

Mercosur's meat exports to the EU: Assessment of policies affecting trade flows¹

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Abstract

This paper examines EU meat imports from the Mercosur countries in regard to income growth, import price changes, and tariff reductions. The objective is to model behavioural relationships underlying the meat exports to the EU from the Mercosur countries by using 1988 to 2008 annual trade data. Econometric models are constructed for two meat products - beef and poultry meat. The results indicate that the EU does not distinguish beef between the individual Mercosur countries, and the estimated elasticities justify the assumption that the EU distinguishes Mercosur countries beef imports from non-Mercosur countries. There is a clear demand response to income and price changes in the EU and relative-price changes affect the volume of meat exports from the individual Mercosur countries, implying that the exporter's market share is influenced by price competitiveness. Tariff barriers are not as obstructive to trade compared to non-tariff barriers such as food safety. Due to recurrent outbreaks of animal diseases and the fact that outbreaks are difficult to foresee, food safety and assured standards of quality combined with environmental compliance are the main strives for the Mercosur countries to tackle currently and in the future.

Key words: EU, Mercosur, meat imports, econometric models, tariffs, non-tariff barriers

Introduction

Market access for agricultural goods is one of the main issues of the EU-Mercosur Free Trade Agreement negotiations, which began in April 2000. A successful conclusion by the year 2004 was anticipated, but the "agricultural knot" remains a huge stumbling bloc on the road to the final agreement. As of 2008, 16 negotiating rounds have been conducted, but negotiations have only taken place at a technical level since 2004. Both parties recognised the close ties between this negotiation and the negotiations at the World Trade Organization (WTO). The results of the negotiations for the Doha Round at the WTO will have an impact on the EU-Mercosur negotiations.

Despite the success in penetrating to the EU market, the Mercosur countries have been concerned with the protection policy practised by the EU for agricultural and food products. The major concerns in the EU-Mercosur agricultural trade relations have been the variable levies/tariffs and other discriminatory measures such as food safety, animal welfare, and environmental compliance against Mercosur meat exports. Therefore, Mercosur countries have taken a special interest in encouraging the EU to liberalise its trade in agriculture with the hope that trade liberalisation will improve market access for Mercosur agricultural

products. Hence, the WTO negotiations under the Doha Development Agenda will provide an important base for extending the process of trade liberalisation and the completion of the EU-Mercosur Free Trade Agreement.

For the EU, agricultural and food products are most vulnerable to competition from the Mercosur countries, which are well endowed with natural resources. Agriculture is also one of the key sectors of the Mercosur economies, in spite of the evident success of the manufacturing sector during the last decades. The EU accounts for 30 percent of all Mercosur agricultural exports to the world. In 2005, the EU accounted for 34 percent of Brazilian and 26 percent of Argentinean total agricultural exports to the world. Meat imports from the Mercosur countries accounted for more than half of the EU's meat imports from the world. During the period from 1990 to 2007, Mercosur agricultural exports to the EU rose from €7 billion to almost €20 billion, showing an average annual growth rate of 4.7 percent. Over the years, Mercosur countries have managed to increase their market share in the EU quite considerably.

There is significant imbalance in the trade flows of agricultural and food products between the two regional blocs. In 2007, EU imports of agricultural products from the Mercosur countries were close to €20 billion, but EU exports of agricultural products to the Mercosur countries were at a mere €900 million. Therefore, EU agricultural trade balance with the Mercosur trade bloc deteriorated to a deficit near to €19 billion. Brazil is the largest exporter of agricultural products to the EU, accounting for 63 percent of EU total imports from the trade bloc followed by Argentina (32 percent), Uruguay (3 percent), and Paraguay (2 percent).

This study attempts to model the behavioural relationships underlying the trade flows of meat products between the EU and Mercosur countries. More specifically, the objective is to provide new estimates of income and price elasticities of import demand for meat products in the EU from the Mercosur countries. First, the general trends and patterns of the Mercosur agricultural and meat trade with the EU are examined in conjunction with the assessment of policies affecting trade flows. Then the general theoretical and methodological framework employed by this study for modelling the behavioural relationships in meat trade is laid out, followed by how the theoretical structures are implemented in econometric models. Subsequently, the empirical results of the estimated models constructed for two meat products exported from the Mercosur countries to the EU – beef and poultry meat – are presented. Finally, the main conclusions are deliberated.

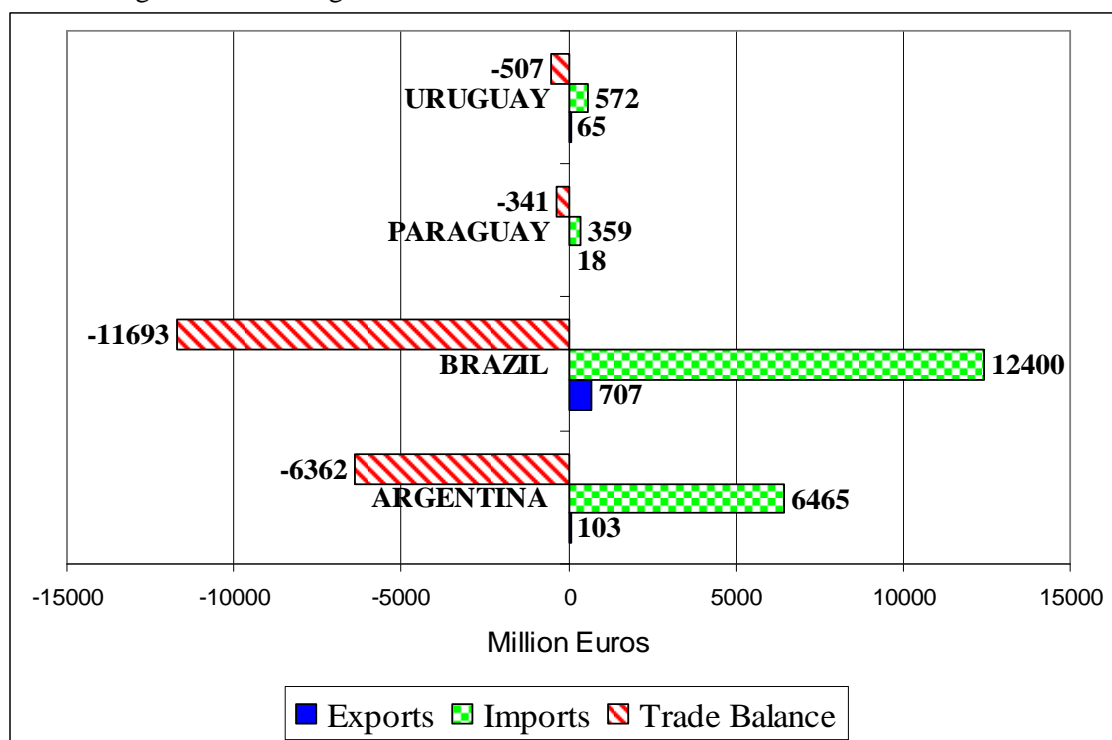
Assessment of policies affecting trade flows between the EU and Mercosur countries for agricultural and meat products

Mercosur, the “Common Market of the South,” is the largest trading bloc in South America. It is the world's fourth-largest trading bloc, after the European Union (EU), North American Free Trade Agreement (NAFTA), and the Association of South East Asian Nations (ASEAN). Brazil is the region's largest economy with a GDP of approximately €860 billion and a population close to 200 million². The EU is Brazil's largest trading partner accounting for 23.5 percent of Brazil's total trade with the world, followed by the United States (16.9 percent) and China (9.2 percent). On the other hand, Brazil is only the tenth largest trading partner for the EU, responsible for only 2 percent of EU trade with the world. In terms of

² In comparison, Argentina has a population of 39 million with its GDP totalling €180 billion; Paraguay has a population of 6 million with its GDP totalling €7 billion; and Uruguay has a population of 3 million with its GDP totalling €15 billion (DG Trade 2008).

agricultural products, Brazil is the largest trader with the EU among the Mercosur countries (Figure 1). In addition, Brazil is the single biggest exporter of agricultural products to the EU, responsible for 13.5 percent of total EU food and live animals imports in 2007. The increase in Brazilian agricultural exports has far outpaced that of the EU, widening the EU agricultural trade deficit with Brazil, which increased from €6.7 billion in 2003 to €11.7 billion in 2007 (DG Trade 2008).

Figure 1: EU-27 agricultural trade with Mercosur member countries in 2007



Source: DG Trade 2008

The EU is one of the leading importer and exporter of meat, whereby the trade surplus for beef decreased and the EU became a net importer of beef. EU beef trade still recorded a small trade surplus of around €100 million in 1995, whereas in 2005 a deficit of €1.1 billion was recorded (DG Trade 2006). This deficit is expected to increase in the coming years and the result of steadily growing imports and falling exports as EU beef production is declining and consumption expected to remain stable. Mercosur is the main source for EU beef imports. In 2005, Brazil alone accounts for 55 percent of total EU beef imports followed by Argentina (27 percent) and Uruguay (7 percent). Brazil was clearly the major supplier of frozen beef to the EU from 2000 to 2007, whereby Argentina and Uruguay were minor suppliers compared to Brazil (Appendix 1). Argentina was obviously close behind Brazil in supplying fresh or chilled beef with Uruguay still being a minor supplier. Paraguay has been exporting a miniscule amount of beef to EU compared to the rest of the Mercosur countries, thus Paraguay is not included in the estimation of income and price elasticities of import demand for beef.

Brazil is also the most important supplier of poultry meat to the EU with a market share of around 60% in 2005 with Argentina being only a small player, and practically there are no

exports of poultry meat to the EU from Uruguay and Paraguay (Appendix 2). Hence, Uruguay and Paraguay are excluded in the estimation of income and price elasticities of import demand for poultry meat. Furthermore, the trade of pigmeat between the EU and Mercosur is insignificant due to the tiny amount imported by the EU, where Brazil was the only exporter from the Mercosur countries (Appendix 2). As a consequence, econometric models are constructed only for two meat products exported from Mercosur countries to the EU – beef and poultry meat.

Tariff and Non-Tariff Barriers Affecting Trade Flows

Despite the success in penetrating the EU beef and poultry meat market, the Mercosur countries have been particularly faced with substantial tariff and non-tariff barriers. High tariffs are imposed by the EU on the imports of meat products from Mercosur countries. The tariff-rate quotas available to the Mercosur countries are very limited compared to the potential exports from this trade bloc. Hence, an enormous proportion of Mercosur meat exports are entering the EU out of the tariff-rate quotas, thus confronting very high tariffs. A successful conclusion of the WTO negotiations under the Doha Development Agenda would provide an important base for lowering the excessive tariffs, and the completion of the EU-Mercosur Free Trade Agreement would substantially increase the tariff rate quotas for meat products. According to the WTO (2004), the EU has suggested extra tariff-rate quotas of 100,000 tons for high-quality "Hilton" beef and 75,000 tons for poultry meat products. On the other hand, agricultural producers from Mercosur, who compete on world markets without the aid of subsidies, want to export an extra 350,000 tons of beef and 250,000 tons of chicken by using tariff-rate quotas with very low import tariffs.

There was a trend of massive imports of salted poultry meat into the EU from year 2000 onwards, and the EU tried to halt this trend by reclassifying such products under a much higher tariff. The tariff on salted poultry meat jumped from 15.4 percent ad-valorem to €1300 per ton. According to Agra Europe (2005), the Association of Brazilian Chicken exporters maintained that the EU tariff upsurge led to an 80 percent decline in the exports of frozen and salted chicken, worth around US\$300 million in lost earnings per year. Therefore, Brazil together with Thailand brought this case to the WTO because the new level of tariff was in excess of the tariff rate for salted meat under the GATT agreement of 1994. Eventually, the WTO ruled in favour of Brazil and Thailand against the EU regarding the increased tariffs on salted poultry meat imports from both countries. As a result, the EU notified to the WTO on June 2006 its intention to modify the concessions contained in the EU tariff schedule for three poultry meat products in accordance with GATT agreement of 1994. For salted poultry meat, the new tariff-rate quotas concession will provide for a total of 264,245 tons imported at the same bound rate of 15.4 percent ad valorem. For quantities above this, the out-of-quota rate is €1300 per ton. The tariff-rate quotas allocation for Brazil is 170,807 tons. With regard to preparations of turkey meat, the EU tariff schedule will provide new tariff-rate quotas for a total of 103,896 tons imported under the same current bound rate of 8.5 percent ad valorem. The out-of-quota rate is €1024 per ton. The quantity allocated to Brazil is 92,300 tons. For the third product, cooked chicken meat, the tariff-rate quotas concession will provide for a total of 230,453 tons imported under the same tariff of 10.9 percent ad valorem. The out-of-quota rate is €1024 per ton. The volume attributed to Brazil is 73,000 tons (European Commission 2006).

Tariff barriers are not as obstructive to trade compared to non-tariff barriers such as food safety. Food safety concerning the traceability of exported meat products required by EU law³ had a drastic impact on the imports of Brazilian beef into the EU. On December 2007, the EU standing committee on the food chain and animal health took the decision to increase surveillance of imports of Brazilian beef, after a repeated failure of the Brazilian authorities to comply with EU requirements for food-safety and animal-disease surveillance. Following the negative results from the EU Food and Veterinary Office (FVO) mission to Brazil, Brazilian beef was banned from EU, thus the closure of the EU market to Brazilian beef exports in early 2008. The Brazilians are making considerable efforts to meet European standards, but Brazil shares extensive land borders with countries where foot-and-mouth disease is endemic and Brazilian farmers are unable to demonstrate the kind of traceability and quality assurances shown by their European counterparts. The European Commission considered the quality of beef imports from Brazil was not acceptable from a food safety and consumer point of view in regard to hormone use in cattle, dubious veterinary practices, cattle identification, and food traceability. Agriculture Commissioner Mariann Fischer Boel (European Commission 2008) said that if Brazil wants to export beef to the EU then “that beef must meet the agreed standards.” She expressed the view that “out of the 10,000 holdings which are currently eligible to export to us, only 3 percent, which means about 300 holdings, will initially make the grade under the new rules.” As a consequence, EU fresh beef imports, according to the USDA (2008), declined by about forty percent, frozen beef imports by about thirty percent, and processed beef imports by about ten percent during the first five months of 2008. Total beef imports declined by about twenty-five percent during this period. According to Agra Europe (2009a), Brazil sees the traceability system so tough and expensive that it prevents a return to previous export levels which have fallen from US\$1 billion to US\$270 million a year.

Due to recurrent outbreaks of animal diseases and the fact that outbreaks are difficult to foresee, global meat trade is and will be restricted and less structured. Mercosur countries are major producers and exporters of meat products. Mercosur meat can be produced in huge quantities for export at low cost and high quality, but food safety and assured standards of quality are the main confrontations for the Mercosur countries to tackle. The effects of these non-tariff barriers cannot be estimated with the econometric models in this study, but the behavioural relationships underlying the trade flows of meat products between the EU and Mercosur countries can be analysed in this study by providing new estimates of income and price elasticities and estimating the effects of tariff reductions on Mercosur meat exports to the EU.

Theoretical and methodological framework of the study

The challenge of this study is to combine the economic theories for trade structure and applied econometrics in order to provide a good representation of the behavioural relationships underlying the meat trade flows between the Mercosur countries and the EU. Economic theory

³ Commission Decision of 17 January 2008 (2008/61/EC) -- (1) Council Decision 79/542/EEC of 21 December 1979 drawing up a list of third countries or parts of third countries, and laying down animal and public health and veterinary certification conditions, for importation into the Community of certain live animals and their fresh meat and provides that imports of those animals and meat are to meet the requirements set out in the appropriate model certificates drawn up under that Decision. (2) Since 2003, deficiencies with regards to Community import requirements for bovine meat have been identified during Commission missions to Brazil. Some of these deficiencies have been addressed by Brazil, but recent Commission missions have nonetheless identified serious instances of non-compliance with regard to holding registration, animal identification and movement control and a failure to respect their previous commitments to take the appropriate corrective measures.

helps to specify structural relationships and provide hypotheses that can then be tested econometrically. Econometric models can be also used to assess the results of trade policies. Yet, there is considerable distance between theoretical specification and empirical implementation in practical econometric models. For instance, the theory may provide little evidence on the process of adjustment, and which variables are exogenous and which are irrelevant or constant for the particular model under investigation. Numerous adjustments must be made in order to build models that fit real world situation and correspond at least approximately to the underlying theory (Gujarati 1992).

Imperfect competition arising from product differentiation underlies the theoretical framework of this study. Several factors are assumed to affect an importer's purchasing decisions. Price of the product is an obvious and often the most important factor. However, the importer does not necessarily purchase all of its agricultural commodity imports from the least expensive supplier. There are other factors such as qualitative characteristics (delivery time, reliability of supplies, packaging, brand names) and established relationships (e.g. cultural, historical or political ties between trading partners) affecting trade flows of commodities. This leads to a presumption that importers differentiate between commodities by place of production. In dealing with EU demand for meat product imports, it seems appropriate to adopt a theoretical framework, in which meat products are distinguished by their place of production and are not considered perfect substitutes for each other (product differentiation).

The estimation of the demand structures is therefore derived from the Armington (1969) model, where it is assumed that the same goods of different origins are imperfect substitutes within an importing country's commodity market. In the model, the importing decision is split into two stages.

At the first stage, the importer decides how much of the imported product to consume against all other goods. The decision is based on importer's income and the real price of the good. At the second stage, once the level of expenditures for the imported product is determined, the importer decides how much of the commodity to purchase from alternative suppliers by solving the utility maximisation problem. This decision is based on total expenditure on the imported product and relative prices between the competing suppliers

Now that the assumptions are in place, it is straightforward to derive the importer's overall demand equation, representing a country's j imports (M) as a function of economic activity (Y) and real price of the good imported (P/D),

$$M_j^d = k_1 Y_j \left(\frac{P_j}{D_j} \right)^{\epsilon_m^p} \quad (1)$$

where k_1 is a constant with expected sign $k_1 > 0$; D is the deflator; and ϵ_m^p is the price elasticity of import demand for good M . The income elasticity is equal to unity, a hypothesis that will later be tested.

The second stage solution to the utility maximisation problem of how much of the product M to purchase from alternative suppliers - let say an exporter of interest i and its competitors k , which refer each of the $n-1$ other foreign supplying countries, to market j whose corresponding export prices are P_{ij} and P_{kj} - may be expressed as

$$X_{ij}^d = k_2 M_j \left(\frac{P_{ij}}{P_j} \right)^{\epsilon_x^p} \quad (2)$$

where X_{ij}^d is the quantity of the product exported from country i to country j , k_2 is a constant; P_{ij} is the price of the good imported from country i to country j ; P_j is the average price of the product imported to country j ; and ϵ_x^p is the relative-price elasticity of export demand.

In summary, the second stage equation examines whether the exporter's market share of a certain product is influenced by the total level of imports of the product, and whether the market share of the exporter is affected by relative price changes of the product. Product differentiation in equation (2) is reflected in the ability of exporters to influence the demand for their exports through relative-price changes.

Assuming that the importer view products from different suppliers as being distinct to some degree, each exporting country should possess some market power for manipulation. In other words, the product of each supplier is imperfectly substitutable for those produced by other suppliers in the market. This assumption will be tested.

International trade of agricultural products does not usually occur, however, without obstacles. Agricultural trade policies such as import tariffs, trade quotas and price controls are typical commodity-specific policies driving a wedge between domestic and border prices (Houck 1986). The imposition of a tariff into the import demand equation (1) raises the price of the product to $(1+t)P$ in the geographic market j . The resulting import demand schedule is

$$M_j^d = k_1 Y_j \left(\frac{(1+t)P_j}{D_j} \right)^{\epsilon_m^p} \quad (3)$$

Data

Empirical analysis of this study is based on econometric models that capture the behavioural relationships underlying EU's import demand for meat products globally as well as from individual Mercosur countries. Long-run elasticities of EU import demand for meat products are of particular interest. The success of any econometric analysis ultimately depends on the availability of appropriate data. The empirical analysis of this study will be conducted with a sample of annual data that cover EU agricultural imports of beef and poultry meat from the individual Mercosur countries and the rest-of-world from 1988 to 2008. The analysis uses 4-digit product-level data based on the Harmonised System (HS). For the purpose of this study, the product headings are defined as follows: beef (HS 0201, 0202) and poultry (HS 0207).

Volume and value data on trade flows over the period 1988 to 2008 are obtained from EUROSTAT (2009). Volume data is compiled in metric tons and value data in thousands of euros (before 1999 in the European Units of Account, ECUs). The transaction value is the value at which the importing country bought goods and includes the cost of transportation, insurance, and freight to the frontier of the importing country (c.i.f. valuation). Dividing value by volume derives the unit prices of imports and exports. The gross domestic product (GDP) index and the consumer price index (CPI) are used as a measure of economic activity (Y_C) and price deflator (D_C) of the EU, respectively. The data source is EUROSTAT (2009).

The responsiveness of EU meat imports to income and price changes

The responsiveness of EU meat imports to changes in incomes and absolute prices are summarised in Table 1. The analysis is based on the import demand schedule derived in equation (1). Statistically the import demand models behave well and pass all the diagnostic tests. Coefficient signs and magnitudes are acceptable in terms of a priori expectations. The models also track the sizes and the directions of changes in the volume of EU meat imports fairly well.

The estimated equations of import demand show, as expected, that both income and price are statistically significant in explaining the level of EU beef and poultry meat imports. The income elasticity is 1.4 for beef and 2.7 for poultry meat. In other words, the results indicate that a 1 percent increase in EU income level would increase beef imports by 1.4 percent and poultry meat imports by 2.7 percent. The findings are consistent with earlier studies on agricultural products. Mohd. Yusoff and Salleh (1987), Honma (1991), and Lord (1991), among others, have shown that income is an important factor in determining the import demand for agri-food products.

The results suggest that poultry meat imports have a stronger growth potential in EU than beef because of a strong response from consumers in the EU due to improvement in their real incomes. At the same token, poultry meat imports are more susceptible to demand swings of business cycles.

Table 1. Income and price elasticities of import demand in the EU for beef and poultry meat

Commodity	Income elasticity	Price elasticity
Beef	1.42	-0.54
Poultry meat	2.67	-0.70

Examination of the price elasticities confirm the expectation that demand for meat imports in the EU is less than elastic with respect to price. Beef has a price elasticity of -0.54 and poultry meat of -0.70. These results suggest that on average a 1 percent decrease (increase) in the real price of beef would increase (decrease) EU imports of beef by 0.5 percent and poultry meat by 0.7 percent in the long-run. The policy implication of these price elasticities is that exchange rate policies and commercial policy intervention measures in the form of tariff barriers to trade would change the quantity of imports demanded, but less than the percentage change in price.

EU demand for Mercosur meat exports

The elasticity estimates of export demand equations for the meat exports from Mercosur to the EU are reported in Table 2. The signs and magnitudes of the estimated coefficients are broadly in line with theoretical expectations and the diagnostic test statistics are quite satisfactory. Furthermore, the models explain the changes in the volume of Mercosur agricultural exports to the EU rather accurately. Goodness of fit is acceptable with an R^2 in a range between 0.23 and 0.98. The models also pick up quite well the turning points and rapid rises in export demand.

The estimations indicate that relative price changes affect EU demand for Mercosur meat exports, implying that EU market share is influenced by price competitiveness. Relative prices are statistically different from zero in 4 out of the 5 trade flows, and two are significant at the 5 percent level and two at the 10 percent level. The only exception is the export demand for poultry meat from Argentina, where the relative price coefficient did not result in statistically significant estimate. This is attributed to the fact that the own-price of Argentinean poultry meat relative to the average import price does not fluctuate enough, resulting in an insignificant relative-price coefficient. Furthermore, the market share of Argentinean poultry meat imports in the EU market is only a mere 1.3 percent.

The size of the relative price coefficients differ by commodity as well as by the country of origin for each commodity. Among the trade flows under examination, the Brazilian beef exports to the EU is the most sensitive to relative price changes, followed by beef exports from Uruguay and Argentina. Brazilian beef exports have relative-price coefficient equal to 1.8. In contrast, the relative-price coefficient of Brazilian poultry meat exports is only 0.7. This indicates that if the relative price of the product decreases by 1%, EU imports of Brazilian beef will increase by 1.8 percent, but EU imports of Brazilian poultry meat will increase by only 0.7 percent.

It should be noticed that there is not a great deal of variation in the relative-price elasticity of export demand for beef among the individual Mercosur countries. The relative-price elasticity of export demand range from -1.58 to -1.82 . The results indicate that the EU does not distinguish beef between the individual Mercosur countries, i.e. beef products from different Mercosur countries are close substitutes within the EU market. On the contrary, these elasticities justify the assumption that the EU distinguishes Mercosur countries beef imports from non-Mercosur countries.

The results from the relative price coefficients (Table 2) combined with the results from the import price elasticities (Table 1) indicate that EU meat imports on a product basis is quite insensitive to absolute price changes, but EU importers are quite sensitive to relative price changes on a product basis due to price competition among suppliers. Once the expenditure for the imports of a product is determined, EU importers will seek for cheaper products among the foreign suppliers.

Table 2. The long-run responsiveness of EU meat imports from the Mercosur countries to changes in relative prices and EU total imports

Product	Elasticity of export demand to changes in		Market share in the EU (%)	
	relative prices	EU total imports	1988-1999	2000-2008
Beef				
Argentina	-1.58	0.80	26.1	15.9
Brazil	-1.82	1.47	21.1	41.5
Uruguay	-1.62	0.90	10.0	7.9
Poultry meat				
Argentina	-	2.41	1.3	1.3
Brazil	-0.69	1.57	18.4	36.6

The estimated results also confirm the assumption that export demand for meat from Mercosur has more or less proportional response to changes in the level of EU meat import. Therefore, at given relative-price levels, any increase or decrease in meat imports by the EU would be reflected in an almost equivalent percentage change in its demand for Mercosur meat exports. If the estimated coefficient of the import response variable is significantly greater than unity, it is a good indication for an exporting country that its exports can expand more than others; and its market share increases as EU market grows. Therefore, at given relative-price levels, any increase in imports by the importer would be reflected in greater percentage change in its demand for that product. A good example is the Brazilian beef exports. The response coefficient for Brazilian beef exports to the EU is equal to 1.5. Thus, at a given relative-price level, a 1 percent increase in the growth of EU beef imports leads to a 1.5 percent increase in the beef exports from Brazil. Argentinean and Brazilian poultry meat exports to the EU are also examples of higher proportional expansion for exports. A one percent increase in EU poultry meat imports leads to a 2.4 percent increase in poultry meat exports from Argentina and 1.6 percent from Brazil. Conversely, Argentinean and Uruguayan beef exports to the EU are examples of the less than proportional export expansion. A one percent increase in the EU beef imports leads to only 0.8 percent increase in the Argentinean beef exports and 0.9 percent increase for the Uruguayan beef exports.

The impact of tariff reductions on Mercosur meat exports to the EU

The 2001 Doha declaration, which initiated the current multilateral trade negotiation round under the WTO, calls for ‘substantial improvement in market access.’ Since the Common Agricultural Policy (CAP) of the EU is regarded as a policy that distorts global agricultural trade flows quite significantly, it is of interest to see what would happen to the EU meat imports from the Mercosur countries if the EU reduces its import tariffs on meat products according to the WTO Draft Proposal for the Doha Round. The principle has been established that import tariffs are to be reduced based on a ‘tiered’ formula, with higher tariffs being subject to bigger cuts. Under the WTO Draft Proposal, tariffs between zero and 20 percent are to be reduced by 50 percent; tariffs between 20 to 50 percent would be cut by 57 percent; tariffs between 50 to 75 percent would be lowered by 64 percent; and tariffs above 75 percent would be decreased by 70 percent.

Beef is one of the most protected products in the EU. Fresh or chilled “skirt” of beef has an ad valorem equivalent (AVE) of 210 percent⁴, and boneless poultry meat has an ad valorem equivalent (AVE) of 116 percent⁵. Therefore, both beef and poultry meat would be subjected to 70 percent tariff reduction in the forth-coming Doha Round, if these products are not declared as sensitive products.

Equation (3) shows that the effect of a tariff depend on the price elasticity of import demand, ϵ_m^p , and the tariff-equivalent rate, t , in the importing country. The effects of tariff reductions following the WTO Draft Proposal are summarised in Table 3, from which a number of points can be made. The reduction of tariffs would have a price-decreasing effect on the EU market. As a result, an increase in EU imports would take place.

According to the simulations, the tariff reduction would decrease the import price of beef by 47 percent. In turn, EU increases its beef imports by 26 percent, i.e. 100,000 tons of which 60 percent represents additional exports by Brazil, 13 percent by Argentina, 7 percent by

⁴ Calculation of ad-valorem equivalent (AVE) is based on the “Integrated Database” (IDB) of the WTO.

⁵ Calculation of ad-valorem equivalent (AVE) is based on the United Nation’s COMTRADE database.

Uruguay, and 20 percent by other exporters. The case is similar for poultry meat where import price would decrease by 38 percent; and as a result the EU increases its imports by 26 percent. Brazil would supply 67 percent of these additional imports and 3 percent would be from Argentina.

Table 3. The impact of the WTO Draft Proposal on EU total meat imports and EU meat imports from the individual Mercosur countries

Product	Percentage change (%)		Market share (%)	
	Import price	Import volume	Initial	After
Beef, total	-47.4	+25.6		
Argentina		+20.5	15.9	15.3
Brazil		+37.6	41.5	45.5
Uruguay		+23.0	7.9	6.7
Poultry meat	-37.6	+26.3		
Argentina		+63.4	1.3	1.7
Brazil		+37.1	36.6	39.7

The effects of tariff reduction on import volumes are relatively large even though EU meat imports are relatively inelastic with respect to price. This is explained by the fact that EU tariffs on meat products are very high. For example, the EU tariff ranges for beef imports are from €1414 (plus 12.8 percent ad-valorem) per ton to €3041 (plus 12.8 percent ad-valorem) per ton (Appendix 3).

According to Agra Europe (2009b), a meat expert from a consultancy company (Scott Consultancy) said that having to pay a flat €3000 per ton tariff, plus a 12 percent ad-valorem tax on imports from Brazil, means that only high quality rear quarter cuts can be sold at a profit in the EU, while lower priced cuts cannot be sold in the EU at a profit. Consequently, a 70 percent reduction in tariffs for beef would probably force the least competitive EU beef producers to stop cattle-raising for beef. The reasoning is that currently Brazilian high quality beef is able to enter the EU at full tariff; hence a huge tariff-cut would as well give a strong advantage to the exports of Brazilian lower quality beef to the EU and that would directly have a substantial impact on EU domestic prices for beef.

Conclusions

This paper examines EU meat imports from the Mercosur countries in regard to income growth, import price changes, and tariff reductions. More specifically, the objective is to model behavioural relationships underlying the meat exports to the EU from the Mercosur countries by using 1988 to 2008 annual trade data. Econometric models are constructed for two meat products - beef and poultry meat - exported from the individual Mercosur countries to the EU.

The results suggest that poultry meat imports have a stronger growth potential in EU than beef because of a strong response from consumers in the EU due to improvement in their real incomes. At the same token, poultry meat imports are more susceptible to demand swings of business cycles. The policy implication of the estimated price elasticities is that exchange rate policies and commercial policy intervention measures in the form of tariff barriers to trade

would change the quantity of imports demanded, but less than the percentage change in price. Among the examined trade flows, the Brazilian beef exports to the EU is the most sensitive to relative price changes, followed by beef exports from Uruguay and Argentina. The results indicate that the EU does not distinguish beef between the individual Mercosur countries, i.e. beef products from different Mercosur countries are close substitutes within the EU market. On the contrary, these elasticities justify the assumption that the EU distinguishes Mercosur countries beef imports from non-Mercosur countries. The results also show that there is a clear demand response to income and price changes in the EU and relative-price changes affect the volume of meat exports from the individual Mercosur countries, implying that the exporter's market share is influenced by price competitiveness.

According to the simulations, tariff reduction according to the WTO Draft proposal would decrease the import price of beef by 47 percent in the EU. In turn, EU increases its beef imports by 26 percent, i.e. 100,000 tons of which 60 percent represents additional exports by Brazil, 13 percent by Argentina, and 7 percent by Uruguay. The case is similar for poultry meat where import price would decrease by 37 percent in the EU; and as a result the EU increases its imports by 26 percent. Brazil would supply 67 percent of these additional imports and 3 percent would be from Argentina. At the moment, only high quality beef can be sold at a profit in the EU, while lower quality beef cannot be sold in the EU at a profit. Consequently, a 70 percent reduction in tariffs for beef would probably force the least competitive EU beef producers to stop cattle-raising for beef. The reason behind this is that at the moment Brazilian high quality beef is able to enter the EU at full tariff, hence a huge tariff-cut would give a strong advantage to the exports of Brazilian lower quality beef to the EU as well and that would directly have a substantial impact on EU domestic prices for beef. The competitiveness of the EU meat industry is weak. Brazil and Argentina have competitive advantages due to large and reliable livestock supplies, low costs of labour and feed cultivated from the abundance of land in conjunction with economies of scale.

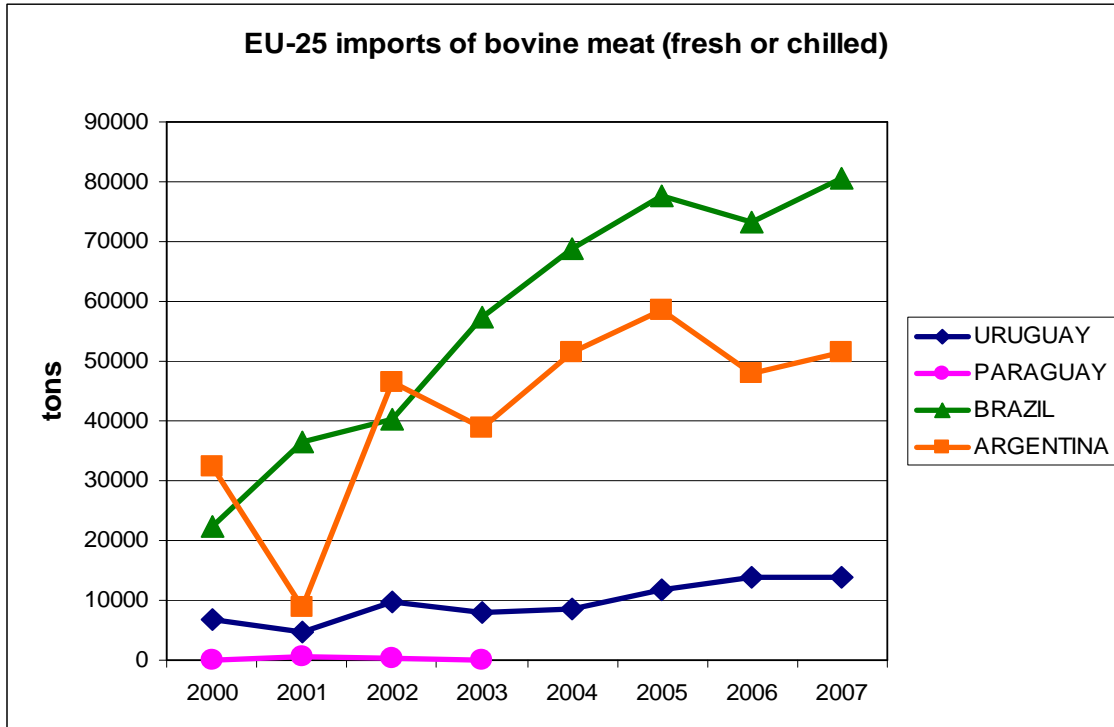
Overall, tariff barriers are not as obstructive to trade compared to non-tariff barriers such as food safety. Due to recurrent outbreaks of animal diseases and the fact that outbreaks are difficult to foresee, global meat trade is and will be restricted and less structured. Food safety and assured standards of quality combined with environmental compliance are the main strives for the Mercosur countries to tackle currently and in the future.

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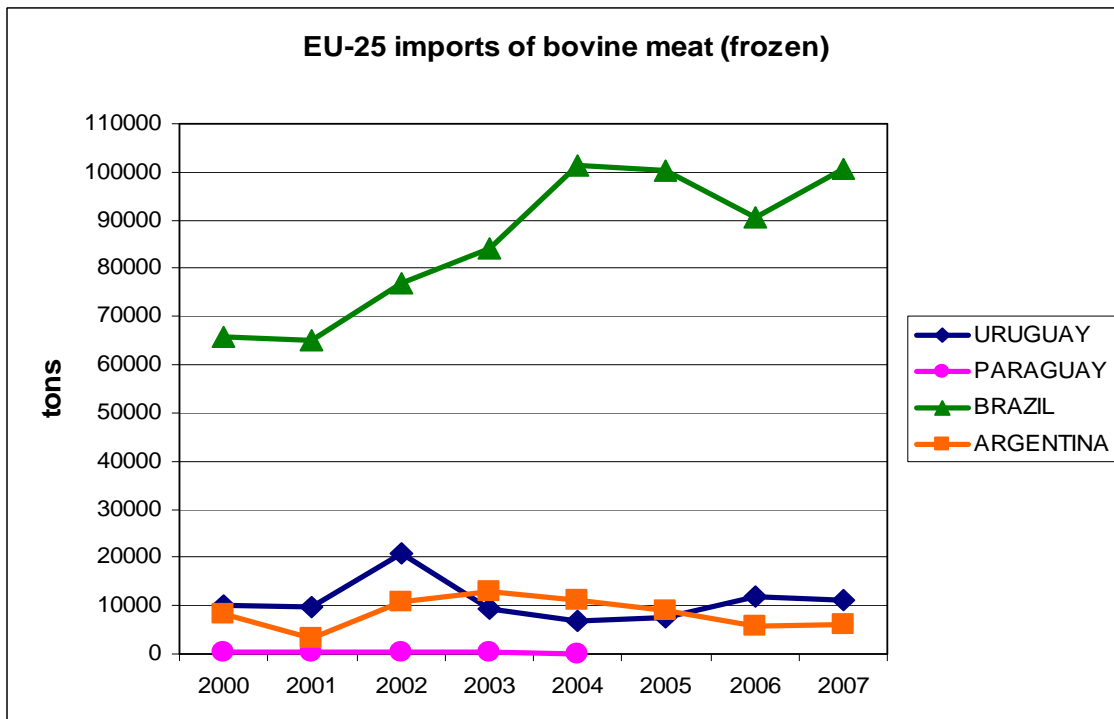
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Appendix 1

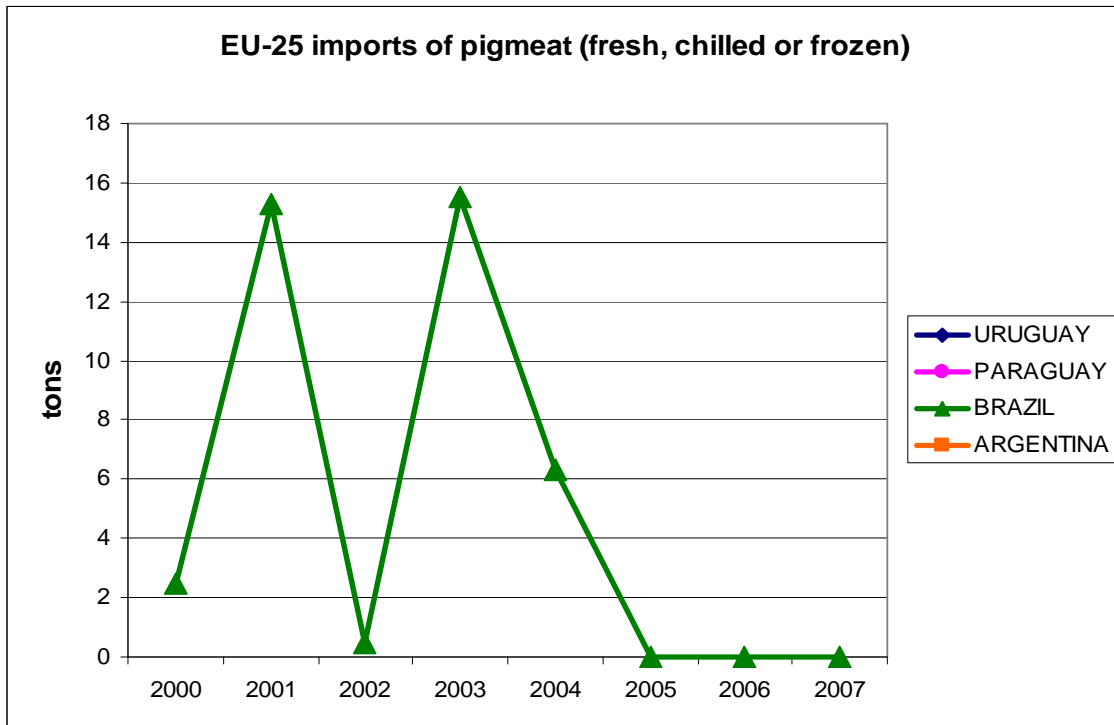


Source: Eurostat Comext

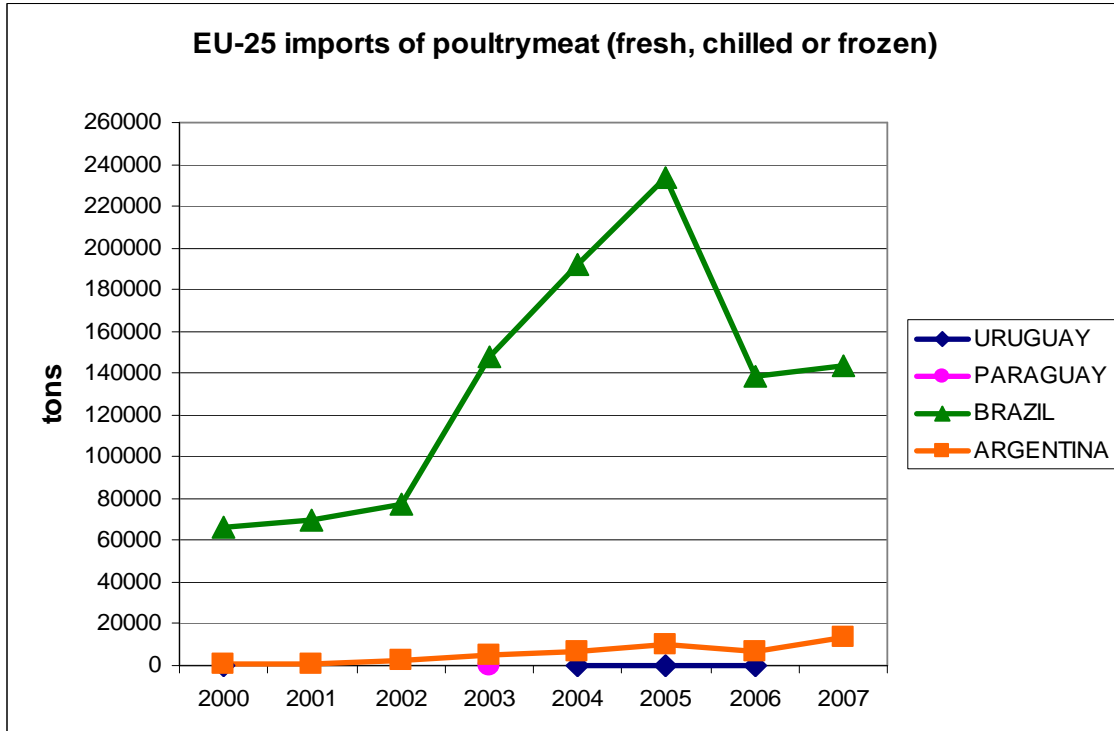


Source: Eurostat Comext

Appendix 2



Source: Eurostat Comext



Source: Eurostat Comext

Appendix 3

EU tariff schedule for fresh or chilled beef and frozen beef before and after the Uruguay Round Agreement on Agriculture:

Tariff item	Description of products	Base rate of tariffs before the Uruguay Round		Bound rate of tariffs after the Uruguay Round (currently applied tariffs)		Special Safeguard
		Ad valorem (%)	Specific tariffs	Ad valorem (%)	Specific tariffs	
0201	Meat of bovine animals, fresh or chilled:					
0201.10.50	-Carcases and half-carcases	20.0	+ 2763 ECU/T	12.8	+ 1768 ECU/T	SSG
0201.20	-Other cuts with bone in:					
0201.20.15	--'Compensated' quarters	20.0	+ 2763 ECU/T	12.8	+ 1768 ECU/T	SSG
0201.20.35	--Unseparated or separated forequarters	20.0	+ 2210 ECU/T	12.8	+ 1414 ECU/T	SSG
0201.20.55	--Unseparated or separated hindquarters	20.0	+ 3315 ECU/T	12.8	+ 2122 ECU/T	SSG
0201.20.90	--Other	20.0	+ 4144 ECU/T	12.8	+ 2652 ECU/T	SSG
0201.30.00	-Boneless	20.0	+ 4740 ECU/T	12.8	+ 3034 ECU/T	SSG
0202	Meat of bovine animals, frozen:					
0202.10.00	-Carcases and half-carcases	20.0	+ 2763 ECU/T	12.8	+ 1768 ECU/T	SSG
0202.20	-Other cuts with bone in:					
0202.20.10	--'Compensated' quarters	20.0	+ 2763 ECU/T	12.8	+ 1768 ECU/T	SSG
0202.20.30	--Unseparated or separated forequarters	20.0	+ 2210 ECU/T	12.8	+ 1414 ECU/T	SSG
0202.20.50	--Unseparated or separated hindquarters	20.0	+ 3454 ECU/T	12.8	+ 2211 ECU/T	SSG
0202.20.90	--Other	20.0	+ 4145 ECU/T	12.8	+ 2653 ECU/T	SSG
0202.30	-Boneless:					
0202.30.10	--Forequarters, whole or cut into a maximum of five pieces, each quarter being in a single block; 'compensated' quarters in two blocks, one of which contains the forequarter, whole or cut into a maximum of five pieces, and the other, the hindquarter, excl	20.0	+ 3454 ECU/T	12.8	+ 2211 ECU/T	SSG
0202.30.50	--Crop, chuck and blade and brisket cuts(3)	20.0	+ 3454 ECU/T	12.8	+ 2211 ECU/T	SSG
0202.30.90	--Other	20.0	+ 4752 ECU/T	12.8	+ 3041 ECU/T	SSG