Will regionalism survive multilateralism? The EU-MERCOSUR example Preliminary Version - DO NOT QUOTE

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Abstract

Twelve years after the agreement on the framework of negotiations, eight after the beginning of the market access talks, the EU and the MERCOSUR negotiations have not managed to reach significant achievements. Several reasons explain this situation. First, progress in bilateral negotiation are hold on the conclusion of the Doha Round. Second, Agriculture is a key element of this FTA since it is a the core of MERCOSUR's comparative advantages and still a major element of EU policy. Bargaining on Tariff-rate quotas (TRQ), the most favored tool of mercantilist policy makers for granting market access while keeping import's control, is difficult. Finally, the possibility that Venezuela becomes a full member of the MERCOSUR could also change the conditions of these bilateral negotiations.

For providing a very detailed analysis of the negotiations, we use the CEPII's MIRAGE CGE dynamic model from CEPII. The policy relevance of this paper is threeofold: first, Venezuela's joining in MERCOSUR is explicitly taken into account in the dynamic baseline. Second, simulations are run by considering plausible outcomes of the Doha Round, including its failure. Indeed, due to the "one pocket" approach of the EU Commission, major concessions on agriculture in DDA will have negative effects on what will be offerered in the bilateral talks, and reciprocally. Last, between 2001 (GTAP 6) and 2004, trade patterns between Mercosur and EU have known important changes. So, to keep realistic reference situation for the negotiations, we update the trade flows that will be used in our simulations.. Liberalization scenarios (multilateral and regional) are defined at the finest level available using MAcMapHS6-v2. Thanks to this, we handle with care the issue of sensitive products and exceptions. Simulation scenarios lead to examine trade flows and welfare effects of EU-MERCOSUR trade agreement (average proposal between EU's and MERCOSUR's) with and without a successful multilateral trade agreement at the WTO.

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INTRODUCTION[1]

Twelve years after the agreement on the framework of negotiations, eight after the beginning of the market access talks, the EU and the MERCOSUR negotiations have not managed to reach significant achievements. Several reasons explain this situation.

First, the progress in a bilateral negotiation is subjected to the evolution of the Doha Round. Indeed, the interests in reaching a bilateral agreement in the future would be strongly reduced whether the multilateral negotiations succeed and lead to an important markets openness. At the same time, concluding an agreement right now would have no sense since most of the preferences granted could be vanished by the multilateral talks. Moreover, a conflict between EU and G20 leaders, as Brazil and Argentina, on the WTO stage makes more difficult any bilateral agreement. Nevertheless, a failure in the Doha Round willl boost the motivations to reach a regional trade agreement.

Second, Agriculture is one of the most conflictive issue in both, bilateral and multilateral negotiations. For the EU, trade liberalization under the Doha Round and/or under the MERCOSUR-EU Free Trade Agreement (FTA) will be a severe blow to the EU farm sector. The "single pocket" approach, the fact that the EU could bear a given total amount of adjustment and political costs related to the liberalization, whatever its form, of its agriculture ties closely both kind of liberalization: the more given in the DDA talks, the less for the MERCOSUR-EU FTA, and reciprocally. Moreover, bargaining on Tariff-rate quotas (TRQ), the most favored tool of mercantilist policy makers for granting market access while keeping import's control, is difficult. If the size of the quotas is a hot topic in negotiations, the way TRQs are administrated is also controversial. The quota rent allocation (importers, exporters or government) depends heavily on these methods (License on Demand, Historical trade, Auctions, etc.).

Finally, Venezuela has recently signed a protocol to become a full member of the MERCOSUR. An exhaustive schedule has been set in order to take into account trade sensitivity aspects of each members. Argentine and Brazil will eliminated their tariffs by 2010, but Uruguay and Paraguay will do the same by 2013. Venezuela will start its tariff elimination by 2012, except for sensitive products, such as chemical and petrochemical products, paper products, automobile, etc., whose tariffs will be eliminated by 2014 with the full completion of the agreement. The new MERCOSUR member could change the conditions of these bilateral negotiations with the European Union.

For providing a very detailed analysis of the negotiations, we use the MIRAGE model, the CEPII's CGE model aimed at studying trade shocks. MIRAGE is a dynamic multi-sector, multi-country model, based on the last release of the GTAP (version 6.2) database. A major improvement is made from its standard version: the model is recalibrated using trade variation from BACI database between 2001 and 2004 to capture major changes in trade pattern during the last years.

The policy relevance of this paper is threefold: first, Venezuela's joining in MERCOSUR is explicitly taken into account in the baseline. Since it is the first net food importer country in the custom union, it is crucial to assess the consequences of its integration. It is noteworthy that to this day, no such assessment has been done in a CGE framework. Second, simulations are run by considering plausible outcomes of the Doha Round, including its failure. Both elements allow to provide us with a very realistic framework for the analysis. Last, the update of the database tradeflows allows providing meaningful insights for the negotiators.

[1]The authors are grateful to Renato Flores for his numerous comments about this paper during the ELSNIT conference 2006, Paris.

Even if the main attention is addressed to the agricultural part of the agreement, liberalization in manufacturing sectors and services are looked at. Liberalization scenarios (multilateral and regional) are defined at the finest level available (HS6 for goods using the MAcMap database, GTAP sector for services keeping the GTAP tariffs). Thanks to this, we handle with care the issue of sensitive products and exceptions [2]. Two modalities of an EU-MERCOSUR agreement are examined : the first one consider an average scenario of EU-MERCOSUR trade agreement between EU and MERCOSUR proposals, assuming that a multilateral trade agreement was signed before; and the second scenario simulate the same EU-MERCOSUR trade agreement without a WTO trade agreement. Since Tariff rate quotas are a key issue of the negotiations, a sensitivity analysis of the results is made on their rents allocation given alternative choices of allocation methods.

To compare the consequences of this different scenarios, a close examination of trade flows and welfare effects is made.

The paper is organized as follows. The next section describes the bilateral trade relation and protection between both blocks. Then, section 2 describes the specifications of the MIRAGE model. Finally we discuss the results and advance some conclusions about this regional trade agreement.

1 Bilateral trade relation between the EU and MERCOSUR

Bilateral trade negotiations between the European Union (EU) and MERCOSUR countries (i.e. Argentina, Brazil, Paraguay, Uruguay) started at the end of 1999 when ministers set the structure, methodology and calendar for negotiations. The first phase concluded with the political and cooperation dialogue and then in 2001 they exchanged the first texts on goods, services and government procurement in order to improve market access between regions. In the Presidential Summit in Madrid in 2002 the countries reiterated their political commitments in order to reach the largest biregional trade agreement (Giordano 2003). Several rounds of negotiations followed the previous commitments. In the 9th round, the first list of most sensitive products under negotiation was exchanged and it has constraint the progresses in negotiations because MERCOSUR countries insisting on a much larger access to the EU market. In the most recent proposals (October 2004), the EU offered concessions under several TRQs for these sensitive products. MERCOSUR countries considered the European proposal too limited on market access issues and the EU also found limited the MERCOSUR concessions in services and government procurement. Moreover, the EU fears that a more generous European proposal on agriculture would allow MERCOSUR countries to capture an extremely large market share in the EU (Bureau et al. 2006). After this disagreement on proposals the dialogue have been interrupted until the Ministerial Meeting in Brussels on September 2005 when it has restarted (Ramos et al. 2006).

GTAP and MIRAGE CGE model's simulation about an EU-MERCOSUR FTA displays similar results with some slight differences according to the own model's hypotheses (static vs. dynamics, perfect vs. imperfect competition on industrial sectors, number of factors, FDI, externalities and labor market rigidities). A FTA between the EU and MERCOSUR countries would generate economic gains (welfare, GDP, trade and employment) for both regions (Monteagudo and Watanuki 2001, Bchir et al. 2003, Diao et al. 2003, Bouët et al. 2003, Flores 2006).

Classical literature about multilateral trade agreements (Johnson 1965) argue that it is a nearly impossible stake due to the non-discrimination clause and on the contrary, the preferential trade agreements

[2] In particular for products excluded from the MERCOSUR's common external tariff.

are much more easier to attend because of their plausible previsions on trade impact. In spite of the theoretical arguments, the EU-MERCOSUR negotiations has shown a very slow progress and even some backward steps, because of their protectionist attitudes. The conditions for an EU-MERCOSUR trade agreement are that trade would be partly liberalized in a gradual and reciprocal way covering substantially most of bilateral trade flows and without excluding any sector according to the WTO rules. This insures that a regional integration process achieves a sufficient degree of compatibility with the multilateral trading system (Giordano 2003). Moreover, concerning the demands of each region in the bilateral negotiations are subjected to the evolution and results get in the WTO arena. For the previous aspects, we may say that the EU-MERCOSUR trade agreement is not based on the domino theory of regionalism, where countries look for integration because of exclusion fear (Baldwin and Venables 1995), nor on the proximity factor (Krugman 1993); however, it would be better explained by the new regionalism theory because of its compatibility with multilateralism (Ethier 1998a, Ethier 1998b). Both, multilateral and bilateral negotiations at very closed and the success or failure at the multilateral negotiations could open some new perspective at the bilateral negotiations or impose the same restriction as at the multilateral talks.

Venezuela as a new MERCOSUR member and the tendency to a South America integration, condition the future in the EU-MERCOSUR negotiations. Inside Latin America, the MERCOSUR has signed different kind of agreement with its neighbors. The trade agreements with Chile and Bolivia (format "4+1") have created two separate free trade areas leading that the two partners become MERCOSUR associated members. This was the beginning of the MERCOSUR "expansion" in Latin America. Then, trade negotiations between MERCOSUR and the Andean Community, would have been the first "bloc to bloc" trade agreement in the region, but it failed many time due to the discrepancy between members' interests. Finally, since 1th July 2004, a free trade area has been implemented between the MERCOSUR and the Andean Community according to the Economic Agreement (ACE 59) at the ALADI. One year later, MERCOSUR countries became associated members to the Andean Community and at the beginning of 2006 Venezuela left its Andean partners to become a full member of MERCOSUR. This step in MERCOSUR expansion would lead a future Latin America integration. The enlargement of MERCOSUR and the possibility to become a power region in trade negotiation may have a considerable impact on the EU-MERCOSUR biregional trade negotiations.

1.1 European Union - MERCOSUR Bilateral trade

The period 1998-2004 displays important changes in the MERCOSUR economies (currencies devaluation, social and macroeconomic crisis and recent economic growth) which have affected their trade relations with the rest of the world and specially, with the European Union.

MERCOSUR exports to the rest of the world (ROW) have fluctuated since 1997 following the crises in the region. Agricultural exports have obviously suffered more than manufactures (-21% of agricultural export and 5% for manufacture exports in 1998 and -13% and 1% each in 2001). Agricultural exports variation to the European Union are not only related to local macroeconomic situation but also link to sanitary crisis, specially on beef (foot and mouth disease) and poultry meat (avian influenza) exports. Between the years 2003 and 2004, MERCOSUR countries have improved their international competitive through currencies devaluation as a consequence of the financial crisis in the region, but animal diseases limited animal products exports to the European Union (34% in 2003 and -12% in 2004 for agricultural

and food exports).

[INSERT Figure 1]

EU (agricultural and industrial) exports to the ROW have steadily grown during this period. However, their exports to the MERCOSUR countries have displayed a strong linking to the macroeconomic situation in Latin America. European exports to MERCOSUR's countries have been falling since 1998 which is explained by the recession period in South America and the first Real (Brazil's currency) devaluation. Industrial exports remained steadily at the beginning of the year 1997 and after Real devaluation they suffered from a strong negative variation (-8%). European exports have recovered in the two following years (1999 and 2000) until the next crisis in the 2001 (-6% of industrial exports). In 2001, the economic crisis in the MERCOSUR and thus the devaluations of MERCOSUR countries currencies in 2002, resulted in a collapse of European exports to the region. Since then until 2004, a more "healthy" MERCOSUR economy lead to an steadily increase (between 30% and 40% per year) in European exports (even for agricultural and food exports).

European imports from MERCOSUR have never stopped rising during the crises. Since 2002 European agricultural imports from MERCOSUR have shown a rapidly increase with a pick in 2003. The depreciation of MERCOSUR currencies have reinforced the competitiveness of MERCOSUR exports and the appreciation of the Euro with respect to USD then contributed to widen the trade surplus of MERCOSUR with the EU until now.

[INSERT Figure 2]

Even if the MERCOSUR is a minor EU partner, it is the most important partner in Latin America, representing near from 50% of the EU exports to this region. Nevertheless, the EU is an important partner of MERCOSUR countries specially for their agricultural and food exports (more than 30% of total non-MERCOSUR exports).

Figures 3 gives an idea of the patterns of trade of these two regions an also to the dynamic bilateral balance of trade. MERCOSUR's countries are net exporters (no only with the EU but also with the ROW) of agricultural and food products and as a complement of their patterns of trade, the European Union exports to them basically manufactured products and services. Bilateral balance of trade displays a deficit for MERCOSUR region until 2001 and it shows a decrease in the deficit due to the shrinking of MERCOSUR absorption capacity in manufacture goods. Since 2002, thanks to the boom in their agricultural exports, they have reversed the negative balance of trade with the European Union.

[INSERT Figure 3]

Bilateral trade between the European Union and the MERCOSUR seems to be complementary according to the previous pattern of trade. MERCOSUR export to the European Union are concentrated in a few chapters, which most of them are agricultural: animal products (high-quality of beef, poultry meat, swine meat and fish), cereals and seeds (wheat, rice and corn), fruits and vegetables and some foods and beverages. However, we may think they also compete on chapter 48 (papers and articles of paper) and 87 (vehicles other than railway or tramway), but the composition of trade at HS6 level is different and also complementary, i.e MERCOSUR countries export raw material from paper sector and the European Union exports final products from this sector.

European Union exports to MERCOSUR countries particularly concern manufactured products (chemicals, pharmaceutical, plastic, paper, iron and steel products and machinery, such as nuclear reactor, domestic electrical and electronic devices and vehicles) as we can see the composition by chapter in figure 5.

[INSERT Figure 4]

[INSERT Figure 5]

Bilateral trade between Venezuela and the rest of MERCOSUR countries is concentrated on primary products (petrol and derivatives) on exports side from Venezuela and its imports are specially agricultural and food products (meat, fats, dairy products, food) from all MERCOSUR countries and manufactures products (chemical, vehicles, machinery, metal and textile products) specially from Brazil. Within bilateral trade between the European Union and the MERCOSUR, Venezuela increases the primary and fruits exports from the region.

The complementary between the patterns of trade of each economic blocs, lead to predict important gains of this regional agreement. Moreover, the cost of this agreement would be negligible compared to the gains thanks of the high initial level of tariffs, specially on the European side (De Melo and Panagariya 1993, DeRosa 1998).

Bilateral trade is only a part of bilateral business relations between the two regions and the Foreign Direct Investment (FDI) completes them. During the '90 years, the MERCOSUR region has received more than 50% of the FDI in Latin America and most of capital came from European transnational groups (telecommunication, energy services and agribusiness). With a EU-MERCOSUR agreement, the European Union is looking for a consolidation of its presence in the MERCOSUR market through FDI. To insure the FDI, an stable regulatory framework of direct investment and intellectual property rights is demanded by the European companies in order to reduce risks and avoid problems in the future (Giordano 2003).

In short, the MERCOSUR and the European Union have a complementary trade patterns, but we will see in the next subsection that trade flows are concentrated in the sectors with highest level of protection. The latter and the insecure regulatory framework for FDI make this regional trade agreement difficult to conclude.

1.2 European Union - MERCOSUR bilateral protection

1.2.1 Structure of protection in the European Union

Since MERCOSUR countries are developing countries, they are eligible to the EU Generalized System of Preferences (GSP) and some of them, such as Venezuela benefit from the GSP+ whit a duty exemption over around 85% of its exports. However, they benefit from a limited preferential market access, because the coverage of the EU GSP is very partial for agricultural products. For the least developed countries, the EU GSP covers all products, but for MERCOSUR countries it only covers some agricultural products (fats, seafood and fruits) and only grants limited reductions in tariffs (no 0% tariffs). EU GSP products coverage, tariff reduction and graduation provisions for some MERCOSUR countries in some agricultural products limit the preferences of the GSP for MERCOSUR's exports; however, they even export facing MFN tariffs.

Tariff-rate quotas defined under the Uruguay Round Agriculture Agreement (URAA) lead MERCOSUR countries to benefit from preferential tariffs for some of their agricultural exports. These are either current access TRQs, opened so as to ensure persistence of historical preferential trade flows, or minimum access TRQ, given in order to open 5% of EU consumption market to international competition (all WTO members).

The EU has opened more than 80 TRQs on agricultural products, some of then are granted for the current access and others were introduced under the Uruguay Round minimum access to the EU market. MERCOSUR countries and Chile benefits from a preferential market access through TRQs for cereals (maize), wheat, meats (bovine, swine and poultry meat), fruits and vegetables, rice, dairy products and other food products. Argentina and Brazil face a large quotas for food (Argentina) and meat (Brazil and Argentina) and fruits and vegetables (Brazil), while Uruguay and Paraguay only have smaller (bovine) meat quota (Uruguay and Paraguay) and a tiny quota for dairy products (Uruguay). Venezuela only benefits from a very large quota of fruits and vegetables.

[INSERT Figure 6]

[INSERT Figure 7]

Under the EU TRQs current access Argentina and Uruguay profit from a preferential access with a limit to 23000 tons and 5800 tons for sheep and goat and under minimum access these counties benefit from TRQs for bovine meat or also of nutritional remainders (Argentina). Argentina also benefits from a quota of garlic, which was notified to the WTO, but it is not fulfilled like in the case of beef TRQs (Bureau et al. 2006).

MERCOSUR countries also benefit from 59100 tons TRQ of "Hilton" (fresh) meat (28000 tons quota for Argentina, 6300 tons for Uruguay, 5000 tons for Brazil and 1000 tons for Paraguay). The only country which does not fulfill its quota is Paraguay specially due to sanitary problem. There is also a frozen bovine meat WTO TRQ (for meat industry) of 66000 tons which Brazil is the main beneficiary as it is not allocated to any specific country. The Hilton in-quota tariff is 20% and the out-of-quota tariff is a composite tariff (ad-valorem tariff of 12.8% + specific tariff between 140 and 300 €/ 100kg). In spite of the high out-of-quota tariff, MERCOSUR countries manage to fulfill their quotas and even to export small volumes out-of-quota. For instance, Brazil exported some 80000 tons of frozen meat and 41000 tons of Hilton meat outside quota in 2003. In this last case, outside exports represent eight times its quota of 5000 tons. Brazil also benefits from the TRQs opened under minimum access for poultry meat not allocated to a particular country. Brazil fills half of the 15500 tons poultry meat TRQ. In spite of EU tariffs, Brazil manages to ship large quantities of poultry to the EU outside quotas (Bureau et al. 2006, Ramos et al. 2006).

MERCOSUR countries also have benefited from the corn TRQ (2500000 tons) since Spain and Portugal have become EU members. MERCOSUR countries, particularly Argentina and Brazil, therefore became the main corn supplier of the European Union. Since Finland entered in the European Union, Brazil also benefits from a 82000 tons of sugar under a TRQ because of the quota that Finland gave to before it enters in the EU.

Venezuela benefits from a large TRQ on fruits and vegetables.

Even if the WTO is concerned with the effects of quota administration methods on volume and distribution of trade, the distribution of rights to imports at the in-quota tariff has an impact on the

distribution of rents. At the same time, the distribution of rents has influenced the distribution of trade and motivates the politics of TRQ administration(Skully 1999).

The WTO identifies seven methods of TRQ administrations: Applied tariff, License on demand, First-come/first-serve, Historical, Auction, State trader/Producer group and a mixed of the six other methods (Abbott 2002).

Most TRQs from the European Union are administrated according to the License on demand, Historical trade and First-come/First-serve methods and thus determine not only the volume of trade but also the rent allocation between importers and exporters (de Gorter and Kliauga 2006). Nevertheless, in some TRQs, such as "Hilton" beef TRQ, MERCOSUR countries manage their licenses and capture most part of the quota rent. This aspect explains the interests from some MERCOSUR's producers to keep TRQs and not to negotiate MFN tariff reduction.

The previous tariff quotas administration methods are one of the factors which influences the allocation of the quota rent between importer and exporters. However, the capture of the rent is explained sometimes by the presence of importer (or exporter)'s market power (Olarreaga and Ozden 2005). Others possibilities to explain the rent allocation between countries under the same preferential agreement are the difference in the quality composition of exports, the changes in world prices (or import prices) after the agreement or the differentiation of imports across origins.

1.2.2 Structure of Protection of MERCOSUR countries

Since 1995, all MERCOSUR member have been applying a Common External Tariff (CET) to all imports coming from outside the MERCOSUR. At the beginning the CET covered about 85% of imports but since 2001 Argentina and Brazil have strongly increased the percentage of coverage, but Paraguay and Uruguay have more recently done the same (2006). Nevertheless, there always exist some exemptions, such as capital goods, telecommunication and electronics devices, sugar, automobiles and some countries' lists.

The CET varies between 0 and 23% where higher level of protection is concentrated in manufacture products such as textiles, wood, machinery and equipment, food and other manufactures goods and lower level of protection is applied on animals, seeds, some chemical products, etc. The general criterion is that tariffs increase with the share of the value added of goods; however, other criteria have been also considered, such as the protection of production coming from a particular region or country. Indeed, MERCOSUR applies highest tariffs on consumption goods and lowest on on agricultural raw materials.

Venezuela and MERCOSUR countries have signed the protocol to let Venezuela becomes a full member of this custom union in July 2006. This protocol details the schedule to become effective the agreement. Free trade in the region will be guaranteed gradually, in a flexible way in order to insure the asymmetries between countries. Argentina and Brazil will eliminate their tariff for Venezuela's imports by 2010, except for some sensitive products according to their own lists. Venezuela will permit a free market access for MERCOSUR countries by 2012 and giving a preferential treatment to the smallest MERCOSUR members, Uruguay and Paraguay (immediate tariff elimination except for beef, fish, dairy products, wool, some plastics and chemical products). Finally, Uruguay and Paraguay will implement a free trade with Venezuela by 2014, except for their sensitive products.

Before the signature of this agreement, Venezuela has leaved the Andean Community due to different political discrepancies. In spite of that, having Venezuela in the MERCOSUR could help to the integra-

tion between the two Latin custom unions. MERCOSUR countries are only associated countries to the Andean Community since July 2005 but biregional trade is not even completely liberalized.

The EU has no preferential access to MERCOSUR market. The European countries face the CET from MERCOSUR in all products which are greater for consumption and non agricultural products. Some MERCOSUR countries, such as Brazil and Venezuela, have open WTO TRQs on agricultural products, but some of them are not effective because the CET is lower than the in-quota tariff. Brazil has open two TRQs, one on pears and apples and the other on wheat. The first one is not effective because the CET is lower than the in-quota tariff but the second one is always effective, used and open to all WTO members. Venezuela is the other MERCOSUR countries which has open TRQs (more than 60) on many different agricultural products. These TRQs are not MERCOSUR TRQs, they are individually open by Brazil and Venezuela. The rest of MERCOSUR countries does not profit from them because of 0% tariff for intra-MERCOSUR trade, except for some exports, such as vehicles and vehicles' parts exports, which is one of sensitive products between members.

2 Modelling the EU-MERCOSUR bilateral agreement

2.1 The MIRAGE model

The model used here is the CEPII's computable general equilibrium (CGE) model, nicknamed MIRAGE. It is a dynamic model fitted with imperfect competition (in order to give a more realistic representation of the world economy) in the manufacture and service sectors. MIRAGE describes imperfect competition in an oligopolistic framework à la Cournot.

The demand side is modelled in each region through a representative agent. Domestic products are assumed to benefit from a specific status for consumers, making them less substitutable to foreign products than foreign products between each other. Secondly, products originating in developing countries and in developed countries are assumed to belong to different quality ranges. This is motivated by the fact that several empirical works have shown that unit value differences are able to reveal quality differences even at the most detailed level of products classification. This is likely to have direct consequences on the transmission of liberalisation shocks since the elasticity of substitution is lower across different qualities than across products within a given quality. Hence, the competition between products of different qualities is less substantial than between products of similar quality. In the absence of systematic information suitable for the incorporation of vertical differentiation in a worldwide modelling exercise such as the one undertaken here, differentiation is modelled in an ad hoc fashion: developed countries and developing countries are assumed to produce goods belonging to two different quality ranges; substitutability is assumed to be weaker across these two quality ranges, than between products belonging to the same quality range.

As regards the supply side of the model, producers use five factors: capital, labour (skilled and unskilled), land and natural resources. The structure of value added is intended to take into account the well-documented skill-capital relative complementarity. These two factors are thus bundled separately, with a lower elasticity of substitution, while a higher substitutability is assumed between this bundle and other factors.

The production function assumes perfect complementarity between value-added and intermediate consumption. The sectoral composition of the intermediate consumption aggregate stems from a CES

function. For each sector of origin, the nesting is the same as for final consumption, meaning that the sector bundle has the same structure for final and intermediate consumption.

Constant returns to scale and perfect competition are assumed to prevail in agricultural sectors. In contrast, firms are assumed to face increasing returns to scale (through a constant marginal cost and a fixed cost, expressed in output units) in industry and services. In those sectors, competition is imperfect. This modelling allows the pro-competitive effect of trade liberalisation to be captured.

Capital goods have the same composition regardless of the sector; they cannot change their sector affectation once it has been installed, which introduces a rigidity in the economy suggested by empirical evidence. Capital is accumulated every year as the results of investments in the most profitable sectors. Natural resources are considered to be perfectly immobile and may not be accumulated. Both types of labour are assumed to be perfectly mobile across sectors, whereas imperfect land mobility is modelled with a constant elasticity of transformation function. Production factors are assumed to be fully employed; accordingly, negative shocks are absorbed by changes in prices (factor rewards) rather than in quantities. All production factors are immobile internationally. With respect to macroeconomic closure, the current balance is assumed to be exogenous (and equal to its initial value in real terms), while real exchange rates are endogenous.

The calculation of the dynamic baseline have been recently improved in order to have an endogenous total factor productivity (TFP). This improvement is based on more elaborate demographic and macroeconomic forecast. For that the labor and GDP growth rates have been taken from the World Bank database until the year 2015. In the baseline the TFP is calculate endogenously but under the simulation scenarios it becomes fixe and the GDP is calculated endogenously.

Since protection in services takes the form of regulatory measures leading to no tariff revenue to the importing country, the most appropriate way to introduce them was to translate these estimates into export taxes, as has been done for import quotas when they exist (multi-fibre agreement for instance). Liberalising services is therefore expected to lead to large gains for the liberalising countries, whereas gains for the exporting countries are second order ones.

The model is using the GTAP database 6.2. However, instead of relying on modelling tariff cuts at the sector level, we use a detailed database (MAcMap) at the HS6 level (5,113 products); this permits a better handling of the tariff dispersion (which matters as far as the gains to their removal will depend on such dispersion) as well as introducing sensitive products. This also allows analysis to be based on actual, applied tariffs, including preferential provisions (e.g. GSP, FTAs...). Regarding border protection, the database used to construct the scenarios of trade liberalisation at the product level (before aggregating the data towards the sectors used in the CGE model) is MAcMapHS6v2, base year 2004, and MAcMapHS6v1, base year 2001 ((Bouët et al. 2004)).

Some particular changes have been made for this paper. First, we have defined a specific aggregation between regions (13) and sectors (30) where all agricultural products are kept at GTAP original sector definition (see Table 1). Second, a particular treatment to recalibrate the trade matrix has been done to mimick the recent changes in the trade relation between 2001 and 2004. Trade data is based on BACI database (Gaulier and Zignago 2004).

[INSERT Table 1]

2.2 Calibration

Crisis and currencies devaluation in MERCOSUR economies have led to important changes in their trade pattern. MERCOSUR bilateral trade with the EU have strongly increased for Cereals, Meat and other traditional agricultural exports from MERCOSUR. Moreover, the "mad cow" crisis has strongly weaken the meat sector in Europe and allows new exports possibility to the European market. In contrast, EU exports to the Mercosur countries have reduced for their traditional exports (chemicals, machines, vehicles, etc.) due to the different crisis and currencies devaluations.

Comparing GTAP and BACI trade databases we found that since 2001, the bilateral trade between these two regions has been varying quite a lot. Simulating FTA scenarios on the basis of 2001 trade data, will bring a very distorted picture of the reality and weaken any utility that this exercise could have for the policy makers.

[INSERT TABLE 2.5]

[INSERT TABLE 2.5]

Starting from GTAP bilateral trade between these two regions (also including Chile), we update them to reproduce the growth rate of trade flows, drawn from BACI database, between 2001 and 2004. Indeed, for some sectors and some small countries, such as RoMercosur and OtherManuf products, COMTRADE and so, BACI display extreme variations of trade in volume and in many cases inconsistent with the base year data in GTAP. Taking relative changes instead of absolute changes allows us to avoid to modify the initial SAMs.

2.3 Pre-experiment and reference baseline

Before the simulation of any scenario, several elements are included in the reference situation to have a realistic baseline: the end of the Multi-Fibers agreement, the United States' 2002 Farm bill and the end of the implementation period of China's commimentents as a new WTO member.

Starting from this common ground, different baselines, used latter as counterfactual, are built:

- the "business as usual" situation, with a Mercosur without Venezuela. (R1)
- (R1) plus a successful DDA (R2)
- (R1) plus the Venezuela accession (R3)
- (R2) the Venezuela accession plus a succesful DDA (R4)

The accession of Venezuela to MERCOSUR has two main aspects: Venezuela adopting the MERCOSUR Common External Tariff (CET) and Venezuela partners applying the MERCOSUR regime to its exports. However, we keep constant the current preferences between Venezuela and the Andean Community. This regional integration is implemented during 7 years between 2007 and 2014.Argentine and Brazil will eliminated their tariffs by 2010, but Uruguay and Paraguay will do the same by 2013. Venezuela will start its tariff elimination by 2012 and will finish it by 2014 with the full completion of the agreement, except for sensitive products such as chemical and petrochemical products, paper products, automobile, etc., which liberalization will last until 2018.

The Doha scenario considered here is similar to the 20-20-20 Lamy's proposal. This expected compromise can be described as: a Swiss formula with a coefficient 10 for developed countries and 20 for developing ones in Non Agricultural Market Access (NAMA); The G20 proposal in agriculture (a tiered formula for tariffs[3], a new ceiling for domestic support in the North and the phasing out of export subsidies at the 2013 horizon); A Special and Differential Treatment making LDCs exempted from any tariff cuts and asking them to just continue the binding process (see Fontagne, Laborde and Mitaritonna, 2007, for more details). Other exclusions and flexibilitires are introduced. Then, a series of developing countries do not liberalise their manufacturing sectors due to a low initial binding rate (the so-called "paragraph 6" countries of NAMA framework). Also, Small and Vulnerable Economies are conceded zero liberalisation A final exception is that South Korea is treated as a developing country for agriculture and as a developed country for the NAMA.

Then, we address the issue of special and sensitive products, in order to examine the "variations" around the central scenario. "Sensitive products" and "special products" have to be defined for each country.

For both agricultural and manufacturing sectors, "sensitive" products are defined following a political criteria in the straight line of the one proposed by Jean and ali (2006). We make the assumption that tariffs are currently high where political sensitivity is the highest, and that governments take into account the effective impact on the formula of the applied tariffs and the price impact for domestic producers and consumers. In agriculture, sensitive products are available for all countries and know a weaker liberalization than normal products. In NAMA, sensitive products are totally excluded from liberalization but this option is restricted to developing countries. In agriculture, developing countries are entitled to have some "special" products related to food safety issues that will be excluded from liberalization too. More precisely, to define these products we compare situations were normal rules apply to them and where specific treatments are applied. For sensitive and special products, no capping at the HS6 level are considered. As concerns special products, we exclude 10 % of the HS6 positions from liberalization giving priority to a list of positions selected on the basis of their caloric contributions. Then, sensitive products are defined as 4% of the HS headings with the highest sensitivity index. For these products, we apply half of the formula effect on bound rates. When HS6 positions entail TRQs, we apply 2/3 of the formula (mimicking an increase in the quota). For NAMA, the sensitive products of developing countries can cover 10% of their HS6 positions, up to 10% of their trade.

The DDA commitments are fully implemented after 5 years for devellopped countries (2008-2013) and 8 years for developing countries (2008-2016).

2.4 Scenario

The accomplishment of the EU-MERCOSUR trade agreement is subordinated to the multilateral negotiations at the WTO. This is the reason why in our pre-experiment scenarios we assume both possibilities, success and failure of the multilateral trade agreement before the signature of the bilateral EU-MERCOSUR agreement. The fact that we consider a WTO trade agreement before the EU-MERCOSUR agreement also affect the choice of sensitive products for the bilateral negotiation, this is the second reason which justifies our scenario and pre-experiments.

[3]A tiered formula with inflexion points at 20, 50 and 75 percent and using average tariff cuts of 45, 55, 65 and 75 percent. For developing countries, the inflexion points were placed at 30, 80 and 130 percent and the average cuts at 25, 30, 35 and 40 percent. Final tariffs are capped at 100% for developed countries and 150% for developing countries.

The horizon of the EU-MERCOSUR agreement is 10 years. For the first scenario, the EU-MERCOSUR agreement starts in 2007 and for the second scenario (with WTO agreement in 2008) the beginning of the EU-MERCOSUR agreement is 2009.

Since October 2004 there would be no new proposal exchanged, we simulate an average agreement between EU and MERCOSUR proposals (October 2004), also including some new TRQs open by the EU for some particular products.

Trade liberalization for this bilateral trade agreement is total and reciprocal for all products except for sensitive and very sensitive products. Sensitive products will be liberalized on 5 years. For the EU, sensitive products are basically agricultural products and they represent 5% of HS6 lines for each agricultural sector. In contrast, for MERCOSUR countries sensitive products are manufacture products and they represent 10% of HS6 lines of each industrial sector. Very sensitive products only exits in the case of the EU. These very sensitive products are products under WTO TRQs such as meats, cereals and some dairy products and other products for which the EU has the intention to open new bilateral TRQs (ethanol, sugar, cacao and tobacco) for the MERCOSUR countries.

Considering the very sensitive products we assume two hypotheses for the scenario. For products under WTO TRQs we simulate a quota enlargement without any change in tariffs (inside and outside). The quota enlargement for these products is based on the comparison of the present utilization of the WTO TRQs of MERCOSUR countries and the new quota volume (average between EU and MERCOSUR proposals, See Table 2). Since in MIRAGE there isn't an explicit modeling of TRQs, the quota enlargement doesn't affect the TRQ regimes (in, at or out-of-quota). The quota enlargement simulated in MAcMaps database only leads to a larger quota rent.

[INSERT Table 2]

For the new bilateral TRQs open to MERCOSUR countries we consider some special tariff lines at 8 and 4 digits level. The new quota for Ethanol would concern only 4 product lines (22071000, 22072000, 22089091, 22089099), for Sugar only 7 products (17025050, ex17499099 (17499080), 18061090, ex18062080 (18069080), ex18062095 (18069080), ex18069090 (18061980), ex18069090 (18069980)), for Cacao and Tobacco all products under the following HS4 codes: 1803, 1804, 1805 for Cacao and 2402, 2403 for Tobacco. The new TRQs will concern 1.5 of traditional bilateral trade between regions and this is the assumption for our scenario.

All the scenarios of trade liberalization (WTO agreement and EU-MERCOSUR agreement) were constructed using MAcMap database at the product level (HS6 level) before aggregating the data towards the sectors used in the CGE model. The advantage of such a strategy is to fully take into account tariff peaks, exceptions and the possible non linearity of the applied tariff reduction formula, such as the Swiss formula for the pre-experiment scenario. Moreover, the quota rents' evolution is extracted from the scenarios and used in the modelling.

This EU-MERCOSUR Agreement will be simulated, first under the assumption that a multilateral trade agreement was not signed before and then, under the hypothesis that a WTO trade agreement was previously signed.

In short the scenario is simulated under two different reference situations according to WTO trade agreement:

- Simulation 1: EU-MERCOSUR trade agreement without a WTO trade agreement.

- Simulation 2: EU-MERCOSUR trade agreement with previous WTO trade agreement.

2.5 Simulations' Results

CONCLUSION

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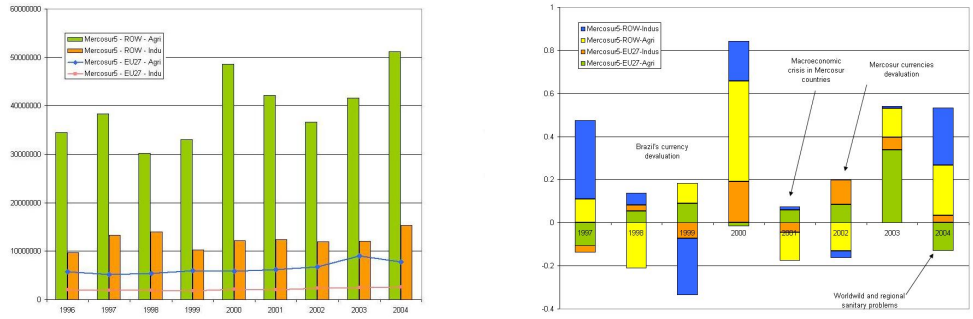
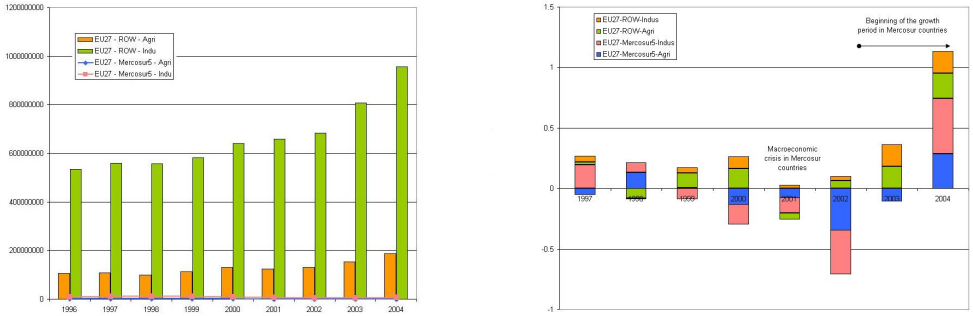
Tables and Figures

Figure 1: MERCOSUR (5) total exports (in thousand U$S and variation)



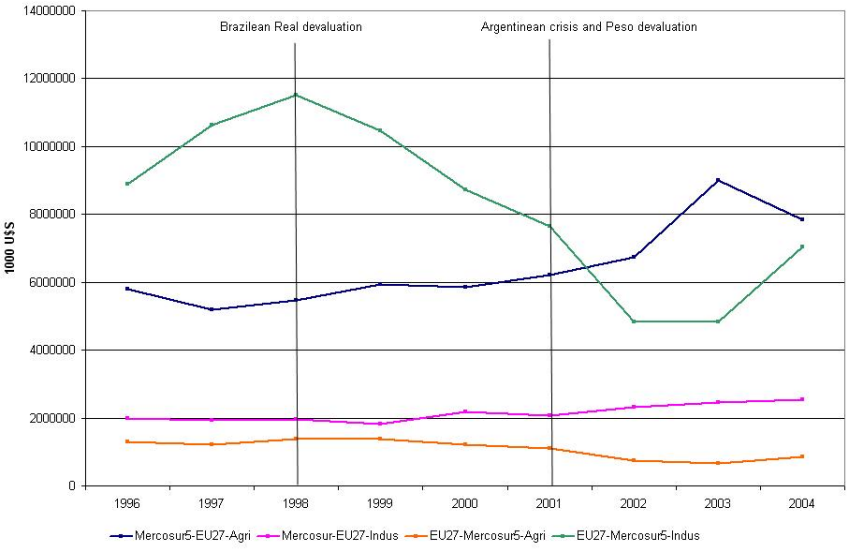
source: BACI - CEPII

Figure 2: European Union (27) total exports (in thousand U$S and variation)



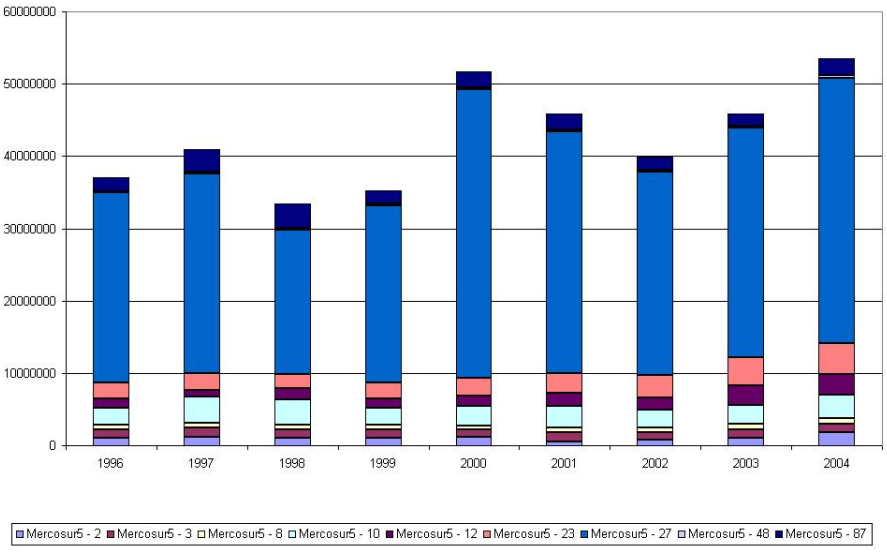
source: BACI - CEPII

Figure 3: European Union - MERCOSUR bilateral trade (exports in thousand U$S)



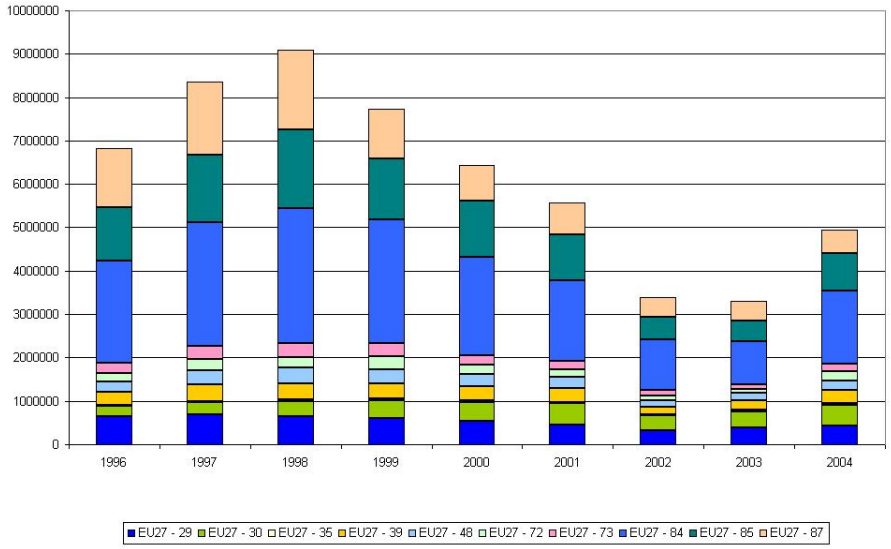
source: BACI - CEPII

Figure 4: MERCOSUR exports to the European Union by HS2 level (thousand of U$S)



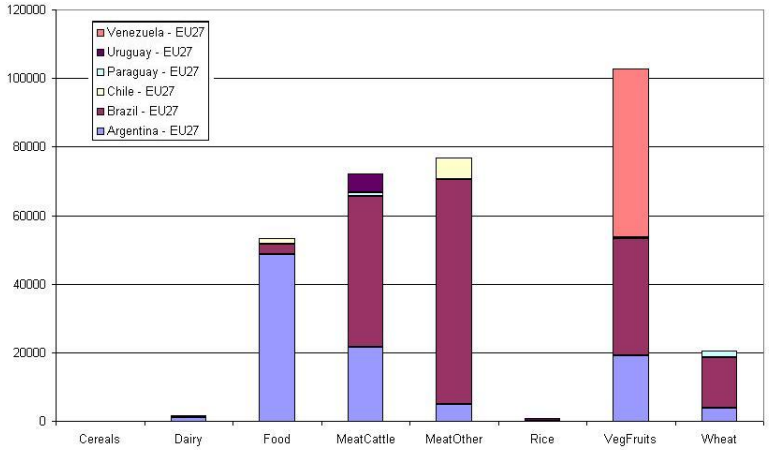
source: BACI - CEPII

Figure 5: European Union exports to MERCOSUR by HS2 level (thousand of U$S)



source: BACI - CEPII

Figure 6: EU TRQs distribution between MERCOSUR countries

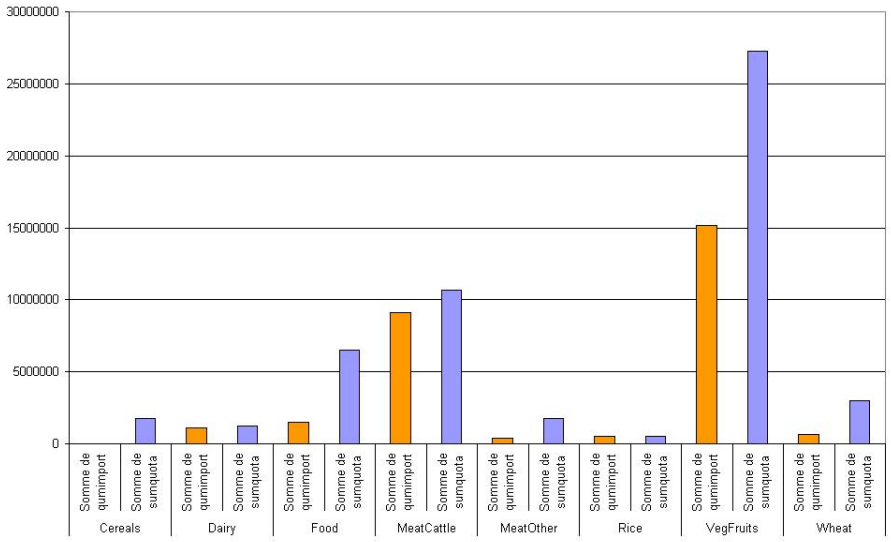


source: MAcMaps TRQ database - CEPII

Table 1: Geographical and sectoral aggregation

Sector	Regions
Rice	CairnsDvped
Wheat	RestDvping
Cereals	RestDvpd
VegFruits	CairnsDvg
OilSeeds	NAFTA
Sugar	SthAm
Crops	Venezuela
MeatCattle	Argentina
MeatOther	Brazil
Milk	Chile
Wool	RoMercosur
Forestry	EU27
Fishing	Meditera
EnergyPdts	SSA
Primary	
Fats	
Dairy	
Food	
Beverages	
Textile	
Paper	
Chemicals	
Metal	
MotorVeh	
TrspEqNec	
Electronic	
Machinery	
OtherManuf	
OthSer	
TrT	
BusServ	

Figure 7: Relation between EU TRQs and In-quota imports for MERCOSUR countries



source: MAcMaps TRQ database - CEPII

Table 2: TRQ enlargement scenario for the EU-MERCOSUR agreement

Products	EU proposal (TN)	MERCOSUR proposal (TN)	Average Scenario (TN)
Bovine meat	160000	315000	237500
Poultry meat	27500	250000	138750
Swine meat	15000	40000	27500
Wheat	200000	1000000	600000
Corn	200000	4000000	2100000
Cheese	20000	60000	40000
Milk	13000	34000	23500
Butter	4000	10000	7000

Table 3: Total trade variation (%) between GTAP-2001 and BACI-2004

	Venezuela	Argentina	Brazil	Chile	RoMercosur	EU27
Rice		7%	22%	36%	5%	
Wheat	5%	15%	60%	5898%	16%	5%
Cereals		10%	8%	70%	5%	
VegFruits	15%	1%	6%	11%	4%	
OilSeeds	39%	11%	4%	14%		
Sugar	49%	11%		305%		
Crops	68%	10%	8%	81%	5%	13%
MeatCattle	368%	78%	44%	30%	14%	24%
MeatOther	28%			7%		4%
Wool		64%	418%	45%	76%	24%
Forestry	50%	14%	12%	17%	45%	5%
Fishing			23%		1%	
Primary	62%	18%	14%	6%	2%	6%
Dairy	14%	3%	28%	3%		
Food	5%	139%	69%		117%	
Beverages	8%			8%		
Textile	18%	2%		7%		
Paper		6%	6%			2%
Chemicals		2%			9%	
Metal				3%		
TrspEqNec	4%			4%	2%	
Electronic	5%		2%		21%	
Machinery	20%	49%	11%	32%	9%	4%
OtherManuf	122%	102%	150%	42%	660%	67%
OthSer	250%		174%		46%	1931%

Table 4: Bilateral trade variation (%) between GTAP-2001 and BACI-2004

		Venezuela	Argentina	Brazil	Chile	RoMercosur	EU27
Rice	Argentina					16%	
	Brazil		86%			12%	91%
	Chile			289%			
Wheat	Brazil					32%	
	Chile		117%				
	RoMercosur		14%				
	EU27		47%				
Cereals	Venezuela				219%		856%
	Argentina			468%	103%		
	Brazil					22%	351%
	RoMercosur		83%	249%			65%
	EU27		38%	89%	51%		
VegFruits	Argentina					120%	
	Brazil	467%				142%	
	Chile		89%	52%			
	RoMercosur			10%			
	EU27	103%	13%	88%	43%	19%	
OilSeeds	Argentina			2086%	6%	1892%	18%
	Brazil						84%
	Chile		92%	14%		301%	801%
	RoMercosur		113%	141%			96%
	EU27			55%	339%	160%	
Sugar	Venezuela			1394%			
	Argentina			401%			
	Chile		62%	6241%			
	RoMercosur			19%			
	EU27			3%		128%	
Crops	Venezuela					9%	
	Argentina	29%		70%		35%	
	Brazil					53%	
	Chile			27%			5%
	EU27		15%	32%	2%		
MeatCattle	Venezuela		23253%	2014%			
	Argentina				27%		
	Brazil		21%			23%	
	Chile		224%	100%			
	RoMercosur		22%	33%	262%		
	EU27		151%	33%	64%	18%	
MeatOther	Venezuela			1478%		169%	
	Argentina					161%	
	Brazil	11%			142%	192%	
	Chile		106%	189%			17%
	RoMercosur				291%		119%
	EU27		337%	119%	106%	200%	
Wool	Argentina				132%		1018%
	Brazil		24457579%				366%
	Chile						522%
	RoMercosur		107%	1%	154%		
Forestry	Venezuela		15%				
	Brazil		129%				
	Chile	25%	434%	135%			2%
	RoMercosur		25%				
	EU27			68%	31%		
Fishing	Argentina			3170%			
	Brazil				59%		
	Chile					1587%	
	RoMercosur		112%	2607%			
	EU27	36%	172%	168%	123%		
EnergyPdts	Venezuela		1011981%	17942%	1174%		34832%
	Argentina	6390%		65%	908%	228%	1153%