-0,1

Table 14: Value Added and Output Changes, EU15

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	-4,2	-0,2	0,0	-4,4	-4,4
crops	0,3	-0,1	0,0	0,2	0,2
animal products	-3,4	-0,1	0,0	-3,5	-3,5
forestry	0,1	0,0	0,0	0,0	0,1
fisheries	-0,2	0,0	0,0	-0,3	-0,3
mining	0,0	0,0	0,0	-0,1	0,0
processed foods	-4,9	-0,2	-0,1	-5,1	-5,1
textiles and clothing	0,9	0,0	-0,1	0,9	1,0
wood, pulp, paper	0,2	0,0	0,0	0,1	0,2
chemicals	0,4	0,0	0,0	0,4	0,5
metals	0,8	0,0	-0,1	0,7	0,8
motor vehicles	1,8	0,1	-0,1	1,8	1,8
transport equipment	0,2	0,0	-0,2	0,1	0,3
machinery	1,5	0,1	-0,1	1,4	1,5
utilities	0,1	0,0	-0,1	-0,1	0,1
construction	0,0	0,0	0,0	0,0	0,0
wholesale, retail	0,0	0,0	0,0	0,0	0,0
communications	0,0	0,0	0,0	0,0	0,0
transport services	0,2	0,0	0,0	0,2	0,2
finance	-0,1	0,0	0,1	0,0	-0,1
business services	0,1	0,0	0,0	0,1	0,1
other services	0,0	0,0	0,0	0,0	0,0

Table 15: Value Added and Output Changes, EU10

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	-1,4	-0,1	0,0	-1,5	-1,5
crops	-0,3	0,0	0,0	-0,4	-0,4
animal products	-1,0	0,0	0,0	-1,0	-1,0
forestry	-0,1	0,0	0,0	-0,1	-0,1
fisheries	-0,5	0,0	0,0	-0,5	-0,5
mining	0,0	0,0	0,0	0,0	0,0
processed foods	-2,5	-0,1	0,0	-2,7	-2,6
textiles and clothing	0,3	0,0	-0,1	0,2	0,3
wood, pulp, paper	0,1	0,0	0,0	0,0	0,1
chemicals	0,2	0,0	0,0	0,2	0,2
metals	0,6	0,0	-0,1	0,6	0,6
motor vehicles	0,7	0,0	0,0	0,7	0,7
transport equipment	1,1	0,0	-0,2	1,0	1,2
machinery	0,8	0,0	-0,1	0,8	0,9
utilities	0,2	0,0	-0,1	0,2	0,2
construction	0,0	0,0	0,0	0,0	0,0
wholesale, retail	0,0	0,0	0,0	0,1	0,0
communications	0,0	0,0	0,0	0,0	0,0
transport services	0,3	0,0	0,0	0,3	0,3
finance	0,0	0,0	0,0	0,0	0,0
business services	0,1	0,0	0,0	0,0	0,1
other services	0,0	0,0	0,1	0,1	0,0

Employment**Table 16: Share of employment in benchmark**

	Argentina	Brazil	Paraguay	Uruguay	Venezuela	MERCOSUR associates	Other South America	EU15	EU10	ROW
grains	1,3	0,2	2,1	2,4	1,2	1,1	0,8	0,2	0,8	0,7
crops	2,1	1,1	11,8	2,0	3,2	5,0	4,2	1,1	2,2	1,8
animal products	1,5	0,7	4,2	8,7	3,8	2,7	2,1	0,7	1,4	0,8
forestry	0,1	0,1	0,2	0,4	0,0	0,5	0,2	0,1	0,3	0,2
fisheries	0,0	0,0	0,0	0,4	0,4	0,4	0,2	0,2	0,0	0,2
mining	1,7	0,6	0,1	0,3	3,6	2,0	0,9	0,2	1,2	0,6
processed foods	4,2	2,7	2,4	8,3	4,9	4,1	3,7	2,7	6,5	1,9
textiles and clothing	1,2	1,7	2,5	2,0	2,2	1,9	2,5	1,5	3,7	1,5
wood, pulp, paper	1,9	2,4	2,0	2,3	2,1	1,7	1,6	2,8	3,2	2,9
chemicals	2,7	2,4	0,9	3,8	4,7	2,1	2,3	3,6	3,5	2,5
metals	2,8	2,5	2,4	3,6	3,6	2,8	2,8	4,3	6,5	3,2
motor vehicles	1,0	0,5	0,1	0,9	2,1	0,3	0,5	2,5	1,5	1,3
transport equipment	0,2	1,1	0,0	0,1	0,6	0,2	0,6	0,7	0,8	0,8
machinery	2,0	3,5	1,1	1,6	1,1	1,2	2,4	8,6	7,1	5,5
utilities	1,8	3,1	16,1	3,1	2,9	1,9	1,2	1,3	3,3	1,1
construction	2,0	3,9	7,3	6,0	5,2	5,8	3,3	6,3	5,7	8,3
wholesale, retail	7,3	13,0	14,3	9,4	14,1	13,3	10,3	12,4	9,3	15,2
communications	1,2	1,1	0,9	2,6	0,9	1,6	1,5	2,2	1,6	1,5

transport services	4,2	3,5	4,6	10,8	11,4	8,3	7,5	4,5	6,4	4,7
finance	3,9	12,1	4,1	6,5	2,5	4,8	5,7	4,7	2,5	8,2
business services	3,2	11,5	2,4	4,9	1,6	5,7	5,0	6,8	6,5	8,8
other services	53,6	32,5	20,5	20,0	28,2	32,5	40,7	32,8	26,0	28,4
Sum	100	100	100	100	100	100	100	100	100	100

Table 17: Share of employment in scenario

	Argentina	Brazil	Paraguay	Uruguay	Venezuela	EU15	EU10
grains	1,4	0,3	2,4	2,6	1,1	0,2	0,8
crops	2,2	1,1	11,2	2,0	3,2	1,1	2,1
animal products	1,6	1,0	6,0	9,3	3,8	0,7	1,3
forestry	0,1	0,2	0,2	0,4	0,0	0,1	0,3
fisheries	0,0	0,0	0,0	0,4	0,4	0,2	0,0
mining	1,7	0,5	0,0	0,3	3,7	0,2	1,2
processed foods	4,4	3,9	4,3	9,8	4,8	2,5	6,3
textiles and clothing	1,2	1,6	1,8	1,7	2,2	1,5	3,7
wood, pulp, paper	1,8	2,2	1,6	2,2	2,1	2,8	3,2
chemicals	2,7	2,3	0,7	3,6	4,8	3,6	3,5
metals	2,7	2,2	2,0	3,1	3,7	4,3	6,5
motor vehicles	0,9	0,3	0,0	0,6	2,1	2,5	1,5
transport equipment	0,2	0,9	0,0	0,1	0,6	0,7	0,8
machinery	1,7	2,6	0,5	1,0	1,1	8,7	7,1
utilities	1,8	3,1	15,1	3,1	2,9	1,3	3,3
construction	2,0	3,9	8,0	6,0	5,1	6,3	5,7
wholesale, retail	7,2	13,2	14,3	9,4	14,0	12,4	9,3
communications	1,2	1,1	1,0	2,5	0,8	2,2	1,6
transport services	4,3	3,5	4,6	10,5	11,5	4,5	6,5
finance	3,8	11,9	3,2	6,5	2,4	4,7	2,5
business services	3,2	11,4	2,1	4,8	1,5	6,8	6,5
other services	53,7	32,7	20,9	20,1	28,0	32,7	26,0
Sum	100	100	100	100	100	100	100

Table 18: Employment Changes, Argentina

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	13,7	0,2	0,3	14,2	13,9
crops	3,1	0,2	0,2	3,6	3,4
animal products	5,1	0,5	0,7	6,3	5,6
forestry	-1,6	-0,1	0,3	-1,4	-1,7
fisheries	7,4	0,6	0,9	8,9	8,0
mining	-0,3	0,0	0,2	-0,1	-0,4
processed foods	4,8	0,5	0,6	5,9	5,3
textiles and clothing	-2,2	-0,1	0,7	-1,6	-2,3
wood, pulp, paper	-1,9	-0,2	0,2	-1,9	-2,2
chemicals	-1,3	-0,2	1,2	-0,3	-1,4
metals	-4,4	-0,4	0,9	-3,8	-4,7
motor vehicles	-12,2	-0,8	3,1	-9,9	-13,0
transport equipment	1,8	-0,2	2,2	3,9	1,7
machinery	-15,3	-1,2	1,2	-15,4	-16,6
utilities	-0,4	-0,1	-0,1	-0,6	-0,5
construction	0,4	0,1	-0,3	0,1	0,4
wholesale, retail	-0,1	0,0	-0,5	-0,7	-0,1
communications	0,0	0,0	0,8	0,8	0,0
transport services	0,2	0,0	0,3	0,5	0,2
finance	-0,1	0,0	-2,2	-2,3	-0,1
business services	0,1	0,0	-1,4	-1,3	0,2
other services	0,1	0,0	-0,2	0,0	0,2

Table 19: Employment Changes, Brazil

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	18,2	0,5	0,4	19,1	18,7
crops	2,6	0,4	0,3	3,3	3,0
animal products	35,9	0,9	0,7	37,6	36,8
forestry	8,5	0,3	0,3	9,1	8,8
fisheries	3,4	0,1	0,1	3,6	3,5
mining	-4,1	0,1	0,6	-3,4	-4,0
processed foods	45,4	1,1	0,9	47,4	46,6
textiles and clothing	-6,8	0,0	0,7	-6,1	-6,8
wood, pulp, paper	-5,4	0,0	0,6	-4,8	-5,3
chemicals	-4,7	-0,3	0,5	-4,5	-5,0
metals	-14,4	-0,5	1,2	-13,6	-14,9
motor vehicles	-28,7	-0,8	0,9	-28,6	-29,4
transport equipment	-18,2	-0,4	1,4	-17,2	-18,6
machinery	-23,8	-1,2	1,1	-23,9	-25,0
utilities	-0,6	0,0	-0,9	-1,6	-0,6
construction	1,9	0,1	0,1	2,1	2,1
wholesale, retail	1,0	0,1	-0,2	0,9	1,1
communications	-0,4	0,0	0,9	0,5	-0,4
transport services	0,6	0,0	0,3	0,9	0,6
finance	-0,8	0,0	-0,5	-1,3	-0,8
business services	0,4	0,0	-1,2	-0,7	0,5
other services	0,7	0,1	-0,1	0,6	0,8

Table 20: Employment Changes, Paraguay

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	15,8	0,5	-2,0	14,2	16,3
crops	-3,7	0,2	-2,7	-6,1	-3,5
animal products	46,9	0,4	-3,9	43,3	47,3
forestry	-5,6	0,0	-3,5	-9,0	-5,6
fisheries	3,0	0,1	-0,2	2,8	3,0
mining	-22,8	-0,1	-3,9	-26,8	-22,9
processed foods	81,1	0,6	-4,9	76,7	81,6
textiles and clothing	-22,7	-0,1	-4,5	-27,3	-22,8
wood, pulp, paper	-16,2	-0,2	-4,5	-20,9	-16,3
chemicals	-14,8	-0,3	-4,8	-19,8	-15,1
metals	-16,1	-0,2	-1,7	-18,0	-16,3
motor vehicles	-53,0	-1,9	-11,6	-66,4	-54,9
transport equipment	-45,5	-0,6	-16,9	-63,0	-46,1
machinery	-45,0	-1,3	-11,0	-57,3	-46,3
utilities	-22,2	-0,2	15,8	-6,6	-22,4
construction	6,4	0,1	2,2	8,8	6,6
wholesale, retail	2,6	-0,2	-3,0	-0,6	2,4
communications	3,2	0,0	-0,4	2,8	3,2
transport services	1,8	0,0	-1,0	0,8	1,8
finance	-4,8	-0,1	-18,7	-23,6	-4,9

business services	-7,2	-0,1	-4,1	-11,5	-7,3
other services	0,4	0,0	0,3	0,8	0,4

Table 21: Employment Changes, Uruguay

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	10,9	0,3	-0,1	11,1	11,2
crops	2,9	0,2	-0,1	3,0	3,1
animal products	6,8	0,2	-0,2	6,7	7,0
forestry	-5,4	0,6	-0,4	-5,2	-4,8
fisheries	13,8	0,3	-0,3	13,8	14,1
mining	-5,0	-0,1	-0,3	-5,4	-5,1
processed foods	17,1	0,3	-0,3	17,1	17,4
textiles and clothing	-15,4	-0,1	-0,2	-15,7	-15,5
wood, pulp, paper	-7,1	-0,3	-0,6	-7,9	-7,3
chemicals	-5,1	-0,2	-0,3	-5,5	-5,2
metals	-12,5	-0,4	-0,9	-13,8	-12,9
motor vehicles	-37,5	-1,8	-2,4	-41,6	-39,3
transport equipment	-32,9	0,1	-3,0	-35,7	-32,8
machinery	-34,9	-1,5	-1,5	-38,0	-36,5
utilities	-4,0	-0,1	5,8	1,6	-4,1
construction	0,2	0,1	0,0	0,2	0,2
wholesale, retail	0,6	0,1	0,0	0,6	0,6
communications	-2,6	0,0	0,0	-2,7	-2,7
transport services	-3,2	-0,1	0,1	-3,2	-3,3
finance	-1,7	0,0	0,9	-0,8	-1,8
business services	-0,6	0,0	-1,6	-2,2	-0,6
other services	0,4	0,1	0,1	0,6	0,5

Table 22: Employment Changes, Venezuela

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	-1,3	-0,1	0,5	-0,9	-1,4
crops	1,3	0,0	0,3	1,6	1,3
animal products	-0,9	0,0	0,1	-0,7	-0,8
forestry	-0,3	-0,1	0,8	0,4	-0,4
fisheries	-0,9	0,0	0,2	-0,8	-1,0
mining	1,3	0,1	0,6	1,9	1,3
processed foods	-2,4	-0,1	0,2	-2,3	-2,5
textiles and clothing	-0,6	0,0	0,5	-0,1	-0,6
wood, pulp, paper	-0,4	-0,1	0,5	0,0	-0,5
chemicals	1,3	0,0	0,8	2,1	1,2
metals	1,1	0,0	2,4	3,4	1,1
motor vehicles	-1,0	0,0	1,3	0,2	-1,1
transport equipment	1,0	-0,2	1,2	2,0	0,8
machinery	0,6	-0,4	2,9	3,1	0,1
utilities	0,3	0,0	0,5	0,8	0,3
construction	-0,1	0,0	-0,4	-0,5	0,0
wholesale, retail	-0,1	0,0	-0,5	-0,6	-0,1
communications	0,2	0,0	-2,0	-1,8	0,2

transport services	0,2	0,0	0,2	0,4	0,3
finance	0,2	0,0	-1,7	-1,4	0,2
business services	0,5	0,0	-3,7	-3,1	0,5
other services	-0,1	0,0	-0,9	-1,0	0,0

Table 23: Employment Changes, EU15

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	-4,6	-0,2	0,0	-4,8	-4,8
crops	0,0	-0,1	0,0	-0,1	-0,1
animal products	-3,7	-0,1	-0,1	-3,9	-3,9
forestry	0,1	0,0	0,0	0,0	0,1
fisheries	-0,4	0,0	0,0	-0,4	-0,4
mining	0,0	0,0	0,0	-0,1	0,0
processed foods	-5,0	-0,2	-0,1	-5,2	-5,1
textiles and clothing	0,9	0,0	-0,1	0,9	0,9
wood, pulp, paper	0,1	0,0	0,0	0,1	0,1
chemicals	0,4	0,0	0,0	0,4	0,4
metals	0,7	0,0	-0,1	0,7	0,7
motor vehicles	1,8	0,1	-0,1	1,8	1,8
transport equipment	0,2	0,0	-0,2	0,1	0,2
machinery	1,4	0,1	-0,1	1,4	1,5
utilities	0,0	0,0	-0,1	-0,1	0,0
construction	-0,1	0,0	0,0	-0,1	-0,1
wholesale, retail	-0,1	0,0	0,0	-0,1	-0,1
communications	0,0	0,0	0,0	0,0	0,0
transport services	0,1	0,0	0,0	0,1	0,2
finance	-0,1	0,0	0,1	0,0	-0,1
business services	0,0	0,0	0,0	0,0	0,0
other services	-0,1	0,0	0,0	0,0	-0,1

Table 24: Employment Changes, EU10

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	-1,8	-0,1	0,0	-1,9	-1,8
crops	-0,6	0,0	0,0	-0,7	-0,7
animal products	-1,3	0,0	0,0	-1,4	-1,4
forestry	-0,1	0,0	0,0	-0,1	-0,1
fisheries	-0,9	0,0	0,0	-1,0	-1,0
mining	0,0	0,0	0,0	-0,1	0,0
processed foods	-2,5	-0,1	0,0	-2,6	-2,6
textiles and clothing	0,3	0,0	-0,1	0,3	0,3
wood, pulp, paper	0,1	0,0	0,0	0,1	0,1
chemicals	0,2	0,0	0,0	0,2	0,2
metals	0,6	0,0	0,0	0,6	0,6
motor vehicles	0,8	0,0	0,0	0,7	0,8
transport equipment	1,2	0,0	-0,2	1,0	1,2
machinery	0,8	0,0	-0,1	0,8	0,9
utilities	0,3	0,0	-0,1	0,2	0,3
construction	0,0	0,0	0,0	0,1	0,0

wholesale, retail	0,1	0,0	0,1	0,1	0,1
communications	0,1	0,0	0,0	0,0	0,1
transport services	0,4	0,0	0,0	0,4	0,4
finance	0,0	0,0	0,0	0,1	0,0
business services	0,1	0,0	0,0	0,1	0,1
other services	0,0	0,0	0,1	0,1	0,0

Real price change

Table 25: Real Price Changes for Domestic Output in %, Argentina

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	6,4	0,2	0,5	7,2	6,6
crops	5,0	0,3	0,5	5,7	5,2
animal products	5,9	0,3	0,7	6,9	6,3
forestry	-0,8	0,0	0,4	-0,5	-0,8
fisheries	8,9	0,8	1,2	10,9	9,7
mining	-0,6	0,0	0,5	-0,2	-0,6
processed foods	1,8	0,1	0,1	2,0	1,9
textiles and clothing	-0,4	0,0	0,1	-0,3	-0,4
wood, pulp, paper	-0,6	0,0	0,1	-0,5	-0,6
chemicals	-0,7	-0,1	-0,3	-1,0	-0,8
metals	-0,6	0,0	0,1	-0,5	-0,6
motor vehicles	-1,5	-0,1	-0,3	-1,9	-1,6
transport equipment	-0,9	-0,1	-0,1	-1,1	-1,0
machinery	-1,3	-0,1	0,1	-1,3	-1,4
utilities	-0,2	0,0	0,0	-0,2	-0,2
construction	-0,6	0,0	0,2	-0,4	-0,6
wholesale, retail	0,0	0,0	0,2	0,2	0,0
communications	-0,2	0,0	-1,2	-1,5	-0,2
transport services	-0,3	0,0	0,0	-0,3	-0,3
finance	-0,2	0,0	0,1	0,0	-0,1
business services	-0,3	0,0	0,1	-0,1	-0,3
other services	-0,1	0,0	0,0	-0,1	-0,1

Table 26: Real Price Changes for Domestic Output in %, Brazil

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	9,6	0,3	0,6	10,5	9,9
crops	7,9	0,3	0,6	8,7	8,2
animal products	12,7	0,4	0,6	13,8	13,2
forestry	4,6	0,2	0,5	5,2	4,7
fisheries	5,4	0,2	0,5	6,2	5,6
mining	-3,2	0,1	0,4	-2,7	-3,1
processed foods	3,4	0,1	0,2	3,7	3,5
textiles and clothing	-0,5	0,0	0,2	-0,3	-0,6
wood, pulp, paper	-0,3	0,0	0,1	-0,2	-0,3
chemicals	-1,1	0,0	0,3	-0,9	-1,1
metals	-0,7	0,0	0,1	-0,7	-0,8
motor vehicles	-1,0	-0,1	0,2	-0,9	-1,1
transport equipment	-0,7	0,0	0,2	-0,5	-0,7
machinery	-1,2	-0,1	0,2	-1,0	-1,2
utilities	0,1	0,0	-1,0	-0,9	0,1
construction	0,1	0,0	0,3	0,4	0,1
wholesale, retail	0,3	0,0	0,2	0,5	0,3
communications	0,4	0,0	-0,1	0,3	0,4
transport services	-0,7	0,0	0,2	-0,4	-0,7
finance	0,4	0,0	0,0	0,4	0,4
business services	0,6	0,0	0,3	0,9	0,7
other services	0,5	0,0	0,2	0,7	0,5

Table 27: Real Price Changes for Domestic Output in %, Paraguay

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	16,1	0,4	-1,0	15,4	16,4
crops	9,9	0,3	-0,6	9,6	10,2
animal products	18,2	0,3	-1,0	17,5	18,5
forestry	2,0	0,1	1,3	3,4	2,1
fisheries	6,2	0,1	1,5	7,9	6,4
mining	-3,7	0,0	-0,3	-4,0	-3,7
processed foods	6,0	0,1	0,4	6,6	6,1
textiles and clothing	3,0	0,1	0,8	3,9	3,1
wood, pulp, paper	1,3	0,0	1,2	2,5	1,3
chemicals	0,6	0,0	0,9	1,4	0,6
metals	1,4	0,0	1,4	2,9	1,4
motor vehicles	2,6	0,0	1,5	4,2	2,7
transport equipment	2,6	0,0	1,5	4,2	2,7
machinery	1,4	0,0	1,3	2,7	1,4
utilities	2,2	0,0	2,1	4,3	2,2
construction	1,1	0,0	1,3	2,5	1,1
wholesale, retail	3,1	0,1	1,6	4,8	3,1
communications	1,9	0,0	2,1	4,0	1,9
transport services	-1,3	0,0	0,4	-0,9	-1,3
finance	2,2	0,1	1,9	4,1	2,2

business services	2,9	0,0	2,1	5,0	3,0
other services	1,3	0,0	1,6	3,0	1,4

Table 28: Real Price Changes for Domestic Output in %, Uruguay

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	6,6	0,2	0,1	6,9	6,8
crops	4,8	0,2	0,1	5,1	5,0
animal products	7,2	0,2	0,0	7,5	7,5
forestry	-2,5	0,2	0,0	-2,2	-2,2
fisheries	21,3	0,5	-0,2	21,6	21,8
mining	-1,3	0,0	0,1	-1,2	-1,3
processed foods	2,2	0,1	0,1	2,4	2,3
textiles and clothing	-1,0	0,0	0,0	-1,0	-1,0
wood, pulp, paper	-2,0	-0,1	0,1	-2,0	-2,1
chemicals	-2,7	-0,1	0,0	-2,8	-2,8
metals	-0,9	0,0	0,2	-0,7	-0,9
motor vehicles	-3,5	-0,2	0,1	-3,6	-3,7
transport equipment	-0,5	0,0	0,3	-0,2	-0,5
machinery	-1,0	0,0	0,2	-0,8	-1,0
utilities	0,6	0,0	0,3	1,0	0,7
construction	-1,3	-0,1	0,1	-1,2	-1,3
wholesale, retail	0,5	0,0	0,1	0,5	0,5
communications	0,5	0,0	-0,3	0,3	0,5
transport services	0,0	0,0	0,1	0,1	0,1
finance	0,6	0,0	-0,9	-0,3	0,7
business services	0,0	0,0	-0,3	-0,2	0,0
other services	0,2	0,0	0,0	0,3	0,3

Table 29: Real Price Changes for Domestic Output in %, Venezuela

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	-0,2	0,0	0,6	0,4	-0,2
crops	0,3	0,0	0,5	0,9	0,3
animal products	-0,2	0,0	0,5	0,3	-0,2
forestry	0,0	0,0	0,4	0,5	0,0
fisheries	-1,1	0,0	0,4	-0,7	-1,1
mining	1,7	0,1	1,0	2,7	1,7
processed foods	-0,4	0,0	0,4	0,0	-0,4
textiles and clothing	-0,1	0,0	0,2	0,1	-0,1
wood, pulp, paper	-0,1	0,0	0,2	0,1	-0,1
chemicals	0,5	0,0	0,4	1,0	0,6
metals	0,1	0,0	0,2	0,3	0,1
motor vehicles	-0,5	-0,1	0,4	-0,2	-0,6
transport equipment	-0,1	0,0	0,3	0,1	-0,2
machinery	-0,3	-0,1	0,3	0,0	-0,4
utilities	0,2	0,0	0,1	0,4	0,3
construction	0,2	0,0	0,1	0,3	0,2
wholesale, retail	0,1	0,0	0,1	0,2	0,1
communications	0,2	0,0	0,0	0,2	0,3

transport services	0,2	0,0	0,0	0,2	0,2
finance	0,2	0,0	-0,6	-0,3	0,3
business services	0,2	0,0	-0,2	0,0	0,3
other services	0,1	0,0	0,0	0,1	0,1

Table 30: Real Price Changes for Domestic Output in %, EU15

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	-0,8	0,0	0,0	-0,8	-0,8
crops	-0,6	0,0	0,0	-0,6	-0,6
animal products	-0,8	0,0	0,0	-0,8	-0,8
forestry	0,1	0,0	0,0	0,1	0,1
fisheries	-0,4	0,0	0,0	-0,4	-0,4
mining	0,1	0,0	0,0	0,1	0,1
processed foods	-0,2	0,0	0,0	-0,2	-0,3
textiles and clothing	0,1	0,0	0,0	0,1	0,1
wood, pulp, paper	0,1	0,0	0,0	0,1	0,1
chemicals	0,1	0,0	0,0	0,1	0,1
metals	0,1	0,0	0,0	0,1	0,1
motor vehicles	0,1	0,0	0,0	0,1	0,1
transport equipment	0,1	0,0	0,0	0,1	0,1
machinery	0,1	0,0	0,0	0,1	0,1
utilities	0,1	0,0	0,0	0,1	0,1
construction	0,1	0,0	0,0	0,1	0,1
wholesale, retail	0,1	0,0	0,0	0,1	0,1
communications	0,1	0,0	0,0	0,1	0,1
transport services	0,1	0,0	0,0	0,1	0,1
finance	0,1	0,0	0,0	0,1	0,1
business services	0,1	0,0	0,0	0,1	0,1
other services	0,1	0,0	0,0	0,1	0,1

Table 31: Real Price Changes for Domestic Output in %, EU10

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	-0,8	0,0	0,0	-0,8	-0,8
crops	-0,7	0,0	0,0	-0,7	-0,7
animal products	-0,6	0,0	0,0	-0,6	-0,7
forestry	0,0	0,0	0,0	0,0	0,0
fisheries	-0,7	0,0	0,0	-0,7	-0,7
mining	0,1	0,0	0,0	0,1	0,1
processed foods	-0,1	0,0	0,0	-0,1	-0,1
textiles and clothing	0,1	0,0	0,0	0,1	0,1
wood, pulp, paper	0,1	0,0	0,0	0,1	0,1
chemicals	0,1	0,0	0,0	0,1	0,1
metals	0,1	0,0	0,0	0,1	0,1
motor vehicles	0,1	0,0	0,0	0,1	0,1
transport equipment	0,1	0,0	0,0	0,1	0,1
machinery	0,1	0,0	0,0	0,1	0,1
utilities	0,1	0,0	0,0	0,1	0,1
construction	0,1	0,0	0,0	0,1	0,1
wholesale, retail	0,1	0,0	0,0	0,1	0,1

communications	0,1	0,0	0,0	0,1	0,1
transport services	0,1	0,0	0,0	0,1	0,1
finance	0,1	0,0	0,0	0,1	0,1
business services	0,1	0,0	0,0	0,1	0,1
other services	0,1	0,0	0,0	0,1	0,1

Table 32: Real Price Changes for Imports in %, Argentina

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	0,3	-0,1	0,4	0,6	0,2
crops	1,1	-0,1	0,4	1,4	1,0
animal products	1,0	-0,2	0,4	1,2	0,8
forestry	-1,0	-0,4	0,4	-1,0	-1,4
fisheries	-0,5	-0,4	0,4	-0,4	-0,8
mining	-0,6	0,0	0,4	-0,2	-0,6
processed foods	-3,2	-0,3	0,3	-3,2	-3,5
textiles and clothing	-3,2	-0,3	0,3	-3,1	-3,5
wood, pulp, paper	-3,7	-0,4	0,3	-3,8	-4,2
chemicals	-3,2	-0,4	0,4	-3,2	-3,5
metals	-3,9	-0,4	0,3	-4,0	-4,2
motor vehicles	-6,6	-0,5	0,3	-6,8	-7,2
transport equipment	-0,9	-0,2	0,4	-0,8	-1,2
machinery	-5,7	-0,5	0,4	-5,9	-6,2
utilities	8,0	0,0	2,0	10,0	8,0
construction	-0,3	-0,1	-16,0	-16,4	-0,4
wholesale, retail	-0,3	-0,1	-13,3	-13,7	-0,4
communications	-0,3	-0,1	-13,6	-13,9	-0,3
transport services	-0,3	-0,1	0,4	0,0	-0,4
finance	-0,3	-0,1	-14,2	-14,5	-0,3
business services	-0,3	-0,1	-15,1	-15,4	-0,4
other services	-0,3	-0,1	-11,5	-11,8	-0,4

Table 33: Real Price Changes for Imports in %, Brazil

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	3,7	0,2	0,6	4,5	3,9
crops	-0,3	-0,1	0,5	0,2	-0,3
animal products	-4,9	-0,5	0,4	-4,9	-5,4
forestry	-3,2	-0,3	0,6	-3,0	-3,5
fisheries	-0,2	-0,1	0,4	0,2	-0,3
mining	-3,0	-0,1	0,4	-2,6	-3,1
processed foods	-9,4	-0,5	0,4	-9,5	-9,9
textiles and clothing	-7,6	-0,4	0,4	-7,5	-7,9
wood, pulp, paper	-8,2	-0,5	0,4	-8,3	-8,7
chemicals	-5,5	-0,4	0,4	-5,5	-5,9
metals	-8,3	-0,5	0,4	-8,5	-8,9
motor vehicles	-12,2	-0,6	0,3	-12,5	-12,8
transport equipment	-3,3	-0,4	0,4	-3,3	-3,7
machinery	-8,6	-0,5	0,4	-8,7	-9,1
utilities	-1,2	-0,1	-12,1	-13,4	-1,3

construction	-2,9	-0,1	-13,8	-16,8	-2,9
wholesale, retail	-2,9	-0,1	-13,3	-16,2	-3,0
communications	-2,9	-0,1	-10,9	-13,8	-2,9
transport services	-2,9	-0,1	0,4	-2,5	-2,9
finance	-2,9	-0,1	-12,3	-15,3	-2,9
business services	-2,9	-0,1	-12,5	-15,5	-3,0
other services	-2,9	-0,1	-11,0	-14,0	-2,9

Table 34: Real Price Changes for Imports in %, Paraguay

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	0,5	0,3	-0,9	-0,2	0,7
crops	-5,6	0,0	-0,9	-6,5	-5,6
animal products	-0,3	0,0	-0,9	-1,2	-0,3
forestry	-8,1	-0,3	-1,0	-9,4	-8,4
fisheries	-7,2	-0,5	-1,0	-8,8	-7,8
mining	-7,4	0,0	-0,9	-8,3	-7,4
processed foods	-8,8	-0,2	-1,1	-10,1	-9,0
textiles and clothing	-7,5	-0,1	-1,1	-8,7	-7,6
wood, pulp, paper	-7,3	-0,2	-1,2	-8,6	-7,5
chemicals	-7,8	-0,2	-1,3	-9,2	-7,9
metals	-7,2	-0,1	-1,3	-8,5	-7,3
motor vehicles	-11,3	-0,4	-1,1	-12,7	-11,7
transport equipment	-7,1	-0,1	-1,1	-8,2	-7,2
machinery	-9,5	-0,3	-1,1	-10,8	-9,8
utilities	-7,1	-0,1	-22,1	-29,3	-7,1
construction	-7,1	-0,1	-15,9	-23,0	-7,1
wholesale, retail	-7,1	-0,1	-7,6	-14,7	-7,2
communications	-7,1	-0,1	-16,8	-24,0	-7,1
transport services	-7,1	-0,1	-1,0	-8,2	-7,1
finance	-7,1	-0,1	-21,8	-29,0	-7,1
business services	-7,1	-0,1	-21,5	-28,6	-7,2
other services	-7,1	-0,1	-10,7	-17,8	-7,1

Table 35: Real Price Changes for Imports in %, Uruguay

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	5,5	0,2	0,0	5,7	5,7
crops	3,5	0,0	0,1	3,6	3,5
animal products	-1,5	-0,1	0,0	-1,5	-1,5
forestry	-2,4	-0,3	0,7	-2,0	-2,7
fisheries	1,3	0,4	0,5	2,1	1,7
mining	-4,9	-0,1	-0,1	-5,1	-5,0
processed foods	-9,1	-0,4	-0,1	-9,5	-9,5
textiles and clothing	-6,9	-0,3	-0,1	-7,3	-7,2
wood, pulp, paper	-6,7	-0,3	-0,2	-7,3	-7,1
chemicals	-7,3	-0,4	-0,3	-7,9	-7,7
metals	-8,0	-0,4	-0,2	-8,6	-8,4
motor vehicles	-12,7	-0,7	-0,2	-13,6	-13,4
transport equipment	-6,9	-0,3	-0,1	-7,4	-7,3
machinery	-9,6	-0,6	-0,1	-10,3	-10,1

utilities	-4,7	-0,1	-25,9	-30,7	-4,8
construction	-4,8	-0,1	-17,2	-22,1	-4,9
wholesale, retail	-4,8	-0,1	-12,5	-17,4	-4,9
communications	-4,7	-0,1	-13,5	-18,4	-4,9
transport services	-4,7	-0,1	-0,1	-5,0	-4,9
finance	-4,7	-0,1	-13,9	-18,8	-4,9
business services	-4,8	-0,1	-14,0	-18,9	-4,9
other services	-4,7	-0,1	-12,1	-17,0	-4,9

Table 36: Real Price Changes for Imports in %, Venezuela

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	2,1	0,0	1,0	3,1	2,1
crops	2,2	0,0	1,0	3,2	2,2
animal products	1,9	-0,1	1,0	2,8	1,8
forestry	0,7	-0,2	1,0	1,4	0,5
fisheries	1,0	-0,4	1,0	1,7	0,7
mining	0,9	-0,1	1,0	1,8	0,8
processed foods	-5,9	-0,4	1,0	-5,4	-6,4
textiles and clothing	-2,0	-0,2	1,0	-1,2	-2,2
wood, pulp, paper	-1,0	-0,2	1,0	-0,3	-1,2
chemicals	-0,3	-0,2	1,0	0,4	-0,5
metals	-3,1	-0,3	1,0	-2,4	-3,4
motor vehicles	-1,6	-0,2	0,9	-0,8	-1,7
transport equipment	0,3	-0,2	1,0	1,1	0,1
machinery	-1,0	-0,3	1,0	-0,3	-1,3
utilities	1,8	0,0	-26,1	-24,3	1,8
construction	1,8	0,0	-18,1	-16,3	1,8
wholesale, retail	1,8	0,0	-14,6	-12,8	1,8
communications	1,8	0,0	-15,1	-13,2	1,8
transport services	1,8	0,0	1,0	2,8	1,8
finance	1,8	0,0	-14,8	-13,0	1,8
business services	1,8	0,0	-15,5	-13,7	1,8
other services	1,8	0,0	-13,0	-11,2	1,8

Table 37: Real Price Changes for Imports in %, EU15

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	-1,7	-0,1	0,0	-1,8	-1,8
crops	0,2	-0,1	0,0	0,1	0,1
animal products	-0,3	0,0	0,0	-0,3	-0,3
forestry	0,2	0,0	0,0	0,2	0,2
fisheries	-0,2	0,0	0,0	-0,2	-0,2
mining	0,1	0,0	0,0	0,0	0,0
processed foods	-3,2	-0,1	0,0	-3,4	-3,3
textiles and clothing	0,1	0,0	0,0	0,1	0,1
wood, pulp, paper	0,1	0,0	0,0	0,1	0,1
chemicals	0,1	0,0	0,0	0,1	0,1
metals	0,1	0,0	0,0	0,1	0,1
motor vehicles	0,1	0,0	0,0	0,1	0,1
transport equipment	0,1	0,0	0,0	0,1	0,1

machinery	0,1	0,0	0,0	0,1	0,1
utilities	0,5	0,0	-1,5	-1,0	0,5
construction	0,1	0,0	0,0	0,1	0,1
wholesale, retail	0,1	0,0	-0,2	0,0	0,1
communications	0,2	0,0	-0,4	-0,3	0,2
transport services	0,1	0,0	0,0	0,1	0,1
finance	0,2	0,0	-0,2	-0,1	0,2
business services	0,2	0,0	-0,4	-0,2	0,2
other services	0,1	0,0	-0,3	-0,1	0,1

Table 38: Real Price Changes for Imports in %, EU10

	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	-0,8	-0,1	0,0	-0,8	-0,8
crops	-0,6	0,0	0,0	-0,6	-0,6
animal products	-0,4	0,0	0,0	-0,4	-0,4
forestry	0,1	0,0	0,0	0,1	0,1
fisheries	-0,2	0,0	0,0	-0,2	-0,2
mining	0,1	0,0	0,0	0,0	0,1
processed foods	-0,5	0,0	0,0	-0,5	-0,5
textiles and clothing	0,1	0,0	0,0	0,1	0,1
wood, pulp, paper	0,1	0,0	0,0	0,1	0,1
chemicals	0,1	0,0	0,0	0,1	0,1
metals	0,1	0,0	0,0	0,1	0,1
motor vehicles	0,1	0,0	0,0	0,1	0,1
transport equipment	0,0	0,0	0,0	0,0	0,0
machinery	0,1	0,0	0,0	0,1	0,1
utilities	1,0	0,0	-3,2	-2,2	1,0
construction	0,1	0,0	0,0	0,1	0,1
wholesale, retail	0,1	0,0	-0,2	-0,1	0,1
communications	0,2	0,0	-0,4	-0,2	0,2
transport services	0,1	0,0	0,0	0,1	0,1
finance	0,2	0,0	-0,2	0,0	0,2
business services	0,2	0,0	-0,3	-0,2	0,2
other services	0,1	0,0	-0,3	-0,2	0,1

Trade

Table 39: Share of export

	Argentina	Brazil	Paraguay	Uruguay	Venezuela	EU15	EU10	
Argentina	0,0	43,6	3,0	5,0	1,8	45,0	1,6	100
Brazil	18,8	0,0	2,6	2,4	4,0	69,4	2,8	100
Paraguay	15,8	40,7	0,0	7,0	1,0	30,0	5,4	100
Uruguay	17,7	28,7	4,9	0,0	3,2	42,8	2,7	100
Venezuela	1,1	17,4	0,1	3,7	0,0	76,9	0,8	100
EU15	5,2	15,6	0,3	0,7	3,1	0,0	75,2	100
EU10	0,3	0,8	0,0	0,0	0,1	98,7	0,0	100

Table 40: Share of import

	Argentina	Brazil	Paraguay	Uruguay	Venezuela	EU15	EU10	
Argentina	0,0	37,9	2,5	2,4	0,3	54,8	2,1	100
Brazil	20,1	0,0	2,8	1,7	1,7	71,1	2,6	100
Paraguay	26,6	43,6	0,0	5,5	0,2	23,5	0,6	100
Uruguay	27,4	24,6	5,7	0,0	4,2	37,0	1,0	100
Venezuela	4,2	18,4	0,4	1,0	0,0	73,5	2,5	100
EU15	5,0	14,6	0,5	0,6	1,8	0,0	77,5	100
EU10	0,2	0,7	0,1	0,0	0,0	98,9	0,0	100

Table 41: Change in Imports %, Argentina

	Share of import (benchmark)	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	0,0	53,9	2,7	1,4	57,9	56,6
crops	0,9	17,8	1,9	0,8	20,4	19,6
animal products	0,1	34,7	3,8	2,2	40,8	38,6
forestry	0,0	-1,6	0,7	0,4	-0,5	-1,0
fisheries	0,0	9,1	1,1	1,0	11,2	10,2
mining	1,5	-2,2	-0,2	2,1	-0,4	-2,5
processed foods	4,0	61,6	5,1	-1,6	65,1	66,7
textiles and clothing	4,7	17,3	1,3	-1,1	17,5	18,6
wood, pulp, paper	6,1	15,4	1,6	-0,9	16,1	17,1
chemicals	16,5	6,2	0,5	-0,9	5,8	6,7
metals	8,1	16,2	1,4	-0,5	17,1	17,6
motor vehicles	9,3	33,1	2,1	-2,8	32,4	35,2
transport equipment	0,8	0,7	0,7	-1,8	-0,4	1,4
machinery	23,4	21,0	1,4	-0,7	21,8	22,4
utilities	2,0	-21,3	-0,1	-6,4	-27,8	-21,4
construction	0,1	-0,6	0,2	47,0	46,7	-0,3
wholesale, retail	2,7	-1,4	0,1	25,5	24,2	-1,3
communications	0,8	0,2	0,2	14,9	15,2	0,3
transport services	8,3	-0,7	0,1	-0,5	-1,1	-0,6
finance	2,3	0,0	0,2	29,6	29,9	0,3
business services	3,7	-0,4	0,2	28,4	28,1	-0,3
other services	4,5	0,7	0,3	25,5	26,5	1,0

Table 42: Change in Imports %, Brazil

	Share of import (benchmark)	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	3,6	64,9	1,5	0,9	67,3	66,4
crops	1,5	68,6	2,5	0,7	71,9	71,2
animal products	0,1	302,6	12,0	3,7	318,3	314,7
forestry	0,0	59,7	2,8	0,3	62,8	62,5
fisheries	0,0	42,4	1,2	0,9	44,5	43,6
mining	2,1	-8,3	1,2	0,5	-6,6	-7,1
processed foods	3,3	274,4	11,8	-2,8	283,5	286,3
textiles and clothing	1,8	58,3	2,7	-0,7	60,3	61,0
wood, pulp, paper	1,8	49,0	2,8	-1,2	50,6	51,8
chemicals	17,0	10,4	0,7	0,1	11,1	11,0
metals	5,4	45,8	2,9	-1,5	47,2	48,7
motor vehicles	9,2	114,0	4,8	-0,7	118,1	118,8
transport equipment	3,8	-8,7	1,6	-0,7	-7,8	-7,1
machinery	24,7	38,1	2,1	-0,8	39,4	40,1
utilities	4,8	0,7	0,1	4,9	5,7	0,8
construction	0,0	14,0	0,5	41,3	55,8	14,5
wholesale, retail	1,6	13,5	0,5	37,5	51,5	14,0
communications	0,4	0,2	0,0	-3,3	-3,1	0,2
transport services	5,5	5,9	0,2	-0,1	6,0	6,1
finance	2,1	10,7	0,4	31,7	42,9	11,1
business services	8,6	15,5	0,5	30,6	46,5	16,0
other services	2,6	10,4	0,4	21,9	32,6	10,8

Table 43: Change in Imports %, Brazil

	Share of import (benchmark)	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	0,6	184,9	1,2	-4,6	181,6	186,1
crops	2,4	185,0	2,0	-5,0	182,1	187,1
animal products	0,4	359,6	3,7	-9,3	354,0	363,3
forestry	0,0	52,5	1,9	7,5	61,8	54,4
fisheries	0,0	40,9	1,3	6,5	48,8	42,3
mining	1,0	0,9	-0,2	-1,7	-0,9	0,8
processed foods	13,5	221,2	4,1	16,7	242,0	225,3
textiles and clothing	4,7	77,2	1,4	11,8	90,4	78,6
wood, pulp, paper	6,1	34,8	0,6	9,9	45,4	35,5
chemicals	31,6	11,9	0,1	1,6	13,7	12,1
metals	8,7	48,9	0,6	16,2	65,7	49,5
motor vehicles	2,9	55,1	1,5	10,8	67,3	56,6
transport equipment	0,3	14,0	0,2	3,5	17,7	14,2
machinery	20,2	32,0	0,6	7,2	39,8	32,6
utilities	0,0	59,9	0,6	92,0	152,4	60,4
construction	0,0	54,4	0,7	59,7	114,8	55,1
wholesale, retail	0,7	32,4	0,4	17,3	50,1	32,8
communications	0,1	57,1	0,5	58,8	116,4	57,6
transport services	2,9	26,8	0,2	3,0	30,0	27,0
finance	2,1	41,6	0,4	42,5	84,5	42,0
business services	0,6	47,2	0,4	68,2	115,8	47,6
other services	1,3	36,4	0,5	31,3	68,2	36,9

Table 44: Change in Imports %, Brazil

	Share of import (benchmark)	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	0,6	17,9	0,4	0,1	18,4	18,3
crops	5,5	7,6	0,6	-0,3	7,9	8,2
animal products	0,9	41,0	1,4	-0,2	42,2	42,4
forestry	0,0	-5,3	2,0	-3,5	-6,9	-3,3
fisheries	0,2	45,2	0,2	-1,6	43,8	45,4
mining	5,2	-4,5	-0,2	-0,4	-5,0	-4,7
processed foods	9,6	162,1	6,3	2,1	170,4	168,4
textiles and clothing	7,8	22,8	1,0	0,7	24,5	23,8
wood, pulp, paper	6,7	15,5	0,6	0,6	16,6	16,0
chemicals	20,4	4,3	0,1	0,2	4,5	4,4
metals	7,4	22,5	0,9	1,3	24,7	23,4
motor vehicles	5,4	16,4	0,4	0,0	16,7	16,7
transport equipment	0,3	1,1	-0,1	-0,1	1,0	1,0
machinery	18,0	12,0	0,4	0,4	12,8	12,4
utilities	0,2	25,3	0,9	89,5	115,7	26,2
construction	0,0	15,8	0,5	54,0	70,2	16,3
wholesale, retail	0,9	15,4	0,5	23,2	39,1	15,9
communications	0,8	14,7	0,5	23,2	38,4	15,2
transport services	5,4	11,5	0,4	0,1	12,0	11,9
finance	1,3	9,8	0,3	13,2	23,4	10,1
business services	1,4	14,1	0,5	24,8	39,3	14,6
other services	2,0	20,3	0,7	32,1	53,1	21,0

Table 45: Change in Imports %, Venezuela

	Share of import (benchmark)	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	0,1	-4,7	-0,1	-0,2	-4,9	-4,7
crops	1,1	-5,2	0,0	-0,6	-5,8	-5,2
animal products	0,2	-7,7	0,2	-1,1	-8,6	-7,5
forestry	0,0	-1,0	0,0	-0,2	-1,2	-1,0
fisheries	0,0	-4,2	0,2	-0,7	-4,7	-4,0
mining	0,1	3,8	1,1	0,5	5,4	4,9
processed foods	9,0	38,9	2,1	-3,0	37,9	41,0
textiles and clothing	3,6	4,6	0,2	-1,1	3,7	4,8
wood, pulp, paper	4,0	2,6	0,4	-1,9	1,1	3,0
chemicals	13,3	1,2	0,2	-0,5	0,9	1,4
metals	8,9	14,5	1,0	-2,7	12,9	15,6
motor vehicles	9,6	7,1	0,2	-1,6	5,8	7,4
transport equipment	2,3	-1,6	0,3	-2,0	-3,3	-1,3
machinery	26,5	1,5	0,2	-0,5	1,1	1,6
utilities	0,0	-8,1	0,1	92,5	84,5	-8,0
construction	0,1	-7,0	0,1	53,5	46,6	-6,9
wholesale, retail	2,6	-6,7	0,0	39,2	32,5	-6,7
communications	1,1	-6,1	0,1	38,4	32,3	-6,0
transport services	6,7	-5,2	0,0	-2,7	-7,9	-5,1
finance	1,7	-4,5	0,0	24,3	19,9	-4,5
business services	4,7	-5,1	0,0	33,3	28,3	-5,0
other services	4,4	-6,3	0,0	31,4	25,2	-6,2

Table 46: Change in Imports %, EU15

	Share of import (benchmark)	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	0,3	-1,6	-0,1	-0,1	-1,8	-1,7
crops	3,7	-3,6	0,0	0,0	-3,6	-3,6
animal products	0,5	-5,7	-0,1	0,0	-5,8	-5,8
forestry	0,5	-0,7	0,0	0,0	-0,6	-0,6
fisheries	0,0	-2,3	-0,1	0,0	-2,4	-2,4
mining	2,8	0,4	0,0	-0,1	0,4	0,4
processed foods	6,6	23,4	0,7	0,2	24,4	24,1
textiles and clothing	8,1	0,2	0,0	0,0	0,3	0,2
wood, pulp, paper	8,2	-0,1	0,0	0,0	0,0	0,0
chemicals	6,5	0,2	0,0	0,0	0,2	0,2
metals	10,9	0,7	0,1	0,0	0,8	0,8
motor vehicles	12,7	0,4	0,0	0,0	0,5	0,5
transport equipment	2,2	0,1	0,0	0,0	0,1	0,1
machinery	22,2	0,4	0,0	0,0	0,5	0,5
utilities	1,1	-1,1	0,0	3,0	1,8	-1,1
construction	0,4	0,0	0,0	0,1	0,1	0,0
wholesale, retail	1,7	0,0	0,0	0,4	0,4	0,0
communications	0,6	-0,1	0,0	0,6	0,6	-0,1
transport services	3,8	0,0	0,0	0,0	0,0	0,0
finance	0,6	-0,2	0,0	0,5	0,3	-0,2
business services	4,4	-0,1	0,0	0,7	0,6	-0,1
other services	2,3	0,0	0,0	0,6	0,6	0,0

Table 47: Change in Imports %, EU15

	Share of import (benchmark)	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	0,2	-1,1	0,0	0,0	-1,1	-1,1
crops	1,3	-1,4	-0,1	0,0	-1,5	-1,5
animal products	0,2	-2,5	-0,1	0,0	-2,6	-2,6
forestry	0,0	-0,4	0,0	0,0	-0,4	-0,4
fisheries	0,0	-2,3	-0,1	0,0	-2,4	-2,4
mining	0,2	0,3	0,0	0,0	0,2	0,3
processed foods	3,4	1,7	0,1	0,1	1,9	1,8
textiles and clothing	7,0	0,1	0,0	0,0	0,1	0,1
wood, pulp, paper	5,2	-0,1	0,0	0,0	-0,1	-0,1
chemicals	16,2	0,1	0,0	0,0	0,1	0,1
metals	11,2	0,3	0,0	0,0	0,3	0,4
motor vehicles	10,6	0,5	0,0	0,0	0,5	0,5
transport equipment	1,0	0,4	0,0	0,0	0,5	0,4
machinery	33,9	0,3	0,0	0,0	0,3	0,3
utilities	0,3	-2,6	0,0	6,2	3,6	-2,6
construction	0,5	0,0	0,0	0,1	0,1	0,0
wholesale, retail	1,0	-0,1	0,0	0,6	0,5	-0,1
communications	0,4	-0,1	0,0	0,9	0,7	-0,1
transport services	1,6	0,0	0,0	0,1	0,1	0,0
finance	1,1	-0,1	0,0	0,4	0,2	-0,1
business services	3,4	-0,1	0,0	0,7	0,6	-0,1
other services	1,2	-0,1	0,0	0,7	0,6	-0,1

Table 48: Change in Exports %, Argentina

	Share of export (benchmark)	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	8,7	16,0	-0,1	-0,2	15,8	15,9
crops	7,6	1,3	0,0	-0,5	0,8	1,3
animal products	0,5	-16,4	0,5	-1,5	-17,3	-15,8
forestry	0,1	1,9	3,3	0,1	5,3	5,2
fisheries	0,1	17,3	-0,5	-1,6	15,2	16,8
mining	4,8	1,2	0,3	-1,1	0,3	1,4
processed foods	21,7	34,7	3,1	2,7	40,5	37,8
textiles and clothing	3,7	6,0	0,7	2,2	8,9	6,7
wood, pulp, paper	2,2	3,9	0,5	1,4	5,8	4,4
chemicals	14,1	1,3	0,0	2,5	3,9	1,3
metals	4,8	8,5	0,9	2,1	11,4	9,4
motor vehicles	9,4	-5,0	0,0	5,6	0,5	-5,0
transport equipment	0,1	6,5	0,4	5,2	12,0	6,8
machinery	8,7	-4,4	0,1	2,3	-1,9	-4,2
utilities	2,1	5,1	-0,1	-14,9	-9,9	5,0
construction	0,0	1,0	-0,2	9,1	10,0	0,8
wholesale, retail	0,5	-0,9	-0,3	25,8	24,6	-1,2
communications	0,9	-0,2	-0,3	34,5	34,0	-0,5
transport services	4,8	0,4	-0,2	1,1	1,3	0,2
finance	0,3	-0,4	-0,3	23,2	22,4	-0,8
business services	1,9	0,1	-0,3	28,5	28,3	-0,2
other services	2,8	-0,5	-0,3	24,5	23,7	-0,8

Table 49: Change in Exports %, Brazil

	Share of export (benchmark)	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	0,5	-24,6	-0,9	-0,7	-26,1	-25,4
crops	12,5	-33,1	0,3	-0,4	-33,2	-32,8
animal products	0,3	-53,4	-0,5	-0,9	-54,9	-54,0
forestry	0,1	-28,2	1,2	-0,3	-27,3	-27,1
fisheries	0,0	-12,8	-0,2	-0,2	-13,3	-13,1
mining	6,3	3,2	2,5	-0,1	5,6	5,7
processed foods	14,5	327,0	8,9	4,0	339,9	335,9
textiles and clothing	5,5	-8,8	1,0	1,4	-6,4	-7,8
wood, pulp, paper	7,3	-12,0	1,0	1,5	-9,5	-11,0
chemicals	7,7	-7,2	0,1	0,5	-6,7	-7,1
metals	9,8	-9,1	1,0	2,3	-5,9	-8,1
motor vehicles	6,9	-19,3	1,0	1,7	-16,6	-18,3
transport equipment	3,5	-15,3	1,8	2,3	-11,2	-13,5
machinery	11,1	-19,4	0,6	2,0	-16,8	-18,8
utilities	0,0	-12,9	-0,4	67,5	54,1	-13,4
construction	0,0	-10,2	-0,3	20,7	10,1	-10,5
wholesale, retail	1,3	-11,4	-0,4	28,8	17,0	-11,8
communications	0,5	-11,6	-0,4	29,3	17,3	-12,0
transport services	2,5	-4,7	-0,1	0,5	-4,4	-4,8
finance	1,0	-11,4	-0,4	24,4	12,6	-11,8
business services	8,0	-12,5	-0,4	27,9	15,0	-12,9
other services	0,7	-10,9	-0,4	13,3	2,0	-11,3

Table 50: Change in Exports %, Paraguay

	Share of export (benchmark)	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	2,6	-24,2	0,8	0,6	-22,7	-23,4
crops	18,6	-35,0	0,2	-1,3	-36,1	-34,8
animal products	0,2	-74,7	0,2	-1,0	-75,5	-74,6
forestry	0,2	-24,6	2,4	-8,5	-30,6	-22,2
fisheries	0,0	-21,3	0,6	-4,1	-24,8	-20,7
mining	0,0	-31,3	0,0	-4,4	-35,6	-31,2
processed foods	6,3	627,5	6,9	-25,7	608,7	634,4
textiles and clothing	3,7	-44,5	1,4	-11,2	-54,3	-43,1
wood, pulp, paper	1,9	-31,8	0,1	-10,7	-42,3	-31,6
chemicals	1,4	-24,7	0,3	-6,8	-31,2	-24,4
metals	0,7	-35,3	0,1	-12,9	-48,2	-35,2
motor vehicles	0,0	-31,7	5,7	-23,0	-49,0	-26,0
transport equipment	0,0	-48,5	-0,4	-18,8	-67,7	-48,9
machinery	0,5	-46,5	0,7	-16,9	-62,7	-45,8
utilities	57,6	-26,1	-0,2	17,2	-9,1	-26,3
construction	0,0	-23,6	-0,3	9,7	-14,1	-23,9
wholesale, retail	2,6	-30,5	-0,3	20,3	-10,5	-30,8
communications	0,3	-26,7	-0,2	16,4	-10,5	-27,0
transport services	1,2	-9,2	0,0	-2,7	-11,9	-9,2
finance	0,5	-25,7	-0,3	8,0	-18,1	-26,0
business services	1,1	-29,0	-0,3	15,2	-14,1	-29,3
other services	0,5	-23,0	-0,3	3,9	-19,3	-23,2

Table 51: Change in Exports %, Uruguay

	Share of export (benchmark)	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	3,1	24,5	0,9	0,5	25,9	25,4
crops	3,2	-4,8	1,7	-0,5	-3,6	-3,1
animal products	1,6	-35,6	0,3	-0,4	-35,7	-35,3
forestry	2,8	-7,5	1,3	-0,5	-6,7	-6,1
fisheries	0,3	-19,9	-0,5	0,6	-19,7	-20,3
mining	0,1	-34,9	-0,1	-0,8	-35,8	-35,0
processed foods	25,8	129,6	3,6	-2,0	131,2	133,2
textiles and clothing	8,5	-19,6	0,5	-0,7	-19,8	-19,1
wood, pulp, paper	4,7	-13,8	0,0	-1,2	-15,0	-13,8
chemicals	14,1	-9,0	-0,2	-0,7	-9,9	-9,2
metals	3,5	-23,0	0,6	-2,0	-24,4	-22,4
motor vehicles	4,8	-34,2	-1,4	-3,6	-39,2	-35,6
transport equipment	0,5	-31,7	1,2	-3,5	-34,0	-30,5
machinery	3,5	-36,3	0,3	-2,4	-38,3	-35,9
utilities	3,4	-21,1	-0,7	64,9	43,1	-21,8
construction	0,0	-11,6	-0,3	18,4	6,5	-11,9
wholesale, retail	1,8	-17,5	-0,6	25,5	7,4	-18,0
communications	1,4	-17,9	-0,6	28,1	9,5	-18,5
transport services	10,9	-10,5	-0,4	-0,4	-11,3	-10,9
finance	2,1	-18,3	-0,6	28,5	9,6	-18,9
business services	0,7	-16,0	-0,5	26,1	9,5	-16,5
other services	2,9	-16,4	-0,5	21,2	4,2	-16,9

Table 52: Change in Exports %, Venezuela

	Share of export (benchmark)	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	0,0	17,5	0,4	2,5	20,4	17,9
crops	1,0	104,8	2,7	2,9	110,3	107,4
animal products	1,0	12,9	4,7	3,3	20,9	17,6
forestry	0,0	7,8	1,0	2,4	11,2	8,8
fisheries	0,2	6,8	0,7	1,2	8,7	7,5
mining	41,2	0,7	0,1	0,1	0,9	0,8
processed foods	4,2	50,3	3,5	6,2	60,0	53,8
textiles and clothing	1,2	17,1	2,1	6,8	26,0	19,2
wood, pulp, paper	0,2	11,3	0,5	4,2	16,0	11,8
chemicals	19,7	4,8	0,1	2,3	7,3	5,0
metals	14,4	12,6	0,9	5,4	18,9	13,5
motor vehicles	0,3	25,1	1,2	6,5	32,8	26,3
transport equipment	0,1	22,8	2,9	8,2	33,9	25,7
machinery	2,6	23,1	2,9	7,1	33,0	26,0
utilities	0,0	7,2	0,0	65,7	72,8	7,1
construction	0,0	5,7	0,0	8,3	13,9	5,7
wholesale, retail	0,9	6,5	0,0	26,8	33,3	6,5
communications	0,3	6,0	-0,1	27,2	33,1	5,9
transport services	8,6	5,1	0,0	2,9	8,0	5,1
finance	0,2	5,8	-0,1	20,5	26,2	5,7
business services	1,1	5,9	0,0	24,2	30,0	5,9
other services	2,9	6,3	0,0	18,7	25,0	6,3

Table 53: Change in Exports %, EU15

	Share of export (benchmark)	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	0,1	-2,7	-0,1	0,0	-2,8	-2,8
crops	1,0	1,3	0,0	0,0	1,2	1,2
animal products	0,2	2,0	0,1	0,0	2,1	2,1
forestry	0,0	-0,1	0,0	0,0	-0,1	-0,1
fisheries	0,0	-1,1	0,0	0,0	-1,2	-1,1
mining	0,2	0,0	0,0	0,0	0,0	0,0
processed foods	3,2	0,6	0,1	-0,1	0,5	0,6
textiles and clothing	5,7	1,7	0,1	-0,1	1,7	1,8
wood, pulp, paper	4,6	0,9	0,0	-0,1	0,9	0,9
chemicals	16,2	0,8	0,1	-0,1	0,8	0,8
metals	9,9	1,6	0,1	-0,1	1,5	1,7
motor vehicles	9,8	3,2	0,1	-0,1	3,2	3,3
transport equipment	1,6	0,3	0,1	-0,2	0,1	0,3
machinery	32,8	2,5	0,1	-0,1	2,5	2,6
utilities	0,5	0,5	0,0	2,5	3,0	0,5
construction	0,4	0,0	0,0	0,2	0,1	0,0
wholesale, retail	1,5	0,2	0,0	1,3	1,5	0,2
communications	0,5	0,0	0,0	0,6	0,6	0,0
transport services	3,4	0,8	0,0	0,0	0,8	0,8
finance	1,6	0,2	0,0	1,5	1,7	0,2
business services	4,9	0,4	0,0	1,1	1,5	0,4
other services	2,0	0,2	0,0	1,9	2,1	0,2

Table 54: Change in Exports %, EU10

	Share of export (benchmark)	tariff cuts	services	trade facilitation	total	total excluding trade facilitation
grains	0,1	-0,2	0,0	-0,1	-0,2	-0,2
crops	0,7	1,1	0,0	0,0	1,0	1,0
animal products	0,4	-2,1	-0,1	0,0	-2,3	-2,2
forestry	0,5	0,1	0,0	0,0	0,0	0,1
fisheries	0,0	-0,9	0,0	0,0	-1,0	-0,9
mining	0,9	-0,2	-0,2	0,0	-0,4	-0,3
processed foods	2,5	-5,0	-0,2	-0,1	-5,3	-5,2
textiles and clothing	9,2	0,6	0,0	-0,1	0,5	0,6
wood, pulp, paper	9,0	0,2	0,0	0,0	0,2	0,2
chemicals	7,2	0,3	0,0	0,0	0,3	0,4
metals	11,7	1,1	0,0	-0,1	1,0	1,1
motor vehicles	15,3	0,9	0,0	-0,1	0,8	0,9
transport equipment	2,0	2,6	0,1	-0,2	2,6	2,8
machinery	27,1	1,2	0,1	-0,1	1,2	1,3
utilities	1,2	0,8	0,0	4,3	5,1	0,8
construction	0,5	0,0	0,0	0,2	0,3	0,0
wholesale, retail	1,7	0,2	0,0	1,4	1,6	0,3
communications	0,5	0,0	0,0	0,6	0,7	0,0
transport services	3,3	0,9	0,0	0,0	0,9	1,0
finance	0,5	0,2	0,0	1,4	1,6	0,2
business services	3,3	0,2	0,0	1,0	1,2	0,2
other services	2,4	0,2	0,0	1,9	2,1	0,2

Energy use and CO₂ emission

Table 55: Consumption in Mtoe from firms and households

	Benchmark			Scenario		
	Coal	Oil	Gas	Coal	Oil	Gas
Argentina	0,7	25,9	17,4	0,7	25,9	17,3
Brazil	12,3	81,8	7,1	11,6	77,6	6,8
Paraguay	0,0	0,1	0,0	0,0	0,1	0,0
Uruguay	0,0	1,7	0,0	0,0	1,6	0,0
Venezuela	0,0	54,6	27,6	0,1	55,8	28,1
EU15	215,0	569,4	230,9	215,1	571,8	230,9
EU10	92,3	43,2	34,6	92,4	43,3	34,6
<i>SUM</i>	<i>320,3</i>	<i>776,8</i>	<i>317,6</i>	<i>319,8</i>	<i>776,1</i>	<i>317,7</i>

Table 56: Consumption in percentage (benchmark)

	Coal	Oil	Gas	sum
Argentina	1,6	59,0	39,5	100
Brazil	12,2	80,8	7,0	100
Paraguay	0,3	99,6	0,1	100
Uruguay	0,0	98,9	1,1	100
Venezuela	0,1	66,3	33,6	100
EU15	21,2	56,1	22,7	100
EU10	54,3	25,4	20,3	100
<i>SUM</i>	<i>22,6</i>	<i>54,9</i>	<i>22,5</i>	<i>100</i>

Table 57: Mio tons CO₂ emission

	Benchmark	Scenario
Argentina	124	124
Brazil	319	302
Paraguay	0	0
Uruguay	5	5
Venezuela	235	240
EU15	3164	3172
EU10	582	583
<i>SUM</i>	<i>4430</i>	<i>4426</i>
Coal	1272	1270
Oil	2403	2401
Gas	755	756